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Daedalus, Lee-on-the-Solent – Waterfront

Supplementary Land Quality Statement



Homes & Communities Agency

Project No: 11575

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SUMMARY OF ACTIONS

HUMAN HEALTH	In relation to a proposed residential land use at the Waterfront site, hydrocarbon concentrations across the site have been found to exceed the screening thresholds indicating a potentially significant 'site wide' risk to the human health of proposed residential end users. Consequently, where soft landscaping or private gardens are proposed, representative soil concentrations above the SGV should either be assessed further through Detailed Risk Assessment or be subject to appropriate mitigation in gardens / soft landscaping. In addition, localised 'hotspots' of heavy metal (arsenic, copper, lead and zinc) contamination and occurrences of asbestos in soils have also been identified in the shallow Made Ground and will require suitable remediation if they correspond with proposed soft landscaping / private garden areas or groundworks. Additional hotspots were previously identified in the CampbellReith, 2011 LQS. Impacted soils should be verified and delineated and contamination removed with the resultant excavation validated during development works. Imported soil material for use in proposed private gardens or soft landscaped areas will require compliance with an agreed set of limiting values which demonstrate that they are suitable for human exposure. Previously identified radioactively contaminated soils should be delineated and excavated under controlled working methods by suitably qualified specialist / contractor for disposal to a suitability classed receiving facility.
CONTROLLED WATERS	An extensive hydrocarbon solvent (tetrachloroethene) plume has been identified within the underlying groundwater across the majority of the Waterfront site and is considered to pose a potentially significant risk to hydrological / ecological receptors. Investigation and potential remediation of the plume is considered necessary to protect hydrological and ecological receptors. Further investigation is required to confirm the source (and presence of DNAPL) as part of recommended remedial approach. These works should be undertaken in accordance with a Design Specification and Contractor's Method Statement agreed with the Client and regulatory authorities.
BUILDINGS AND STRUCTURES/ SERVICES	Based upon current monitoring the ground gas regime at the site has been assessed as a CIRIA Characteristic Situation 2. This indicates that minimum ground gas protection measures comprising a membrane and ventilated sub-floor void will be required for buildings on site. Consideration of the requirement for contaminant resistant supply pipe work for services should be undertaken in consultation with the service provider.
SITE WORK CONTROLS	Basic/ standard personal protective equipment (PPE) should be employed by construction and maintenance workers. The Contractor's Health and Safety Plan and associated risk assessments and method statements should consider the potential for: ground / groundwater based contamination / UXO risk / unforeseen contamination. Construction work should be controlled by an environmental specification that details the requirements for Health and Safety provisions for workers (based on HSE document HSG66). Method statements should be prepared by the Contractor to provide: a watching brief for sources of contamination; controlled asbestos removal; and, provision of methods to protect the environment (EA PPG). A watching brief for contamination should be undertaken and documented by the Contractor throughout groundworks.
REGULATORY	Agreement may be required with the Environmental Health Officer and

APPROVAL	Environment Agency via the planning process.
WASTE	The LQS does not address the classification of waste soils. However, the soil results, and those of the Waste Acceptance Criteria analysis, can be utilised as a basis for such assessments, although additional testing may be required. It is noted that such assessments are required to accord with the Environmental Permitting and Planning Legislation and also to control costs during development. The Groundworks Contractor may need to complete assessments to inform the European Waste Code and to satisfy their Duty of Care obligations. If it is proposed to reuse any soils on site, this will require a CL:aire CoP Materials Management Plan. Full waste records are required for verification reporting.
OTHER	Previous site investigations have identified the presence and clearance of UXO on site however these reports were subsequently required to be withdrawn due to the discovery and removal works of pipemines in 2006. Given the limitation of sub-surface scanning for UXO beneath existing hardstanding, additional surveys or Watching Brief will be required during future redevelopment.
DOCUMENTATION	There may be a requirement to submit this document in support of a planning application to satisfy regulatory requirements and accord with the planning conditions. A Verification Report, Materials Management Plan, Waste Classification Assessments and Health and Safety documentation may also be required.

EXECUTIVE SUMMARY

SITE LOCATION	The site is located on the Gosport Peninsula, situated adjacent to the west of Broom Way / B3885 in Lee-on-the-Solent, Hampshire , PO13 9YA, with National Grid Reference of 456002E, 102050N.
ENVIRONMENTAL SETTING	The geological sequence at the site typically consists of Made Ground, overlying Superficial Deposits (Brickearth and River Terrace Deposits) followed by the Bracklesham Beds. London Clay is likely to underlay the Bracklesham Beds. The environmental sensitivity of the site is summarised as follows: **Medium** sensitivity with respect to hydrogeology due to the nature of the Superficial and Bedrock Aquifers (Secondary A Aquifers). **High** sensitivity with respect to hydrology due to the proximity to the nearest surface water receptor (The Solent <50m west and south west). **High** sensitivity with respect to sensitive land uses due to the presence of water bodies (The Solent) categorised as Special Protection Areas (SPA), Ramsar and Site of Special Scientific Interest (SSSI).
CURRENT USE AND HISTORY	The site was first established in 1917 as RNAS Lee-on-Solent and has been operational by the Royal Navy until 2006 when the site was acquired by SEEDA (now part of the Homes and Communities Agency, HCA) and the Maritime Coastguard Agency (MCA). Since then, the HCA have acquired the airfield (north of Waterfront) and the adjacent DIO site from the MCA. The Waterfront site is currently comprised of two areas: • **Commercial Area** - utilised by tenants for a variety of commercial/ industrial uses; • **Conservation Area** - largely derelict / unutilised with a number of conservation buildings present. The proposed redevelopment of the Waterfront zone has not been fully defined, although it is understood that it will be for residential or commercial/ industrial use.
CONTAMINATION ISSUES	**Soils** – Soil contamination has been principally encountered within Made Ground, whereby for residential end land use, hydrocarbons were considered to pose a potentially unacceptable risk across the site (a site wide risk) and metals considered to pose a risk in localised areas hotspots of contamination. The risk posed by contamination was significantly lower for proposed industrial/ commercial land use, which corresponds to localised hotspots only. The presence of asbestos has also been detected in a number of locations within Made Ground - in the vicinity of previous borehole EBH310 adjacent to the DIO site, LWPWS05, WFBH01, WFBH13, WFTP04, WFTP05 and WFWS13. Further occurrences of as yet unidentified asbestos contamination in the ground may require similar measures. Hotspots of radioactive contaminated soils have previously been identified and also require additional verification and appropriate risk mitigation measures as necessary. **Groundwater** – a dissolved phase tetrachloroethene (PCE) plume has been identified within the underlying groundwater spreading across the majority of the site and is considered to pose a potentially significant risk to adjacent surface waters and their sensitive ecology (SSSI, SPA and Ramsar designations). In addition, localised hydrocarbon contamination was identified encompassing the former MT Section. **Ground Gas** – Ground gas regime for a Situation A (all development types except those in Situation B) was deemed to be a Characteristic Situation 2 for carbon dioxide. The ground gas regime for Situation B (low rise housing with a ventilated under floor void) was deemed to be Amber 1. No gaseous phase contamination

	(VOCs) was identified within areas of the identified PCE plume.
ENVIRONMENTAL RISK ASSESSMENT	The risk assessment has been based undertaken for Plot 1 (located in the north east of the Waterfront) which may be utilised for commercial/industrial use; and, Plot 2 – for either residential or commercial use. **Construction Workers - LOW-MODERATE RISK** posed by contamination on site, specifically with regards to hydrocarbon contamination **End Users (Residential) - MODERATE RISK** posed by contamination on site to residential users particularly in areas of proposed soft landscaping in the final development. **End Users (Commercial) - LOW RISK** posed by contamination on site to commercial/ industrial users, which was attributed to hardstanding largely precluding access of the receptor to come into contact with contamination identified sub-surface. **Controlled Waters – MODERATE-HIGH RISK** for groundwater due to the presence of PCE contamination within groundwater. **Buildings - LOW - MODERATE RISK** based predominately on carbon dioxide levels across the site. It should be noted that additional ground gas assessment in Plot 2 may be required to adequately characterise the ground gas regime. **Adjacent Receptors – LOW-MODERATE** based upon the presence of residential properties within immediate proximity of the site.
RECOMMENDATIONS	Remediation of soil contamination within by Made Ground will be largely driven by proposed end use (i.e. residential gardens or commercial/ industrial landscaping). The management of the risk posed by asbestos across the site should be considered with regards to construction/ maintenance workers in addition to future site end users and in accordance with CIRIA C733. Removal of radioactive contaminated soils should be undertaken and disposed of at a suitably licensed facility. Investigation and remediation of the PCE groundwater plume on site is recommended in order to mitigate risks posed to off-site hydrological and ecological receptors. The presence of a source of PCE contamination on site should be established as part of this process. Groundwater contamination posed by hydrocarbons at the former MT Section is likely to be remediated through removal of residual soil contamination from the location. However, localised remediation of groundwater may be necessary to facilitate this process. Ground gas venting measures should be incorporated into building design (irrespective of proposed end land use) in accordance with current guidance (i.e. CIRIA C665). It should be noted that additional ground gas monitoring may be required.

1.0 INTRODUCTION

1.1 This report has been produced by Campbell Reith Hill LLP (CampbellReith) on behalf of the Homes and Communities Agency (HCA) to summarise environmental information relating specifically to the area commonly referred to as the Waterfront at Daedalus, Lee-on-the-Solent (hereafter referred to as 'the site'.

1.2 References and limitations associated with this report follow the main text. Figures depicting the location of the site and the development proposal (current at time of preparation of this report) are presented in Appendix A.

1.3 The report has been produced in general accordance with the procedures for site investigation, interpretation and reporting set out in DEFRA Contaminated Land Report (CLR) 11, BS 5930 (+A2:2010), BS 10175 and BS EN 1997 (Eurocode 7). The objective of the report is to collate and interpret Phase 2 exploratory data in order to provide:

- a conceptual site model for the site ground conditions (soil, water and gas);
- a generic quantitative risk assessment (human health, controlled waters and gas);
- a detailed quantitative risk assessment (controlled waters)
- a qualitative risk assessment;
- potential costs and considerations for remediation of the site; and,
- outline recommendations for land contamination issues.

1.4 The contamination appraisal is intended to characterise the contamination status of the site with regards to soils in proposed development areas within the Waterfront Zone. Particular emphasis was also placed on the requirement to further characterise previously identified groundwater contamination (comprising of chlorinated Volatile Organic Compounds [VOCs]) as documented in CampbellReith's Land Quality Statement (2011). Subsequently, the contamination appraisal will serve to determine remedial requirements necessary to permit the redevelopment of the site for residential and/or commercial land use.

1.5 This assessment considers the objectives of the National Planning Policy Framework (NPPF) which requires information to demonstrate that a site is 'suitable for its new use' (taking account of ground conditions) and not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990 (after remediation). This also requires adequate site investigation information.

1.6 It is noted that the appraisals contained herein do not consider wider development issues, such as those with cost implications (e.g. waste classification and geotechnical evaluation). Geotechnical investigation was undertaken as part of this investigation however data obtained was not reviewed and is not discussed within this report.

1.7 The desk study element of this report is based upon the previous Land Quality Statement prepared by CampbellReith (2011) and is provided within Appendix B and should be referred to in conjunction with this report.

1.8 The report is based on site investigation commissioned by CampbellReith for this project in January 2014 and undertaken by Harrison Group Environmental (HGE), existing site data from a previous Phase Two: Site Investigation report (Entec, 2007a) and a review of readily available information as referenced. The factual site investigation report (containing geotechnical data) is provided within Appendix C and the Entec (2007a) report provided within Appendix B.

1.9 The following site-specific information, based upon reports produced by others, has been reviewed for the purpose of this investigation. A summary of these reports have been provided in Section 5.0.

TABLE 1.1: EXISTING SITE-SPECIFIC INFORMATION

Report Title	Author	Client	Ref.	Date
Phase One: Desk Study	WSP	-	SILQ0067F19950500	1995
Draft Technical Note (Review of WSP Phase Two Investigation)	Entec	Defence Estates	SILQ0058F20010105	2001
Phase Two: Shallow Groundwater Report			SILQ0059F20030508	2003
Environmental Investigation Report	Adler & Allan Limited	-	-	2005
Phase One: Desk Study	Entec	Defence Estates	SILQ0059F20050518	2005
Ground Investigation Interpretative Report	Halcrow	SEEDA	SILQ0009F20060331	2006
Phase Two: Site Investigation	Entec	Defence Estates	SILQ0008F20040503	2007a
Phase Two: Radiological Survey Report			SILQ0084F20070531	2007b
Waterfront – Commercial Site Appraisal Report	Campbell Reith	SEEDA	TWABTT10500-061010-WaterfrontCommercialSite F2	2010a
Waterfront – Conservation Site Appraisal Report			TWABTT10500-061010-WaterfrontConservationSite F2	2010b
Daedalus - Land Quality Statement			TTjwc10500-220311-LQS_F1	2011

1.10 This report is intended to be cross-referenced with the ICARUS database, which has been created by CampbellReith using GIS Earthlight and has been made available to HCA through the use of freely available software. ICARUS contains copies of all previous studies that are considered relevant to the future redevelopment of the site. Information on the ICARUS database, how it can be accessed and how it is referenced within this report can be provided upon request.

2.0 SITE DESCRIPTION

Site Location

2.1 The site is located on the Gosport Peninsula, situated adjacent to the west of Broom Way/ B3885 in Lee-on-the-Solent, Hampshire , PO13 9YA, with National Grid Reference of 456002E, 102050N. The location of the site is illustrated in Figure 1.

2.2 The site lies within the jurisdiction of both Gosport Borough Council and Fareham Borough Council and is accessed via Chark Lane off Broom Way (B3385).

Site Layout

2.3 The site layout and features are illustrated in Figure 2. The Waterfront site is roughly triangular in shape, occupies an area of approximately 25 hectares and is situated at an elevation of between 7 – 11 metres Above Ordnance Datum (m AOD). The elevation of the site is generally flat, with nominal gradients (<0.5%) rising towards the east of the site.

2.4 The site is owned by the HCA and is managed by GVA Facilities Management and generally comprises buildings and structures associated with the site's former military use as a Royal Naval Air Station – Lee-on-Solent (HMS Daedalus). The Waterfront site is generally divided into two areas - the 'Commercial Area' – which primarily comprise large aircraft hangars and the 'Conservation Area – which is characterised by barracks type buildings such as the accommodation blocks, stores, galley and administration buildings etc.

2.5 The Commercial Area covers approximately 17 hectares and lies between the seafront and the active Daedalus airfield. Notable buildings within this area are the four large hangars adjacent to the airfield (Dunning, Swann, Esmonde and Overlord), a former boiler house and four hangars at the slipway. The majority of buildings within this area are currently utilised for commercial/ industrial purposes such as boat manufacturing.

2.6 The Conservation Area covers approximately 8 hectares and is located within the western/ south-western area of the site. The buildings in this area of the site are brick-faced and were previously used as the former barracks and offices of the former HMS Daedalus. A number of these buildings were observed to be dilapidated over the course of site works.

Surrounding Land-Use

2.7 A summary of the surrounding land uses to the site are provided in Table 2.1.

TABLE 2.1: SUMMARY OF SURROUNDING LAND USES

Direction	Description
North	Traffic control watch tower and coastguard building followed by Daedalus airfield.
East	Residential properties of Lee-on-the-Solent and land development (on going at time of preparation of this report).
South	Residential properties of Lee-on-the-Solent and The Solent.
West	The Solent.

Site After-Use Proposal

2.8 The proposed end use of the Waterfront site has not been established although it is understood that it will be for residential or commercial/ industrial use.

'Plot 1'

2.9 The majority of the Waterfront site proposed for development is referred to as 'Plot 1'.

'Plot 2'

2.10 It is understood that a sub-area in the north-east of Plot 1 (referred to as 'Plot 2') has been allocated to a future commercial tenant for redevelopment.

2.11 The spatial extent of the development areas is illustrated on Figure 3.

3.0 ENVIRONMENTAL SETTING

3.1 This section largely summarises information from the previous Land Quality Statement (CampbellReith, 2011).

Geology

3.2 Reference to the British Geological Survey (BGS) 1:50,000 Geological Sheet for Portsmouth indicates the site is underlain by the River Terrace Deposits over the Bracklesham Beds, with the Wittering Formation in the northern portion of the site and the Selsey Sand Formation in the southern portion of the site adjacent to Lee-on-Solent. The London Clay is indicated at depth. The Bracklesham Beds is shown to run parallel to the coastline in a northwest and southeast alignment and gently dipping towards the south.

3.3 Previous site investigations (which included BGS exploratory logs from the site) have been consulted to form the summary of the generalised sequence of strata on site provided in Table 3.1

TABLE 3.1: SUMMARY OF GEOLOGY

Type	Depth to base		Thickness (m)	Description
	m bgl	m AOD		
Made Ground	0.10 – 1.20	7.20 – 7.80	0.10 to 1.20	A variable thickness of **Made Ground** is anticipated due to the presence of historical development at the site.
Superficial	1.60 – 2.80	5.45 – 6.70	1.25 – 2.35	**Brickearth** – orange brown clays with sand and gravels.
	3.00 – 6.00	1.70 – 5.70	0.70 to 5.60	River Terrace Deposits – Orange brown, dense, gravels, sands and occasional silt horizons.
Bracklesham Beds	>15.30	-7.05	1.10 to 6.50 (proven)	**Wittering Formation** - brownish grey laminated clay; sand with clay bands; clayey sands and beds of glauconitic sands. **Selsey Sand** Formation – orange brown silty sandy/sandy silty.
London Clay Formation	~53.00*	-	58.00 (proven)	**London Clay**.

*Site specific depths may vary

Hydrogeology

3.4 The site hydrogeology is summarised in Table 3.2.

TABLE 3.2: SUMMARY OF HYDROGEOLOGY

Type	Distance	Description
Superficial Aquifer (River Terrace Deposits - Brickearth)	On site	Secondary 'A' Aquifer.
Bedrock Aquifer (Bracklesham Group)		
Soil Leaching Potential		'High'.
Groundwater – Source Protection Zone (SPZ)	>1,000m of site	None recorded within 1km of site.
Groundwater Drinking Water Protected Areas	On Site	GB40702G503000 – Probably not at risk.
Groundwater Safeguard Zone	>1,000m of site	None recorded within 1km of site.
Groundwater Abstractions		

3.6 The site is considered to have a **Medium** sensitivity with respect to hydrogeology due to the nature of the underlying Superficial and Bedrock Aquifers.

Hydrology

3.7 The site hydrology is summarised in Table 3.3.

TABLE 3.3: SUMMARY OF HYDROLOGY

Type	Distance	Description
Surface Waters	<50m west	The Solent.
Surface Water Abstractions	>1,000m of site	Not applicable.
Surface Water Drinking Protected Areas		
Surface Water Safe Guard Zone		
River Basin Management Plans		
Flooding		

3.8 The site is considered to have a **High** sensitivity with respect to hydrology due to the limited distance to the receptor and ecological significance (detailed further within this Section).

Radon

3.9 The site is located within a region where there is a risk of <1% of homes exceeding the radon action level.

3.10 The site is considered to have a **Low** sensitivity with respect to radon.

Sensitive Land Uses

3.11 Sensitive ecological receptors in proximity to the site are summarised in Table 3.4.

TABLE 3.4: SUMMARY OF SENSITIVE ECOLOGICAL RECEPTORS

Type	Distance	Description
Special Protection Areas (SPA)	<50m west	The Solent and Southampton Water.
Ramsar		The Solent and Southampton Water.
Sites of Special Scientific Interest (SSSI)		The Solent (to Itchen Estuary).

3.12 There are three Grade Two heritage listed buildings on site within the Conservation Area; the Dining Room and Triumph Galley, the Wardroom and Officers' Mess and Westcliffe House, which are illustrated in Figure 2.

3.13 The site is considered to have a **High** sensitivity with respect to the sensitive land uses.

4.0 SITE HISTORY AND INDUSTRIAL SETTING

4.1 This section summarises information from the previous Land Quality Statement (CampbellReith, 2011).

Site History

4.2 The site was first established as a seaplane base (Royal Naval Air Station, RNAS Lee-on-Solent) in 1917 and later became the main seaplane training establishment for the RAF before transferring back to the Royal Navy's Fleet Air Arm.

4.3 The site expanded with the acquisition of additional land, construction of the aerodrome, barracks blocks, administration and technical buildings. Following closure of the base, site ownership was split in 2006, with the central areas (i.e. runways on the airfield) transferring to the Maritime and Coastguard Agency (MCA) and surrounding areas (i.e. Waterfront Area) to the HCA.

4.4 In 1996, the site ceased operating as a MoD site. Currently the Commercial Area of the site is utilised by tenants for a variety of commercial/ industrial uses whilst the Conservation area remains largely derelict and unutilised.

Liaison with Regulatory Authorities

4.5 Previous consultation with the regulators (EHO for Gosport Borough Council, Fareham Borough Council and Environment Agency) was undertaken on CampbellReith's LQS (2011) as part of the current Outline Planning Application. Subsequent consultation with the regulators has not been undertaken at this stage.

Munitions and Unexploded Ordnance (UXO)

4.6 A summary of the areas where munitions/ UXO may pose a risk on site are illustrated in Figure 4.

Previous Surveys

Title	Issue date	Report type
HMS Daedalus, Land Quality Assessment, Phase one: Desk Study, Entec, DE project number 05002. (Draft report)	18 May 2005	Desk study report
HMS Daedalus Phase One, Explosive Ordinance Risk	December	Desk study

Title	Issue date	Report type
Assessment, ESG, report number ESG/05/041/F	2005	report
HMS Daedalus Phase II & III, Explosive Ordinance Risk Assessment, ESG, report number ESG/06/047/F	January 2007	Phase II & III
10756 Daedalus, Lee on the Solent – DLO Risk Assessment Document, Fellows International Limited.	26 March 2012	Review Letter
HMS Daedalus Desk Study Land Quality Statement, WSP dws project number N1/05002.	May 1995	Desk study report

Entec Phase 1 Desk Study (2005)

4.7 The Entec Land Quality assessment phase I report[1] notes the full history of UXO clearance works, noting the installation of pipe mines during WWII, their alleged full removal in 1947 before the discovery of a pipe mine in 1984, and further discoveries in 1990 and 1996. Considering this, all unexploded ordnance certificates associated with the site were withdrawn in 2004 by the DLO (Defence Logistics Organisation, now Defence Infrastructure Organisation -EOD) over concerns about their completeness and accuracy.[1] This was confirmed by email by the DIO-EOD on 04/08/14 (see attached correspondence).

4.8 The DLO commissioned an Explosive Ordnance Risk Assessment Phase One Desk Study in 2005[2], which details records of the relevant historical uses, WWII bombing raids, pipemine construction and mapped locations. The desk study risk assessment concluded that areas outside of the perimeter track were considered **Very Low Risk**, and no further work was recommended. The area within the perimeter track comprising the runways and central areas was assessed to be **Medium Risk**, consequently a subsurface scan using a towed array system and investigation of identified anomalies was recommended as part of a Phase II & III study.

4.9 The Phase II & III explosive ordnance risk assessment report provides details of the ferrous metals subsurface scan conducted within the perimeter track with the aim of detecting pipe mines. Where anomalous readings were detected ground penetrating radar was utilised to assess the size and shape of the anomaly to determine if excavation was required. Using these techniques various pipe mines were positively located, investigated and removed, details of the location and mine status was recorded in the Phase II & III report. There are no details of locations which were intrusively investigated but eventually found to be non UXO targets. As such it is not possible to certify these areas being clear of unexploded ordnance. The subsurface scan was also scrutinised for evidence of dropped or buried practice bombs, and a clutch of 10lb practice bombs were found to the north of runway 10/28.

Concrete hardstanding at building 389

4.10 During the survey there was an area of hardstanding outside building 389, which was not possible to effectively survey, or intrusively clear due to the reinforcement present in the concrete. It is the accepted professional opinion of the UXO contractors consulted that areas of hardstanding and areas around services cannot be effectively cleared with subsurface scanning.

4.11 It should be noted that the conclusions reached by the DLO reports are risk assessments only, and the assessments made do not constitute explosive free certification which would identify the depth of clearance and any risk zones outstanding.

Fellows International Ltd, 2012

4.12 A critical review of the DLO Phase I, II & III reports was conducted by Fellows International Limited (FIL). The details of the letter are summarised below:

- The effective clearance depth of the instrumentation is not detailed within the report.
- The work conducted appears to be focused on shallow pipe mines, resulting in a potential for deeper buried munitions to have been missed.
- There are areas of the site which have not been surveyed, including the area in hangars east utilised for bomb storage during WWII[5].

4.13 It was concluded that in the professional opinion of Fellows International Limited, a **'level of risk still exist on the HMS Daedalus, Lee on the Solent site from unexploded ordinance.'**

Consultation with *DIO–EOC, 2014*

4.14 The DLO (now known as DIO-EOC) cited concerns over the effectiveness of the searches for WWII pipe mines, and consequently withdrew all existing unexploded ordnance certificates in 2004. CampbellReith have been in correspondence with the DIO–EOC who have confirmed that all "Explosive Free Certificates" pre dating 2004 have been removed.

4.15 The most recent works conducted by the DLO has provided a UXO risk assessment for the site, however this does not constitute an "Explosives Free Certificate". Although the report states with confidence that pipe mines have been cleared from the site, the report does not state the depth to which the site has been cleared for UXO in the central scanned area, and the perimeter areas remain unscanned.

Conclusions

4.16 The Daedalus site has been subject to various historical searches and reports relating to the unexploded ordinance status of the site.

4.17 To provide sites with an 'Explosives free certificate' a surface scan using a ferrous and non-ferrous metal detector and associated bomb detection software is conducted. This identifies anomalous areas or points on a site which require intrusive investigation. When the anomalous readings have been investigated and identified then the site can be issued with an 'Explosives Free Certificate' which denotes the site 99.5% free from all munitions contamination. The depth of clearance varies depending on the ground conditions.

4.18 However, the sub-surface scanning is not considered to be effective when the site comprises significant building or vegetation coverage, substantial thickness of concrete slab and the presence of steel reinforcing. As such, UXO sub-surface scan or undertake a watching brief when the site is brought forward for redevelopment.

4.19 Based upon the above, it is understood that further investigation or watching brief for the presence of UXO on site will be necessary during future redevelopment

Radiation

4.20 A review of previous site investigations was carried out as part of the previous Land Quality Statement (CampbellReith, 2011) which identified several localised areas of radioactive contamination. It was concluded that the risk pose to current site users was **Low** and the risk posed to future site users (residential) was **Moderate**.

4.21 A guideline screening level of 0.34 $Bq.g^{-1}$ (National Radiological Protection Board, NRPB, now part of the Health Protection Agency) was derived for the risk assessment. A summary of the areas intrusively investigated and scanned (i.e. site walkover) on site in addition to areas of radioactive contamination are illustrated in Figure 5.

4.22 It should be noted that further investigation/ assessment of radioactivity on site is not within the scope of work for this report. The nature of the risk posed by radiation on site is discussed in detail within Section 5.0.

Current Industrial Setting

4.23 Industrial features which may pose as a potential source of contamination to the site are summarised in Table 4.1.

TABLE 4.1: INDUSTRIAL SETTING

Type	Distance	Description
Contemporary Trade Entries	On site	M & J Transport - oily drums, batteries and metal oil tank.
		Buckland & Langley Demolition - oily residue on yard surface.
		Marine Concepts – boat manufacturing/ repair.
		Shearwood Steel fabricators - engineering works.
		Hampshire Pallets – inactive and active.
	Adjacent to north-east	BP haulage - oil filters and unbunded 200L drums resting on grassed area (inactive).
	<500m radius	24 entries comprising engineering, garage services, maintenance contractors, glass engravers, plastics suppliers, cleaners, haulage, car dealers, printers and aggregate supplies.
Petrol Stations	550m east	'Total' petrol filling station on Broom Way.
Pollution Incidents	<100m north	Loss of 0.9kL of aviation fuel from an above ground tank in proximity to the control tower (March 2005).
Discharge Consents	<500m radius	10 discharge consents although none of the records relate to discharges from the site.
Registered Radioactive Substances	On site	All three records are associated with the Daedalus site, with no specific locations provided: • Interserve (Defence) Ltd Authorisation under 5 13 of RSA for disposal of Radioactive Waste; • Ministry of Defence Authorisation under 57 of RSA for keeping and use of radioactive material; • Ministry of Defence Authorisation under 57 of R5A for keeping and use of radioactive materials -1 or more closed sources (<4 terabecquerels). The above current status of these authorisations are based upon Halcrow/Entec records and require confirmation.

4.24 The following were not identified at or within 500m of the site:

- Agency and Hydrological: Contaminated Land Register Entries and Notices; Discharge Consents; Enforcement and Prohibition Notices; Integrated Pollution Controls; Integrated Pollution Prevention and Control; Local Authority Integrated Pollution Prevention and Control; Local Authority Pollution Prevention and Controls; Local Authority Pollution Prevention and Control Enforcements; Prosecutions Relating to Authorised Processes;

Prosecutions Relating to Controlled Waters; Substantiated Pollution Incident Registers; and, Water Industry Act Referrals.

- Waste: BGS Recorded Landfill Sites; Integrated Pollution Control Registered Waste Sites; Licensed Waste Management Facilities (Locations); Local Authority Recorded Landfill Sites; Registered Waste Transfer Sites; and, Registered Waste Treatment or Disposal Sites.
- Hazardous Substances: Control of Major Accident Hazards Sites (COMAH); Explosive Sites; Notification of Installations Handling Hazardous Substances (NIHHS); Planning Hazardous Substance Consents; and, Planning Hazardous Substance Enforcements.

Current Tenant Activity

4.25 Commercial/ industrial tenants who were understood to be currently present on site has been previously summarised by CampbellReith in the Land Quality Statement (2011), although it is acknowledged that tenants may have changed considerably since the issue of the previous 2011 report. Such activities where potential contamination may pose a risk to site end users are accounted for within the Preliminary Conceptual Site Model in Section 6.0. It should be noted that a review of the commercial/ industrial tenants was not undertaken as part of this report.

5.0 PREVIOUS SITE INVESTIGATIONS

5.1 A number of investigations have previously been reviewed by CampbellReith to characterise the site's contamination status as part of preparation of the previous Land Quality Statement (2011), of which are summarised in Table 1.1.

5.2 A detailed summary of these reports is provided within the Land Quality Statement (CampbellReith, 2011) in Appendix C, with a brief summary provided in the following sub-sections. The locations of buildings/ features, where mentioned, are illustrated in Figures 2 and 6.

5.3 It should be noted that these investigations generally corresponded to the entire Daedalus site and not solely the Waterfront. In addition, contamination assessments undertaken in these reports may not be in line with current guidance (refer Table 8.1).

WSP Phase One: Desk Study, 1995

5.4 The report provided information with regards to potential areas of contamination observed during a comprehensive site reconnaissance exercise over the entire Daedalus area. Notable areas of potential contamination identified in the report have been included within the Preliminary Conceptual Site Model in Section 6.0 and illustrated in Figure 6.

Entec LQA Review: Draft Technical Note, 2001

5.5 A site investigation was undertaken based on the findings of the Desk Study, which targeted assessment of the potentially contaminating infrastructure previously identified. The summary did identify the presence of contamination on site however the specific locations/ areas where contamination was identified was not reported.

Entec Phase Two: Shallow Groundwater Investigation, 2003

5.6 An intrusive shallow groundwater investigation was undertaken due to previous site investigations being deemed to be insufficient to comprehend the full extent of contamination (including radiological).

5.7 Groundwater elevation was gauged in May 2003 and typically ranged between 4.2m AOD and 6.3m AOD, with flow direction being towards the south-west (i.e. The Solent).

5.8 Visual and olfactory evidence of contamination was observed in the form of strong petrol odours at one location in proximity to the former MT section (building 99) and one location in the former grounds maintenance area (off-site to the north-east in the DIO site). Localised occurrences of hydrocarbon contamination (i.e. limited in lateral extent) were identified in shallow groundwater at the former MT section and the former grounds maintenance area.

5.9 The principal contaminant encountered/ of concern were chlorinated solvents within groundwater, particularly within the north-west of the Waterfront in the area of the former Bulk Fuel Installation (BFI) (building 10). The extent of the groundwater contamination was considered likely to extend some distance up-gradient (north), with the likely origin considered to be the aircraft hangars and workshops.

5.10 The risk to groundwater with respect to chlorinated solvents, petroleum hydrocarbons and diesel range organics was assessed as high and a low risk assigned to coastal waters (i.e. The Solent). Contaminated groundwater was considered to be in hydraulic continuity with The Solent, but it was unlikely to have a significant impact on the receptor due to dilution effects.

Adler + Allan Limited, Environmental Investigation Report, 2005

5.11 The BFI was decommissioned, which comprised the removal of six underground storage tanks (USTs) and corresponding excavation of soils. It is understood that the USTs previously contained aviation turbine fuel and high-octane aviation fuel but were filled with water at the time of decommissioning.

5.12 Recorded observations of the works identified excavation of potentially contaminated soils extended to approximately 3m bgl, which were stockpiled for purposes of environmental sampling and laboratory analysis. Based on soil analytical data, hydrocarbon contamination was deemed to be low (maximum concentration of 350mg/kg), with soils aerated to volatilise organic compounds prior to be placed back in the excavation.

Entec Phase One: Desk Study, 2005

5.13 A review of the commercial/ industrial activities on Daedalus was undertaken and provided a detailed account of all tenanted activity and areas of potential contamination. Notable areas of potential contamination identified in the report have been included within the Preliminary Conceptual Site Model in Section 6.0 and illustrated in Figure 6.

5.14 Previous studies for Daedalus reported that historical site operations included the potential to cause radioactive contamination. These activities (relevant to the site) typically corresponded to aircraft hangars, workshops and maintenance facilities whereby radium luminised instruments were maintained and stored within aircraft hangars. Furthermore, it was considered that radium luminised instrumentation would have repaired along with the storage of radium luminising paints and this may have led to the ad-hoc disposal of such materials locally to the ground around these facilities in addition to their leaching into the ground when aircraft crashed.

Halcrow: Ground Investigation Interpretative Report, 2006

5.15 A ground investigation was undertaken to obtain an indication of the ground conditions on site and characterise the risk potentially posed by ground gases on site. The investigation was undertaken for the South East England Development Agency (SEEDA) and undertaken concurrently with the Entec (2007) investigation.

5.16 The investigation included a trial trenching exercise which targeted the former BFI. The report stated that impacted soils were replaced at this location post-identifying that the soils were unacceptable for disposal to landfill. Evidence of contamination was made by visual observations and field screening readings (Photo-Ionisation Detector (PID) with maximum PID readings of 1,640ppm. No contamination testing data for this area was provided.

5.17 A review of the findings and assessment of data from the investigation was subsequently undertaken by CampbellReith (2010a, 2010b & 2011), which are detailed later in this Section.

Entec Phase Two: Site Investigation, 2007

5.18 A ground investigation was undertaken to obtain an indication of the ground conditions on site and characterise the risk potentially posed by ground gases on site. The investigation was undertaken for Defence Estates and undertaken concurrently with the Halcrow (2006) investigation.

5.19 Visual and olfactory evidence of contamination was observed during these works and comprised localised staining and hydrocarbon odours as follows; southwest corner of the Swann Hangar, north of Dunning Hangar (building 73), the MT Section (building 99) and in the vicinity of the former grounds maintenance yard (off-site to the north-east in the DIO site). PID readings 640ppm were recorded in soils within Made Ground in the MT Section

5.20 A review of the findings and assessment of data from the investigation was subsequently undertaken by CampbellReith (2010a, 2010b & 2011), which are detailed later in this Section.

CampbellReith: Land Quality Statement, 2011

5.21 A generic quantitative risk assessment and a qualitative risk assessment for Daedalus was undertaken to identify the likely remedial requirements necessary to permit redevelopment for a combination of residential and commercial/ industrial uses. Information and data used in the assessments were sourced from the Entec (2005), Halcrow (2006 & 2007) and CampbellReith (2010a & 2010b) reports.

5.22 Prior to the assessment of the data from the 2014 investigation, it has been considered prudent to update the statistical assessment of the data gathered from the previous 2011 Land Quality Statement in view of the proposed residential end use. The following is a summary of the elevated contamination.

Arsenic

- HBH403 at 0.35m bgl adjacent to the west of the Ward Room Annexe.

Lead

5.23 Concentration of lead exceeded the screening criteria four samples collected from the following areas:

- EBH301 (1,570mg/kg) at 0.30mbgl adjacent to the north-west of the former BFI;
- HTP409 (1,033.5mg/kg) at 0.3m bgl;
- EBH303 at 0.3m bgl;
- HTP405 at 0.3m bgl adjacent to the west of Dunning Hangar; and,
- HWS404 at 0.4m bgl in the vicinity of MPBW Store and Garage.

5.24 The 95%ile for lead was below the screening criteria, indicating that the identified contamination was attributed to hotspots.

Speciated PAHs

5.25 The concentration of naphthalene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene and dibenzo(a,h)anthracene exceeded the respective screening criteria in one or more of the following locations:

- EBH305 at 0.2m bgl adjacent to the west of Dunning Hangar;
- HWS401 at 0.4m bgl west of Dunning Hangar; and,
- HWS415 at 0.2m bgl adjacent to the north-west of Dunning Hangar.

5.26 The 95%ile for all speciated PAHs exceeding the screening criteria were subsequently below the screening criteria and therefore indicating that the identified contamination was attributed to hotspots with the exception of benzo(a)pyrene and dibenzo(a,h)anthracene. As the 95%ile exceeded the screening criteria for benzo(a)pyrene and dibenzo(a,h)anthracene, contamination was considered to be site wide.

Total Petroleum Hydrocarbons

5.27 The concentration of TPH C16 - C21 (aromatics) exceeded the screening criteria in one sample collected from the Unicorn Triangle (EBH303 at 0.3m bgl). The 95%ile for TPH C16 - C21 (aromatics) was below the screening criteria, indicating that the identified contamination was attributed to a hotspot.

- Benzene in HBH405 at 1.3m bgl in the soft landscaped area to the east of the Ward Room annexe.

5.28 The concentration of toluene exceeded the screening criteria in four samples collected from the following areas:

- EBH302 at 6m bgl and 7m bgl;
- HBH413 at 4.4m bgl adjacent to the west of Overlord Hangar; and,
- HTP405 at 2.5m bgl adjacent to the west of Dunning Hangar.

5.29 In general, the contamination identified was consistent with that identified in this LQS, particularly where benzo(a)pyrene and dibenzo(a,h)anthracene, contamination was considered to be site wide.

5.30 With regards to human health, contaminants were generally not observed to be in excess of residential or commercial/ industrial screening criteria on site with the exception of several localised occurrences of metals and hydrocarbons typically within Made Ground.

5.31 Tetrachloroethene (PCE) and hydrocarbons (select PAHs, benzene, toluene, ethylbenzene and xylenes [BTEX compounds]), were identified to be highly leachable in soils in localised areas of the site, particularly to the west of building 141.

5.32 A dissolved PCE plume was identified across the site, with highest concentrations (~2,000µg/l) in the area encompassing building 91. Dissolved phase hydrocarbon contamination consisting of TPH, BTEX compounds and methyl-tert-butyl ether (MTBE) was identified in the immediate location of the former MT Section.

5.33 The ground gas regime at the site was considered to be indicative of a CIRIA Characteristic Situation 1 (i.e. low risk) however this was based on a single visit.

5.34 Additional site investigation was recommended in order to achieve a data set that adequately represented each proposed development plot. A Detailed Quantitative Risk Assessment (DQRA) was recommended with regards to further assessing the risk posed by groundwater contamination on site. It was also recommended that additional site investigation further appraise the risk posed by hazardous ground gas (including gases generated from groundwater contamination) on site.

6.0 TIER 1 PRELIMINARY RISK ASSESSMENT AND CONCEPTUAL SITE MODEL

6.1 Current practice for land contamination evaluation involves appraisal of contaminant source-pathway-receptor pollutant linkages. These are summarised below and predominately based on previous investigations (refer Section 5.0). This information has been utilised to design the site investigation considering site end use.

Classification of Risk

6.2 Risk is defined by the combination of two factors: i) the probability of an occurrence (expressed as a likelihood: Highly Likely through to Unlikely; and ii) the consequence of it happening (expressed as a severity: Severe through to Minor). The procedure for classifying risk is summarised in Table 6.1. The categories of risk have been based upon those defined in NHBC R&D66 Guidance for the Safe Development of Housing on Land Affected by Contamination R&D66: 2008 Volume 1 (Environment Agency, NHBC and CIEH). The categories are defined in the Environmental Risk Assessment Supporting Information section to the rear of this report, together with definitions of the classifications of probability and consequence.

TABLE 6.1: CLASSIFICATION OF RISK

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

Potential Sources of Contamination

6.3 The potential contamination sources that have been identified on or near the site have been taken from the Land Quality Statement (CampbellReith, 2011) and are summarised in Table 6.2 and illustrated in Figure 6. The potential contaminant types associated with these is then given based upon a review of CLR11, industry profiles and anecdotal information.

6.4 It should be noted that the summary below is intended to highlight the various potential contamination sources, with their locations on site previously identified within the Land Quality Statement (CampbellReith, 2011). Furthermore, considering the on-going commercial/ industrial use, the potential sources of contamination summarised in Table 6.2 may not be exhaustive.

TABLE 6.2: POTENTIAL SOURCES OF CONTAMINATION

Feature on site	Potential Contaminants
Former BFI	H, ACM
Fuel/ oil stores (e.g. former MT Section) – including tanks, drums for storing/ dispensing products such as petrol, diesel, solvents, hydraulic and lubricating oils.	H, VOCs
Boiler houses - stores of 'caustics' and hydrochloric acid'	H, VOCs, ACM
Hangars for aircraft maintenance and repair – solvent ('BASOL' and white spirits) and synthetic lubricating oils. Current use of Dunning , Esmonde and Swann Hangars for boat and plane manufacture that utilise fibreglass and paints.	H, , VOCs, RAD
Former Naval Stores / Victualling - now utilised as a Precision Engineering works. This building has a raised floor within and no access to the void beneath. It is possible that this houses a storage tank.	H, VOCs
Former Barracks Laundry / Dry Cleaning	H, VOCs
Paint store - polyurethane varnish, toluene and xylene	H, VOCs
Old workshops and stores - blacksmiths, joiners, polishers, shipwrights and engineering works.	H, M, ACM, RAD
Former pistol firing range	M
Scrap metal compound	H, M
Drums storing ethylene glycol for de-icing.	H
Electricity substation	PCBs
Former coal storage compound	H
Printing shop	H
Buildings (generally due to age)	M, ACM
Feature in proximity to site	**Potential Contaminants**
Fuel/ oil stores – including tanks (air traffic control tower - <100m north)	H, ACM
Grounds maintenance area (adjacent to east – DIO site)	H, M, ACM
Former incinerator	H, M, ACM
Electricity substation	PCBs
Boiler house (<500m north)	H, ACM
Landfills (>1km north-east)	Various
Petrol filling stations (500m east)	H, M, VOC, PRO, DRO, ACM

Notes: M – Metals. H – Hydrocarbons. VOC – Volatile Organic Compounds. PRO - Petrol Range Organics. DRO - Diesel Range Organics. ACM – Asbestos Contaminant Materials. PCB – Polychlorinated Biphenyl. RAD – Radiation.

Pathways

6.5 In the context of the proposed site uses, the potential pathways presented in Table 6.3 are deemed to be applicable and have been considered in the further site investigation.

TABLE 6.3: EXPOSURE PATHWAYS

Pathway		Phase
Ingestion of soil / dust	Outdoor	C, O
	Indoor	-
Inhalation of soil / dust	Outdoor	C, O
	Indoor	-
Inhalation of vapour from soil / dust / water	Outdoor	C, O
	Indoor	O
Dermal contact with soil / dust / water	Outdoor	C, O
	Indoor	-
Consumption of vegetables / plants	Outdoor	O
Migration of soil gases to confined spaces / structures	Indoor	C, O, B
	Outdoor	C, O
Migration of water borne contaminants	On site	O, B, E
	Off site	O, B, E
Uptake by flora / fauna	On site	E
Notes: C – Construction. O – Occupation. E – Environmental effect off site. B – Buildings and services.		

Receptors

6.6 In the context of the above, a number of potential receptors have been identified. These are summarised in Table 6.4.

TABLE 6.4: POTENTIAL RECEPTORS

Receptor	Description	Sensitivity
Construction and maintenance workers	Construction workers associated with the development are likely to be exposed in the short term only, however, longer and intermittent visits are likely to be made by maintenance workers.	Low – Medium
Site end users	Combination of residential and/ or commercial/ industrial	Low – High
Controlled Waters (Hydrogeological)	Secondary A Aquifer (River Terrace Deposits and Bracklesham Beds) is present on-site, which has previously been confirmed to be contaminated by PCE across the site and localised hydrocarbons.	Medium

Receptor	Description	Sensitivity
Controlled waters (Hydrological)	The Solent is adjacent to the west of the site and is classified as a SPA, Ramsar site and SSSI.	High
Buildings and Service Infrastructure	Redevelopment of the site likely to result in sub-surface excavations/ installations.	Medium
Adjacent end users	Residential properties are established to the east, south and partly to the west.	High

Targeted Pollutant Linkages

6.7 Table 6.5 summarises the identified pollutant linkages that were targeted in the site investigation.

TABLE 6.5: TARGETED POLLUTANT LINKAGES

Issue	Exploration
Human exposure to Made Ground on site.	General on site - soil samples collected from both systematic (i.e. grid based/ general coverage) and targeted (i.e. specific to infrastructure) locations to characterise Made Ground stratum.
Potentially contaminating infrastructure on site.	Sampling of soil in proximity to selected potentially contaminating infrastructure.
Ground gas generation on site.	General on site - both systematic and targeted locations and also to identify if VOC groundwater contamination poses a vapour risk.
Groundwater contamination.	General on site - both systematic and targeted locations within the Superficial Aquifer to adequately assess: • chlorinated solvent contamination; • migration of additional groundwater contamination identified in previous investigations (refer Section 5.0); and, • Unidentified groundwater contamination potentially present as a result of on-going use of the site and surrounding area.

6.8 The findings of the intrusive investigation of the potential contaminant sources and pathways are reported herein. This has informed the Generic Quantitative Risk Assessment presented in Section 8.0 and the subsequent Qualitative Risk Assessment in Section 10.0.

7.0 SITE INVESTIGATION

Summary of Investigation

7.1 In order to address the targeted pollutant linkage in Table 6.4, the following scope of work was undertaken on site:

- 20 no. cable-tool percussive boreholes to maximum depth of 15.0m bgl;
- 19 no. window sample boreholes to a maximum depth of 5.0m bgl;
- 23 no. trial pits to a maximum depth of 4.1m bgl; and,

7.2 According to the BS 10175: Investigation of Potentially Contaminated Sites – Code of Practice (2011), the locations and corresponding samples collected should be adequate enough to indicate lateral and vertical extent of contamination and capable of detecting a 'reasonable' size hotspot in comparison to the size of the site.

7.3 The rationale of determining the number of sample sites has taken into account the requirements stipulated in BS 10175: Investigation of Potentially Contaminated Sites – Code of Practice (2011) for lateral and vertical characterisation of the ground conditions and identification of potential hotspots.

7.4 In addition to the scope, a total of nine California Bearing Ratio (CBR) tests were undertaken. The investigative locations and CBRs are illustrated on Figure 3 and within the Harrison Group Environmental Ltd (HGE) factual report in Appendix B.

Ground Conditions

7.5 Two locations from the Entec (2007a) investigation were also included in the investigation (EBH310 and EWS305) which were located along the western boundary in the Plot 2. Both locations are illustrated in Figure 3.

7.6 The ground conditions encountered during this site investigation were consistent with published geological information and to those encountered in previous investigations (i.e. Entec, 2007a) (refer Table 3.1).

7.7 Exploratory hole logs from the 2014 site investigation are provided within the HGE factual report presented in Appendix C. The exploratory logs for EBH310 and EWS305 are within the Entec (2007a) report, which is provided in Appendix B.

7.8 Construction details pertaining to groundwater monitoring wells installed on site are summarised in Table 7.1.

TABLE 7.1: STANDPIPE SUMMARY

Hole ID	Response Zone (m bgl)	Strata Encountered and Depth (m bgl)	
LEPBH01	1.0 – 9.0	0.0 - 0.5	Made Ground.
		0.5 – 2.2	Brickearth.
		2.2 – 6.8	River Terrace Deposits.
		6.8 – 9.0	Bracklesham Beds.
LEPBH02	1.0 – 6.0	0.0 – 0.2	Topsoil.
		0.2 – 2.7	Brickearth.
		2.7 – 6.0	River Terrace Deposits
MCBH01	1.0 – 10.0	0.0 – 1.3	Made Ground.
		1.3 – 1.8	Brickearth.
		1.8 – 8.5	River Terrace Deposits.
		8.5 – 10.0	Bracklesham Beds.
MCBH02	1.0 – 10.0	0.0 – 1.8	Made Ground.
		1.8 – 7.8	River Terrace Deposits.
		7.8 – 10.0	Bracklesham Beds.
MCBH03	1.0 – 9.0	0.0 – 0.6	Made Ground.
		0.6 – 1.7	Brickearth.
		1.7 – 3.6	River Terrace Deposits.
		3.6 – 9.0	Bracklesham Beds.
NGBH01	1.0 – 9.0	0.0 – 0.3	Made Ground.
		0.3 – 1.9	Brickearth.
		1.9 – 4.1	River Terrace Deposits.
		4.1 – 9.0	Bracklesham Beds.
WFBH01	1.0 – 15.0	0.0 – 0.3	Made Ground.
		0.3 – 2.2	Brickearth.
		2.2 – 12.3	River Terrace Deposits.
		12.3 – 15.0	Bracklesham Beds.
WFBH02	1.0 – 9.0	0.0 – 0.55	Topsoil.
		0.55 – 2.2	Brickearth.
		2.2 – 9.0	River Terrace Deposits.
WFBH03	1.0 – 9.0	0.0 – 1.0	Made Ground.
		1.0 – 2.2	Brickearth.
		2.2 – 6.2	River Terrace Deposits.

Hole ID	Response Zone (m bgl)	Strata Encountered and Depth (m bgl)	
		6.2 – 15.0	Bracklesham Beds.
WFBH04	1.0 – 9.0	0.0 – 0.7	Made Ground.
		0.7 – 2.2	Brickearth.
		2.2 – 9.0	River Terrace Deposits.
WFBH05	1.0 – 9.0	0.0 – 0.4	Made Ground.
		0.4 – 3.0	Brickearth.
		3.0 – 7.2	River Terrace Deposits.
		7.2 – 15.0	Bracklesham Beds.
WFBH06	1.0 – 11.0	0.0 – 0.1	Topsoil.
		0.1 – 0.8	Made Ground.
		0.8 – 3.0	Brickearth.
		3.0 – 11.0	River Terrace Deposits.
WFBH07	1.0 – 9.0	0.0 – 0.9	Made Ground.
		0.9 – 2.2	Brickearth.
		2.2 – 6.1	River Terrace Deposits.
		6.1 – 9.0	Bracklesham Beds.
WFBH08	1.0 – 13.5	0.0 – 0.35	Made Ground.
		0.35 – 2.0	Brickearth.
		2.0 – 13.5	River Terrace Deposits.
WFBH09	2.0 – 9.0	0.0 – 1.5	Made Ground.
		1.5 – 2.9	Brickearth.
		2.9 – 5.0	River Terrace Deposits.
		5.0 – 9.0	Bracklesham Beds.
WFBH11	1.0 – 6.0	0.0 – 1.0	Made Ground.
		1.0 – 1.9	Brickearth.
		1.9 – 6.0	River Terrace Deposits.
WFBH12	1.0 – 6.0	0.0 – 1.0	Made Ground.
		1.0 – 3.0	Brickearth.
		3.0 – 6.0	River Terrace Deposits.
WFBH13	1.0 – 6.0	0.0 – 0.8	Made Ground.
		0.8 – 1.8	Brickearth.
		1.8 – 2.2	River Terrace Deposits.
		2.2 – 6.0	Bracklesham Beds.
WFBH14	1.0 – 6.0	0.0 – 2.0	Made Ground.
		2.0 – 2.6	Brickearth.
		2.6 – 6.0	River Terrace Deposits.
WFWS21	1.0 – 3.0	0.0 – 0.2	Made Ground.
		0.2 – 1.8	Brickearth.
		1.8 – 4.1	River Terrace Deposits.
EBH310*	2.6 – 8.7	0.0 – 1.1	Made Ground.
		1.1 – 8.7	River Terrace Deposits.

Hole ID	Response Zone (m bgl)	Strata Encountered and Depth (m bgl)	
		8.7 – 10.0	Bracklesham Beds.

* Installed as part of the Entec (2007) investigation

7.9 Ground conditions encountered typically consisted of Made Ground (to 0.9m bgl) overlying Brickearth (to 2.6m bgl, 1.7m in thickness), River Terrace Deposits (to 7.2m bgl, 4.6m thick) and Bracklesham Beds (proven to 15m bgl).

Groundwater Observations

7.10 Groundwater observations recorded during intrusive investigation and subsequent groundwater monitoring are summarised in Table 7.2. Groundwater gauging (post-installation) of stand pipes installed as part of this investigation was undertaken in April/ May 2014. Groundwater gauging of EBH310 was undertaken in December 2005.

7.11 The data from the latest site investigation are provided within the HGE factual report presented within Appendix C. Raw data from the Entec (2007a) report is provided within Appendix B.

TABLE 7.2: GROUNDWATER OBSERVATIONS

Hole ID	Water Strike – Drilling (March 2014)		Groundwater Gauging – Post Installation			
	Struck (m bgl)	Rose (m bgl)	1 April 2014		15 May 2014	
			m bgl	m AOD	m bgl	m AOD
LEPBH01	3.5	2.8	2.7	5.8	2.8	5.6
LEPBH02	5.2	2.8	3.7	4.3	4.0	4.0
MCBH01	6.0	2.8	3.1	5.1	3.2	5.0
MCBH02	4.7	2.8	3.5	5.4	3.7	5.3
MCBH03	3.4	2.9	2.4	5.7	2.6	5.5
NGBH01	5.4	4.7	3.1	4.9	3.6	4.5
WFBH01	6.4	3.8	4.1	4.1	4.4	3.7
WFBH02	5.2	2.8	3.8	4.2	4.4	3.5
WFBH03	5.6	2.2	4.2	4.3	4.4	4.2
WFBH04	6.2	3.2	3.9	4.3	4.2	4.1
WFBH05	8.6	5.2	5.1	3.3	5.3	3.1
WFBH06	5.7	3.0	3.3	5.1	3.7	4.7
WFBH07	8.5	2.2	3.4	5.0	3.6	4.8
WFBH08	3.9	1.0	2.9	5.5	3.1	5.3
WFBH09	6.5	3.2	3.8	4.9	3.9	4.8
WFBH11	3.4	2.1	4.2	4.3	4.4	4.1
WFBH12	4.9	3.1	3.4	4.7	3.6	4.5

Hole ID	Water Strike – Drilling (March 2014)		Groundwater Gauging – Post Installation			
	Struck (m bgl)	Rose (m bgl)	1 April 2014		15 May 2014	
			m bgl	m AOD	m bgl	m AOD
WFBH13	5.2	2.8	3.1	5.6	3.3	5.4
WFBH14	-	-	2.8	5.3	2.9	5.1
LEPWS02	2.8	-	-	-	-	-
LEPWS03	1.8	-	-	-	-	-
LEPWS04	1.7	-	-	-	-	-
LEPWS05	2.6	-	-	-	-	-
MCWS01	1.9	-	-	-	-	-
MCWS02	2.1	-	-	-	-	-
LEPTP01	3.0	-	-	-	-	-
LEPTP02	3.4	-	-	-	-	-
LEPTP03	2.8	-	-	-	-	-
LEPTP05	2.5	-	-	-	-	-
LEPTP06	0.7	-	-	-	-	-
MCTP01	3.2	-	-	-	-	-
MCTP02	2.8	-	-	-	-	-
NGTP01	3.1	-	-	-	-	-
NGTP02	3.4	-	-	-	-	-
NGTP03	2.6	-	-	-	-	-
WFTP01	2.6	-	-	-	-	-
WFTP02	3.8	-	-	-	-	-
WFTP04	0.7	-	-	-	-	-
WFTP07	3.6	-	-	-	-	-
WFTP08	3.1	-	-	-	-	-
WFTP09	2.6	-	-	-	-	-
WFTP10	3.0	-	-	-	-	-
WFTP11	3.3	-	-	-	-	-
EBH310*	-	-	3.2	5.6	-	-

* Installed and monitored as part of the Entec (2007) investigation

7.12 With regards to Table 7.2, groundwater was encountered within River Terrace Deposits and the underlying Bracklesham Beds in all locations.

7.13 Depth to groundwater (based on post-installation monitoring) ranged between the following:

- April 2014 - 2.4m bgl (MCBH03) and 5.1m bgl (WFBH05), with corrected elevations ranging between 3.3m AOD (WFBH05) and 5.8m AOD (LEPBH01).
- May 2014 – 2.6m bgl (MCBH03) and 5.3m bgl (WFBH05), with corrected elevations ranging between 3.1m AOD (WFBH05) and 5.6m AOD (LEPBH01).

7.14 Whilst the lowest groundwater elevation on site was located along the southern boundary of the site (WFBH05) review of groundwater elevations converted to datum indicated that the next lowest elevations are consistently located to the west of LEPBH01; WFBH01, WFBH02 and WFBH11. As such, groundwater flow direction across the site is inferred to be in a westerly direction, which is consistent with the findings of the Entec (2007a) report.

7.15 No free product (i.e. light or dense non-aqueous phase liquid [LNAPL/ DNAPL]) was recorded/ encountered during the works.

Ground Gas Observations

7.16 Ground gas was monitored at 20 nr. locations on site over 4 nr. discrete visits as follows:

- 3 nr. events in April 2014, whereby all standpipes installed as part of this investigation (refer Table 7.1) were monitored; and,
- 1 nr. event in May 2014, whereby four locations installed as part of this investigation were monitored (MCBH01, WFBH03, WFBH12 and WFBH13).

7.17 Ground gas was also monitored in two locations (EBH310 and EWS305) as part of the Entec (2007a) investigation in one event (December 2005). No construction details were recorded in the exploratory log for EWS305 within the Entec (2007a) report.

Geotechnical Testing

7.18 In-situ geotechnical testing was undertaken and comprised a total of 132 Standard Penetration Tests (SPTs) carried out in accordance with BS EN ISO 22476-3:2005. Geotechnical laboratory testing is summarised in Table 7.3. Raw data is presented within the HGE factual report provided in Appendix C. Geotechnical testing (in-situ and laboratory) was not undertaken for samples obtained from EBH310 and EWS305 from the Entec (2007a) report.

TABLE 7.3: LABORATORY ANALYTICAL TESTS (GEOTECHNICAL)

Test type and reference (BS 1377: 1990 unless stated)	Frequency
Natural moisture content (Part 2:3.2)	56
Liquid and plastic limits and plasticity index (Part 2:5 and 2:4.4)	34
Particle size distribution - wet sieving (Part 2:9.2)	29
Particle size distribution – sedimentation by pipette (Part 2:9.4)	12
Single stage 100mm UU triaxial compression test (Part 7:8.0)	19

Test type and reference (BS 1377: 1990 unless stated)	Frequency
One Dimensional Consolidation (Part5:3.0)	3
Water soluble sulphate content 2:1 aqueous extract (BRE SD1 2005)	16
Soil pH – geotechnical testing(BRE SD1 2005)	16
Organic Matter (Part 3:3:0)	2
Initial BRE Special Digest 1 Suite for "Pyrite bearing ground"	5

Contamination Observations and Testing

7.19 Potential asbestos containing material (ACM) or asbestos containing soils (ACS) were not identified in any of the exploratory locations on site as part of this investigation. However, Entec (2007a) identified possible fragments of cement bonded ACM in EBH310 at 0.2m bgl (Made Ground).

7.20 Visual and olfactory evidence of potential contamination was limited to Made Ground and localised in extent across the site, of which is summarised in Table 7.4.

TABLE 7.4: SUMMARY POTENTIAL VISUAL / OLFACTORY EVIDENCE OF CONTAMINATION

Hole ID	Depth (m bgl)	Comment
LEPBH01	0.0 - 0.1	Asphalt fragments
	0.2 - 0.5	Asphalt fragments
MCBH01	0.0 - 0.10	Asphalt fragments
	0.4 - 0.6	Clinker fragments
WFBH03	0.0 - 0.3	Asphalt fragments
WFBH07	0.0 - 0.2	Asphalt fragments
WFBH09	0.0 – 0.1	Asphalt fragments
	0.5 – 0.8	Clinker fragments
WFBH13A	0.0 – 0.5	Clinker fragments
WFBH14	1.6 – 2.0	Asphalt fragments
LEPTP02	0.2 – 0.4	Asphalt fragments
LEPTP03	0.2 – 0.9	Clinker fragments
LEPTP06	0.4 – 1.0	Asphalt fragments
MCTP01	0.2 – 0.9	Clinker fragments
MCTP02	0.0 – 0.55	Clinker fragments
WFTP01	0.0 – 0.3	Clinker fragments
WFTP03	0.0 – 0.9	Clinker fragments
WFTP04	0.25 – 0.5	Frequent black tar/ oil staining
	0.5 – 0.7	Strong hydrocarbon odour and oily water seepage into trial pit.
	0.7 – 0.9	Hydrocarbon odour

Hole ID	Depth (m bgl)	Comment
WFTP05	0.0 – 0.2	Asphalt fragments
WFTP06	0.0 – 0.25	Asphalt fragments
	0.6 – 0.9	Slight hydrocarbon odour.
WFTP07	0.0 – 0.4	Asphalt fragments
WFTP08	0.0 – 0.4	Clinker fragments
WFTP10	0.0 – 0.35	Clinker fragments
WFTP11	0.0 – 0.5	Clinker fragments
LEPTP03	0.0 – 0.17	Asphalt fragments
LEPTP05	0.0 – 0.1	Asphalt fragments
MCWS01	0.0 – 0.5	Asphalt fragments
WFWS02	0.0 – 0.3	Clinker fragments
WFWS12	0.0 – 0.1	Asphalt fragments
WFWS13	0.0 – 0.3	Clinker fragments
WFWS16	0.0 – 0.45	Clinker fragments
WFWS21	0.0 – 0.6	Clinker fragments
WFWS22	0.0 – 0.32	Asphalt fragments

7.21 Environmental laboratory analyses for samples collected as part of this investigation were selected based upon the preliminary conceptual site model and observed site conditions during drilling/ excavating of exploratory locations. The laboratory analyses undertaken are summarised in Table 7.5.

TABLE 7.5: LABORATORY ANALYTICAL TESTS (ENVIRONMENTAL)

Determinand	Frequency	
	Entec (2007a)	CampbellReith (2014)
SOIL		
PAHs (total and speciated e.g. benzo(a)pyrene)	2	86
Metals – Arsenic, cadmium, chromium, copper, inorganic mercury, nickel, lead, selenium and zinc	2	86
Inorganics – Cyanide (total)	2	86
TPH (total)	2	86
Asbestos (screening)	-	61
VOCs (including BTEX compounds)	2	19
Organics – Phenol (total)	2	12
Soil leachate preparation*	-	11
Fraction organic carbon	2	6
TPH (aromatic/ aliphatic fractions)	2	7
PCBs	2	2
GROUNDWATER		

Determinand	Frequency	
	Entec (2007a)	CampbellReith (2014)
Metals – Arsenic, cadmium, chromium (III and IV), lead, mercury, selenium, boron, copper, nickel and zinc	1	28
Inorganics – Cyanide (free and total), thiocyanate, sulphate, sulphur and sulphide	1	28
Phenol (total)	1	27
TPH (Total)	-	28
TPH (speciated)	1	-
Speciated PAHs	1	28
VOCs (including BTEX compounds)	1	38^
GROUND GAS		
VOCs	-	11*

^ Total over two sampling visits

* Total over three sampling visits

* Subsequent analysis included as a water sample

8.0 TIER 2 GENERIC QUANTITATIVE RISK ASSESSMENT

Assessment Framework

8.1 Subsequent to the identification and quantification of contaminant species in soils, waters and gases, it is necessary to select a method for assessing their significance in view of the current and proposed future use of the land. The initial assessment comprises comparison of identified contaminant levels to generic screening values that have been prepared to assess the risk to human, controlled waters and gas risk receptors. The guidance used to provide this initial screening is listed in Table 8.1.

TABLE 8.1: GENERIC QUANTITATIVE SCREENING VALUES

	Key Guidance
SOIL	Environment Agency, Soil Guideline Values based upon Contaminated Land Exposure Assessment Model (CLEA) and the CLEA 1.06 software. SGV Report SC050021/ SGV.
	Generic Assessment Criteria based upon Environment Agency CLEA Version 1.06 software. Environment Agency Science Reports SC050021 SR2/SR3, Toxicological Reports SC050021/Tox. EA Toxicological Reports 1-25.
	Generic Assessment Criteria published by CL:AIRE. The Soil Generic Assessment Criteria for Human Health Risk Assessment. December 2009.
	Generic Assessment Criteria based upon Environment Agency CLEA UK Beta Version 1.0. Environment Agency Toxicological Reports: 1-25.
WATER	Environmental Quality Standards for the protection of aquatic life.
	Surface Water Standards.
	EC and UK Drinking Water Standards (DWS).
	Background Water Quality.
GAS	CIRIA Report C665, 'Assessing Risks Posed by Hazardous Ground Gases to Buildings', considering apartment blocks with commercial units at ground floor level.
	British Standard BS:8485, 2007, 'Code of practice for the characterization and remediation from ground gas in affected developments'.
	CIRIA Report 150 'Methane Investigation Strategies'.
	BRE 414 'Protective Measures for Housing on Gas Contaminated Land', 2001.
	The Building Regulations 2000, Approved Document C, Section 2. Updated 2004.
	BRE 211'Radon: Guidance on Protective Measures for New Buildings', 2007.
	Health Protection Agency Publication HPA RPD-033, 2007,' Indicative Atlas of Radon England and Wales.

8.2 All field and laboratory analytical data pertaining to the quantitative risk assessment is within the Harrions Factual Ground Investigation Report, which is presented in Appendix C.

Soil Assessment

8.3 The data for the soil assessment was obtained from two sources:

- CampbellReith 2014 investigation, which has been used to assess Plot 1 (entire Waterfront area); and,
- Entec (2007a) data for EBH310 and EWS305, which were used to assess Plot 2.

8.4 Soil samples were predominately collected within Made Ground as this stratum is considered to have a higher potential for contamination to be present. Furthermore, it is considered that this stratum would pose the greatest risk to current and future site users due to its ease of access to receptors (e.g. construction workers).

8.5 It should be noted that no Made Ground was encountered within the northern area of the site (i.e. beyond Swann and Dunning Hangars – buildings 68 and 73, respectively), with all soil samples collected from natural soils in this area.

8.6 The locations and samples pertaining to Plot 1 and Plot 2 are summarised in Tables 8.2 and 8.3, respectively, and illustrated in Figure 3.

TABLE 8.2: SUMMARY OF DATA USED FOR SOIL ASSESSMENT – PLOT 1

Hole ID	Exploratory Location Type												Totals
	Borehole				Window Sample				Trial Pit				
	NGBH01	LEPBH01 & LEPBH02	MCBH01 to MCBH03	WFBH01, WFBH02, WFBH04 to WFBH09 & WFBH11 to WFBH14	NGWS01 & NGWS02	LEPWS02 to LEPWS05	MCWS01 & MCWS02	WFWS01 to WFWS04, WFWS06, WFWS10, WFWS13 & WFWS20 to WFWS22	NGTP01 to NGTP03	LEPTP01, LEPTP03 to LEPTP06	MCTP01 & MCTP02	WFTP01 to WFTP11	
Locations	1	2	3	12	2	4	2	11	3	5	2	11	**58**
Samples	1	2	5	17	2	6	2	18	3	9	2	19	**86**

TABLE 8.3: SUMMARY OF DATA USED FOR SOIL ASSESSMENT – PLOT 2

Hole ID	Exploratory Hole Location Type		Totals
	Borehole	Window Sample	
	EBH310	EWS305	
Locations	1	1	**2**
Samples	1	1	**2**

8.7 Using CLEA land use scenarios (Table 8.1), two screening assessments were undertaken for each development plot; residential (with plant uptake) and commercial/ industrial land use. Both land uses were identified as possible end-use scenarios for each target area whereby this risk assessment is likely to drive the extent of remediation that may be required.

8.8 Both scenarios use a soil organic matter (SOM) content of 1%, which was based on the mean SOM for Plot 1 (calculated from fraction organic carbon [FOC] content from six samples of Made Ground) of 0.9%. Due to the similar ground conditions encountered in both exploratory locations in Plot 2 to those in Plot 1, an SOM content of 1% is deemed to be representative of conditions within Plot 2.

8.9 The soil contaminant analysis results have been screened against guideline soil concentrations to provide an assessment of potential risks associated with contamination at the site. It has been assumed in this report that the exposure conditions are within the generic conditions used to derive Soil Guideline Values (SGVs). Where no SGVs are published, or where the published values require modification, a number of Generic Assessment Criteria (GAC) have been developed for certain chemicals of potential concern. These GAC have been developed using assumptions about the characteristics and behaviour of sources, pathways and receptors (i.e. similar to those used by the Environment Agency in the derivation of SGVs).

8.10 The legal test for land contamination under the statutory guidance of Part IIA of the Environment Protection Act 1990 is unacceptable intake or direct bodily contact. DEFRA (2005) has previously clarified that exceedence of a GAC does not necessarily meet this legal test (i.e. exceedance of a GAC does not necessarily equate to unacceptable risk). Consequently, the GACs must be considered as screening values only and further consideration (i.e. detailed risk assessment) and judgement is required in setting any remedial targets.

8.11 Due to the nature of the data set (i.e. size) for Plot 1, it was deemed appropriate to undertake statistical assessment of this data to quantify uncertainties with regards to estimates of average contaminant concentrations. Under the land use planning system, the aim is to demonstrate 'suitability for use'. In statistical terms, a null hypothesis is stated; that the level of contamination is the same as, or higher than, some critical concentration (in this case the GAC). The alternative hypothesis is that the level of contamination is lower than the critical concentration. The statistical test is used to decide whether or not the null hypothesis is rejected.

8.12 The statistical analysis treated Plot 1 as a single averaging area and screened in its entirety. The statistics associated with the soil analyses are summarised in Tables 8.4 and 8.9 for residential use and commercial/ industrial use, respectively. The Mean Value (95th%ile) and Maximum Value

Tests were undertaken on the sample population for those parameters exceeding the screening criteria. If required the Maximum Value Test was undertaken to identify any potential localised areas of increased risk or 'hotspots'. Where the 95th%ile exceeds the screening criteria, these results are highlighted and discussed. The remainder are not considered indicative of significant contamination for the proposed end-use.

8.13 A one-sample t-test has been used for data which do not depart significantly from a normal distribution or the one-sided Chebychev Theorem has been used for non-normally distributed data.

8.14 For Plot 2, it is considered that the data set was insufficient to undertake statistical assessment. As such, the analytical data was compared directly against SGVs/ GAC.

Plot 1 – Residential Land Use (with Plant Uptake)

TABLE 8.4: SUMMARY OF SOIL ANALYSIS

Contaminant	Exceeding	Max	95th%ile	Screen Criteria	Based on
Metals					
Arsenic	1/ 86	**59**	10.21*	32 E	
Cadmium	0/ 86	6.4	0.76	10 E	
Chromium	0/ 86	37	22.88	627 E	
Copper	1/ 86	**3,200**	51.07*	2,310 E	
Mercury (IV)	0/ 86	0.5	0.31	170 E	
Nickel	0/ 86	62	18.42	127 E	
Lead	6/ 86	**8,200**	77.62*	290 B	
Selenium	0/ 86	1^	NC	350 E	
Zinc	2/ 86	**6,700**	168.27*	1,634 E	
Inorganics					
Cyanide	0/ 86	1^	NC	18.6 C	
Organics					
Benzene	0/ 23	0.001^	NC	0.08 E	
Toluene	0/ 23	0.001^	NC	119 E	
Ethylbenzene	0/ 23	0.001^	NC	65 E	
o - Xylene	0/ 23	0.001^	NC	45 E	
m & p - Xylene	0/ 23	0.001^	NC	44 E	
MTBE	0/ 23	0.001^	NC	0.08 E	Benzene
PCBs	0/ 2	0.3^	NC	1 C	
Total Petroleum Hydrocarbons					
C6 - C10	0/ 86	0.1^	0.1	11 E	EC>8-C10 Aliphatics
C10 - C40	29/ 86	**6,000**	**434.71**	53 E	EC10-EC12 Aliphatics
Aliphatics >EC5-EC6	0/ 5	0.1^	NC	23 E	

Contaminant	Exceeding	Max	95th%ile	Screen Criteria	Based on
Aromatics >EC6-EC7	0/ 5	0.1^	NC	65 E	EC5-EC7 Aromatics
Aliphatics>EC6-EC8	0/ 5	0.1^	NC	47 E	
Aromatics >EC7-EC8	0/ 5	0.1^	NC	119 E	
Aliphatics >EC8-EC10	0/ 5	0.1^	NC	11 E	
Aromatics >EC8-EC10	0/ 5	0.1^	NC	16 E	
Aliphatics >EC10-EC12	0/ 5	6.3	NC	53 E	
Aromatics >EC10-EC12	0/ 5	1^	NC	66 E	
Aliphatics >EC12-EC16	0/ 5	17	14.59	237 E	
Aromatics >EC12-EC16	0/ 5	60	43.92	156 E	
Aliphatics >EC16-EC21	0/ 5	200	156.3	17,670 E	EC16-EC35 Aliphatics
Aromatics >EC16-EC21	1/ 5	**440**	**319.81**	272 E	
Aromatics >EC21-EC35	0/ 5	780	669.61	887 E	
Aliphatics >EC21-EC35	0/ 5	1300	1071	17,670 E	EC16-EC35 Aliphatics
Polycyclic Aromatic Hydrocarbons					
PAHs (Total)	90/ 90	**440**	**39.73**	0.76 E	Dibenzo(a,h)anthracene
Naphthalene	1/ 90	**5.1**	0.09*	1.54 E	
Fluorene	0/ 90	11	0.72	155 EX	
Phenanthrene	0/ 90	70	4.56	206 EZ	
Fluoranthene	0/ 90	85	7.46	130 E	
Pyrene	0/ 90	68	6.16	284 E	
Chrysene	8/ 90	**35**	3.35	6 E	
Indeno (1,2,3 - cd) pyrene	3/ 90	**21**	0.95*	4.9 E	
Dibenzo (ah) anthracene	8/ 90	**3.4**	0.27*	0.76 E	
Acenaphthylene	0/ 90	1	0.23	145 E	
Acenaphthene	0/ 90	8.8	0.58	150 E	
Anthracene	0/ 90	22	1.33	38 E	
Benzo (a) anthracene	19/ 90	**40**	**3.61**	3.1 E	
Benzo (b) fluoranthene	7/ 90	**47**	3.68	7.8 E	
Benzo (k) fluoranthene	2/ 90	**18**	1.93	8.5 E	
Benzo (a) pyrene	30/ 90	**44**	**3.39**	0.83 E	
Benzo (ghi) perylene	2/ 90	**23**	1.73	9.7 E	
Phenol					
Phenol (Monohydric)	0/ 12	2^	NC	184 E	
Volatile Organic Compounds					
Chloroethane	0/ 19	0.002^	NC	8.3 D	
Chloromethane	0/ 19	0.004^	NC	0.0083 D	
iso - Propylbenzene	0/ 19	0.007^	NC	11 D	
Styrene	0/ 19	0.005^	NC	8.1 D	
Trans-1,2-Dichloroethene	0/ 19	0.007^	NC	0.19 D	
Tetrachloroethene	0/ 19	0.008^	NC	0.997 C	
Trichloroethene	0/ 19	0.006^	NC	0.133 C	
Vinyl chloride	19/ 19	**0.024^**	NC	0.00118 C	
1,1,2 - Trichloroethane	0/ 19	0.005^	NC	0.6 D	

Contaminant	Exceeding	Max	95th%ile	Screen Criteria	Based on
11 DEA	0/ 19	0.006^	NC	2.4 D	
1,1 - Dichloroethene	0/ 19	0.007^	NC	0.23 D	
1,1 - Dichloroethane	0/ 19	0.005^	NC	0.35 D	
cis 1,2 - Dichloroethene	0/ 19	0.007^	NC	0.11 D	
1,2 - Dichloropropane	0/ 19	0.006^	NC	0.024 D	
Bromobenzene	0/ 19	0.011^	NC	0.87 D	
Bromodichloromethane	0/ 19	0.007^	NC	0.016 D	

B - CLEA V1.05, JECFA

C - SGV/GAC based on CLEA UK Beta Version at 1% SOM

E - GAC from CLEA V1.06 at 1% SOM

X - Oral GAC used, no inhalation GAC derived (inhalation data not available)

Z - Soil Saturation limit used as a cap to GAC due to high value of oral GAC and absence of inhalation GAC (No data available)

^ - Concentration below the laboratory limit of detection (i.e. not detected)

59 Values in bold exceed screening value

NC Not Calculated (for samples <4 or where concentrations of contaminant in all samples were below the laboratory limit of detection)

* Outliers identified using the maximum value test (omitted from the 95th percentile calculation)

TABLE 8.5: SAMPLES EXCEEDING SCREENING CRITERIA

Contaminant	Hole ID	Depth (m bgl)	Concentration (mg/kg)	Screening Criteria (mg/kg)
Arsenic	WFTP10	0.15	59	32
Copper	WFTP10	0.15	3,200	2,310
Lead	MCTP01	0.50	320	290
	WFTP03	0.15	490	
	WFTP03	0.50	580	
	WFTP05	0.10	310	
	WFTP10	0.15	8,200	
	WFTP10	0.30	3,200	
Zinc	WFTP10	0.15	6,700	1,634
	WFTP10	0.30	2,900	1,634
Aromatics >EC16-EC21	WFBH03	0.80	440	272
Benzo(a)anthracene	LEPBH02	0.15	3.2	3.1
	LEPTP05	0.10	4.2	
	LEPWS03	0.15	6.7	
	LEPWS04	0.40	5.4	
	MCBH03	0.15	38	
	WFBH01	0.15	5.8	
	WFBH02	0.50	15	
	WFBH06	0.15	16	
	WFBH13	0.60	9	
	WFTP03	0.50	3.9	
	WFTP05	0.10	5.4	
	WFTP06	0.70	5.8	
	WFTP07	0.15	5.4	

Contaminant	Hole ID	Depth (m bgl)	Concentration (mg/kg)	Screening Criteria (mg/kg)
	WFTP09	0.15	4.7	
	WFWS01	0.15	3.8	
	WFWS10	0.15	3.6	
	WFWS16	0.15	11	
	WFWS16	0.50	4.2	
	WFWS22	0.25	40	
Benzo(a) pyrene	LEPBH02	0.15	2.5	0.83
	LEPTP05	0.10	5.1	
	LEPTP06	0.30	1.4	
	LEPTP06	1.00	0.84	
	LEPWS03	0.15	5.6	
	LEPWS04	0.40	5.3	
	LEPWS05	0.35	1.2	
	MCBH03	0.15	30	
	WFBH01	0.15	4.2	
	WFBH02	0.50	12	
	WFBH06	0.15	14	
	WFBH08	0.30	1.6	
	WFBH13	0.60	7.8	
	WFTP03	0.15	2.2	
	WFTP03	0.50	4.4	
	WFTP04	0.15	1.1	
	WFTP05	0.10	6	
	WFTP06	0.70	5.5	
	WFTP07	0.15	5.8	
	WFTP08	0.35	1.9	
	WFTP09	0.15	4.8	
	WFWS01	0.15	4	
	WFWS10	0.15	3.5	
	WFWS10	0.50	1.8	
	WFWS13	0.15	2.9	
	WFWS13	0.50	1	
	WFWS16	0.15	12	
	WFWS16	0.50	3.8	
	WFWS21	0.50	1.6	
	WFWS22	0.25	44	
Benzo(b)fluoranthene	MCBH03	0.15	30	7.8
	WFBH02	0.50	11	
	WFBH06	0.15	15	
	WFBH13	0.60	8.3	
	WFTP05	0.10	9.7	
	WFWS16	0.15	12	
	WFWS22	0.25	47	

Contaminant	Hole ID	Depth (m bgl)	Concentration (mg/kg)	Screening Criteria (mg/kg)
Benzo(ghi)perylene	MCBH03	0.15	14	9.7
	WFWS22	0.25	23	
Benzo(k)fluoranthene	MCBH03	0.15	17	8.5
	WFWS22	0.25	18	
Chrysene	MCBH03	0.15	35	6
	WFBH02	0.50	16	
	WFBH06	0.15	12	
	WFBH13	0.60	8.4	
	WFTP05	0.10	7.2	
	WFTP06	0.70	6.9	
	WFWS16	0.15	11	
	WFWS22	0.25	34	
Dibenzo(a,h)anthracene	MCBH03	0.15	1.8	0.76
	WFBH06	0.15	1.6	
	WFBH13	0.60	0.9	
	WFTP05	0.10	1.2	
	WFTP06	0.70	0.82	
	WFTP07	0.15	0.89	
	WFWS16	0.15	1.2	
	WFWS22	0.25	3.4	
Indeno(1,2,3 - cd)pyrene	MCBH03	0.15	10	4.9
	WFBH06	0.15	6.6	
	WFWS22	0.25	21	
Naphthalene	WFTP05	0.10	5.1	1.54
Vinyl chloride	LEPTP02	0.30	0.024^	0.00118
	LEPWS04	0.40		
	MCBH01	1.00		
	MCBH01	1.50		
	MCBH02	0.50		
	MCBH02	1.90		
	MCTP01	0.50		
	WFBH06	0.15		
	WFBH06	1.00		
	WFBH08	0.30		
	WFBH08	1.50		
	WFTP04	0.15		
	WFTP04	0.50		
	WFTP04	0.80		
	WFTP06	0.15		
	WFTP06	0.70		
	WFTP06	1.00		
	WFWS10	0.15		
	WFWS13	0.15		

^ - Concentration below the laboratory limit of detection (i.e. not detected)

TABLE 8.6: SUMMARY OF STATISTICAL OUTLIERS

Contaminant	Hole ID	Depth (m bgl)	Concentration (mg/kg)
Arsenic	WFTP10	0.15	59
Copper		0.15	3,200
Lead		0.15	8,200
		0.30	3,200
Zinc		0.15	6,700
		0.30	2,900
Naphthalene	WFTP05	0.10	5.1
Dibenzo(ah)anthracene	WFWS22	0.25	3.4
	MCBH03	0.15	1.8
	WFBH06	0.15	1.6
	WFTP05	0.10	1.2
	WFWS16	0.15	1.2
	WFBH13	0.60	0.9
	WFTP07	0.15	0.89
	WFTP06	0.70	0.82
Indeno(1,2,3 - cd)pyrene	WFWS22	0.25	21
	MCBH03	0.15	10

Metals

8.15 The concentration of arsenic, copper, lead and/ or zinc exceeded the respective screening criteria in one or more locations. The 95%ile for these metals was below the screening criteria, indicating that the identified contamination was attributed to hotspots across the development plot. The locations of these hotspots are summarised in Table 8.7 and illustrated in Figure 3.

TABLE 8.7: SUMMARY OF THE LOCATIONS OF HOTSPOTS – METALS

Hole ID	Contaminant	Depth (m bgl)	Concentration (mg/kg)	Screening Criteria (mg/kg)	Location
WFTP10	Arsenic	0.15	59	32	Adjacent to the south of Eagle Block.
	Copper	0.15	3,200	2.310	
	Lead	0.15	8,200	290	
		0.30	3,200		
	Zinc	0.15	6,700	1.634	
		0.30	2,900		
MCTP01	Lead	0.50	320	290	South of the historic boiler house/ fuel tanks/ oil store.
WFTP03		0.15	490		Unicorn Triangle.
WFTP03		0.50	580		

Hole ID	Contaminant	Depth (m bgl)	Concentration (mg/kg)	Screening Criteria (mg/kg)	Location
WFTP05		0.10	310		

8.16 The risk posed by lead within the Unicorn Triangle is consistent with the findings of the CampbellReith (2011) report. CampbellReith (2011) previously identified Eagle Block as an unspecified source of potential contamination, of which is considered to be associated with Made Ground. Concentrations of metals exceeding screening criteria in proximity to Eagle Block were considered to be anomalously high in relation to the remainder of the development plot.

Total Petroleum Hydrocarbons

8.17 The concentration of TPH C_{10} - C_{40} exceeded the screening criteria in less than a third of samples analysed, whereby the 95%ile indicated concentrations that may pose a potential site risk across the development plot.

8.18 Further TPH analysis was undertaken whereby concentrations of speciated hydrocarbons (aromatic/ aliphatic composition) were generally below the screening criteria. There was an exception to this however; concentrations of TPH C_{16} – C_{21} (aromatics) exceeded the screening criteria in one location along the western boundary of the site (WFBH03 at 0.15m bgl). Whilst the statistical assessment indicated that TPH C_{16} – C_{21} (aromatics) may pose a risk across the development plot (95%ile exceeded screening criteria), this is not considered likely due to the small size of the data set for which statistical assessment was performed on (five samples) and conservative screening criteria (i.e. based on TPH C_{10} - C_{12} Aliphatics).

Polycyclic Aromatic Hydrocarbons

8.19 The concentration of PAHs (total) exceeded the screening criteria in all samples analysed. It should be noted that the screening criteria for PAHs (total) is derived from the most sensitive speciated PAH (Dibenzo(a,h)anthracene – 0.76mg/kg) and therefore considered to be inherently conservative. However, concentrations of individual PAH species were generally found to be below the laboratory limit of detection.

8.20 All concentrations of dibenzo(a,h)anthracene exceeding the screening criteria were subsequently identified to be statistical outliers (refer Table 8.6), and the calculated 95%ile concentration for dibenzo(a,h)anthracene did not exceed the screening criteria. On the basis of the remaining data set, dibenzo(a,h)anthracene poses a potential risk across the development plot by way of

localised hotspots of contamination (predominately associated with Made Ground) as detailed in Table 8.6.

8.21 The concentration of naphthalene, chrysene, indeno(1,2,3-cd)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene and benzo(ghi)perylene exceeded the screening criteria in up to 9% of samples analysed. The subsequent 95%ile of these PAH species was below the screening criteria, whereby these contaminants are not deemed to pose a risk across the development plot but rather limited to hot spots (predominately associated with Made Ground) as detailed in Table 8.5.

8.22 Concentrations of benzo(a)pyrene and benzo(a,h)anthracene exceeded the screening criteria in 31% and 21% of samples analysed, respectively. The 95%ile also exceeded the screening criteria for both PAH species, therefore indicating that the identified contamination is likely to pose a site wide risk across the development plot. The spatial extent of benzo(a)pyrene and benzo(a)anthracene concentrations that were identified by the investigation is illustrated in Figures 8A and 8B, respectively, although additional elevated occurrences may remain undetected.

8.23 It is likely that the hydrocarbon contamination identified within the development plot is resultant from either or a combination of the following substances: fuel, oils, asphalt and clinker. This correlates with the general current/ historical land use of the Waterfront area, which comprised a number of workshops and materials stores.

Volatile Chlorinated Compounds

8.24 The concentration of vinyl chloride exceeded the screening criteria in all samples analysed, however the laboratory limit of detection was not exceeded in any of the soil samples analysed (i.e. laboratory limit of detection exceeded the screening criteria). As such, the potential risk posed by vinyl chloride in all samples analysed cannot be definitively determined.

8.25 It should be noted that concentrations of parent contaminants/ pre-breakdown compounds from which vinyl chloride is derived from (i.e. PCE, trichloroethene and dichloroethene) did not exceed the laboratory limit of detection or screening criteria. This is likely to suggest there is no primary source/s of contamination located in the immediate vicinity of the locations which were sampled.

Asbestos

8.26 A summary of asbestos detected within the development plot is summarised in Table 8.8. No quantification was undertaken however the presence of asbestos alone may not be acceptable in the final proposed development plan.

TABLE 8.8: SUMMARY OF ASBESTOS DETECTION

Hole ID	Depth (m bgl)	Description	Location
LEPWS05	0.35	Chrysotile (loose fibres)	Western site boundary.
WFBH08	0.30		Naval stores building.
WFBH13	0.60		Former MT Section.
WFTP04	0.15		Unicorn Triangle.
WFTP05	0.10		
WFWS13	0.15	Amosite (loose fibres)	Esmonde Hangar.

Plot 1 – Commercial/ Industrial Land Use

TABLE 8.9: SUMMARY OF SOIL ANALYSIS

Contaminant	Exceeding	Max	95th%ile	Screening Criteria	Based on
Metals					
Arsenic	0/ 86	59	11.34	640 E	
Cadmium	0/ 86	6.4	0.76	230 E	
Chromium	0/ 86	37	22.88	5,175 E	
Copper	0/ 86	3,200	139.06	49,146 E	
Inorganic Mercury	0/ 86	0.5	0.31	3,600 E	
Nickel	0/ 86	62	18.42	1,800 E	
Lead	2/ 86	**8,200**	77.62*	600 B	
Selenium	0/ 86	1^	1	13,000 E	
Zinc	0/ 86	6,700	384.24	332,700 E	
Inorganics					
Cyanide	0/ 86	1^	NC	22.14 C	
Organics					
Benzene	0/ 23	0.001^	NC	28 E	
Toluene	0/ 23	0.001^	NC	870 E	
Ethylbenzene	0/ 23	0.001^	NC	520 E	
o - Xylene	0/ 23	0.001^	NC	480 E	
m & p - Xylene	0/ 23	0.001^	NC	625 E	
MTBE	0/ 23	0.001^	NC	28 E	Benzene
PCBs	0/ 2	0.3^	NC	1 C	
Total Petroleum Hydrocarbons					
C6 - C10	0/ 86	0.1^	0.1	1,195 E	EC>8-C10 TPH Aliphatics
C10 - C40	1/ 86	**6,000**	434.71	5,885 E	EC10-EC12 Aliphatics
Aliphatics >EC5-EC6	0/ 5	0.1^	0.1	2,632 E	
Aromatics >EC6-EC7	0/ 5	0.1^	0.1	27,571 E	EC5-EC7 Aromatics
Aliphatics>EC6-EC8	0/ 5	0.1^	0.1	5,314 E	
Aromatics >EC7-EC8	0/ 5	0.1^	0.1	59,017 E	
Aliphatics >EC8-EC10	0/ 5	0.1^	0.1	1195 E	
Aromatics >EC8-EC10	0/ 5	0.1^	0.1	1,969 E	
Aliphatics >EC10-EC12	0/ 5	6.3	4.32	5,885 E	
Aromatics >EC10-EC12	0/ 5	1^	1	9,737 E	
Aliphatics >EC12-EC16	0/ 5	17	14.59	24,929 E	
Aromatics >EC12-EC16	0/ 5	60	43.92	29,375 E	
Aliphatics >EC16-EC21	0/ 5	200	156.3	1,067,249 E	EC16-EC35 Aliphatics
Aromatics >EC16-EC21	0/ 5	440	319.81	26,151 E	
Aromatics >EC21-EC35	0/ 5	780	669.61	28,406 E	
Aliphatics >EC21-EC35	0/ 5	1,300	1071	1,067,249 E	EC16-EC35 Aliphatics
Speciated Polyaromatic Hydrocarbons					

Contaminant	Exceeding	Max	95th%ile	Screening Criteria	Based on
PAHs (Total)	27/ 90	**440**	**39.73**	13 E	Dibenzo(a,h)anthracene
Naphthalene	0/ 90	5.1	0.22	204 E	
Fluorene	0/ 90	11	0.72	32,888 EX	
Phenanthrene	0/ 90	70	4.56	11,750 ES	
Fluoranthene	0/ 90	85	7.46	11,412 E	
Pyrene	0/ 90	68	6.16	27,359 E	
Chrysene	0/ 90	35	3.35	137 E	
Indeno (1,2,3 - cd) pyrene	0/ 90	21	1.53	156 E	
Dibenzo (ah) anthracene	0/ 90	3.4	0.43	13 E	
Acenaphthylene	0/ 90	1	0.23	37,210 E	
Acenaphthene	0/ 90	8.8	0.58	31,242 E	
Anthracene	0/ 90	22	1.33	25,547 E	
Benzo (a) anthracene	0/ 90	40	3.61	90 E	
Benzo (b) fluoranthene	0/ 90	47	3.68	140 E	
Benzo (k) fluoranthene	0/ 90	18	1.93	141 E	
Benzo (a) pyrene	2/ 90	**44**	3.39	14 E	
Benzo (ghi) perylene	0/ 90	23	1.73	143 E	
Phenol					
Phenol (Monohydric)	0/ 12	2^	2	3,200 E	
Volatile Organic Compounds					
Chloroethane	0/ 19	0.002^	NC	960 D	
Chloromethane	0/ 19	0.004^	NC	1 D	
iso - Propylbenzene	0/ 19	0.007^	NC	1,400 D	
Styrene	0/ 19	0.005^	NC	3,300 D	
Trans-1,2 -Dichloroethene	0/ 19	0.007^	NC	22 D	
Tetrachloroethene	0/ 19	0.008^	NC	63.1 C	
Trichloroethene	0/ 19	0.006^	NC	6.42 C	
Vinyl chloride	0/ 19	0.024^	NC	0.0709 C	
1,1,2 - Trichloroethane	0/ 19	0.005^	NC	94 D	
11DEA	0/ 19	0.006^	NC	280 D	
1,1 - Dichloroethene	0/ 19	0.007^	NC	26 D	
1,1 - Dichloroethane	0/ 19	0.005^	NC	42 D	
cis 1,2 - Dichloroethene	0/ 19	0.007^	NC	14 D	
1,2 - Dichloropropane	0/ 19	0.006^	NC	3.3 D	
Bromobenzene	0/ 19	0.011^	NC	97 D	
Bromodichloromethane	0/ 19	0.007^	NC	2.1 D	

B - CLEA V1.05, JECFA

C - SGV/GAC based on CLEA UK Beta Version at 1% SOM

D - GAC from CL:AIRE V1.06 at 1%

E - GAC from CLEA V1.06 at 1% SOM

X - Oral GAC used, no inhalation GAC derived (inhalation data not available)

S - Soil Saturation limit used as a cap to GAC due to high value of oral GAC and absence of inhalation GAC (No data available)

^ - Concentration below the laboratory limit of detection

44 Values in bold exceed screening value

NC Not Calculated (for samples <4 or where concentrations of contaminant in all samples were below the laboratory limit of detection)
* Outliers identified using the maximum value test (omitted from the 95th percentile calculation)

TABLE 8.10: SAMPLES EXCEEDING SCREENING CRITERIA

Contaminant	Hole ID	Depth (m bgl)	Concentration (mg/kg)	Screening Criteria (mg/kg)
Lead	WFTP10	0.15	8,200	600
	WFTP10	0.30	3,200	
Benzo (a) pyrene	MCBH03	0.15	30	14
	WFWS22	0.25	44	

8.27 The only statistical outliers identified within the data set were two concentrations of lead which exceeded the screening criteria in WFTP10 (refer Table 8.10).

Metals

8.28 The concentration of lead exceeded the screening criteria in two samples collected from one location adjacent to the south of Eagle Block. The 95%ile for lead was below the screening criteria, indicating that the identified contamination was attributed to a hot spot at the location. As previously discussed in the residential land use screening assessment, the concentration of lead in this area of the site is considered to be anomalously high, which is evident in both concentrations being deemed to be statistical outliers.

Total Petroleum Hydrocarbons

8.29 The concentration of TPH C_{10} - C_{40} exceeded the screening criteria in one sample analysed along the south-eastern boundary of the site in proximity to an electrical transformer (WFWS22 at 0.25m bgl). PCBs from samples collected at WFWS22 from 0.25m bgl and 0.5m bgl were below the laboratory limit of detection, therefore indicating that TPH C_{10} - C_{40} is not considered to be attributed to this potentially contaminating infrastructure.

8.30 The 95%ile of TPH C_{10} - C_{40} indicated that TPH C_{10} - C_{40} does not pose a risk across the development plot, whereby contamination was vertically delineated within Made Ground at a depth of 0.5m bgl (<10mg/kg of TPH C_{10} - C_{40}).

Polycyclic Aromatic Hydrocarbons

8.31 The concentration of PAHs (total) exceeded the screening criteria in approximately 30% of samples analysed. As previously discussed, the screening criteria for PAHs (total) is based on

dibenzo(a,h)anthracene whereby concentrations of the contaminant were below this screening criteria in all samples analysed. On this basis, the cumulative effect of PAHs (i.e. total PAHs)/ dibenzo(a,h)anthracene is not deemed to pose a risk across the development plot (contrary to the 95%ile exceeding the screening criteria for PAHs [total]).

8.32 The concentration of benzo(a)pyrene exceeded the screening criteria in two samples analysed (refer Table 8.10). The subsequent 95%ile was below the screening criteria, whereby benzo(a)pyrene was not deemed to pose a risk across the development plot but rather limited to hot spots of contamination. As per TPH C_{10} - C_{40}, benzo(a)pyrene contamination was vertically delineated within Made Ground at a depth of 0.5m bgl (<0.1mg/kg) at WFWS22.

Asbestos

8.33 Occurrences of asbestos has been detected within the development plot, whereby the samples and corresponding locations are summarised in Table 8.8. As previously discussed, the presence of asbestos alone may not be acceptable in the final proposed development plan.

Plot 2 – Residential (with Plant Uptake) and Commercial/ Industrial Land Uses

8.34 Concentrations of all contaminants (refer Table 7.6) were either below the laboratory limit of detection and/ or below the screening criteria in both historical locations EBH310 (2.0m bgl – 2.2m bgl) and EWS305 (2.5m bgl – 2.7m bgl) with the exception of benzo(a)pyrene in EBH310. The concentration in EBH310 (1.1mg/kg) exceeded the residential land use screening criteria.

8.35 Whilst depth to groundwater strike in EBH310 was not recorded in the Entec (2007) report, groundwater was struck at 1.8 m bgl in nearby LEPWS03 during drilling as part of this site investigation, with details summarised previously in Section 7.0 (refer Table 7.2). As such it is likely that the soil sample collected from EBH310 was at the capillary fringe (i.e. in contact with groundwater) and therefore likely to represent groundwater contamination. Groundwater contamination at EBH310 is discussed within the Controlled Waters Risk Assessment later within this Section.

8.36 Cement bonded asbestos (chrysotile) sheeting was confirmed in Made Ground at EBH310 whereby the presence of asbestos alone may not be acceptable in the final proposed development plan.

Controlled Waters Assessment

8.37 Controlled Waters Risk Assessment has been undertaken on water samples (leachate and groundwater) using available Environmental Quality Standards (EQS) for the protection of aquatic life in light of the site's location in proximity to The Solent. In the absence of screening values for TPH, the World Health Organisation (WHO) Drinking Water Quality guidelines (2005) have been adopted. The water quality standards have been chosen in accordance with section 4.2 of the Environment Agency's Remedial Targets Methodology (as referenced in the EA's Groundwater Protection: Principles and Practice (GP3), November 2012). Leachate analysis was undertaken on soil samples from Made Ground which were deemed to exhibit contamination (as identified in the soil assessment within this Section) which could potentially pose a risk to groundwater through leaching.

8.38 The data for the groundwater assessment was obtained from two sources:

- April and May 2014 (two monitoring events) from 19 locations (refer Table 7.1), which was used to assess Plot 1; and,
- Entec (2007) report (EBH310), which was used to assess Plot 2.

Leachate

8.39 Samples analysed for leachable potential of contaminants are summarised in Table 8.11, which comprised entirely of soils sampled as part of this investigation.

TABLE 8.11: SUMMARY OF DATA USED FOR LEACHATE ASSESSMENT

Exploratory Location Type	Hole ID	Sample Depth (m bgl)
Borehole	MCBH02	0.50
	MCBH03	0.50
	WFBH13	0.60
Window Sample	NGWS01	0.15
	LEPWS03	0.15
	LEPWS05	0.35
	WFWS03	0.15
	WFWS06	0.50
	WFWS13	0.15
Trial Pit	WFTP04	0.50
	WFTP06	0.15

8.40 The concentration of naphthalene exceeded the screening criteria in WFBH13 (12.0µg/l) and MCBH02 (3.0µg/l). Subsequently, the concentration of PAHs (total) also exceeded the screening criteria in both locations (12.0µg/l and 3.0µg/l, respectively).

8.41 It should be noted that the screening criteria corresponded to drinking water due to there being no other screening criteria available or relevant for the purposes of assessment. As such, it is considered this assessment is conservative as it is unlikely that groundwater beneath the site would be utilised for this purpose.

Groundwater – Current Site Data

8.42 The specific legislation and/or guidance that dictate the water quality standards adopted are contaminant specific and these are referenced in Table 8.12.

8.43 Statistical assessment of groundwater data (summarised in Table 8.12) was undertaken on current site investigation data and considered the data to be from a single averaging area. Data from EBH310 was not included within the statistical assessment, whereby assessment of the corresponding laboratory analytical data was undertaken separately and detailed in the subsequent sub-heading in this Section.

8.44 It should be noted that statistical assessment was undertaken on data obtained from the April 2014 monitoring event only. The May 2014 monitoring event was undertaken on VOCs only and is discussed separately to the April 2014 findings.

TABLE 8.12: CONTROLLED WATERS SCREENING ASSESSMENT – APRIL 2014

Contaminant	Exceeding	Max	50th%ile	Screening Criteria	Type
Metals					
Arsenic	0/ 19	9	4.64	50	O,16
Boron	0/ 19	120	65.58	2,000	5
Cadmium	0/ 19	0.08#	NC	0.25	O,16
Chromium	0/ 19	1.4	0.57	4.7	O,16
Chromium (VI)	19/ 19	**5#**	NC	3.4	O,16
Copper	0/ 19	3.9	2.11	28	O,16
Lead	0/ 19	5.9	2.23	7.2	O,16
Nickel	0/ 19	6.5	2.87	20	O,16
Mercury (IV)	19/ 19	**0.5#**	NC	0.05	O
Selenium	0/ 19	4#	NC	10	E
Zinc	0/ 19	9.5	4.96	125	O,16

Contaminant	Exceeding	Max	50th%ile	Screening Criteria	Type
Inorganics					
Cyanide	19/ 19	**10#**	NC	1	O,16
Thiocyanate	19/ 19	**200#**	NC	1	N
Sulphur	0/ 19	20#	20.00	NA	
Sulphide	19/ 19	**5#**	NC	0.25	
Sulphate (SO4)	0/ 19	103,000	32,704	400,000	5
Organics					
Benzene	1/ 19	**30.2**	2.54	10	O,16
Toluene	0/ 19	1#	NC	50	O,16
Ethylbenzene	0/ 19	1#	NC	20	5
o - Xylene	0/ 19	1#	NC	30	O,16
m & p - Xylene	0/ 19	4.5	1.18	30	O,16
MTBE	0/ 19	1#	NC	15	18
Total Petroleum Hydrocarbons					
C10 - C40	0/ 19	14	10.21	NA	
Aliphatics >EC5-EC6	1/ 19	**380**	29.47	100	15, ^
Aromatics >EC5-EC7	0/ 19	10#	NC	NA	
Aliphatics>EC6-EC8	1/ 19	**3,900**	**214.74**	100	15,**
Aromatics >EC7-EC8	0/ 19	10#	NC	50	J
Aliphatics >EC8-EC10	1/ 19	**420**	31.58	100	15, ^ ^
Aromatics >EC8-EC10	1/ 19	**34**	11.26	30	O
Aliphatics >EC10-EC12	0/ 19	10#	NC	100	15, ^ ^
Aromatics >EC10-EC12	0/ 19	14	NC	50	15
Aliphatics >EC12-EC16	0/ 19	10#	NC	100	15, ^ ^
Aromatics >EC12-EC16	0/ 19	10#	NC	25	O
Aliphatics >EC16-EC21	0/ 19	10#	NC	100	15, ^ ^ ^
Aromatics >EC16-EC21	0/ 19	10#	NC	45	15,~
Aliphatics >EC21-EC35	0/ 19	10#	NC	100	15, ^ ^ ^
Aromatics >EC21-EC35	0/ 19	10#	NC	45	15,~
Aliphatics C5-C35	0/ 19	4700	256.84	NA	
Aromatics C5-C35	0/ 19	48	12.00	NA	
Polycyclic Aromatic Hydrocarbons					
PAHs (Total)	19/ 19	**0.2#**	NC	0.05	O,16
Naphthalene	0/ 19	0.01#	NC	2.4	O,16
Acenaphthylene	0/ 19	0.01#	NC	NA	
Acenaphthene	0/ 19	0.01#	NC	NA	
Fluorene	0/ 19	0.01#	NC	NA	
Phenanthrene	0/ 19	0.01#	NC	NA	
Anthracene	0/ 19	0.01#	NC	0.1	11
Fluoranthene	0/ 19	0.01#	NC	0.1	O,16
Pyrene	0/ 19	0.01#	NC	NA	
Chrysene	0/ 19	0.01#	NC	NA	
Benzo (a) anthracene	0/ 19	0.01#	NC	NA	
Benzo (b) fluoranthene	0/ 19	0.01#	NC	0.03	11

Contaminant	Exceeding	Max	50th%ile	Screening Criteria	Type
Benzo (k) fluoranthene	0/ 19	0.01#	NC	0.03	11
Benzo (a) pyrene	0/ 19	0.01#	NC	0.05	11
Indeno (1,2,3 - cd) pyrene	19/ 19	**0.01#**	NC	0.002	11
Benzo (ghi) perylene	19/ 19	**0.01#**	NC	0.002	11
Dibenzo (ah) anthracene	0/ 19	0.01#	NC	NA	
Phenol					
Phenol (Monohydric)	19/ 19	**10#**	NC	7.7	O,16
Volatile Organic Compounds					
Bromobenzene	0/ 19	1#	NC	NA	
Bromomethane	0/ 19	1#	NC	NA	
Bromodichloromethane	0/ 19	1#	NC	NA	
BUTB	0/ 19	1#	NC	NA	
Chloroethane	0/ 19	1#	NC	NA	
Chloromethane	0/ 19	1#	NC	NA	
Dibromochloromethane	0/ 19	1#	NC	NA	
Dibromomethane	0/ 19	1#	NC	NA	
Hexachlorobutadiene	19/ 19	**1#**	NC	0.1	F
Iso - Propylbenzene	0/ 19	2.7	1.09	NA	
N- Propylbenzene	0/ 19	1#	NC	NA	
PIPT	0/ 19	1#	NC	NA	
sec - Butylbenzene	0/ 19	1#	NC	NA	
Styrene	0/ 19	1#	NC	50	5
Trans - 1,2 - Dichloroethene	19/ 19	**1#**	NC	0.05	15
Trans - 1,3 - Dichloropropene	0/ 19	1#	NC	NA	
Tribromomethane	0/ 19	1#	NC	NA	
Trichlorofluoromethane	0/ 19	1#	NC	NA	
tert - Butylbenzene	0/ 19	1#	NC	NA	
Tetrachloroethene	8/ 19	**1,690**	**144.05**	10	G
Trichloromethane	0/ 19	1.7	1.04	NA	
Tetrachloromethane	0/ 19	1#	NC	12	F
Trichloroethene	0/ 19	3.3	1.14	10	G
Vinyl chloride	19/ 19	**10#**	NC	0.5	N
1,1,1,2 - Tetrachloroethane	0/ 19	1#	NC	NA	
1,1,1 - Trichloroethane	0/ 19	1#	NC	100	J
1,1,2,2 - Tetrachloroethane	0/ 19	1#	NC	NA	
1,1,2-Trichloro-1,2,2-Trifluoroethane	0/ 19	1#	NC	NA	
1,1,2 - Trichloroethane	0/ 19	1#	NC	400	J
1,1 - Dichloropropene	0/ 19	1#	NC	NA	
1,1 - Dichloroethane	0/ 19	1#	NC	NA	
1,1 - Dichloroethene	0/ 19	1#	NC	NA	
1,2,3 - Trichlorobenzene	0/ 19	1#	NC	NA	
1,2,4 - Trichlorobenzene	0/ 19	1#	NC	NA	
1,2,4 - Trimethylbenzene	0/ 19	27.1	2.37	NA	
1,2 - Dibromo - 3 - Chloropropane	0/ 19	1#	NC	NA	

Contaminant	Exceeding	Max	50th%ile	Screening Criteria	Type
1,2 - Dichlorobenzene	0/ 19	1#	NC	NA	
1,2 - Dichloroethane	0/ 19	1#	NC	10	G
cis 1,2 - Dichloroethene	0/ 19	3.1	NC	50	15
1,2 - Dibromoethane	0/ 19	1#	NC	NA	
1,2 - Dichloropropane	0/ 19	1#	NC	NA	
1,3,5 - Trimethylbenzene	0/ 19	1#	NC	NA	
1,3 - Dichlorobenzene	0/ 19	1#	NC	NA	
cis 1,3 - Dichloropropene	0/ 19	1#	NC	NA	
1,3 - Dichloropropane	0/ 19	1#	NC	NA	
1,4 - Dichlorobenzene	0/ 19	1#	NC	NA	
2,2 - Dichloropropane	0/ 19	1#	NC	NA	
2 - Chlorotoluene	0/ 19	1#	NC	NA	
4 - Chlorotoluene	0/ 19	1#	NC	NA	
Chlorobenzene	0/ 19	1#	NC	NA	

NA - No water quality target available.
NC Not Calculated (for samples <4 or where concentrations of contaminant in all samples were below the laboratory limit of detection)
5 Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List II substances: Council Directive 76/464/EEC
11 Directive establishing a framework for Community action in the field of water policy (Water Framework Directive):Directive 2000/60/EC
15 WHO Guidelines for Drinking Water Quality. Third Edition (2004).
16 Priority Substance Directive 2008, (2008/105/EC)
J Surface Waters (Dangerous Substances) (Classification) Regulations 1998: S.I. 1998/389
G Surface Waters (Dangerous Substances) (Classification) Regulations 1992: S.I. 1992/337
O River Basin Districts Typology, Standards & Groundwater threshold values (WFD) (England & Wales) Directions 2010
Based on water hardness of 150-200mg/l and a cyprinid fish*Assumes RE1 river quality
** Values reduced by a factor of 50 to provide a level of conservatism
*** Based on WHO DWS for Aromatic C10-C12.
^ Value taken from the C8-C16 fraction for conservatism
^ ^ Value taken from the C9-C16 fraction for conservatism
^ ^ ^ Value taken from the C16-C35 fraction for conservatism
~Value taken from the C16-C35 fraction for conservatism
Concentration below the laboratory limit of detection

200 Values in bold exceed water quality target.

8.45 Concentrations of chromium (VI), mercury (IV), cyanide, thiocyanate and sulphide in all samples were below the laboratory limit of detection however these exceeded the applicable screening criteria. It should be noted that these contaminants were not identified in soils or leachate as posing a risk to future site occupants (residential and commercial/ industrial) or Controlled Waters. Therefore, it is unlikely that these contaminants in groundwater (if present) pose a risk to Controlled Waters.

8.46 Concentrations of hydrocarbons including benzene and selected aliphatics and aromatics (ranging between $C_5 – C_{10}$) exceeded the screening criteria in one location in proximity to a former oil store and petrol dispensing station (WFBH13). Whilst the 50%ile exceeded the screening criteria for TPH C_6 - C_8 (aliphatics), this was due to the single detection of hydrocarbons in WFBH13. As concentrations of TPH C_6 - C_8 (aliphatics) and other hydrocarbons analysed in all remaining groundwater monitoring wells were below the laboratory limit of detection,

contamination is not considered to pose a risk across the site. Based on the composition of hydrocarbons identified, it is likely that the contamination is attributed to petroleum or similar low-chain hydrocarbon fuel.

8.47 VOCs including trimethylbenzene and isopropylbenzene were also detected in groundwater within WFBH13 however there were no relevant screening criteria to assess concentrations against. As such, the risk posed by these contaminants should be considered to be similar to hydrocarbons identified exceeding the screening criteria in WFBH13.

8.48 Hydrocarbon contamination was identified in soils at WFBH13 at 0.6m bgl (refer Table 8.5), whereby leachable concentrations of PAHs (selected species and total) in the soil sample were also identified as posing a risk to Controlled Waters. This is consistent with the findings of the previous Land Quality Statement (CampbellReith, 2011) whereby hydrocarbon contamination (PAHs) was identified in proximity to the former oil store and petrol dispensing station/ WFBH13.

8.49 Hydrocarbon contamination in groundwater at WFBH13 was delineated on site by WFBH06 (north), WFBH07 (south-east), WFBH05 (south) and WFBH14 (south-west). It is therefore likely that hydrocarbon contamination in groundwater at WFBH13 is attributed to residual contaminated soils associated with the former oil store and petrol dispensing station

8.50 Concentrations of PAHs (total) and selected PAH species in all samples were below the laboratory limit of detection, of which exceeded the applicable screening criteria. Given concentrations of all individual species of PAHs in all samples were below the laboratory limit of detection, it is deemed that there is no risk posed by PAHs to controlled waters.

8.51 Concentrations of phenol in all samples analysed were below the laboratory limit of detection however this exceeded the screening assessment criteria. It should be noted that phenols were not identified in soils or leachate samples analysed as posing a risk to future site occupants (residential or commercial/ industrial) or Controlled Waters. Therefore, it is unlikely that phenol in groundwater (if present) poses a risk to Controlled Waters.

8.52 Concentrations of PCE exceeding the screening criteria are summarised in Table 8.13. It should be noted that all locations on site detected the presence of PCE in either or both of the 2014 monitoring events with the exception of NGBH01. The spatial extent of the PCE plume from the April and May 2014 monitoring events is illustrated in Figures 9A and 9B, respectively.

TABLE 8.13: SUMMARY OF PCE EXCEEDING SCREENING CRITERIA IN GROUNDWATER

Hole ID	Concentration (µg/l)	
	April 2014	May 2015
MCBH01	**1,690**	**2,970**
WFBH01	**13**	**119**
WFBH03	**163**	**418**
WFBH04	**50.7**	**66.8**
WFBH05	**44.4**	<1.0
WFBH08	7.3	**17.6**
WFBH09	**19.1**	3.6
WFBH12	**693**	**717**
WFBH14	**10.3**	1.6

1690 Values in bold exceed water quality target.

8.53 The PCE plume orientation in both 2014 monitoring events was comparable to that identified in the previous Land Quality Statement (CampbellReith, 2011) however covering a slightly greater area of the site, particularly in the southern area. This is likely to suggest the plume has migrated since the previous monitoring event (2005, reported in the Entec [2007a] report) as documented by CampbellReith (2011). A comparison of the historical (2005) and current (May 2015) spatial extents of the PCE plume is illustrated in Figure 10.

8.54 The location of the highest concentration of PCE detected (MCBH01 – 1,690µg/l and 2,970µg/l) is comparable to that previously identified (HBH408 - 2,069µg/l [Entec, 2007]). CampbellReith (2011) previously noted that the location of HBH408 (immediate proximity to building 91) could potentially have been further north (i.e. proximity to MCBH01). The location of HBH408 was previously reported by CampbellReith (2011) to be to the south of MCBH01 however based on current PCE concentrations from the reported location (WFBH06 - 6.1µg/l and WFBH08 - 7.3µg/l) it is considered likely that the location of HBH408 was in proximity to MCBH01. It is therefore considered that the central area of the PCE plume (historically and currently) is in proximity to MCBH01.

8.55 The highest concentrations of PCE within the plume commenced at MCBH01 and extend to the western site boundary, encompassing WFBH12, WFBH04, WFBH03 and WFBH01 (refer Table 8.14). The east-west geological cross section encompassing the highest PCE concentrations on site (Figure 11A) indicates that the thickness of River Terrace Deposits (stratum where groundwater was typically encountered on site) varies between approximately 3.0m and 10.0m. However, given the base of the River Terrace Deposits were not proven to the west of MCBH01, it is likely that the thickness is greater than that encountered. Conversely, the base of the River Terrace Deposits was proven to the east of MCBH01 by the Bracklesham Beds. It is likely that

concentrations of PCE in this area of the site are highest due to accumulation within the thick and highly permeable River Terrace Deposits.

8.56 Concentrations of PCE within the alignment inclusive of MCBH01, WFBH12, WFBH04, WFBH03 and WFBH01 were generally significantly higher in the second monitoring event (May 2014). This is could be attributed to fluctuation within PCE plume and/ or accumulation of PCE within the voids created by the monitoring well installations (i.e. preferential pathway). Irrespective of concentrations between the two monitoring events, the PCE plume does pose a risk in this area of the site.

8.57 The north-south geological cross section for the site (Figure 11B) indicates that the thickness of River Terrace Deposits as highly variable, whereby thicknesses ranged between 0.4m (WFBH13) and 8.8m (WFBH06) over a distance of approximately 50m. Relatively low concentrations of PCE were detected in both locations across both monitoring events (<6.1μg/l) which is likely to be a result of the migration of PCE from this area and onward to the southern area of the site (i.e. WFBH05 and WFBH09) rather than accumulation. A similar observation was noted in the north of the site, whereby the thickness of River Terrace Deposits was close to smallest on site (2.2m – NGBH01).

8.58 Concentrations of PCE on the southern/ south-western boundary of the site were significantly lower in the May 2015 monitoring event compared to the April 2014 (refer Table 8.14). This may be a result of fluctuation of PCE however based on a minimal data set, it is difficult to attribute this finding to a particular trend/ reasoning.

8.59 The River Terrace Deposits are considered to be influencing the migration of PCE across the site due to their high permeability and characteristics of the contamination (i.e. denser than water). Whilst 'free phase' contamination (i.e. DNAPL) was not encountered, there is potential that it is present on site as the base of the Bedrock Aquifer (>15m bgl) was not proven.

8.60 There is potential for a source (primary and/ or secondary) of PCE contamination to groundwater to be present on site, which is considered likely to be in proximity to MCBH01. There was localised evidence of attenuation of PCE based on the detection of breakdown compounds of PCE within the plume in both monitoring events, of which are summarised in Table 8.14. Vinyl chloride (final potential breakdown compound from PCE) was not identified in either of the 2014 monitoring events.

TABLE 8.14: SUMMARY OF POTENTIAL PCE BREAKDOWN COMPOUNDS

Contaminant	Hole ID	Concentration (µg/l)
Trichloroethene (TCE)	WFBH03	1.1 (May 2014)
	WFBH12	1.3 (April 2014)
	MCBH01	3.3 (April 2014)
Cis-1,1-dichloroethene (DCE)	WFBH12	1.8 (May 2014)
	MCBH01	3.1 (April 2014)
		3.0 (May 2014)

8.61 CampbellReith (2012a & 2012b) previously suggested that there could potentially be two PCE plumes on site however based on current site data, this is now considered to be unlikely. This is due to the identified migration pattern (i.e. through River Terrace Deposits from central area MCBH01) and lack of identified sources of PCE within the western portion of the site.

8.62 Concentrations of PCE were identified as exceeding the screening criteria along the south-eastern, southern, south-western and western boundaries in either or both of the 2014 monitoring events and therefore potentially pose a risk to off-site receptors in these areas.

8.63 In order to determine appropriate remedial criteria to mitigate the risk posed by the PCE plume to off-site receptors, a decision was taken to undertake Detailed Quantitative Risk Assessment (DQRA). The Controlled Waters DQRA is provided within Section 9.0.

Groundwater – Historical Site Data

8.64 Concentrations of anthracene (0.31µg/l) and fluoranthene (2.41µg/l) exceeded the screening criteria (0.1µg/l for both contaminants) in EBH310. No potential contamination sources were identified in the immediate area of EBH310.

8.65 CampbellReith (2012) previously identified an area (former grounds maintenance area) off-site, up hydraulic gradient of EBH310 to be a potential source of soil and groundwater impact with regards to hydrocarbons previously stored in the area (e.g. fuels). CampbellReith (2012) confirmed hydrocarbon contamination was present within the former grounds maintenance area by way of concentrations of VOCs in soil (up to 337µg/kg at 2.9m bgl to 3.1m bgl) and diesel range organics in groundwater (up to 2,074µg/l) in BH203. Based on depth to soils sampled and typical depth to groundwater, it is likely that soils were sampled either at or below the groundwater table.

8.66 Due to the location of EBH310 to BH203 (approximately 75m down inferred hydraulic gradient) it is likely that anthracene and fluoranthene contamination at EBH310 was resultant from migration

of contamination from BH203. It should be noted that concentrations of hydrocarbons (TPH, BTEX compounds, PAHs and VOCs) were either below the laboratory limit of detection and/ or below the screening criteria in down-gradient monitoring wells installed and sampled as part of this investigation (NGBH01, MCBH03 and LEPBH01). Should hydrocarbon contamination be currently present at EBH310, it is likely to be localised in lateral extent in this regard.

Ground Gas Assessment

8.67 The assessment of risk posed by ground gas is initially undertaken on a qualitative assessment of site data (e.g. defining conceptual site model), whereby the need to assess ground gas (i.e. pollutant linkage presence) has previously been detailed in Table 6.5. Ground gas was sampled to further characterise the risk posed by the regime on site, whereby the data assessment comprises comparison of recorded gas levels to Gas Screening Values (GSVs). GSVs are prepared to assess the risk to human health based on proposed land use. The guidance used to provide this initial screening is listed in Table 8.1. The GSV (in litres of gas per hour) is calculated as follows:

$$\textit{maximum flow rate (l/hr)} \times \textit{maximum gas concentration (\% v/v)} / 100$$

8.68 The calculation is carried out for both methane and carbon dioxide and the worst case value adopted as a conservative approach. The characteristic situation can then be determined via reference to CIRIA C665, whereby the higher the characteristic situation the greater the risk posed by the presence of gas. It is important to recognise that the GSV is a guideline value and is not an absolute threshold.

8.69 Due to the nature of the potential development, it is considered appropriate to screen the GSV against two scenarios in accordance with those detailed in CIRIA C665 to provide a semi-quantitative estimate of human risk for the site:

- Situation A – All development types except those in Situation B; and,
- Situation B – Low rise housing with a ventilated underfloor void (minimum 150mm).

8.70 With regards to Situation B, the NHBC have developed a characterisation system specific to low-rise housing development with a clear ventilated under-floor void. This is a risk-based approach that is designed to allow identification of gas protection for a low-rise housing development by comparing the measured gas emission rates to generic "traffic light" scenarios. The traffic lights include "typical maximum concentrations" and are provided for initial screening purposes and

risk-based GSVs for consideration in situations where the typical maximum concentrations are exceeded.

8.71 The atmospheric pressure across the four monitoring events in April/ May 2014 ranged between 1005 hPa and 1020hPa, indicating atmospheric pressure did not fluctuate significantly over the monitoring period. Atmospheric pressure during December 2005 monitoring round (Entec, 2005) varied between 1016 and 1017hPa.

8.72 Ground gas readings from the site are summarised in Table 8.16, whereby the following screening criteria were adopted as indicators of potential ground gas risk; methane (below 1% v/v), carbon dioxide (below 1.5% v/v) and oxygen (below 18% v/v). Raw data from the April 2014 monitoring and is presented within the HGE factual report provided in Appendix C and Raw data from the Entec (2007a) report is provided within Appendix B.

TABLE 8.16: GROUND GAS OBSERVATIONS

Hole ID	Parameters (%)							
	Methane		Carbon Dioxide		Oxygen		Flow Rate (L/hr)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
WFBH01	0.0	0.0	**2.0**	**2.3**	**14.3**	19.5	-0.2	0.1
WFBH02	0.0	0.0	0.7	**8.2**	**8.9**	20.2	-0.1	0.3
WFBH03	0.0	0.0	**0.4**	**3.2**	**16.9**	21.7	0.0	0.0
WFBH04	0.0	0.0	0.2	**2.3**	**17.2**	22.1	-0.1	0.2
WFBH05	0.0	0.0	0.6	0.8	20.9	21.5	0.0	0.1
WFBH06	0.0	0.0	**2.0**	**2.2**	**13.1**	**14.3**	0.1	0.2
WFBH07	0.0	0.0	0.0	0.1	19.0	22.0	-5.4	0.0
WFBH08	0.0	0.0	**2.0**	**4.8**	**8.0**	**15.9**	0.0	0.2
WFBH09	0.0	0.0	0.1	0.2	20.7	22.0	-0.2	0.2
WFBH11	0.0	0.0	0.1	**1.8**	18.2	21.7	0.0	0.2
WFBH12	0.0	0.0	0.0	0.0	**12.2**	**14.3**	0.0	0.1
WFBH13	0.0	0.0	**2.0**	**5.3**	**14.7**	19.4	0.1	0.2
WFBH14	0.0	0.0	0.2	0.2	**0.0**	**16.8**	-6.3	5.3
MCBH01	0.0	0.0	0.3	**3.9**	**12.8**	21.5	0.0	0.3
MCBH02	0.0	0.0	3.0	**4.7**	**4.9**	**5.8**	0.1	0.3
MCBH03	0.0	0.0	0.5	**1.6**	**16.3**	19.8	0.0	0.3
LEPBH01	0.0	0.0	**1.6**	**3.6**	**13.7**	**17.8**	0.0	0.1
LEPBH02	0.0	0.0	0.1	**2.2**	**17.7**	21.6	-0.0	0.3
NGBH01	0.0	0.0	**2.0**	**3.4**	**8.7**	**10.1**	-1.4	0.0
WFWS21	0.0	0.0	0.1	**1.8**	18.7	21.1	-0.2	0.1
EBH310*	0.1		0.0		20.0		-	
EWS305*	0.0		0.0		20.0		-	

2.3 Values in bold exceed screening indicator

* monitored as part of the Entec (2007) investigation

8.73 The assessment of ground gas observations in light of adopted screening criteria indicated the following:

- Methane was not detected in any of the monitoring locations over the monitoring period with the exception of an insignificant reading in EBH310 in the Entec (2007a) monitoring event (0.1% v/v).
- Carbon dioxide varied significantly across the site, with only six locations recording maximum values below the screening criteria; EBH310, EWS305, WFBH05, WFBH07, WFBH09, WFBH12 and WFBH14. The highest reading on site (8.2% v/v) in WFBH02 was encountered on the third visit, whereby levels from the first and second visits (3.3% v/v and 0.7% v/v, respectively) indicating that the highest reading on site was not consistently encountered.
- Depleted oxygen across the site is likely to be associated with the cohesive nature of Made Ground and head deposits (i.e. Brickearth).

Gas Screening Value

8.74 It should be noted that flow rates were not recorded/ provided within the Entec (2007a) report. As such, the GSV is based on the highest flow rate recorded on site during this investigation (-6.3l/hr). For the purposes of GSV calculation, it is considered to be irrelevant if the flow rate was a negative figure (i.e. considered as a positive number).

8.75 The calculated GSV[1] for carbon dioxide and methane was 0.517l/hr and 0.0063l/hr, respectively. As such, the site is considered to pose a **'low risk'** with regards to ground gas generation and, in accordance with CIRIA C665, is comparable the following Characteristic Situations:

- Situation A (all development types except those in Situation B) - Characteristic Situation 2 for carbon dioxide and Characteristic Situation 1 for methane; and,
- Situation B (low rise housing with a ventilated under floor void – min. 150mm) – Amber 1.

8.76 This indicates that ground gas protection measures may be required, specifically in response to identified carbon dioxide levels. Further ground gas monitoring may be required in order to sufficiently characterise the ground gas regime in the vicinity of EBH310 in accordance with CIRIA C665.

[1] Calculated in accordance with the methodology prescribed in CIRIA Report C665, in light of the potential maximum recorded level of methane of 0.1% v/v and carbon dioxide of 8.2% v/v and a maximum gas flow of -6.3l/h

Bulk Gas Laboratory Analysis

8.77 A total of 11 bulk ground gas samples were collected over three visits in April and May 2014. Samples were collected where ground gas readings were considered to indicate a potential risk to human health with regards to either PCE and/ or hydrocarbon groundwater contamination on site. The bulk ground gas samples collected are summarised below:

- 1 April 2014 – WFBH08, WFBH14 and MCBH02.
- 17 April 2014 – NGBH01, WFBH08, WFBH02 and MCBH02.
- 20 May 2014 – WFBH03, WFBH12, WFBH13 and MCBH01.

8.78 The locations where bulk gas samples were collected were generally located within the PCE plume, with WFBH13 encompassing the location where dissolved phase hydrocarbon contamination was detected. All bulk gas samples were submitted for VOC (including PCE) analysis whereby concentrations were below the laboratory limit of detection. As such, there is no evidence the groundwater contamination on site is a source of vapour generation with regards VOCs of TPH. However, it should be noted this was based on a minimal number of visits, whereby additional ground gas monitoring may be required to fully characterise the ground gas regime posed by groundwater contamination on site.

Review of Conceptual Site Model

8.79 An assessment has been made that considers sources of gas generation, gas flows and concentrations, and potential exposure routes. This is summarised below:

- On-site Source of Generation Potential: Consistently elevated carbon dioxide across the site is likely to be associated with high organic content). These levels could also be potentially associated with biodegradation of contaminants within groundwater on site (i.e. PCE). The groundwater contamination identified on site is not considered to be a source of ground gas/ vapour however additional ground gas monitoring may be required to confirm this.
- Off-site Source of Generation Potential. No known source however there is potential for such sources (e.g. unidentified infilled areas) to be located in proximity to the site which could pose as a source.
- Gas Flows. A maximum gas flow rate of 6.3l/hr has been recorded whereby generally no significant flow rates were recorded (i.e. <0.2l/hr).
- Exposure Routes. Gas at the site may be of primary concern should the potential for it to have ingress into confined spaces both during construction and when the proposed development is completed.

Preliminary Gas Protection Measures

8.80 The results of the qualitative assessment can be developed, together with gas monitoring results, to give a semi-quantitative estimate of risk for the site. The system proposed by Wilson and Card to determine appropriate risk mitigating strategies for land development was a development of the one described in CIRIA publication R149 (CIRIA, 1996), which is an industry standard. The system is summarised in Table 8.17.

8.81 With regards to an Amber 1 situation, low-level gas protection measures are required, comprising a membrane and ventilated sub-floor void to create a permeability contrast to limit the ingress of gas into buildings. Gas protection measures should be as prescribed in BRE Report 414 (Johnson, 2001). Ventilation of the sub-floor void should facilitate a minimum of one complete volume change per 24 hours.

TABLE 8.17: EXCERPT FROM C665 – TYPICAL SCOPE OF GAS PROTECTION MEASURES

Characteristic Situation	Residential building (not those which belong to Situation B)		Office/ commercial/ industrial development	
	Number of levels of protection	Typical scope of protective measures	Number of levels of protection	Typical scope of protective measures
1	None	No special precautions.	None	No special precautions.
2	2	a) Reinforced concrete cast *in situ* floor slab (suspended, non-suspended or raft) with at least 1200g DPM2 and under-floor venting. b) Beam and block or pre-cast concrete and 2000g DPM/ reinforced gas membrane and under-floor venting. All joints and penetrations sealed.	1 to 2	a) Reinforced concrete cast in situ floor slab (suspended, non-suspended or raft) with at least 1200g DPM2. b) Beam and block or pre-cast concrete slab and minimum 2000 g DPM/reinforced gas membrane. c) Possibly under-floor venting or pressurisation in combination with a) and b) depending on use. All joints and penetrations sealed.

9.0 CONTROLLED WATERS DETAILED QUANTITATIVE RISK ASSESSMENT

Introduction

9.1 The objective of the Controlled Waters DQRA is to quantify the acceptable concentration of PCE within the central area of the plume which will not pose a risk to sensitive off-site receptors. This assessment is based on the current site investigation data detailed in Section 8.0. The findings of the DQRA will enable the principle for remediation to be established.

Environmental Fate and Transport of PCE

9.2 PCE has and is still used within the commercial/ industrial sector mainly as a degreasing solvent in applications such as dry cleaning, metal cleaning, chemical intermediate (including paint remover)[2]. PCE can enter the environment as a result of its use/ storage (e.g. spillages) whereby in cases of above ground releases, the majority of the volume volatilises relatively quickly due to its high volatility. It may occur in soils, groundwater and surface water as DNAPL and in part dissolve phase.

9.3 Some typical physiochemical properties of PCE include:

- a common DNAPL, typically its specific gravity is 1.6 g/cm^3 (at 20°C), i.e. denser than water 1 g/cm^3;
- low solubility in water, 150mg/l at 25°C. Soluble in ethanol, benzene, acetone, hexane, chloroform and other chlorinated organic solvents; and,
- vapour pressure 19.0 mm Hg at 25°C.

9.4 PCE is highly chlorinated and its daughter/ breakdown compounds include the following:

- trichloroethylene;
- cis-1,2-dichloroethene;
- vinyl chloride; and
- ethane.

9.5 PCE can be degraded by chemical treatment or bioremediation. Bioremediation can be completed under anaerobic conditions by reductive de-chlorination and under aerobic conditions by co-metabolism.

[2] Health Protection Agency Publication, 'Tetrachloroethylene – General Information', CHAPD HQ, HPA, 2008.

Methodology

9.6 The Environment Agency's Remedial Targets Methodology (RTW 3.2) has been used to derive remedial targets for groundwater in consideration of the risk posed by PCE contamination identified on site. A Tier 1 - 3 risk assessment has been undertaken based upon Environment Agency Publication 'Methodology for the Derivation of Remedial Targets for Soil and Groundwater to Protect Water Resources[3]' (R&D Publication 20, referred to as EAP20), whereby version 3.2A of the accompanying spread sheet has been utilised. General reference has also been made to other Environment Agency documents which discuss the preparation of risk assessments comprising:

- Environment Agency, 2001 Guide to Good Practice for Establishing Conceptual Models. National Groundwater and Contaminated Land Centre Report NC 99/38/2;
- Environment Agency, 2001 - Guidance on the Assessment and Interrogation of Subsurface Analytical Contaminant Fate and Transport Models. National Groundwater Contaminated Land Centre Report NC 99/38/1;
- Environment Agency, 2008 – Compilation of data for priority pollutants for the derivation of soil guideline values. SC05002/SR7; and,
- Environment Agency, 2009 - Petroleum Hydrocarbons in Groundwater: Supplementary Guidance for Hydrogeological Risk Assessment.

9.7 Guidance given in the Environment Agencies 'Remedial Targets Methodology – Hydrogeological Risk Assessment for Land Contamination has been used to inform assumptions on appropriate values for input into the risk assessment model.

9.8 The assessment has utilised Tier 1 - 3 of the model to establish remedial concentrations that are protective of on and off-site receptors. Specifically, the Tier 3 risk assessment was undertaken to establish whether the PCE 'plume' identified on site is likely to present a risk to off-site receptors following migration and attenuation.

Summary of Environmental Setting

Ground Conditions

9.9 Inference on the geological setting has been made from existing on site data as summarised in Table 3.1 and encountered as part of this investigation.

[3] Environment Agency Publication, 'Methdology for the Derivation of Remedial Targets for Soil and Groundwater to Protect Water Resources', R&D Publication 20, referred to SA EAP20.

Groundwater

9.10 The River Terrace Deposits (Superficial Aquifer) and Bracklesham Group (Bedrock Aquifer) are designated by the Environment Agency as Secondary A Aquifers. The depth of the combined Superficial Aquifers was not confirmed as part of this investigation (maximum depth investigated 15m bgl). The London Clay Formation underlies the Bracklesham Beds and is Unproductive Strata, with its depth believed to be an effective aquitard to the deeper aquifers.

9.11 Based on the permeability of the geological formations of the River Terrace Deposits (gravels and sands) and the Bracklesham Beds (silty/ clayey sands), there is considered to be hydraulic connectivity between the two formations. Assessment of the connectivity between The Solent (surface water adjacent to west of the site) and the Secondary A Aquifers on site has not been undertaken as part of this investigation.

9.12 The site is not within a groundwater source protection zone nor are there any groundwater abstraction licences within 1km of the site.

Model Calculations

9.13 The risk assessment for the groundwater model considers the migration of contaminants from the shallow soils to the groundwater beneath the site using the following levels of the Environment Agency Remedial Targets Methodology.

- Level 1 – Considers contamination in the soil (source) and compares soil concentrations or leachate data from the soil (representing soil pore water) with a calculated leachate value predicted at the base of the unsaturated zone. Calculated leachate concentrations are screened against the relevant compliance concentrations such as the EQS. This level is essentially a conservative screening process, whereby those contaminants that fall below the compliance criteria at the base of the leaching zone mat be disregarded.
- Level 2 – Considers the dilution of soil leachate contamination at the water table. A Dilution Factor (DF) is calculated and applied to the Level 1 Remedial Target to give a revised (less conservative) target for the soils. Those contaminants that are diluted sufficiently within the receiving groundwater to concentrations below their respective target criteria may be disregarded. Level 2 is modelled as groundwater flow.
- Level 3 – Considers the transports, dispersion and attenuation of dissolved phase contaminants in the groundwater as they migrate towards a Compliance Point, or receptor. An Attenuation Factor (AF) is calculated and applied directly to the Level 3 Remedial Target

to derive a new Remedial Target, which accounts for the effects of dispersion and attenuation (sorption and decay) on contaminant concentrations within the plume, as it migrates between the source and receptor.

Data Requirements

9.14 The data requirements for undertaking a Level 1 - 3 risk assessment are detailed in Table 9.1 and are discussed below.

TABLE 9.1: DATA REQUIREMENTS

Value	Unit	Symbol	Description	L1	L2	L3
Vertical Dispersivity in the Unsaturated Zone	m	α_U	The calculated vertical dispersion of contaminated pore water during migration through the unsaturated zone.	×	✓	✓
Contaminant Half Life in Unsaturated Zone and/or Aquifer	days	$t_{1/2}$	The time required to convert one half of a reactant to product. Generally applies to hydrocarbons / organic compounds and are specific for soil and groundwater media.	×	✓	✓
Contaminant Partition Coefficient	ml/g	K_d	The proportionality coefficient describing the distribution of a compound between aqueous and solid phase soil minerals which form the bulk soils of the unsaturated zone.	×	✓	✓
Contaminant Partition Coefficient to Organic Carbon	mg/l	K_{OC}	The proportionality coefficient describing the distribution of an organic compound between aqueous and solid phase organic carbon.	×	✓	✓
Fraction of Organic Carbon	%	f_{OC}	The organic carbon content of soils or strata; particularly important in the retardation of organic contaminants.	×	✓	✓
Unsaturated Zone Water Filled Porosity	Fraction	Θ_W	The proportion of the soil porosity (within the unsaturated zone) which is occupied by water.	×	✓	✓
Hydraulic Conductivity	m/d	K	An expression of the ease for a liquid to travel through soils and is based upon the intrinsic conductivity and saturation of said soil.	×	✓	✓
Background Concentration of Contaminant	mg/l	Ca	The concentration of a contaminant in the groundwater prior to the contaminant loading/contribution of the site.	×	✓	✓
Hydraulic Gradient in Aquifer	-	i	The loss of hydraulic head over distance in a given direction.	×	✓	✓
Aquifer Thickness	m	-	The vertical thickness of the water-bearing strata / aquifer.	×	✓	✓
Mixing Zone Thickness	m	Mz	The saturated aquifer thickness beneath the water table.	×	✓	✓
Aquifer Effective Porosity	fraction	Na	The interconnected porosity available for fluid flow, usually approximated to the water-filled porosity.	×	×	✓

Value	Unit	Symbol	Description	L1	L2	L3
Aquifer Bulk Density	g/cm^3	Bda	The overall density of the rock of sediment, including the void space after all the water has been removed.	×	×	✓
Aquifer Dry Bulk Density	g/cm^3	ρ	The ration of dried aquifer soil mass to bulk soil volume (including pore spaces).	×	×	×
Aquifer Longitudinal Dispersivity	m	α_x	Spreading in the direction of groundwater flow of sharp concentration fronts due to variations in the transport paths at grain size scale.	×	×	✓
Aquifer Transverse Dispersivity	m	α_y	Spreading in the direction perpendicular to groundwater flow of sharp concentration fronts due to variations in the transport paths at grain size scale.	×	×	✓
Groundwater Flow Direction	degrees	-	The direction of overall groundwater flow.	×	×	✓
Compliance Point	m	x	The distance to the receptor as identified within the Conceptual Site Model.	×	×	✓

Source Concentrations (Cs, Ca) & Background Concentration of Contaminants (Ca)

9.15 The concentration of PCE in groundwater in the central area of the plume/ highest concentration detected in the April and May 2014 monitoring events (MCBH01 – 1,690μg/l and 2,970μg/l, respectively) has been modelled in order to determine whether the PCE plume poses an on-going risk to off-site receptors beyond the compliance point (WFBH03). Due to the location of WFBH03 (site boundary) this borehole is considered to be the compliance point.

9.16 In the absence of PCE in groundwater at NGBH01 in both 2014 monitoring events, it is assumed that no background contamination is present on site. It is also assumed that there are no potential sources of PCE contamination in off-site areas adjacent to the site.

Infiltration (Inf)

9.17 Met Office rainfall data was obtained from the Bournemouth weather station, which is the closest weather station to the site (approximately 50km to the west). Ten years of rainfall data was collected and used to ascertain the average annual rainfall over this period, which is summarised in Table 9.2.

9.18 The average annual rainfall has been adopted for infiltration on the assumption that the remediated land will not include any surface water drainage allowances. However, it should be noted that the effects of surface run-off and evapotranspiration have been (conservatively) excluded.

TABLE 9.2: SUMMARY OF ANNUAL RAINFALL RECORD IN HURN 2002-2012

Year	Annual Rainfall (mm)
2002	685.8
2003	720.4
2004	755.4
2005	655.2
2006	771.9
2007	887.7
2008	898.0
2009	753.2
2010	707.2
2011	596.8
2012	1128.6
Average	778.2

Pathway Length (L)

9.19 The pathway length has been calculated based on the groundwater flow direction across the site (westerly) from the highest concentrations of PCE identified on site (MCBH01) to the western site boundary (WFBH03). On this basis the pathway length was calculated to be 220m.

Hydraulic Conductivity (K)

9.20 A review of published hydrogeological information (Freeze and Cherry, 1979) identified that a K value of 1 x 10^{-4} (8.64m/ day) would be representative of geological characteristics of the River Terrace Deposits.

9.21 In-situ aquifer testing (falling head tests) was undertaken in seven groundwater monitoring wells on site (WFBH01, WFBH05, WFBH06, WFBH12, MCBH01, LEPBH01 and NGBH01) to obtain site specific K values across the site. Results from the aquifer tests are summarised in Table 9.3 and data sheets for individual tests provided in the HGE factual report in Appendix C.

TABLE 9.3: SUMMARY OF AQUIFER TESTING

Hole ID	Strata	Value		Soil Type / Description
		m/ sec	m/ day	
LEPBH01	River Terrace Deposits	1.44 x 10-5	1.24	Interbedded clay with clayey and clean sand and gravel.
MCBH01		1.82 x 10-4	15.72	Interbedded clayey sand and gravel.
NGBH01		2.22 x 10-6	0.19	Interbedded sandy gravelly clay with sand and gravel.
WFBH01		5.88 x 10-5	5.08	Clayey sand and gravel.
WFBH05		2.53 x 10-6	0.22	Interbedded sandy, gravelly clay, clayey sand with

Hole ID	Strata	Value		Soil Type / Description
		m/ sec	m/ day	
				sand and gravel.
WFBH06		2.09 x 10-6	0.18	Interbedded sandy gravelly clay, clayey sand with sand and gravel.
WFBH12		4.40 x 10-5	3.80	Interbedded sandy, gravelly clay with sand and gravel.

9.22 Review of the data sheets for WFBH01 and WFBH12 indicated a possibility that the tests were flawed due to discrete observations of increasing driving head after initial trend of falling head. As such, both tests were omitted from further assessment whereby the average K value for the remaining tests undertaken was 4.06 X 10^{-5} m/s (3.51 m/d).

9.23 In comparison to site derived K values, the published K value (8.64m/day) is considered to better represent site conditions and has been used in the DQRA calculation.

Hydraulic Gradient (i) & Groundwater Flow Direction

9.24 Groundwater flow direction is inferred to be to the west (i.e. towards The Solent), whereby groundwater gradient calculations are summarised in Table 9.3.

TABLE 9.3: SUMMARY OF GROUNDWATER GRADIENT CALCULATIONS

h_1 / depth (m AOD)	h_2 / depth (m) AOD)	Distance (m)	Gradient (i)
LEPBH01 / 5.8	WFBH01 / 4.1	503	0.0034
LEPBH01 / 5.8	WFBH02 / 4.2	448	0.0036
MCBH03 / 5.7	WFBH01 / 4.1	435	0.0037*
MCBH03 / 5.7	WFBH02 / 4.2	365	0.0041

*Median value used in risk assessment.

9.25 Based on the surface and groundwater elevations, the hydraulic gradient for the site is inferred to be 0.0037m/m.

Longitudinal (α_x), Lateral (α_y) & Vertical (α_v) Dispersivity

9.26 Dispersivity is the parameter used to represent the mixing process that occurs as the contaminant plume moves with groundwater flow. There are two causes of dispersion: molecular diffusion and mechanical mixing from flow in porous media. The Remedial Targets Worksheet requires estimates of longitudinal and transverse dispersivity. Dispersivities are correlated variables and the transverse dispersivity should always be less than longitudinal dispersivity.

9.27 Dispersivity is relatively easily determined in the laboratory by conducting column breakthrough tests and back calculating with dispersivity as the only unknown. These tests invariably yield values in the range 0.01 – 2.00cm, and results have been shown to be independent of grain shape, roughness and angularity. However, given that field dispersivities will be affected by large-scale heterogeneities that cannot be duplicated in the laboratory, reliance has been placed upon a number of field dispersivity tests have been conducted, references for which are cited in Freeze and Cherry (1979). Sections 10.3 – 10.5 of Domenico & Schwartz (1990) are particularly helpful in providing guidance.

9.28 In the case of longitudinal dispersivity, field data indicates that the dispersivity is broadly proportional to path length for at least as large as 1,000m. The dispersivity is in the order of magnitude uncertain and a log base distribution could be used to represent this. Field studies summarised in Domenico & Schwartz (1990) suggest that the longitudinal dispersion has a credible range of between 0.01 – 1 times path length.

9.29 A number of researchers have examined the scale effects of longitudinal dispersion and a number of empirical methods have been suggested, all of which are based on the pathway length (L). Three of the most common approaches are outlined below for calculating longitudinal dispersivity.

$A_X = 0.1 \times L$ (Pickens and Grisak, 1981)
$\alpha_X = 0.0175L1.46$ (Neuman, 1990)
$\alpha_X = Mx \times [\text{Log } L]\ Mexp$
where $Mx = 0.83$ and $Mexp = 2.414$ (Xu and Eckstein, 1995).

9.30 Dispersivities of 10%, 1% and, 0.1% of the pathway lengths have been used to give an estimate.

Source Dimensions

9.31 For the purposes of the groundwater DQRA, a standard source area equating to approximately 10m by 10m ($100m^2$) for groundwater contamination has been assumed based on the likelihood that PCE contamination is likely to have originated from a point source (e.g. tank). It should be noted the source of PCE contamination on site has not been identified.

Fraction of Organic Carbon (f_{oc})

9.32 Organic carbon present in soil, the unsaturated zone or aquifer plays a major role in determining the fate of organic contaminants. Organic carbon provides sites onto which hydrophobic

contaminants may be sorbed and also slows (or retards) contaminant transport. The Fraction of Organic Carbon (f_{OC}) is dependent on lithology and the presence of organic matter. The chosen f_{OC} values used in the risk assessment is (0.09) based upon existing site data.

Partition Coefficient (K_d) & Partition Coefficient to Organic Carbon (K_{OC})

9.33 The partition (or distribution) coefficient describes the physiochemical behaviour of a contaminant in the saturated and unsaturated zones, and is known as K_d (ml/g). Partitioning of organic contaminants is described by K_{OC} which is a function of f_{OC}, whereby the soil water partition coefficient value for PCE was calculated to be 273L/kg.

Contaminant Half Life ($t_{1/2}$): Soil & Groundwater Media

9.34 The half-life of PCE in groundwater is likely to be influenced by a variety of factors (e.g. groundwater geophysical parameters). Nonetheless, the half-life of PCE is considered to be 730 days (Kresic, 2001), which is considered to be a conservative value.

9.35 Based upon this rate, it is plausible to presume that the high concentrations observed within the central area of the PCE plume would take approximately 15 years to attenuate to the EQS screening criteria value of 10μg/l. This is in the absence of an on-going source of PCE contamination and ignoring dispersion and dilution mechanisms.

Pollutant Linkages

9.36 As detailed in CLR 11 and the Remedial Targets Methodology the pollutant linkages have thus been identified and explored below using the Source, Pathway and Receptor approach.

Sources of Contamination

Soils

9.37 The current site investigation did not identify PCE within soils on site. CampbellReith (2012a & 2010b) previously concluded that concentrations of chlorinated solvents detected in soil samples detected in the Halcrow (2006) and Entec (2007a) investigations were not representative of the source of the groundwater contamination identified on site at the time of those investigations.

Groundwater

9.38 Groundwater has historically been confirmed as a receptor of PCE in this site investigation, whereby controlled waters were identified to be at risk from this contamination.

Pathways

9.39 Groundwater across the site was encountered within the River Terrace Deposits; it is considered that this stratum is the primary factor in influencing the migration of PCE across the site due to its high permeability. Geological cross sections of the site (Figures 11A and 11B) demonstrate a positive relationship between thickness of the River Terrace Deposits and the concentration of PCE in groundwater.

Receptor

9.40 The main off-site receptor is considered to be The Solent due to its status as a SPA, Ramsar and SSSI. The Solent is located within 50m of the Compliance Point on the western site boundary.

9.41 Target Concentrations set for Critical Receptors are based upon 'Other Waters' from the WFD due to the site's proximity to The Solent (i.e. The Solent). The target concentration set for PCE in this regard is 10μg/l.

9.42 In order to apply the model, base data inputs are required. Values used and their sources are as below in Table 9.4. It is generally the case that in applying the model, where there is uncertainty regarding the input parameter value (e.g. where a range of values is presented) a conservative approach (the median value) is adopted in choosing the appropriate number.

TABLE 9.4: CONTROLLED WATERS RISK ASSESSMENT MODELLING PARAMETERS

Parameter	Value	Units	Justification
Level 1 Soils			
Water filled soil porosity	0.26	Fraction	Utilised latest site investigation data.
Bulk density of soil zone material	1.60	g/cm^3	
Fraction of Organic Carbon in Unsaturated Zone	0.09	Fraction	Utilised latest site investigation data.
Level 2 Soil			
Infiltration	0.00213	m/d	From Table 9.2.
Area of contaminant source	100	m^2	Contamination source likely to be within a 10m x 10m area, considered to originate in
Length of contaminant source in direction of groundwater flow	220m (WFBH03)	m	

Parameter	Value	Units	Justification
Width of contaminant source perpendicular to groundwater flow	10	m	proximity to MCBH01.
Saturated aquifer thickness	40	m	Anticipated – depth of aquifer not proven.
Hydraulic conductivity (River Terrace Deposits)	8.64	m/d	Site specific aquifer tests.
Hydraulic gradient	0.0037	Fraction	See Table 9.3.
Calculated mixing zone thickness	40	m	Calculated.
Level 3 Soil			
Width of plume in aquifer at source	10	m	From Level 2.
Width of contaminant source perpendicular to groundwater flow	10	m	
Plume thickness in aquifer at source	40	m	
Bulk density of aquifer materials	1.60	g/cm^3	
Hydraulic gradient	0.0037	Fraction	
Hydraulic conductivity of saturated aquifer	3.51	m/d	
Distance to compliance point	220m (WFBH03)	m	
Fraction of Organic Carbon	0.009	Fraction	

Controlled Waters Risk Assessment Model Calculations Results

9.43 The results of the Controlled Waters Risk Assessment indicate that the remedial target concentration for PCE at the source of contamination (MCBH01 – 2,970µg/l) of 521µg/l is required in order to adequately mitigate risks posed by PCE contamination at the site boundary to The Solent. The Remedial Targets Methodology Worksheets are attached in Appendix D.

9.44 It should be noted there are a number of limitations associated with this model calculation, namely through the various arbitrary values used (e.g. area of contamination source). Nonetheless, based on the model calculation, there is evidence to indicate remediation of the PCE plume is required.

10.0 REVISED CONCEPTUAL MODEL & QUALITATIVE RISK ASSESSMENT

10.1 Guidance for contaminated land advocates the assessment of risk by determining the presence of pollutant linkages and weighting the likelihood of harm occurring with the potential severity of that harm. The framework is set out in various publications by the DETR, Environment Agency, Institute for Environment and Health, NHBC and CIRIA.

10.2 Tables 6.2 - 6.5 indicate the potential contaminants, pollutant linkages and receptors that have been considered at the site. Following the investigation of these and Generic Quantitative Risk Assessment (for human health, controlled waters and gas) a Qualitative Risk Assessment for each receptor is presented below in Tables 10.1 - 10.6.

10.3 For the purpose of this assessment, the descriptions of risk presented in Table 6.1 have been used which take into account the magnitude of the source contamination identified, likelihood of exposure via a pathway and significance of harm likely to result on the given receptor.

TABLE 10.1: CONSTRUCTION AND MAINTENANCE WORKERS (ASSUMING BASIC PPE)*

PATHWAY	RISK	COMMENT
Ingestion of soil/ dust	Moderate	Redevelopment or maintenance of the site is likely to involve groundworkers coming into contact with underlying soils. However, it is acknowledged that SGVs / GACs are primarily derived to assess chronic risks and not acute risk and so may not be appropriate to appraise risks to construction workers. Notwithstanding this, it is considered that there could be acute risks to human health if "hotspots" of highly elevated individual concentrations above the SGV are present. In addition, asbestos has been identified in several locations. Groundwater contamination comprises a dissolved phase PCE plume across the majority of the site,, however it is unlikely the receptor would come into direct contact with groundwater. Hazardous ground gas (carbon dioxide) was identified across the majority of the site. Sub-surface excavation should not be entered into without appropriately mitigating this risk. No vapours associated with the PCE plume were detected in ground gas samples collected from above the plume area. Normal Health and Safety precautions associated with a site where potential contamination may exist (of the levels identified), will mitigate the general risk. Overall Risk - **Low - Moderate**
Inhalation of soil/ dust	Moderate	
Inhalation of vapour from soil/ dust/ water	Low	
Dermal contact with soil/ dust/ water	Low - Moderate	
Accumulation and migration of soil gases in/ to confined spaces	Low	
Migration of water borne contaminants	Moderate	
Leaching of contamination from Made Ground	Low	

* Separate assessments are required in relation to asbestos risk

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TABLE 10.2: SITE END USERS (RESIDENTIAL WITH PLANT UPTAKE)

PATHWAY	RISK	COMMENT
Ingestion of soil/ dust	Moderate	Elevated soil concentrations of metals and PAH species have been detected which will require remediation to break the pollutant linkages. This should comprise a clean capping layer to all proposed soft landscaped areas. Hardstanding across the site would largely preclude receptors coming in contact with soil/ groundwater subsurface. Overall Risk - **Moderate**
Inhalation of soil/ dust	Moderate	
Inhalation of vapour from soil/ dust/ water	Low	
Dermal contact with soil/ dust/ water	Moderate	
Water-borne or mobile contaminants	Low - Moderate	
Leaching of contamination from Made Ground	Low - Moderate	

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TABLE 10.2: SITE END USERS (COMMERCIAL/ INDUSTRIAL)

PATHWAY	RISK	COMMENT
Inhalation of vapour from soil/ dust/ water	Low	Under this proposed land use, redeveloped areas of the site would be predominately hardstanding (i.e. roads, buildings, etc.), with receptors being presence on site for reduced periods of time (i.e. business hours/ working week). Hardstanding across the site would largely preclude receptors and engineered structures coming in contact with soil/ groundwater subsurface. Areas of soft landscaping are considered to be at risk from soil contamination in localised areas of the site (i.e. hotspots). The risk posed by contaminated groundwater on site is largely limited by the likely depth across the site (>3.0m bgl) and is applicable to Plot 1 only. Overall Risk – **Low**
Ingestion of soil/ dust	Low - Moderate	
Inhalation of soil/ dust	Low - Moderate	
Dermal contact with soil/ dust/ water	Low - Moderate	
Water-borne or mobile contaminants	Low	
Leaching of contamination from Made Ground	Low	

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TABLE 10.3: CONTROLLED WATERS

PATHWAY	RISK	COMMENT
Migration of water borne/mobile contaminants	High	A PCE plume is present across the majority of Plot 1, whereby concentrations on the site boundary exceed the respective EQS and therefore are considered to pose a risk to controlled waters of high ecological sensitivity on and off-site. The source of PCE contamination has not been identified and therefore there could be an on-going source of groundwater contamination. There was evidence to suggest that hydrocarbons have potential to leach from contaminated Made Ground within Plot 1, whereby the risk posed to controlled waters was based on conservative screening criteria (Drinking Water Standard). In light of this finding and both end uses for the site likely to include a high proportion of hardstanding, the risk posed to controlled waters is considered to be low. Whilst VOC contamination in soil was not identified on site, there is potential for soils to have leached VOCs vertically into groundwater. In this sense, if VOC contaminated soils are present on site, the risk posed by leaching of contamination would be increased. Overall Risk – **Moderate - High**
Leaching of contamination from Made Ground	Moderate	

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TABLE 10.4: BUILDINGS AND INFRASTRUCTURE

PATHWAY	RISK	COMMENT
Leaching of contamination from Made Ground	Low	Consideration is required with respect to potable supply pipework due to the presence hydrocarbon contamination (particularly in Plot 1) that have not been screened against thresholds for water supply pipes. Based on depth to groundwater (>3.0m bgl) it is unlikely engineered structures would be installed within contaminated groundwater.
Movement of contaminants to engineered structures (e.g. water pipes)	Low - Moderate	
Accumulation of potentially flammable/ hazardous ground gases	Low - Moderate	There is no evidence to suggest the generation of flammable ground gases (methane). Buildings on site are considered to require low level gas protection measures to be incorporated into the development design with regards to slightly elevated carbon dioxide. Additional ground gas assessment may be required to confirm the requirement of protection measures in Plot 2. The PCE plume is not considered to pose a risk with regards to vapour generation however further ground gas monitoring within the central area of the plume (i.e. worst case scenario) is required to confirm this. The ground gas regime at the site was determined to be a Characteristic Situation 2 based on the presence of elevated carbon dioxide across the majority of the site. As such, ground gas venting measures should be incorporated into building design (irrespective of proposed end land use). Overall Risk – **Low-Moderate**

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TABLE 10.5: ADJACENT SITE USERS (PREDOMINANTLY RESIDENTIAL)

PATHWAY	RISK	COMMENT
Inhalation of vapour from soil/ dust/ water	Low	There is a potential for the neighbouring receptors to come into contact with contamination vapours that could be emitted from the PCE impacted groundwater, although to date, the plume does not appear to have migrated offsite and VOCs have not been detected within ground gas monitoring samples collected from boreholes. However, groundwater does become shallower in these areas, therefore there is a higher possibility for receptors or underground structures such as water supply pipes to come into contact with contamination from the site. No groundwater abstractions were identified to be within 1km of the site. Overall Risk – **Low-Moderate**
Ingestion of soil/ dust/ water	Low	
Inhalation of soil/ dust	Low	
Dermal contact with soil/ dust/ water	Low	
Migration of water-borne or mobile contaminants	Moderate	
Leaching of contamination from Made Ground	Low	
Migration of soil gases to confined spaces / structures	Low	
Movement of contaminants to engineered structures (e.g. water pipes)	Moderate	

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11.0 ENVIRONMENTAL CONCLUSIONS AND RECOMMENDATIONS

Introduction

11.1 The site investigation commissioned by CampbellReith incorporated both geotechnical and geoenvironmental testing of soils and groundwater and the monitoring of hazardous ground gas across the site. In addition, a number of previous investigations of the site have been reviewed (predominately Land Quality Statement [CampbellReith, 2011] which summarised the previous Halcrow and Entec work) in order to inform the initial conceptual site model.

11.2 The site is considered to have a **Medium** sensitivity with respect to hydrogeology due to the nature of the underlying Superficial and Bedrock Aquifers.

11.3 The site is considered to have a **High** sensitivity with respect to hydrology due to the proximity to The Solent (<50m to the west), which is of high ecological sensitivity associated with the SSSI, SPA and Ramsar national and international level designations.

11.4 The proposed end use of the site is considered to be a combination of **High** sensitivity (residential) and **Low** sensitivity (commercial/ industrial), whereby both possible land uses have been appraised herein.

Overview of Key Issues

11.5 Site investigations have identified the following key contamination issues at the site:

- **Soils:** Elevated concentrations of Polycyclic Aromatic Hydrocarbons (Benzo(a)pyrene and Benzo(a)anthracene) have been identified across the site in addition to localised hotspots of metals (arsenic, copper, lead and zinc) and occurrences of asbestos. The presence of site wide PAHs indicates that remediation will be required in all areas where gardens or soft landscaping areas are proposed. Additional hotspots were previously identified in CampbellReith, 2011.
- **Groundwater**: A PCE plume was identified across the majority of the site which was deemed to pose a potentially significant risk to ecological receptors on and off-site. Localised hydrocarbon contamination was identified encompassing the former MT Section.
- **Ground gas**: Ground gas regime for a Situation A (all development types except those in Situation B) was deemed to be a Characteristic Situation 2 for carbon dioxide. The Ground gas regime for Situation B was deemed to be Amber 1.

Construction Workers

11.6 The qualitative assessment identified a **LOW-MODERATE RISK** posed by contamination on site, specifically with regards to hydrocarbon contamination within Made Ground.

11.7 In order to achieve satisfactory control, CampbellReith recommend that Health and Safety provisions in accordance with HSE Publication HSG66 and CIRIA Report 132 are considered. The Contractor must also control matters such as any contracted CDM responsibilities.

End Users

11.8 The qualitative assessment identified a **MODERATE RISK** posed by contamination on site to residential users particularly in areas of proposed soft landscaping in the final development.

11.9 The qualitative assessment identified a **LOW RISK** posed by contamination on site to commercial/ industrial users, which was attributed to hardstanding largely precluding access of the receptor to come into contact with contamination identified sub-surface.

11.10 Groundwater was considered to be at sufficient depth to preclude both sets of end users from coming in contact with dissolved phase contamination. There was a **LOW RISK** assigned to vapours generated from groundwater contamination on site.

Controlled Waters

11.11 The qualitative assessment identified a **MODERATE-HIGH RISK** for groundwater due to the presence of PCE contamination within groundwater (maximum concentration of 2,970μg/l at the centre of the plume) which exceeds the screening criteria over the majority of Plot 1. The plume was not delineated below screening criteria along the western, southern and south-eastern boundaries of the site.

11.12 Whilst dilution by receiving surface water receptors (i.e. The Solent) would be significant, it is not considered likely that the regulatory authority (Environment Agency) would fully permit this as an appropriate form of mitigation without identification of source of PCE contamination on site and its subsequent removal as a form of betterment. On this basis, remediation of PCE contaminated groundwater on site is recommended.

Buildings

11.13 The ground gas risk assessment identified that ground gases are likely to pose a **LOW - MODERATE RISK** based predominately on carbon dioxide levels across the site. It should be noted that additional ground gas assessment in Plot 2 may be required to adequately characterise the ground gas regime.

Outline Remedial Recommendations

11.14 The following section details outline remedial recommendations. These should be considered in light of the recommendations for any further works presented above which could lead to their modification.

11.15 A number of actions will be required to address land contamination issues at the site and these are described below. These relate to :

- **Additional Groundwater Investigation**
- **Detailed Quantitative Risk Assessment**
- **Remedial Recommendations and Options Appraisal**
- **Remediation and Verification Control Documents**
- **Regulatory Approval**
- **Waste Management**

End Users

11.16 The remediation of site-wide soil contamination identified within this site investigation will be driven by the proposed end use (i.e. residential or commercial/ industrial) and extent of private gardens and soft landscaping areas. The management of the risk posed by asbestos across the site should be considered with regards to construction/ maintenance workers in addition to future site end users. The following additional sources of liability are deemed to be relevant to the site based on historical/ current use and should be considered as part of remediation of land (i.e. existing soil contamination) by individual land developers of the site.

11.17 The Entec (2007b) report previously recommended that the most appropriate method to manage the identified radioactive contamination was to remove these soils from site and dispose of at an appropriate waste disposal facility. CampbellReith agrees that this approach would suitable mitigate potential risks posed by such contamination, whereby the locations where remediation

is recommended illustrated in Figure 5. The Entec (2007b) report should be consulted by land developers to comprehend the scope required to achieve remediation of radioactive contaminated soil on site.

11.18 A watching brief should be maintained throughout the groundworks in order to identify any previously undetected areas of contamination such as asbestos containing materials and/or stained/odorous soils. These should be assessed by an Environmental Consultant if identified.

11.19 In addition, any excavations should be backfilled with imported chemically validated soils and in accordance with the appropriate Remediation and/or Groundworks Specification compiled by the Engineer.

11.20 Imported materials for soft landscaped areas will require provision for testing in accordance with the Remediation Specification, compliance with an agreed set of limiting values will be required. Records as detailed within the Remediation Specification should be maintained to certify the source, chemical suitability and appropriate placement of the soils.

Controlled Waters

11.21 Groundwater risk assessment and modelling (Sections 8.0 and 9.0 respectively) have demonstrated a potential risk to off-site hydrological/ecological receptors posed by PCE groundwater contamination beneath the site. It is recommended that a proactive approach to risk management is followed i.e. through the investigation and remediation of the PCE plume, with the objective of reducing the risk to the wider environment.

11.22 The presence of a source of PCE contamination on site should be established and (if present) be removed along with associated contaminated soil. The base of the Bedrock Aquifer (Bracklesham Beds) should also be established to determine the presence of DNAPL and dissolved phase chlorinated hydrocarbons (e.g. PCE and vinyl chloride) in the vent that the PCE has migrated to this depth.

11.23 Removal of the source and remediation of the PCE groundwater plume on site is required in order to mitigate risks posed to off-site ecological receptors. The DQRA for Controlled Waters determined a remedial target of 521μg/l at the source/ highest concentrations detected on site (MCBH01 – 2,970μg/l) as being sufficient to mitigate risk posed by the PCE plume in off-site areas in this regard.

11.24 In addition to the PCE plume, a localised zone of groundwater contamination by petroleum (BTEX) hydrocarbons has also been reconfirmed to be present beneath the former Motor Transport (MT) Section although, groundwater monitoring has inferred that this impaction is not extensive and has not migrated offsite. It is likely to be remediated by the future developer of the site through the removal of impacted soils from this hotspot location. However, localised remediation of groundwater may also be necessary.

11.25 It should be noted that a remediation options appraisal has not been undertaken as part of this report. The remedial strategies outlined below are considered to be proven strategies that would successfully achieve the 'betterment' of groundwater quality both on site and mitigate risks to the adjacent ecological receptors. Prior to preparing a strategy for remediation, it is recommended that a remedial options appraisal is prepared in accordance with the Environment Agency's Model *Procedures for the Management of Land Contamination: Contaminated Land Report 11*.

11.26 The Environmental Agency R & D *An illustrated handbook of DNAPL transport and fate in the subsurface* (2003) was consulted whereby, in light of the reasons discussed above and conclusions reached by site investigation/ assessment, partial mass removal/ betterment is considered to be a viable remedial goal, which can be realistically applied to the site. This would correspond in targeting soil and groundwater as follows:

- Confirmation of the presence of a source of PCE on site (e.g. underground tank/ infrastructure);
- Removal of the contamination source PCE (if present) along with all associated contaminated soils to depth practicable (i.e. soil/ groundwater interface);
- Abstraction of contaminated groundwater from the area encompassing source/ highest historical concentrations of PCE within groundwater for treatment on site (i.e. total fluids extraction and treatment); and,
- Re-infiltration of treated groundwater up hydraulic gradient of current PCE plume on site.

11.27 It should be noted that the presence of DNAPL on site has not been confirmed, which could also affect the implementation/ effectiveness of groundwater remedial strategies on site. Furthermore, additional remedial strategies may also be required to be implemented.

11.28 The suggested remedial strategy for PCE contaminated groundwater would also be applicable to localised hydrocarbon contaminated groundwater identified in area encompassing the former MT Section and (potentially) on the eastern site boundary in Plot 2. However, based upon the

localised nature of groundwater contamination, the removal of hydrocarbon contaminated soil at the location is likely to be sufficient to achieve betterment of groundwater at the location.

Ground Gas

11.29 Ground gas venting measures should be incorporated into building design (irrespective of proposed end land use) by the developer in accordance with current guidance (i.e. CIRIA C665). It should be noted that additional ground gas monitoring may be required in Plot 2 to confirm the ground gas regime in this area.

11.30 Gas protection measures for a residential use may comprise:

- Reinforced concrete cast in situ floor slab (suspended, non-suspended or raft) with at least 1200g DPM2 and under-floor venting;
- Beam and block or pre-cast concrete and 2000g DPM/ reinforced gas membrane and under-floor venting; and,
- All joints and penetrations sealed.

Services

11.31 The presence of contamination with Made Ground at the near surface indicates a possible need for protection of public water supply pipework (e.g. use of organic resistant pipework). The infrastructure designer should assess requirements for pipework with respect to soil contamination and consult statutory utility companies and relevant guidance as necessary. Guidance on this topic is presented in UKWIR Report 'Publication UKWIR Report Ref 10/WM/03/21: Guidance for the *Selection of Water Supply Pipes to be used in Brownfield Sites - Final Project Report'.*

11.32 Similar consideration should be made if pipework/ services are to be installed within shallow groundwater on site with regards to PCE contaminated groundwater.

Regulatory Approval

11.33 Whilst the site has obtained outline planning consent for mixed use redevelopment, it is likely that this document will require submission and approval by the Regulatory Authorities (Local Authority and Environment Agency) to discharge planning conditions or in support of a detailed planning application by the developer. As such, this document should be submitted and discussions held with the Regulators to obtain approval in principle of proposed remedial works.

Specifications and verification reporting may be required prior to final condition discharge. Discussions should be held with the relevant officer at an early stage to ensure all necessary information is obtained and collated for their review and approval.

Remediation and Verification Control Documents

11.34 Following on from the recommendations made herein, in order to control the environmental works on site and the collection of records required for the Verification Report, a Remediation Specification will be required. The Specification should detail necessary requirement for inspections/ record keeping/ actions for unforeseen contamination/ detail the requirements for the control of imported material and waste management.

11.35 The Specification will require submission to the Local Authority for review and approval as part of the planning process, to fulfil the requirements of the anticipated land quality planning condition. Additional discussions may be required with the NHBC and/or Building Control, such matters are not detailed herein. Once approved it will be the Contractor's obligation to fulfil the agreed requirements of the Specification.

11.36 Should the groundworks encounter fuel tanks, removal of any such features is required in accordance with an appropriate tank removal specification and Contractor's method statements which meet the requirements of the appropriate Environment Agency Pollution Prevention Guidelines (PPG).

Health and Safety

11.37 The *Work Health and Safety Act* (2011) is concerned with risks to the public and employees at the site. Of particular relevance to the site are the risks posed to the receptors by contamination (e.g. chemical and asbestos) and buried ordnance. Various regulations have been made under the Act of which detail a similar process for assessing the risk posed by such hazards to that undertaken as per Part IIA of the *Environmental Protection Agency Act* (1990). Most remedial works in this regard will be covered by the provisions of the *Construction Design and Management (CDM) Regulations* (2007).

Waste Management

11.38 A Hazardous Properties Assessment (HPA) of waste soils has not been undertaken as part of this report.

11.39 All waste related activities must be undertaken in accordance with the Waste Management and Landfill Regulations. Any proposed reuse of materials must be in accordance with the Waste (England and Wales) Regulations 2011. With respect to waste soils disposal, as a minimum, the following information should be collected and retained by the Contractor for subsequent validation:

- source and origin of the waste;
- information on the process producing the waste;
- European Waste Catalogue code and characteristics of material;
- for hazardous waste, definition of the relevant properties according to the Hazardous Waste Directive (Annex III 91/689/EC);
- confirmation that waste is not prohibited waste;
- appearance of the waste;
- landfill class; and
- Duty of Care records including full and completed chain of custody documentation.

11.40 The final waste classification is the responsibility of the Developer/ Contractor and should be determined in conjunction with the receiving landfill and in liaison with the Environment Agency (and their technical guidance). It is noted that, depending on the landfill selected, additional soils testing information and independent verification of the materials of the materials being received by the landfill may be required.

11.41 As the classification of waste may have a significant impact on the redevelopment budget, the waste classification should be reviewed independently by a consultant at an early stage in the project management stage. In addition, contractors should be asked to confirm that their tenders consider the full requirements of the Landfill Directive and associated waste legislation. This is to ensure waste is correctly classified and costed at the inception of the project.

11.42 The Landfill Directive states that all hazardous and non-hazardous waste requires treatment prior to disposal to landfill. Treatment must provide a 'three – point step'. As such, provision for treating (including physical separation) should be made for all arisings that are likely to be classified as hazardous or non-hazardous so that each of the above three requirements are met.

ENVIRONMENTAL RISK ASSESSMENT SUPPORTING INFORMATION

Soil Screening Values

The Environment Agency has published non statutory technical guidance for Regulators and their advisors to assess the chronic risk posed to human health from land contamination, known as the Contaminated Land Exposure Assessment (CLEA) Framework.

The CLEA Framework documents and associated risk assessment model are subject to on-going technical review. The most recent and significant revision was in July 2008, with the withdrawal of guidance documents CLR7 to 10, which previously underpinned the CLEA Framework. In January 2009 the Environment Agency published CLEA V1.04 risk assessment software and associated guidance documents[4] as a replacement to the previous CLEA UK Beta Version and documents CLR 7 to 10. More recent revisions have been made in September 2009 to CLEA V1.05 and October 2009 to CLEA 1.06 risk assessment software.

In the absence of a comprehensive list of SGVs, CampbellReith have generated Generic Assessment Criteria (GAC) utilising CLEA 1.06 and the associated software. Contaminant specific toxicological data for GACs has been obtained from Environment Agency and DEFRA toxicological reports where available, or secondary 'authoritative literature references (as detailed in Appendix A of SR2).

In the case of lead, the absence of a Regulator endorsed toxicological endpoint from which to derive a Health Criteria Value makes the derivation of a GAC problematic. However, GACs have been produced based on a Tolerable Daily Intake value of 3.6 ug/kg/bw/day which has been extrapolated from JECFA's (Joint FAO/WHO Expert Committee on Food Additives) provisional tolerable weekly intake of 25 ug/kg which studies indicated would lead to a blood lead concentration of 5.7 ug/dL for a 10kg child, which has been assumed as being below the level generally associated with effects on intellectual performance.. This is considered a suitable course of action until further guidance is published.

The GACs within the CL:AIRE Publication 'The Soil Generic Assessment Criteria for Human Health Risk Assessment', December 2009 have been applied where CLEA compliant CampbellReith GACs are not available.

Where CLEA compliant SGVs or GAC are not available reference may also be made to GAC derived using the CLEA UK model (beta version) or other values. These are currently used for cyanide. Where referred to, the non-compliant standing of these values is considered.
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Selection of Appropriate [Tier 2] Soil Screening Values

The CLEA model is based upon defined exposure scenarios and three generic land uses are defined within the model. These set out a discrete set of circumstances where exposure may occur, including a source, the pathways, and the exposed population.

The three generic land use scenarios used in the development of SGVs are:

- **commercial / Industrial;**
- **allotments; and,**
- **residential (with or without plant uptake).**

It is noted that the CLEA screening values are generic and not always applicable. Where the CLEA conceptual model is not appropriate it will be necessary to develop site specific Detailed Quantitative Risk Assessment screening values as a further stage of assessment.

It is noted that the CLEA model does not consider risks from contaminated waters beneath the site to human health and the model also assumes that no free product is present. Should such conditions exist at the subject site the requirement for application of an alternative risk assessment model should be assessed. Alternatively, construction workers are potentially exposed to acute risk and therefore require separate consideration.

[4] Environment Agency Report Ref: SC050021/SR2 - *Human Health Toxicological Assessment of Contaminants in Soil.* January 2009. Environment Agency Report Ref: SC050021/SR3 – *Updated background to the CLEA model.* January 2009.

Statistical Analysis of Soil Analytical Results

Statistical analysis of soil based analytical results has been undertaken in accordance with CL:AIRE Guidance on Comparing Soil Contamination Data with a Critical Concentration (May 2008). The use of the Mean Value Test and Maximum Value Test is still considered appropriate for site assessments. Although the guidance advocates use of the one - sample t test, this is a variation of the mean value test and establishes the confidence level at which the assessor can determine whether a particular screening level has / has not been succeeded. The mean value test used herein is set at the 95th percentile confidence limit in order to be risk conservative.

The Maximum Value Test is a statistical tool that is used to identify outlier values from a numerical distribution of results for a given determinant. These outlier values can be excluded and considered separately, and the remaining values are then used to calculate upper bound 95th percentile values ($95^{\%ile}$) (Mean Value Test) for comparison with the screening values.

The results are reviewed prior to any statistical analysis in order to determine if zoning of the soils is apparent and hence whether the site requires to be divided into averaging areas. Additional tables are presented where appropriate to reflect distinct ground characteristics relevant to the conceptual model.

Water Screening Values

This assessment considers potential risks to controlled waters (groundwater and surface waters) in relation to risks from any historical contamination. The most stringent test is that defined for Contaminated Land under Part 2A of the Environmental Protection Act, 1990. However, it should be recognised that a wider evaluation of risk is considered within the planning regime and CLR 11.

The Environment Agency has a wider policy agenda for the protection of controlled waters that will impinge upon judgements in relation to land contamination issues. This includes those for the Water Framework Directive and Groundwater Directive and wider legislation for both groundwater, surface water and associated elements (such as fisheries)[5].

The results of water analysis have been compared to screening values selected to assess the potential risk to the identified controlled water receptors in the Conceptual Model. The specific standards utilised for this purpose are considered in the assessment table footnotes and typically comprise: Environmental Quality Standards for the protection of aquatic life; Surface Water Standards; EC, UK and WHO Drinking Water Standards; or Background water quality (where no applicable standard exists).

The initial assessment considers the sensitivity of the receptor in the selection of the screening value. Advice for this purpose has been obtained principally from Environment Agency Technical Advice to Third Parties on Pollution of Controlled Waters for Part 2A of the Environmental Protection Act 1990, No 07/02. EA, 2002. (INFO-RA2-3e), as informed by the EA's GP3.

Where a viable pollutant linkage is considered to be present and the screening criteria exceeded, a Qualitative Risk Assessment is presented with associated recommendations. Depending on the specific objectives, policy and practice of the Environment Agency, discussion of water screening values may be subsequently required.

Definitions of Consequence, Probability and Risk

The following classification has been taken from Guidance for the Safe Development of Housing on Land Affected by Contamination R&D66: 2008 Volume 1 (Environment Agency, NHBC and CIEH.

The key to the classification is that the designation of risk is based upon the consideration of both:

a) **the magnitude of the potential consequence (i.e. severity).**

[takes into account both the potential severity of the hazard and the sensitivity of the receptor]

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

[5] Refer to Environment Agency Publications for Groundwater Protection Policy and Practice (GP3)

Classification of Consequence

Classification	Definition	Examples
Severe	Highly elevated concentrations **likely** to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs. Equivalent to EA **Category 1** pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population. Catastrophic damage to crops, buildings or property.	Significant harm to humans is defined in circular 01.2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Major fish kill in surface water from large spillage of contaminants from site. Highly elevated concentrations of List I and II substances present in groundwater close to small potable abstraction (high sensitivity). Explosion, causing building collapse (can also equate to immediate human health risk if buildings are occupied).
Medium	Elevated concentrations which could result in "significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs. Equivalent to **EA Category 2** pollution incident including significant effect on water quality; notification required to abstractors, reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.	Significant harm to humans is defined in circular 01/2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Damage to building rendering it unsafe to occupy e.g. foundation damage resulting in instability. Ingress of contaminants through plastic potable water pipes.
Mild	Exposure to human health **unlikely** to lead to "significant harm". Equivalent to **EA Category 3** pollution incident including minimal or short lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population. Minor damage to crops, buildings or property.	Exposure could lead to slight short-term effects (e.g. mild skin rash). Surface spalling of concrete.

Classification	Definition	Examples
Minor	No measurable effect on humans. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.	The loss of plants in a landscaping scheme. Discoloration of concrete.

Classification of Probability

Classification	Definition	Examples
High likelihood	There is pollutant linkage and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution.	*a) Elevated concentrations of toxic contaminants are present in soils in the top 0.5m in a residential garden.* *b) Ground/groundwater contamination could be present from chemical works, containing a number of USTs, having been in operation on the same site for over 50 years.*
Likely	There is pollutant linkage and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term.	*a) Elevated concentrations of toxic contaminants are present in soils at depths of 0.5-1.0m in a residential garden, or the top 0.5m in public open space.* *b) Ground/groundwater contamination could be present from an industrial site containing a UST present between 1970 and 1990. The tank is known to be single skin. There is no evidence of leakage although there are no records of integrity tests.*
Low likelihood	There is pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place, and is less likely in the shorter term.	*a) Elevated concentrations of toxic contaminants are present in soils at depths >1m in a residential garden, or 0.5-1.0m in public open space.* *b) Ground/groundwater contamination could be present on a light industrial unit constructed in the 1990s containing a UST in operation over the last 10 years – the tank is double skinned but there is no integrity testing or evidence of leakage.*
Unlikely	There is pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long-term.	*a) Elevated concentrations of toxic contaminants are present in soils below hardstanding.* *b) Light industrial unit less than 10 years old containing a double-skinned UST with annual integrity testing results available.*

Note: A pollution linkage must first be established before probability is classified. If there is no pollution linkage then there is no potential risk. If there is no pollution linkage then there is no need to apply tests for probability and consequence.

For example if there is surface contamination and a major aquifer is present at depth, but this major aquifer is overlain by an aquiclude of significant thickness then there is no pollution linkage and the risks to the major aquifer are not assessed. The report should identify both the source and the receptor but state that because there is no linkage there are no potential risks.

Description of the classified risks

Very high risk

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

High risk

Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.

Moderate risk

It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative works is normally required to clarify the risk and to determine the potential liability to site owner/ occupier. Some remediation works may be required in the longer term.

Low risk

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

Very low risk

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

No potential risk

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

LIMITATIONS

Environmental & Geotechnical Interpretative Reports

1. This report provides available factual data for the site obtained only from the sources described in the text and related to the site on the basis of the location information provided by the client.
2. Where any data or information supplied by the client or other external source, including that from previous studies, has been used, it has been assumed that the information is correct. No responsibility can be accepted by CampbellReith for inaccuracies within this data or information. In relation to historic maps the accuracy of maps cannot be guaranteed and it should be recognized that different conditions on site may have existed between and subsequent to the various map surveys.
3. This report is limited to those aspects of historical land use and enquiries related to environmental matters reported on and no liability is accepted for any other aspects. The opinions expressed cannot be absolute due to the limit of time and resources implicit within the agreed brief and the possibility of unrecorded previous uses of the site and adjacent land.
4. The material encountered and samples obtained during on-site investigations represent only a small proportion of the materials present on the site. There may be other conditions prevailing at the site which have not been revealed and which have therefore not been taken into account in this report. These risks can be minimised and reduced by additional investigations. If significant variations become evident, additional specialist advice should be sought to assess the implications of these few findings.
5. The generalised soil conditions described in the text are intended to convey trends in subsurface conditions. The boundaries between strata are approximate and have been developed on interpretations of the exploration locations and samples collected.
6. Water level and gas readings have been taken at times and under conditions stated on the exploration logs. It must be noted that fluctuations in the level of groundwater or gas may occur due to a variety of factors which may differ from those prevailing at the time the measurements were taken.
7. Please note that CampbellReith cannot accept any liability for observations or opinions expressed regarding the absence or presence of asbestos or on any product or waste that may contain asbestos. We recommend that an asbestos specialist, with appropriate professional indemnity insurance, is employed directly by the client in every case where asbestos may be present on the site or within the buildings or installations. Any comments made in this report with respect to asbestos, or asbestos containing materials, are only included to assist the client with the initial appraisal of the project and should not be relied upon in any way.
8. The findings and opinions expressed are relevant to those dates of the reported site work and should not be relied upon to represent conditions at substantially later dates.
9. This report is produced solely for the benefit of the client, and no liability is accepted for any reliance placed upon it by any other party unless specifically agreed in writing.

APPENDICES

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Figure 12B: Conceptual Site Model – North-South



Daedalus

Client: Homes & Communities Agency

Figure 1:
Site Location Plan

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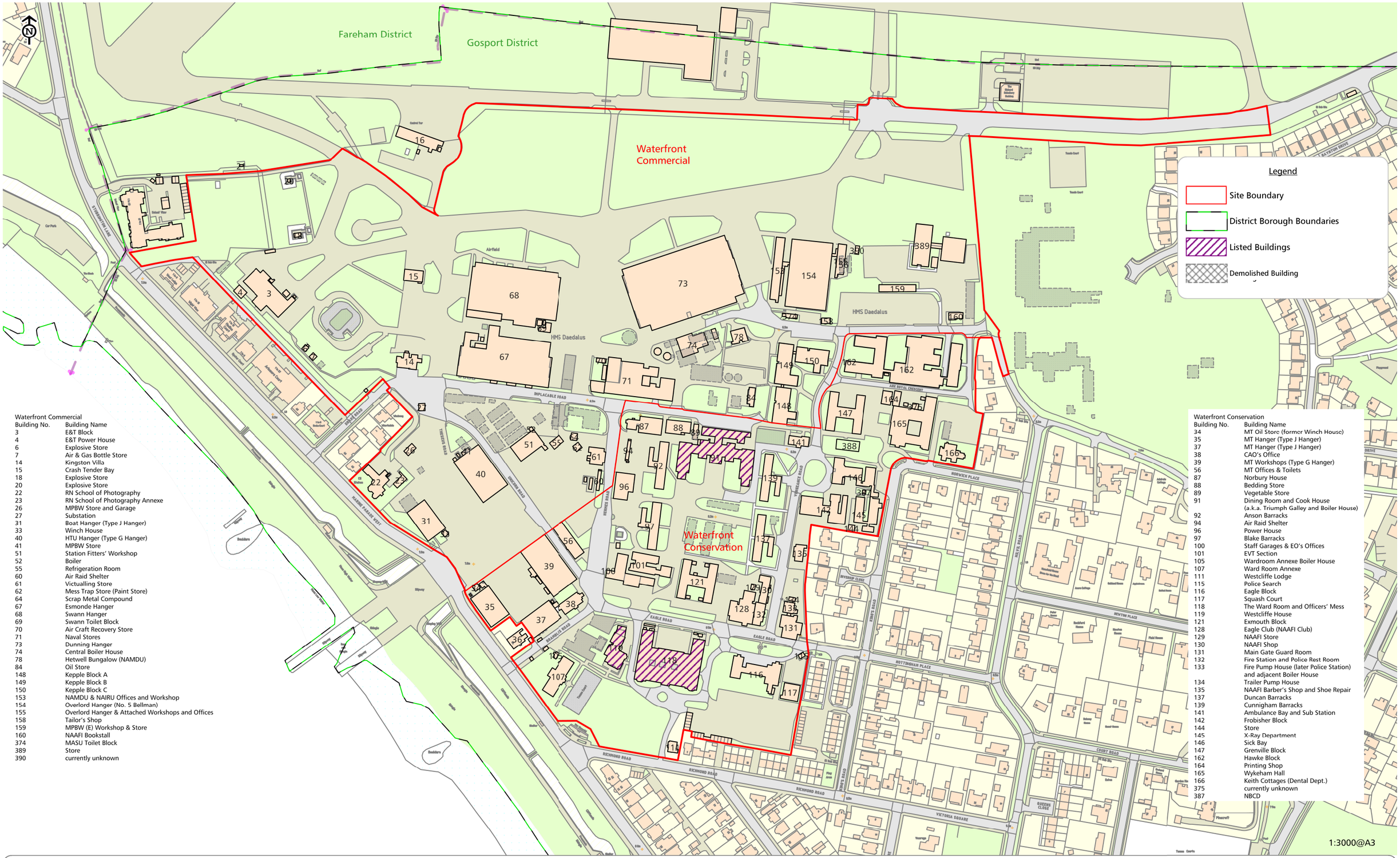

Waterfront Commercial

Building No.	Building Name
3	E&T Block
4	E&T Power House
6	Explosive Store
7	Air & Gas Bottle Store
14	Kingston Villa
15	Crash Tender Bay
18	Explosive Store
20	Explosive Store
22	RN School of Photography
23	RN School of Photography Annexe
26	MPBW Store and Garage
27	Substation
31	Boat Hanger (Type J Hanger)
33	Winch House
40	HTU Hanger (Type G Hanger)
41	MPBW Store
51	Station Fitters' Workshop
52	Boiler
55	Refrigeration Room
60	Air Raid Shelter
61	Victualling Store
62	Mess Trap Store (Paint Store)
64	Scrap Metal Compound
67	Esmonde Hanger
68	Swann Hanger
69	Swann Toilet Block
70	Air Craft Recovery Store
71	Naval Stores
73	Dunning Hanger
74	Central Boiler House
78	Hetwell Bungalow (NAMDU)
84	Oil Store
148	Kepple Block A
149	Kepple Block B
150	Kepple Block C
153	NAMDU & NAIRU Offices and Workshop
154	Overlord Hanger (No. 5 Bellman)
155	Overlord Hanger & Attached Workshops and Offices
158	Tailor's Shop
159	MPBW (E) Workshop & Store
160	NAAFI Bookstall
374	MASU Toilet Block
389	Store
390	currently unknown

Waterfront Conservation

Building No.	Building Name
34	MT Oil Store (former Winch House)
35	MT Hanger (Type J Hanger)
37	MT Hanger (Type J Hanger)
38	CAO's Office
39	MT Workshops (Type G Hanger)
56	MT Offices & Toilets
87	Norbury House
88	Bedding Store
89	Vegetable Store
91	Dining Room and Cook House (a.k.a. Triumph Galley and Boiler House)
92	Anson Barracks
94	Air Raid Shelter
96	Power House
97	Blake Barracks
100	Staff Garages & EO's Offices
101	EVT Section
105	Wardroom Annexe Boiler House
107	Ward Room Annexe
111	Westcliffe Lodge
115	Police Search
116	Eagle Block
117	Squash Court
118	The Ward Room and Officers' Mess
119	Westcliffe House
121	Exmouth Block
128	Eagle Club (NAAFI Club)
129	NAAFI Store
130	NAAFI Shop
131	Main Gate Guard Room
132	Fire Station and Police Rest Room
133	Fire Pump House (later Police Station) and adjacent Boiler House
134	Trailer Pump House
135	NAAFI Barber's Shop and Shoe Repair
137	Duncan Barracks
139	Cunnigham Barracks
141	Ambulance Bay and Sub Station
142	Frobisher Block
144	Store
145	X-Ray Department
146	Sick Bay
147	Grenville Block
162	Hawke Block
164	Printing Shop
165	Wykeham Hall
166	Keith Cottages (Dental Dept.)
375	currently unknown
387	NBCD

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Client: Homes & Communites Agency

Figure 2:
Existing Site Layout - Waterfront

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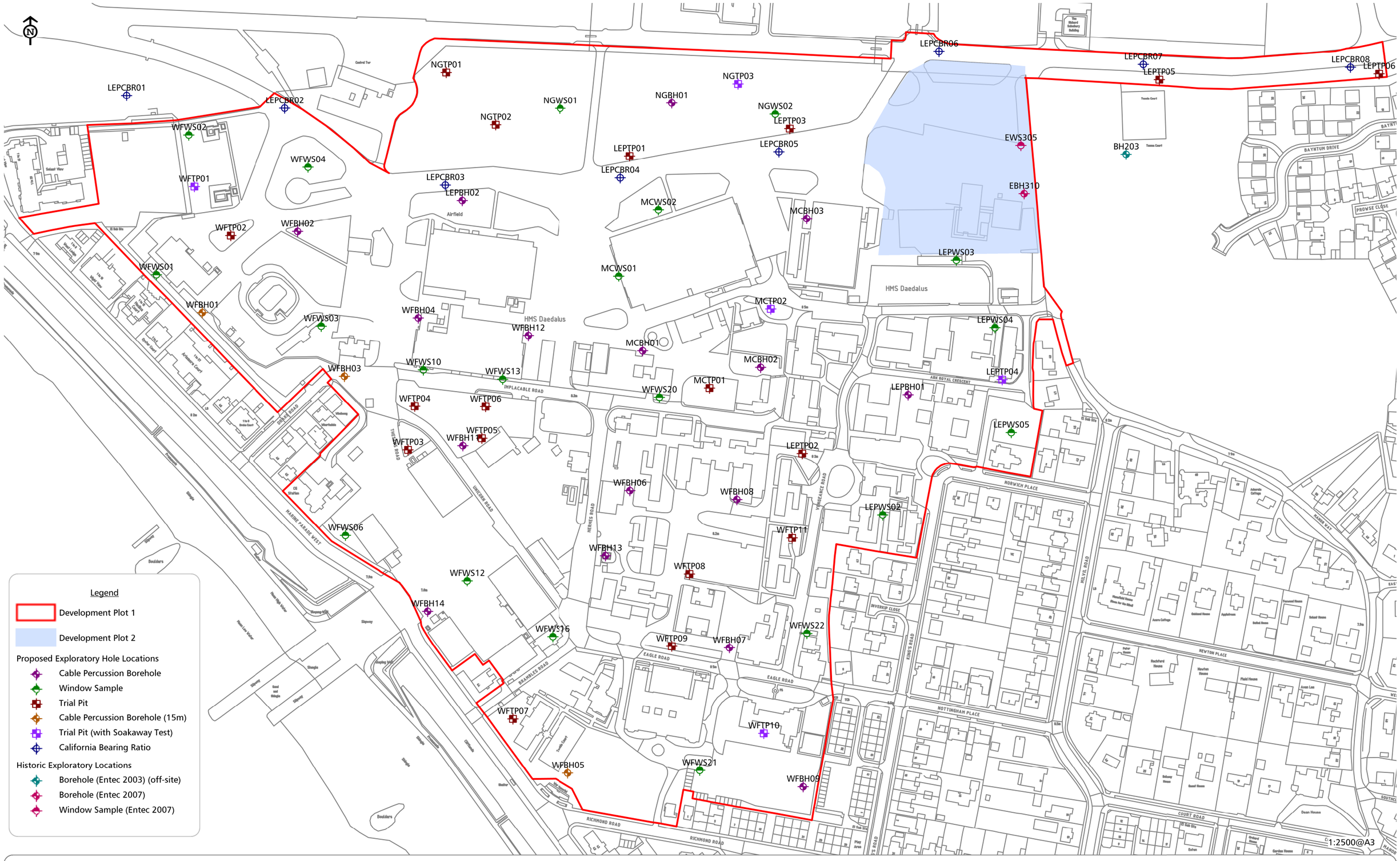

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Client: Homes & Communities Agency

Figure 3:
Proposed Development Plan and Exploratory Holes

Scale:. 1:2500@A3
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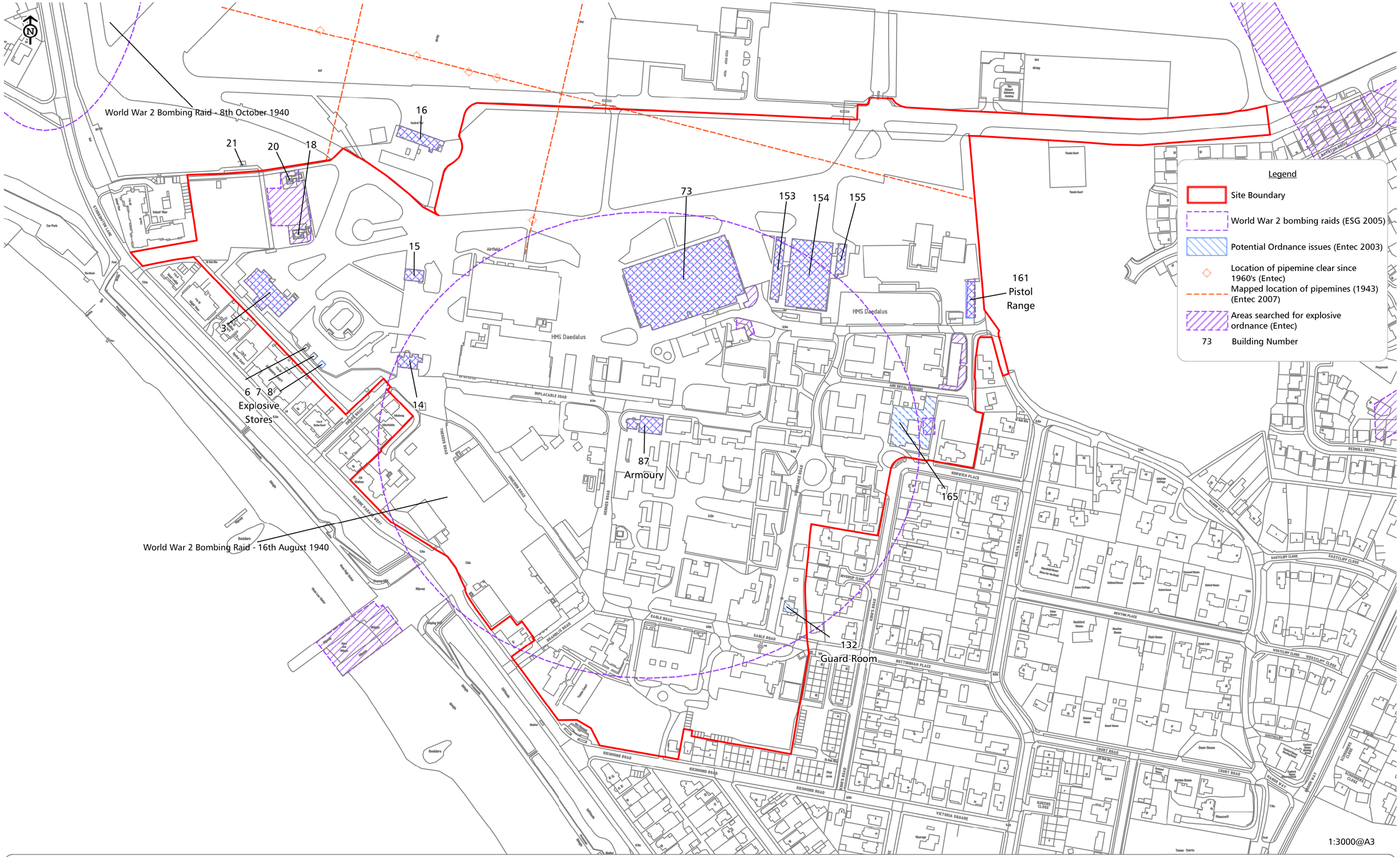

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Figure 4:
Previously Identified Muntions and UXO

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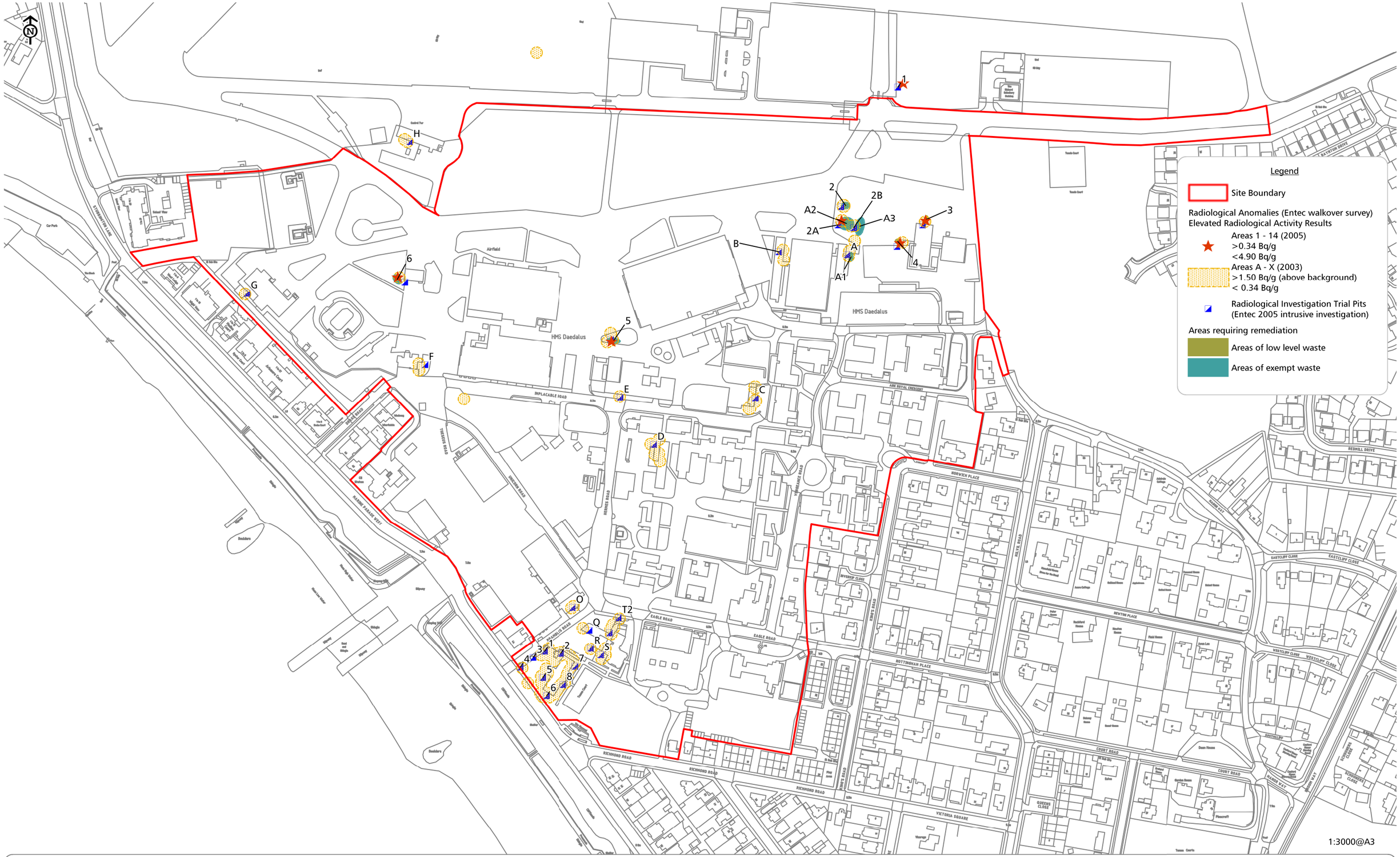

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Figure 5:
Previously Identified Radioactive Contamination

Scale: 1:3000@A3
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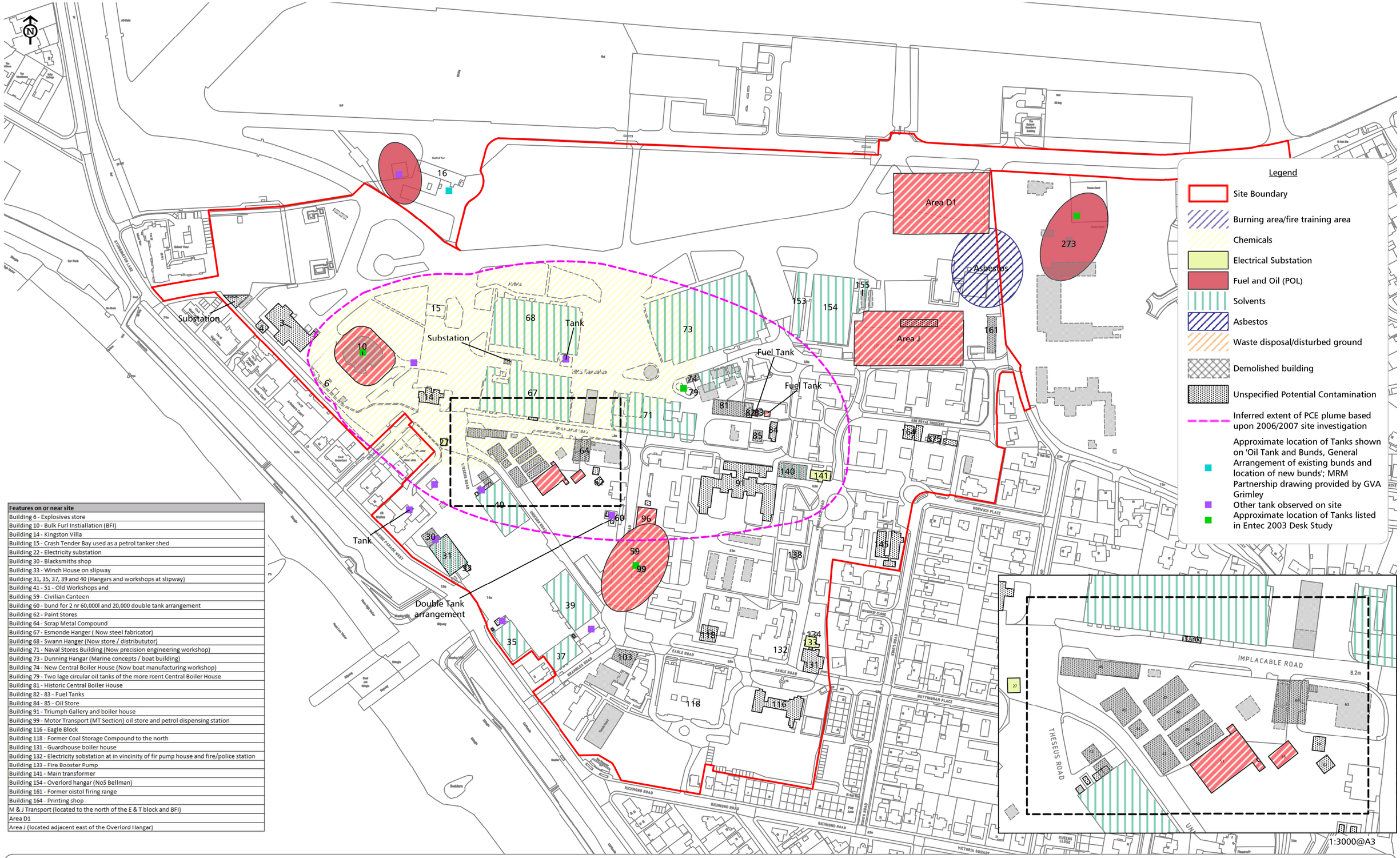

Features on or near site
Building 6 - Explosives store
Building 10 - Bulk Furl Instiallation (BFI)
Building 14 - Kingston Villa
Building 15 - Crash Tender Bay used as a petrol tanker shed
Building 22 - Electricity substation
Building 30 - Blacksmiths shop
Building 33 - Winch House on slipway
Building 31, 35, 37, 39 and 40 (Hangars and workshops at slipway)
Building 41 - 51 - Old Workshops and
Building 59 - Civilian Canteen
Building 60 - bund for 2 nr 60,000l and 20,000 double tank arrangement
Building 62 - Paint Stores
Building 64 - Scrap Metal Compound
Building 67 - Esmonde Hanger (Now steel fabricator)
Building 68 - Swann Hanger (Now store / distribututor)
Building 71 - Naval Stores Building (Now precision engineering workshop)
Building 73 - Dunning Hangar (Marine concepts / boat building)
Building 74 - New Central Boiler House (Now boat manufacturing workshop)
Building 79 - Two lage circular oil tanks of the more rcent Central Boiler House
Building 81 - Historic Central Boiler House
Building 82 - 83 - Fuel Tanks
Building 84 - 85 - Oil Store
Building 91 - Triumph Gallery and boiler house
Building 99 - Motor Transport (MT Section) oil store and petrol dispensing station
Building 116 - Eagle Block
Building 118 - Former Coal Storage Compound to the north
Building 131 - Guardhouse boiler house
Building 132 - Electricity sobstation at in vincinity of fir pump house and fire/police station
Building 133 - Fire Booster Pump
Building 141 - Main transformer
Building 154 - Overlord hangar (No5 Bellman)
Building 161 - Former oistol firing range
Building 164 - Printing shop
M & J Transport (located to the north of the E & T block and BFI)
Area D1
Area J (located adjacent east of the Overlord Hangar)

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Figure 6:
Identified Areas of Potential Contamination

Scale:. 1:3000@A3
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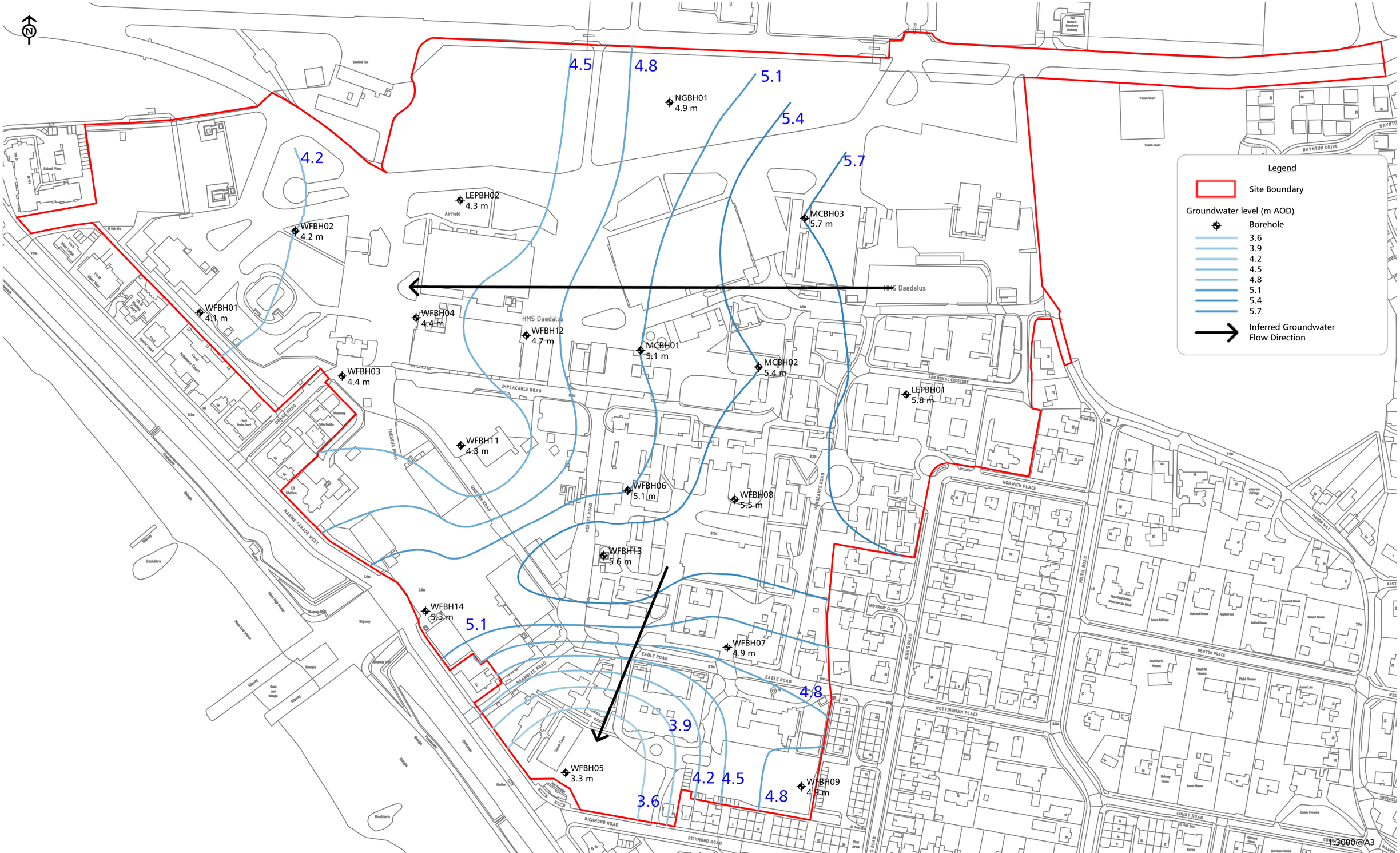

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Figure 7:
Groundwater Contours (April 2014)

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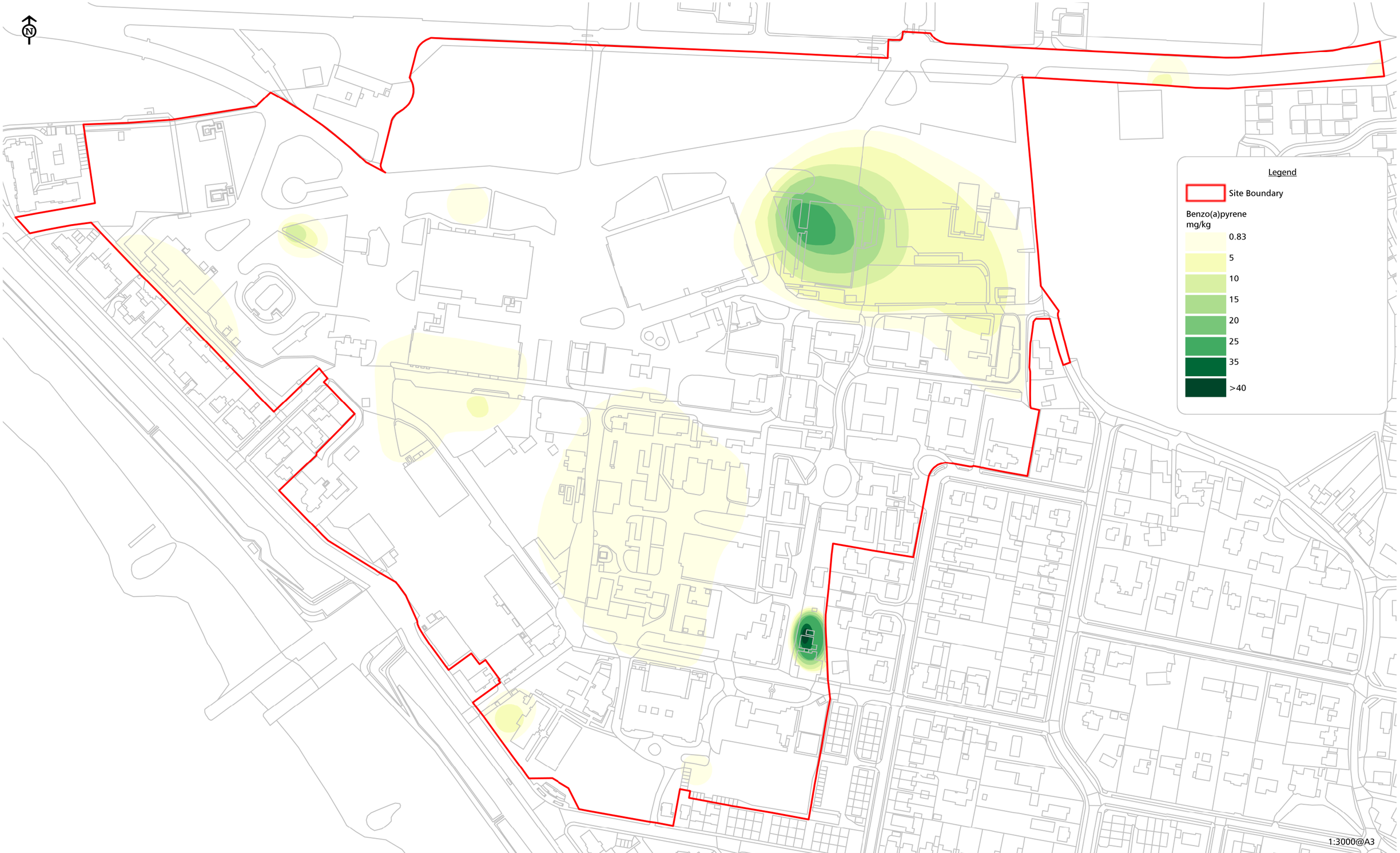

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Figure 8A:
Soil Contamination Plan - Benzo(a)pyrene (Residential Use with Plant Uptake)

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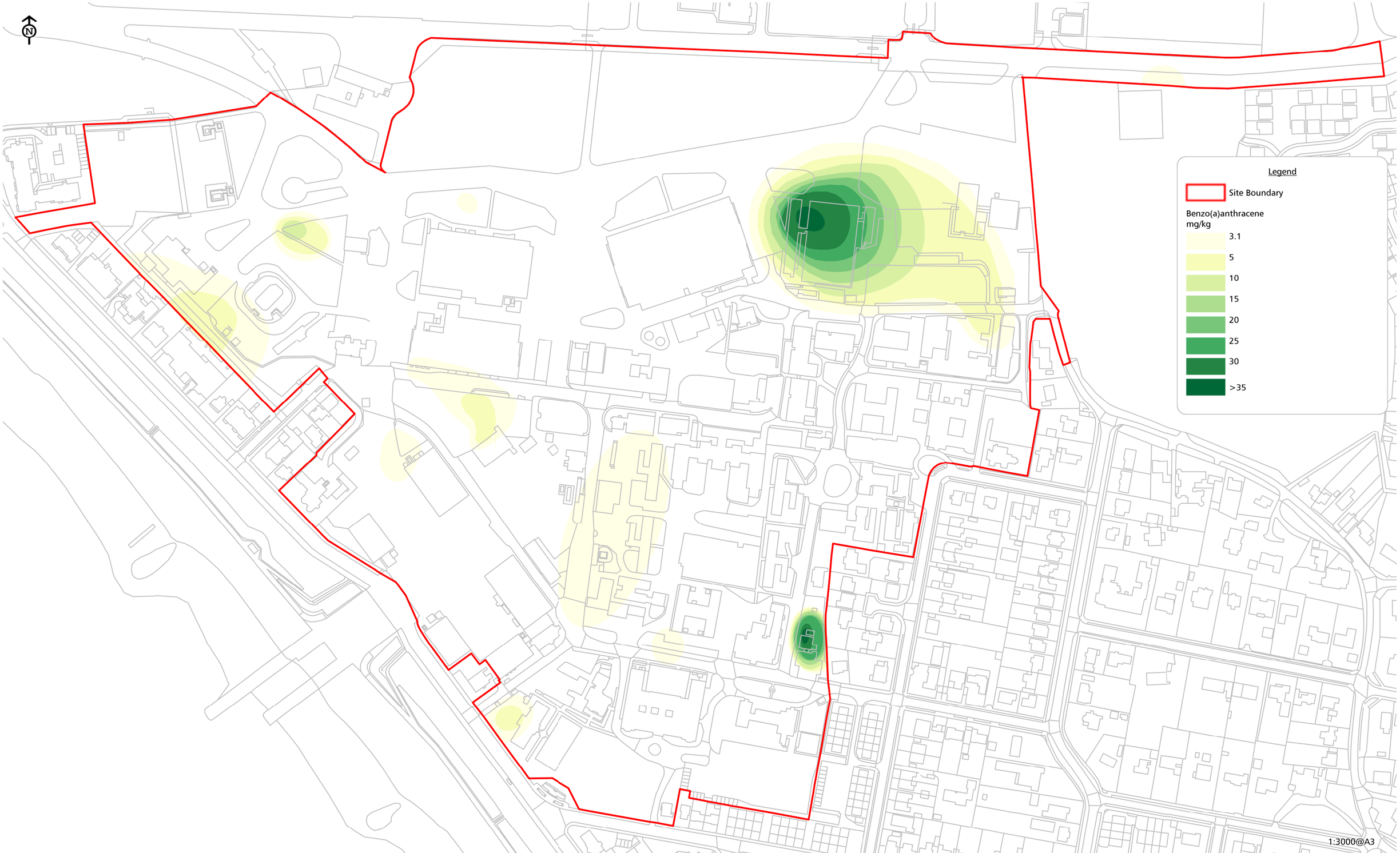

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Figure 8B:
Soil Contamination - Benzo(a)anthracene (Residential Use with Plant Uptake)

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NGBH01
<1.0µg/l

LEPBH02
3.8µg/l

WFBH02
5.4µg/l

MCBH03
1.1µg/l

WFBH01
13µg/l

WFBH04
50.7µg/l

WFBH12
693µg/l

MCBH01
1690µg/l

MCBH02
<1.0µg/l

WFBH03
163µg/l

LEPBH01
5.4µg/l

WFBH11
7.4µg/l

WFBH06
6.1µg/l

WFBH08
7.3µg/l

WFBH13
5.1µg/l

WFBH14
10.3µg/l

WFBH07
9.8µg/l

WFBH05
44.4µg/l

WFBH09
19.1µg/l

Benzene: 30.2 µg/l
Aliphatics >EC5-EC6: 380 µg/l
Aliphatics>EC6-EC8: 3900 µg/l
Aliphatics >EC8-EC10: 420 µg/l
Aromatics >EC8-EC10: 34 µg/l

Legend

- Site Boundary
- Cable Percussion Borehole
- Contamination (PCE) 10µg/l (screening criteria)

Contamination (PCE) (µg/l)

- 5
- 10
- 100
- 500
- 1000
- >1600

- Inferred dissolved phase hydrocarbon contamination

1:3000@A3

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Figure 9A:
Controlled Waters Contamination Plan (April 2014)

Scale: 1:3000@A3
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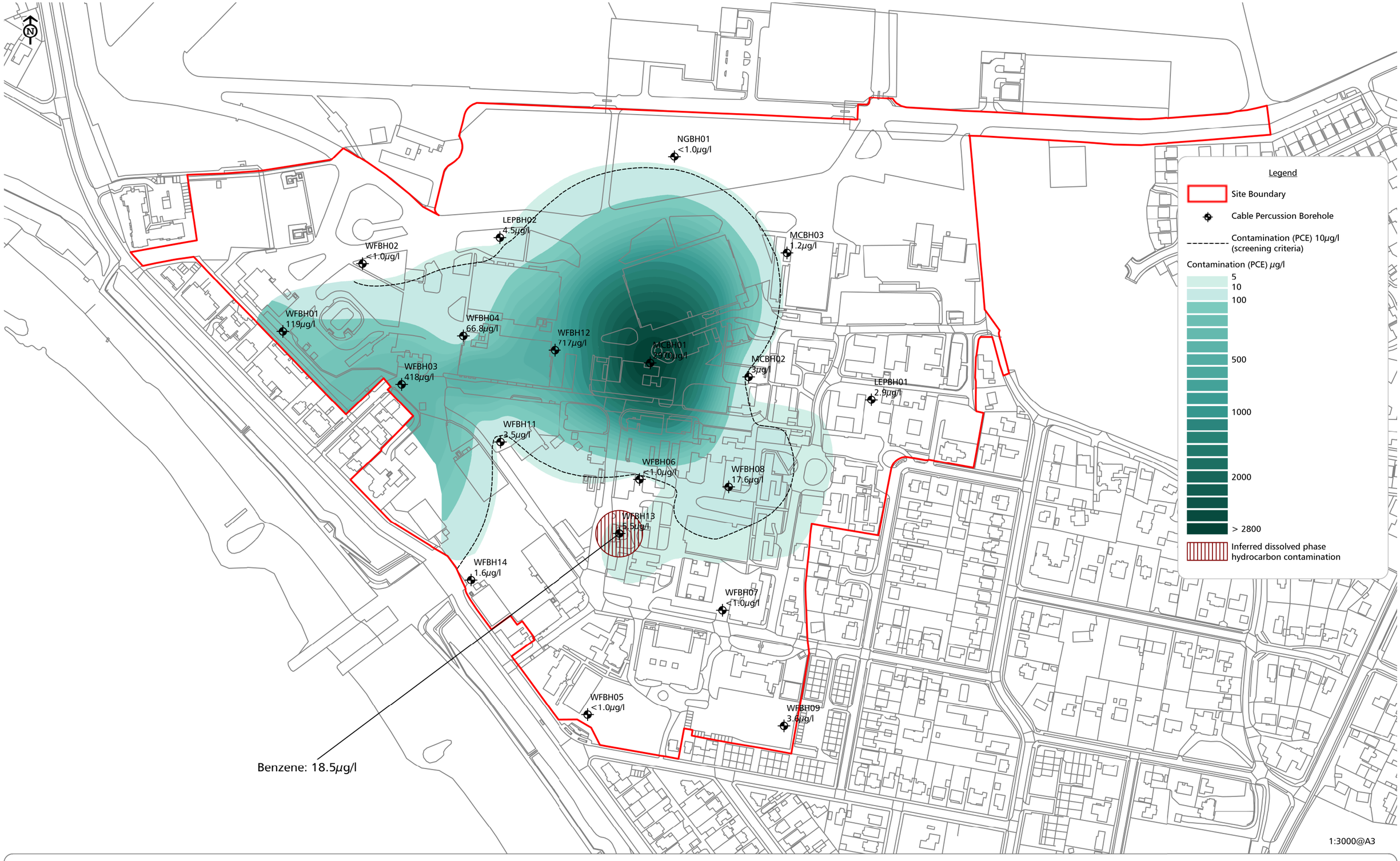

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Figure 9B:
Controlled Waters Contamination Plan (May 2014)

Scale: 1:3000@A3

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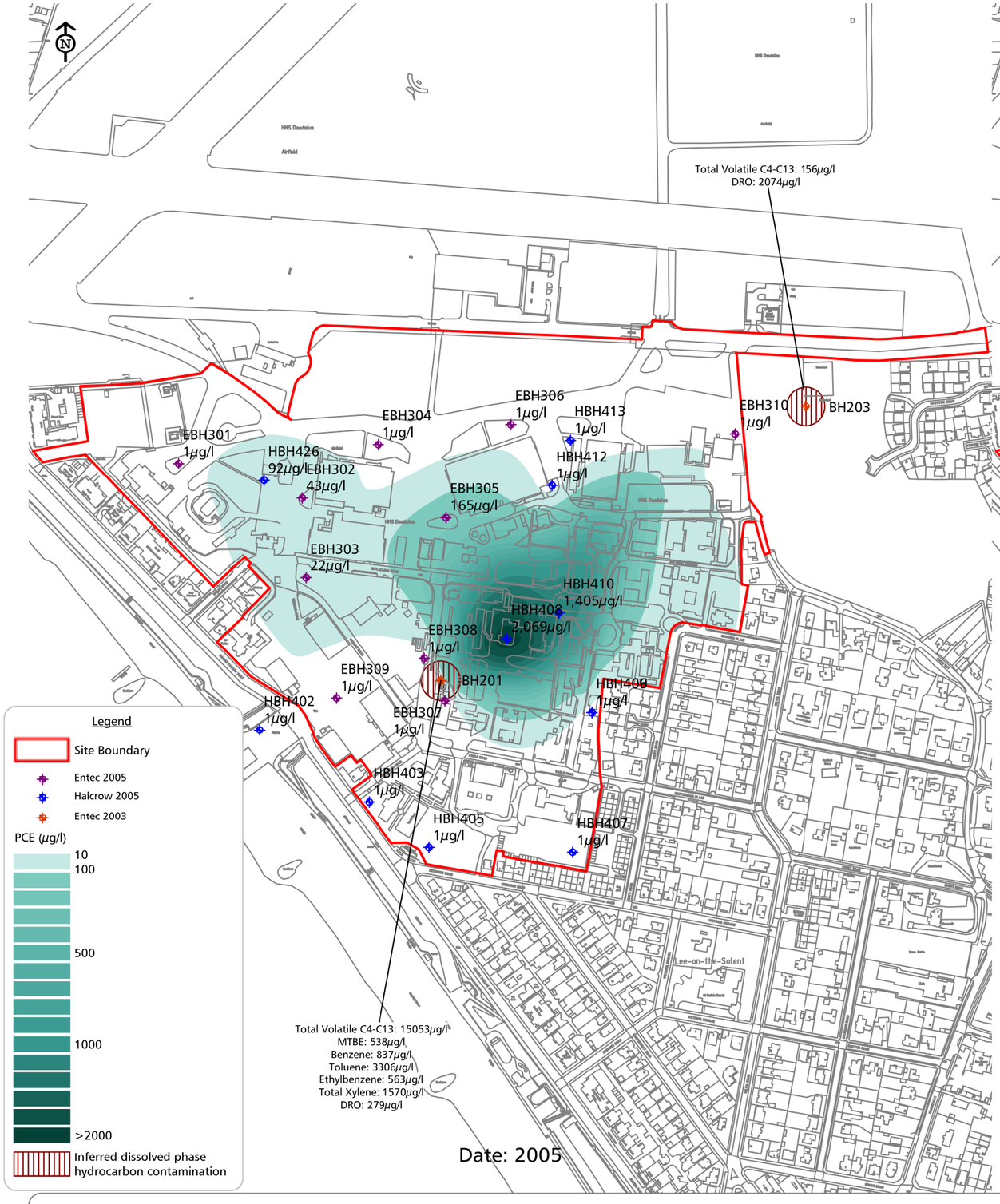

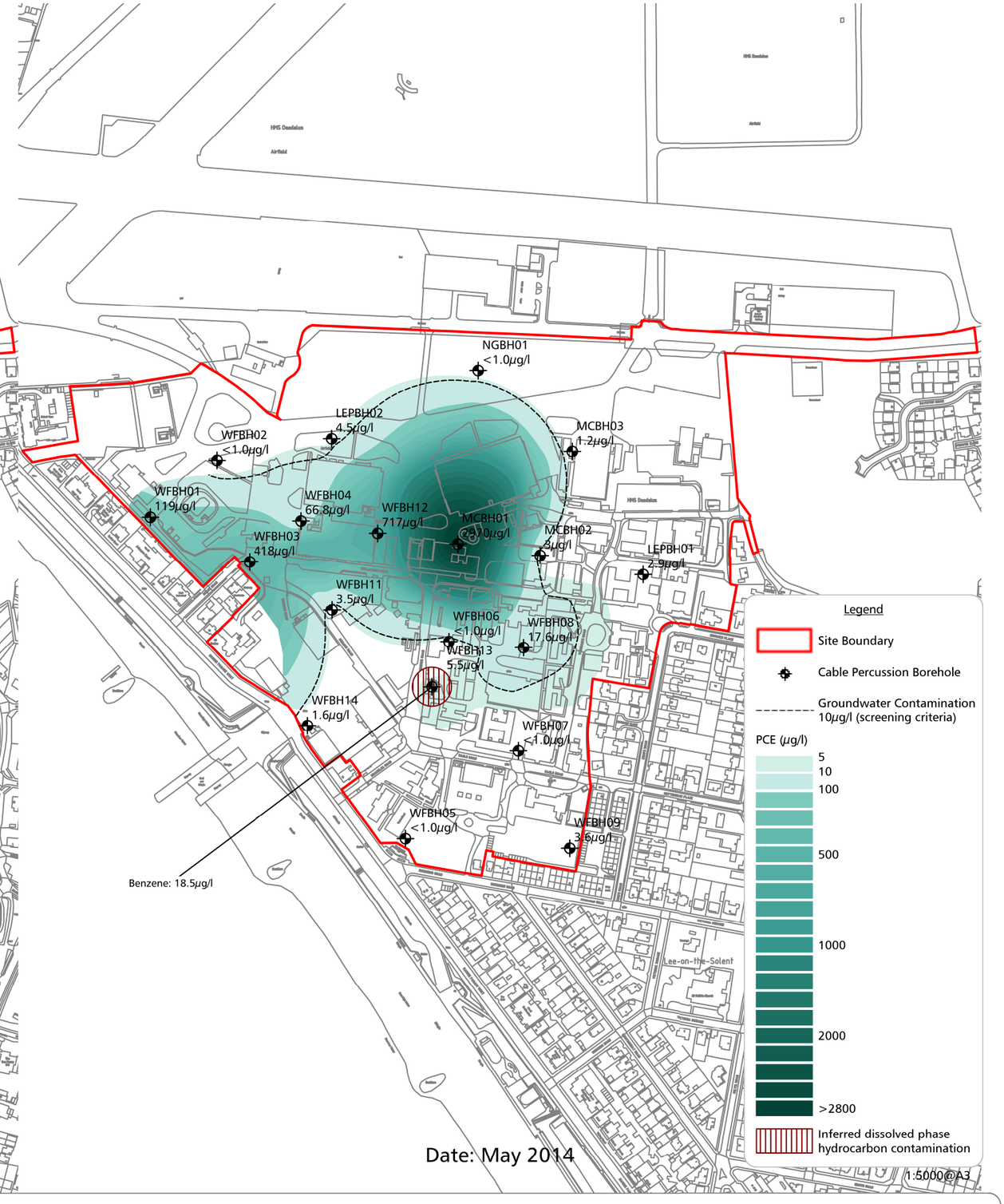

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Figure 10:
PCE Plume Extent Current and Historic

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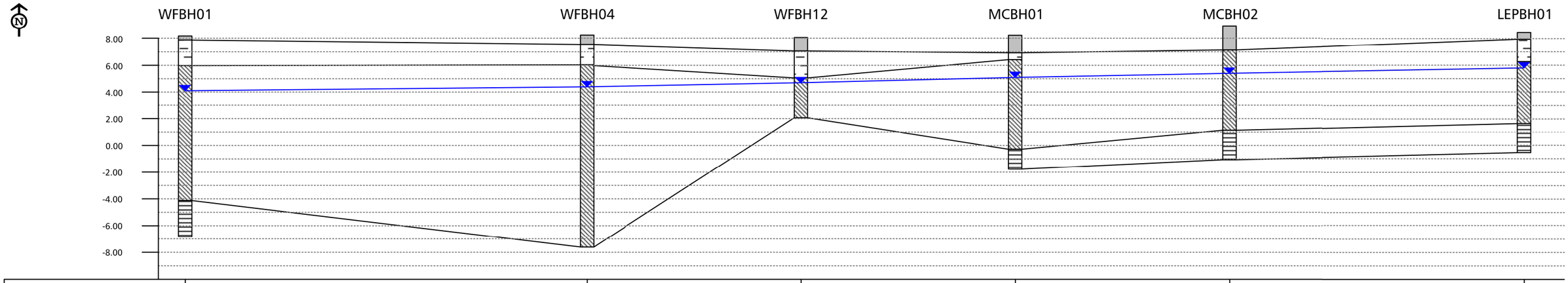
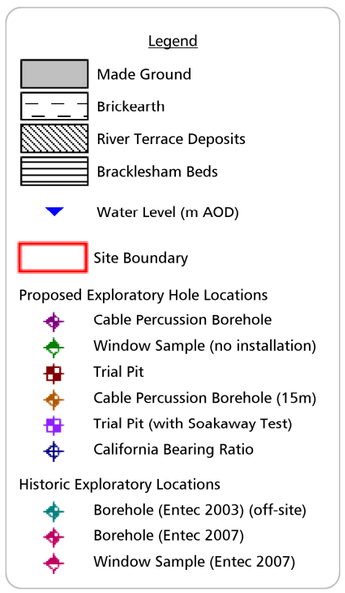
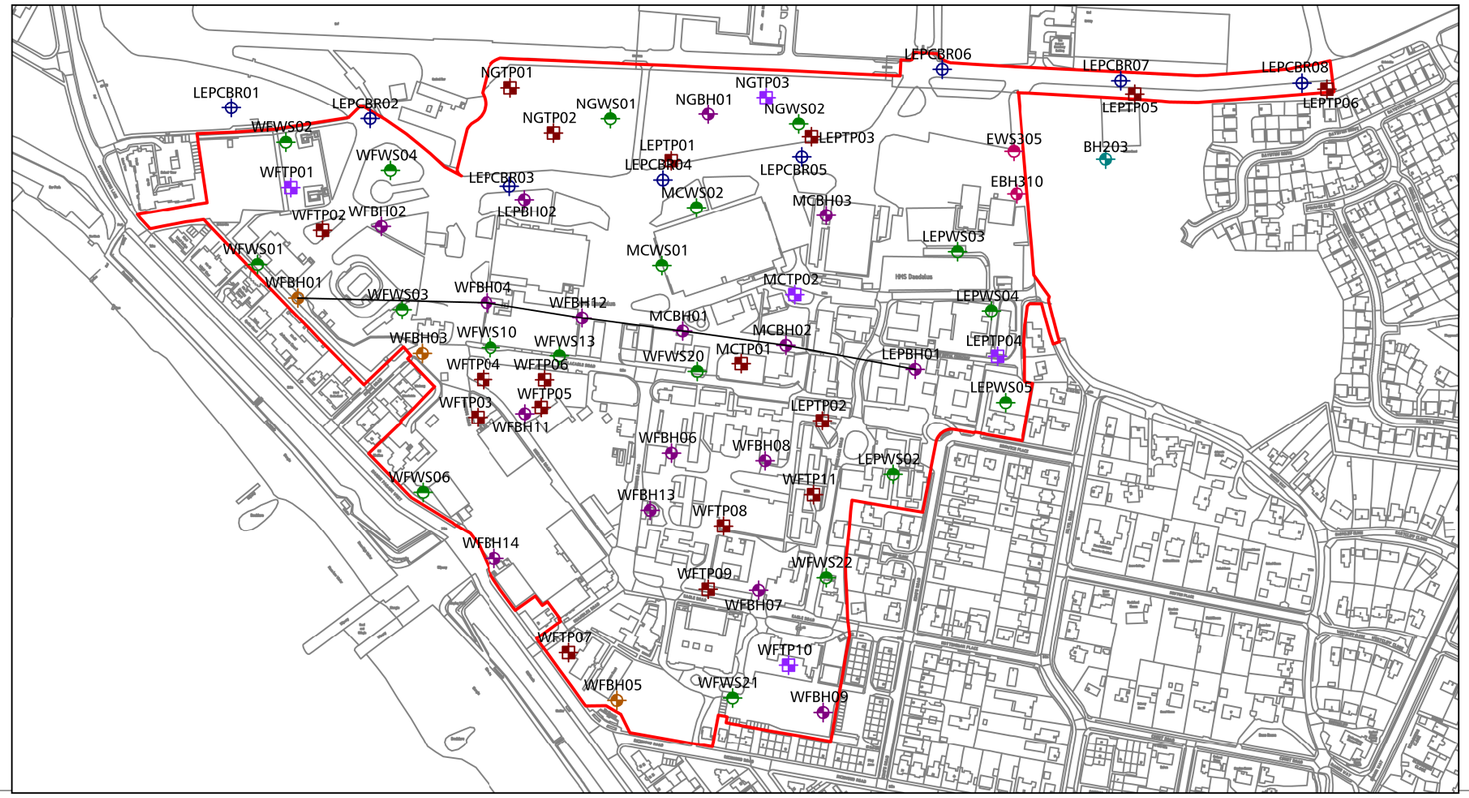


Chainage (m)	150	80	80	80	110	
Surface Elev. (mAOD)	8.2	8.2	8.1	8.2	8.9	8.5
Groundwater Elev. (mAOD)	4.1	4.4	4.7	5.1	5.4	5.8
PCE Concentration (μg/l) in groundwater	13	50.7	693	1690	<1.0	5.4





1:5000@A3

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Client: Homes & Communities Agency

Figure 11A:
Geological Cross Section - East-West

Scale:. 1:5000@A3
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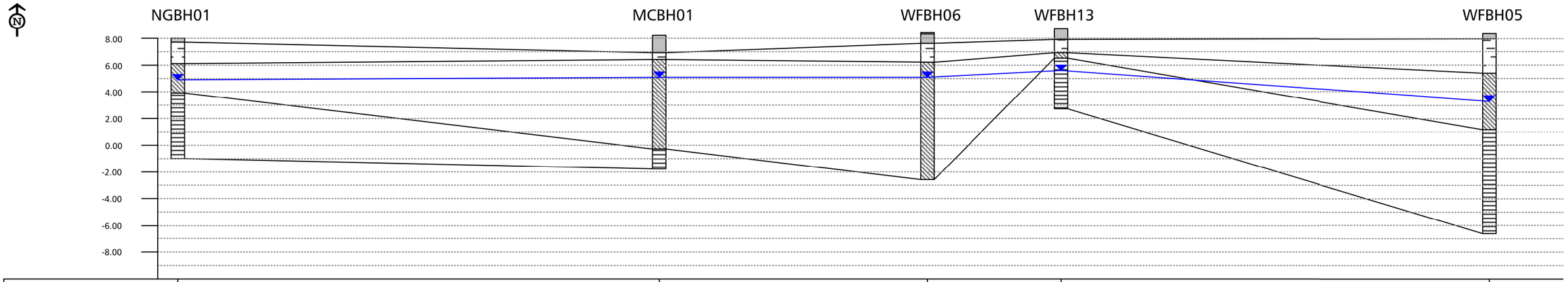
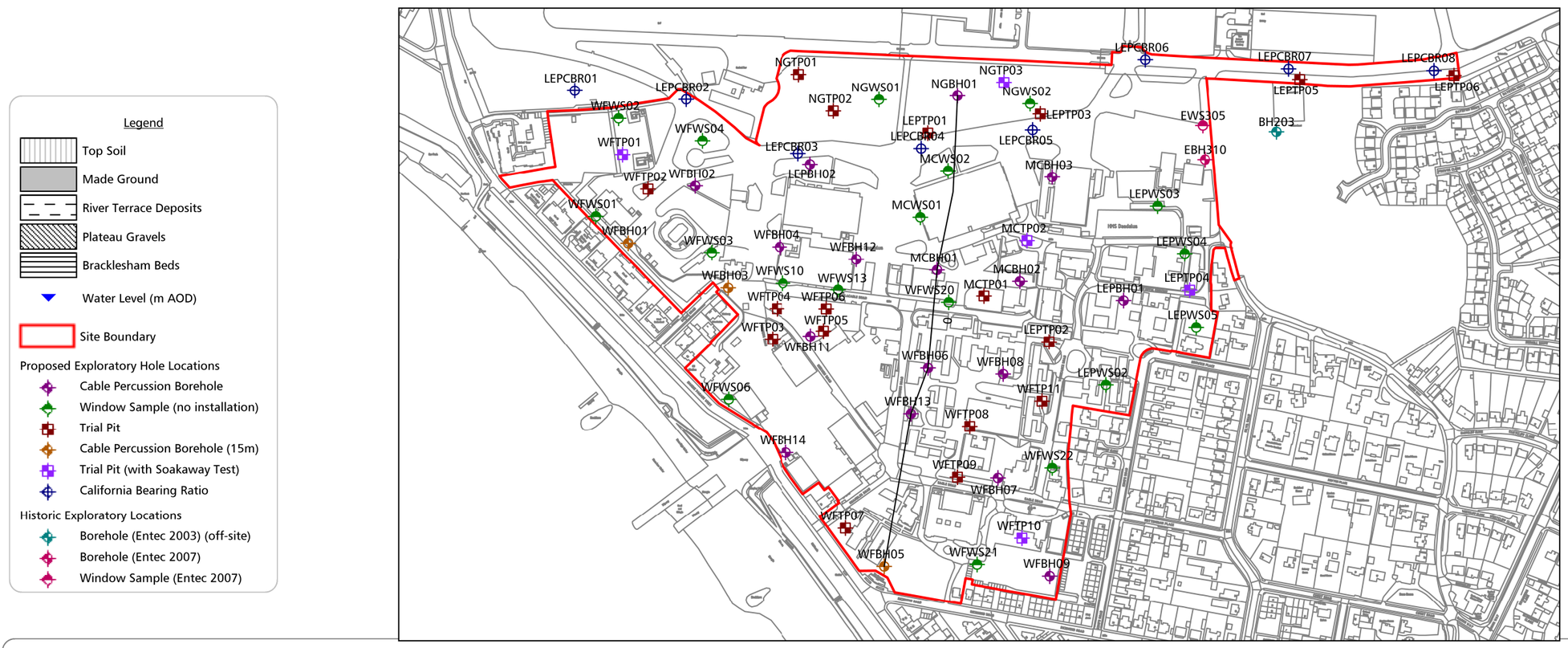


Chainage (m)	180	100	50	160	
Surface Elev. (mAOD)	8.0	8.2	8.4	8.7	8.4
Groundwater Elev. (mAOD)	4.9	5.1	5.1	5.6	3.3
PCE Concentration (μg/l) in groundwater	<1.0	1690	6.1	5.1	44.4



1:5000@A3

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Figure 11B:
Geological Cross Section - North-South

Scale:. 1:5000@A3
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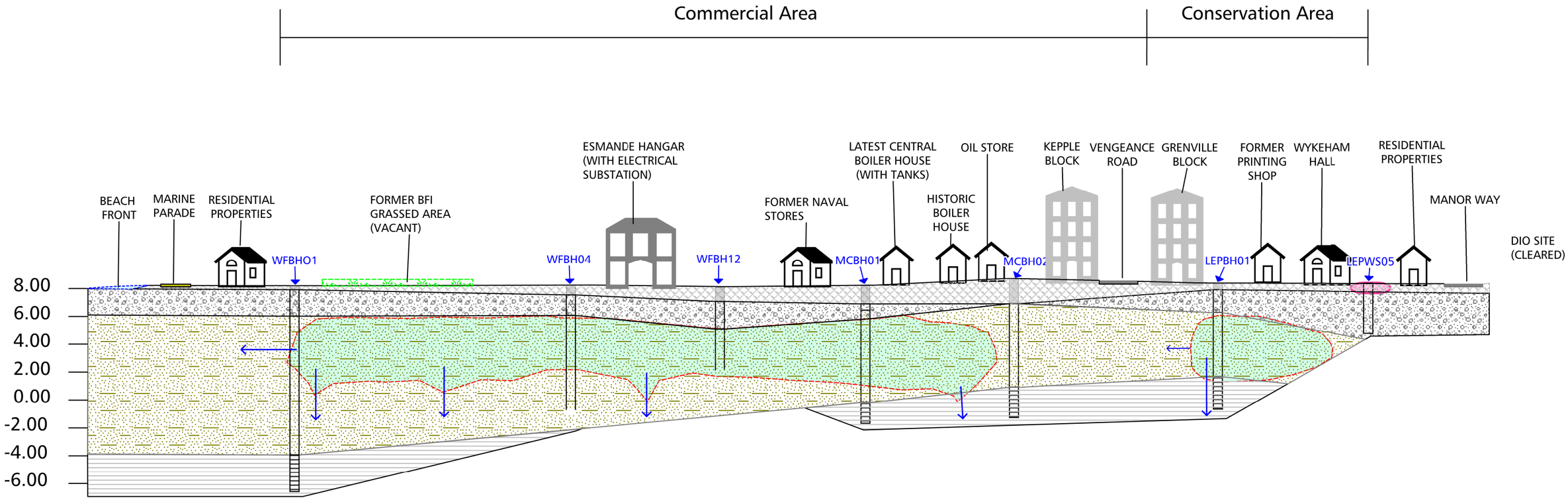
West **East**



Legend

- Made Ground
- Brick Earth
- River Terrace Deposits
- Bracklesham Beds
- Dissolved Phase PCE Contamination Potential vertical and lateral migration
- Localised benzo(a)pyrene contamination and presence of asbestos fibres (chrysotile)

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Figure 12A:
Conceptual Site Model - West - East

Scale: NTS@A3

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North **South**

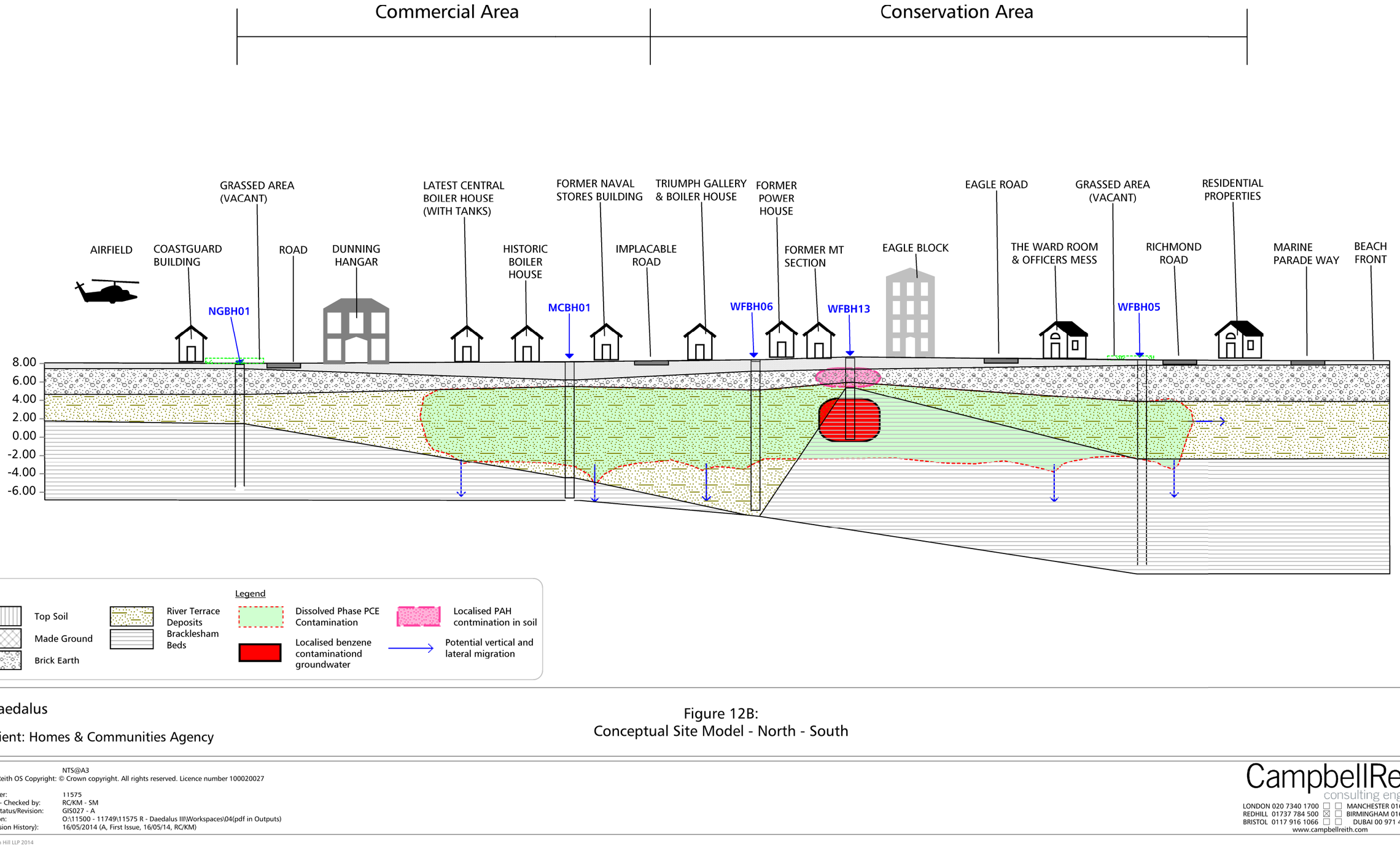

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Figure 12B:
Conceptual Site Model - North - South

Scale: NTS@A3

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APPENDIX B: DESK STUDY INFORMATION

CampbellReith (2011) Daedalus Land Quality Statement Ref: TTjwc10500-220311-LQS_F1

DLO correspondence – withdrawn UXO clearance certificates

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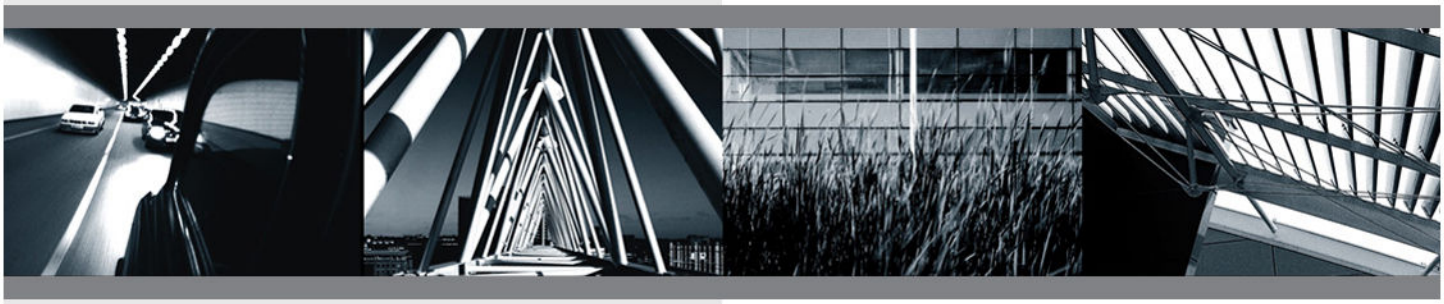
Daedalus, Lee-on-the-Solent

Land Quality Statement



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SOUTH EAST ENGLAND DEVELOPMENT AGENCY
Working for England's World Class Region

Project No:

10500

March 2011

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Revision	Date	Purpose/Status	Author	File Ref	Check	Review
D1	070311	Review	TT	TTtt10500-070311-LQS_D1.doc	Detailed	JWC
F1	220311	Issue	TT	TTjwc10500-220311-LQS_F1.doc	Detailed	JWC

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SUMMARY OF ACTIONS

HUMAN HEALTH	Further site investigation should be undertaken to substantially increase the site coverage in areas of the development plots and areas of proposed residential gardens / landscaping. Currently, where localised elevated soil contamination corresponds with these areas, it is recommended that a minimum depth of 'validated' soil cover is placed over a separating proprietary geomembrane. The final design should be subject to EHO approval and cognisant of any landscape gardening requirements and detailed and prescribed via a *Groundworks Specification*. This specification should be agreed / approved by the Local Authority and included within groundworks tender documentation. The potential risk to the human health of future residents and occupiers from VOCs (tetrachloroethene and BTEX) in groundwaters should be considered further by risk assessment or gas protection measures. In relation to radioactive contamination, remediation of localised point sources has been recommended by removing all material having an activity concentration greater than 0.34Bq/g above background. A remediation strategy should be developed and consultation with the regulators undertaken.
CONTROLLED WATERS	Further groundwater monitoring investigation and Detailed Quantitative Risk Assessment (DQRA) is recommended.
BUILDINGS AND STRUCTURES/ SERVICES	Gas monitoring to date is likely to be considered insufficient to ascertain whether specific protection measures in buildings will be necessary and additional monitoring is recommended. In relation to buried services (i.e. pipework carrying potable water supply), elevated levels of hydrocarbons (BTEX) and tetrachloroethene have been encountered (in addition to localised lead elevations, which may present a secondary risk). As such, liaison with the service provider is required during the selection of appropriate service pipework material and requirements for suitable material in services trenches in accordance with
SITE WORK CONTROLS	A Contractor Health & Safety Plan and associated risk assessments and method statements should consider the potential for: unforeseen contamination (including asbestos within soils), and, UXO risk. A *Watching Brief* is required throughout groundworks. Should any gross contamination (significantly stained and/or odorous soils) be identified, the advice of an environmental scientist should be sought. Appropriate provision for site welfare facilities and PPE should be provided to protect groundworkers based on these assessments. The requirement for these assessments and protocols should unforeseen contamination be encountered should be controlled via a 'Groundworks Specification' and CEMP to be provided at Tender stage of works.
REGULATORY APPROVAL	The approval of contaminated land assessments is an iterative process. Submission of this report to the Local Planning Authority is required in order to address planning conditions associated with Land Contamination. Specific approval is required from the Environmental Health Officer of the conclusion and recommendations presented herein. Further reporting / verification may be required to enable final discharge of any Land Quality planning conditions.
WASTE	The LQS does not address the classification of waste soils. The soil results can however be utilised as a basis for such assessments, although additional testing may be required. It is noted that such assessments are required to accord with the Environmental Permitting and Planning Legislation and also to control costs during development.
OTHER	In relation to UXO, consultation with the Defence Logistics Organisation Ordnance Group is required to ascertain the status of the explosive ordnance clearance certification that was withdrawn in 2005. The risks associated with UXO should be fully recognised within the Health & Safety risk assessments for below ground works, provision of a watching brief and contingency plans should

	be prepared. Areas affected by Japanese Knotweed identified on the site should be cordoned off and access to these areas prohibited until the area can be treated by Japanese Knotweed Specialists.
DOCUMENTATION	Production and agreement of Control Documents and Engineer's Specifications as detailed above. Additional documentation is likely to require either a revised Land Quality Statement for the site as a whole incorporating data from the further phases of investigation or separate assessments documents for each development plot in due course. In addition, detailed assessments of human health and controlled waters risks should be reported in a Detailed Quantitative Risk Assessment report for these issues. Should a specific remediation be required, it will be necessary to produce a Remediation Strategy, Specifications and Verification Report.

EXECUTIVE SUMMARY

SITE LOCATION	Daedalus is situated to the west of the built up areas of Lee-on-the-Solent, south of Fareham, and to the east of Hill Head and Stubbington and centred at a National Grid Reference of SU560020 (456002E, 102050N). The nearest Post Code is PO13 9FL.
ENVIRONMENTAL SETTING	The overall environmental sensitivity of the site is considered '**Medium**' based upon the following: **Hydrology (Medium Sensitivity)**: The Solent is present 30m to the southwest of the site. **Hydrogeology (Medium Sensitivity)**: The site is underlain by a Secondary A Aquifer but does not fall within an Environment Agency Source Protection Zone. **Radon (Low Sensitivity)**: The site is not situated within an area where basic or full radon protection measures are required by default. **Sensitive Land Uses / Ecological Receptors (High Sensitivity)**: The site is located in close proximity to international, national and local level ecological designations comprising Ramsar, SSSI, SPA, and LNR associated with The Solent.
CURRENT USE AND HISTORY	The site was first established as a seaplane base (RNAS Lee-on-Solent) in 1917 and later became the main seaplane training establishment for the RAF before transferring back to the Fleet Air Arm. The site expanded with the acquisition of additional land, construction of the aerodrome, barracks blocks, administration and technical buildings. Following closure of the base, site ownership was split in 2006 with the central areas including the runways transferring to the Maritime and Coastguard Agency (MCA) and surrounding areas by SEEDA. Hampshire Constabulary's fixed wing aircraft continue to use the airfield. The SEEDA areas comprise numerous tenanted commercial activity within the workshops of the Waterfront zone and light aircraft use from hangars around the airfield.
CONTAMINATION ISSUES	With regards to **Human Health**, contaminants were generally not observed to be in excess of the screening values with the exception of several localised occurrences of elevated heavy metals and hydrocarbons above adopted screening thresholds in each development zone. In addition, elevated VOCs comprising tetrachloroethene and BTEX have been detected in groundwaters As such, the risk to the human health of future occupiers and users in each development area are: *Areas 1 and 8a Drake Gardens, Seaplane Square Residential* – **MEDIUM-HIGH** *Areas 4 and 5b Wykeham Hall, Barracks Square Residential* – **LOW-MEDIUM** *Areas 5a, 6 and 7b Barracks Square / Unicorn Triangle / Westcliffe Seafront Mixed* – **MEDIUM-HIGH** *Areas 2, 3, 7a and 8b Airport Park, Marine Business Park, Unicorn Triangle and Seaplane Square Commercial* – **LOW-MEDIUM** *Hangars West Allotments* – **MEDIUM-HIGH** *Hangars West Commercial* – **LOW** *Hangars East Commercial* - **LOW** In relation to **Controlled Waters**, the distribution of chlorinated solvents beneath the Waterfront zone is likely to be in close proximity to the site boundary with The Solent and its ecological designations. As such, the risk to the underlying groundwater (classified as a Secondary A Aquifer) has been assessed as **MEDIUM- HIGH**. A small number of marginal exceedences were also recorded in relation to copper, nickel and zinc, however these are considered to be unlikely to result in a significant risk. **Ground gas** monitoring to date indicates a CIRIA Characteristic Situation 1 regime to prevail (i.e. low risk), although this is based upon a limited monitoring points from a single visit.

	In terms of radioactive contamination, several areas of elevated levels of radioactive contamination have been identified suggesting a low risk to current end users of the site and a moderate risk to potential future site users such as for a residential development. In terms of unexploded ordnance and munitions a residual risk remains for the occurrence of unexploded ordnance or discovery of unrecorded wartime burial of munitions. Japanese Knotweed has been recorded within the site boundary identified adjacent to Building 166. Japanese Knotweed has been noted just outside of the site boundary to the south of Building 142 and near to Building 301 adjacent in Hangars East.
ENVIRONMENTAL RECOMMENDATIONS	**Site Investigation and DQRA:** Further monitoring and Detailed Quantitative Risk Assessment (DQRA) of contaminant levels identified within groundwater will be required in order to demonstrate the absence of risk via the inhalation of vapours by end user residents and potential impact upon nearby Controlled Waters receptors which may otherwise indicate requirements for a specific remediation. Furthermore, additional site investigation is required to fully characterise development plots and delineate localised areas or hotspots of soil contamination. **Remediation:** Outline remedial requirements comprise a validated soil layer in areas of private residential gardens or communal soft landscaping overlying a proprietary separating geomembrane layer. In addition, point sources of radioactive contamination should also be the removed. The final design of the remedial requirements should be made in consultation with the landscape architect's specification and Environmental Health Officer. The final design, including protocols for validation, chemical limiting values, geotechnical backfilling requirements and watching briefs for 'unforeseen contamination' should be compiled within a *Groundworks Specification*. The specification will require agreement with the Environmental Health Officer and should comprise part of the tender information for groundworks. **Asbestos:** Asbestos containing materials (ACMs) have been identified on site. Whilst hardstanding across the site will negate any contact between end users and potentially impacted soils, there is considered to be a risk to groundworkers and other personnel who may come into contact with such soils. In addition, excavation of soils should be carefully controlled in order to prevent the dispersal of dusts and fibres. **Waste:** A waste classification has not been undertaken as part of this report. Should materials be disposed offsite, a waste classification will need to be prepared in order to assign the appropriate EWC code and identify an appropriate landfill. Analytical data, including a Waste Acceptance Criteria (WAC) analysis is appended to this report and maybe used within the waste classification as appropriate.

1.0 INTRODUCTION

1.1. This report has been produced by Campbell Reith Hill LLP (CampbellReith) on behalf of the South East England Development Agency (SEEDA) to summarise environmental information relating to Daedalus, Lee-on-the-Solent (hereafter referred to as 'the site' or by respective subdivided development zones). The references and limitations associated with this report follow the main text. Figures showing the location of the site and the development proposals are presented in Appendix A and photographs in Appendix B.

Scope

1.2. This report has been produced in general accordance with the technical procedures for site investigation, interpretation and reporting set out in DEFRA Contaminated Land Report (CLR)11[1] and BS 5930[2] (as amended). The objective of the report is to collate and interpret Phase 1 Desk Study information and Phase 2 exploratory data in order to provide a:

a) conceptual site model for the site ground conditions (soil, water and gas);
b) generic quantitative risk assessment for human health and controlled waters;
c) qualitative risk assessment for buildings and buried services; and,
d) environmental recommendations including outline recommendations for future site investigation works.

1.3. The contamination appraisal is intended to identify the likely remedial requirements necessary to permit the redevelopment of the site as a residential, mixed-use and commercial end use in accordance with Policy Planning Statements (PPS) 1[3] and 23[4]. It should be recognised that further appraisals, investigations, specification and validation will be required to accord with the recommendations stated herein.

1.4. It is noted that this report does not contain appraisals that consider wider development issues with cost implications, such as geotechnical assessment or waste classification, which lie beyond the remit of the brief. Furthermore, whilst a review of unexploded ordnance and radioactive contamination has been carried out and a summary of previous findings and recommendations for remediation presented herein, no specialist reassessment has been undertaken.

[1] Department for Environment, Food and Rural Affairs (Defra) & Environment Agency, *Contaminated Land Report (CLR) 11: Model Procedures for the Management of Land Contamination*, 2004.

[2] British Standards Institution, *The code of practice for site investigations*, 1999 (as amended).

[3] Communities & Local Government, *Planning Policy Statement (PPS) 1: Delivering Sustainable Development*, 2005.

[4] Communities & Local Government, *Planning Policy Statement (PPS) 23: Planning and Pollution Control*, 2004.

Icarus Database

1.5. This report is intended to be cross-referenced with the ICARUS database, which has been created by CampbellReith using MapInfo GIS and has been made available to SEEDA through the use of freely available software. ICARUS contains copies of all of the previous studies that are considered relevant to the future redevelopment of the Daedalus site. Information on the ICARUS database, how it can be accessed and how it is referenced within this report can be provided upon request.

Previous Studies

1.6. This report is based upon a summary of the previous studies of the site, (including [2] Landmark Envirocheck Report, dated 9 November 2004, Ref: 7167001-1-2, included within the Entec Phase One Report) and a review of readily available information as referenced. The desk study information is presented in Appendix C. In addition, data provided by the most recent site investigations has also been reappraised in view of the current Masterplan proposals. The site investigation reports produced by Entec / Halcrow in 2006 and 2007 respectively are contained in Appendix D.

1.7. It is noted that several reports have not been provided for inclusion within this report, although they have been referred to by previous studies that are available, such as those mentioned by the Entec (2007) report:

- WSP Phase Two Land Quality Assessment, 1996;
- Mineral Reserve Assessment, Proof of Evidence, reference 778/002 by Rust Environmental, August 1995 - reported by Entec but not available for this review; and,
- Land Contamination Assessments, Institute of Naval Medicine, June 1996.

1.8. In addition, CampbellReith have previously produced Site Appraisal Reports [10 – 13] for the site covering the following topics:

- Buildings;
- Highways;
- Drainage and Services Infrastructure;
- Flood Risk and Marine Issues; and
- Ecology.

1.9. A full list of technical references is presented at the rear of the report.

2.0 SITE DESCRIPTION

Site Location

2.1. The site location is presented in Figure 1. Daedalus is located on the Gosport peninsula, situated to the west of the built up areas of Lee-on-the-Solent, south of Fareham, and to the east of Hill Head and Stubbington and centred at a National Grid Reference of SU560020 (456002E, 102050N). The nearest Post Code is PO13 9FL. The site is currently accessed via Chark Lane, which is in turn accessed from the B3385 Broom Way.

2.2. The site lies within the jurisdiction of both Gosport Borough Council (GBC) and Fareham Borough Council (FBC) and the boundaries between the two are shown on Figure 1.

Existing Site Layout

2.3. The site covers a total area of 75.8 hectares and is formed by the former operational areas surrounding the airfield, which is currently operated by the Maritime and Coastal Agency (MCA). Annotated site layout plans showing current buildings are presented as Figures 2-4.

Development Zones

2.4. The site has historically been divided into three distinct zones comprising:

- Waterfront Zone;
- Hangars West; and,
- Hangars East.

2.5. A site visit was made on 27th April 2010 and an abridged description of the above zones is presented in the following text.

Waterfront Zone

2.6. The Waterfront zone covers approximately 24.7 hectares (excluding junction and slipway areas) and lies between the seafront, the residential area of Lee-on-the-Solent and the airfield to the north. This area is by far the most developed part of the Daedalus site and has direct access to The Solent via a slipway.

2.7. The Waterfront zone lies between approximately 7 – 11 metres Above Ordnance Datum (m AOD) and is generally flat, with nominal gradients (<0.5%) rising towards the east of the site.

2.8. It comprises a combination of brick-faced former MoD offices and barracks buildings alongside large-scale industrial/hangar buildings. Due to the size and complexity of this zone, it is necessary to further subdivide it into the following: 'Waterfront – Commercial' and 'Waterfront – Conservation'.

Waterfront – Commercial

2.9. The Waterfront – Commercial site covers an area of 16.7 hectares and lies between the seafront and the airfield. The majority of this zone lies within the jurisdiction of Gosport Borough Council (GBC), although some of the northern-most areas lie within the jurisdiction of Fareham Borough Council (FBC).

2.10. This development zone is characterised by a total of 44 buildings primarily made up airfield hangars and workshops. Notable buildings within this zone are the four large hangars adjacent to the airfield (Dunning, Swann, Esmonde and Overlord Hanger), the new boiler house and four hangars at the slipway. A comprehensive list is provided in Table 2.1 and their locations are shown on Figure 2.

TABLE 2.1: EXISTING BUILDINGS WITHIN WATERFRONT – COMMERCIAL

Building No.	Building Name
3	E&T Block
4	E&T Power House
6	Explosive Store
7	Air & Gas Bottle Store
14	Kingston Villa
15	Crash Tender Bay
18	Explosive Store
20	Explosive Store
22	RN School of Photography
23	RN School of Photography Annexe
26	MPBW Store and Garage
27	Substation
31	Boat Hanger (Type J Hanger)
33	Winch House
40	HTU Hanger (Type G Hanger)

Building No.	Building Name
41	MPBW Store
51	Station Fitters' Workshop
52	Boiler
55	Refrigeration Room
60	Air Raid Shelter
61	Victualling Store
62	Mess Trap Store (Paint Store)
64	Scrap Metal Compound
67	Esmonde Hanger
68	Swann Hanger
69	Swann Toilet Block
70	Air Craft Recovery Store
71	Naval Stores
73	Dunning Hanger
74	Central Boiler House
78	Hetwell Bungalow (NAMDU)
84	Oil Store
148	Kepple Block A
149	Kepple Block B
150	Kepple Block C
153	NAMDU & NAIRU Offices and Workshop
154	Overlord Hanger (No. 5 Bellman)
155	Overlord Hanger & Attached Workshops and Offices
158	Tailor's Shop
159	MPBW (E) Workshop & Store
160	NAAFI Bookstall
374	MASU Toilet Block
389	Store
390	currently unknown

Waterfront – Conservation

2.11. The Waterfront – Conservation site covers an area of approximately 8 hectares and is primarily within the jurisdiction of Gosport Borough Council (GBC), although some of the northern-most areas lie within the jurisdiction of Fareham Borough Council (FBC).

2.12. The Waterfront – Conservation site contains a total of 47 buildings associated with the former barracks element of the former HMS Daedalus site and a list of these is shown in Table 2.2.

TABLE 2.2: EXISTING BUILDINGS WITHIN WATERFRONT – CONSERVATION

Building No.	Building Name
34	MT Oil Store (former Winch House)
35	MT Hanger (Type J Hanger)
37	MT Hanger (Type J Hanger)
38	CAO's Office
39	MT Workshops (Type G Hanger)
56	MT Offices & Toilets
87	Norbury House
88	Bedding Store
89	Vegetable Store
91	Dining Room and Cook House (Triumph Galley and Boiler House)
92	Anson Barracks
94	Air Raid Shelter
96	Power House
97	Blake Barracks
100	Staff Garages & EO's Offices
101	EVT Section
105	Wardroom Annexe Boiler House
107	Ward Room Annexe
111	Westcliffe Lodge
115	Police Search
116	Eagle Block
117	Squash Court
118	The Ward Room and Officers' Mess
119	Westcliffe House
121	Exmouth Block
128	Eagle Club (NAAFI Club)
129	NAAFI Store
130	NAAFI Shop
131	Main Gate Guard Room
132	Fire Station and Police Rest Room
133	Fire Pump House (later Police Station) and adjacent Boiler House
134	Trailer Pump House
135	NAAFI Barber's Shop and Shoe Repair
137	Duncan Barracks
139	Cunnigham Barracks
141	Ambulance Bay and Sub Station

Building No.	Building Name
142	Frobisher Block
144	Store
145	X-Ray Department
146	Sick Bay
147	Grenville Block
162	Hawke Block
164	Printing Shop
165	Wykeham Hall
166	Keith Cottages (Dental Dept.)
375	currently unknown
387	NBCD

Hangars West

2.13. Hangars West covers an area of 14.4 hectares and comprises three linked triangles of land, which form a 'saw-tooth' shaped boundary with adjacent Stubbington to the west.

2.14. This development zone is a large area to the west of the airfield at between approximately 5.5m - 12m AOD with nominal gradients. It includes a section of runway, two large Bellman Hangars and various light aircraft hangers. This area also features large areas of managed grass and scrub.

2.15. At present, this parcel of land has no direct access with vehicles having to cross the MCA airfield and main runway from Hangars East. There is a currently unused access to Hangars West on the B3334 Gosport Road.

2.16. The Hangars West site contains a total of 15 buildings and these are listed in Table 2.3 and their locations are shown on Figure 3.

TABLE: 2.3: EXISTING BUILDINGS WITHIN HANGARS WEST

Building No.	Building Name
332	Hangar U – (outside current development boundary)
339	Hangar T
340	Substation – (outside current development boundary)
343	Hangar R
344	Hangar P
345	AIU Toilet Block

Building No.	Building Name
346	AIU Offices
348	Hangar Q
350	Fleetlands Store
351	Fleetlands Test Flight Offices
352	Fleetlands ARS Offices and Rest Rooms
356	No. 4 Bellman
358	No. 1 Bellman
360	Toilet Block
361	Substation

Hangars East

2.17. Hangers East (36.7 hectares) is located on the east side of the airfield and is accessed from Broom Way. It consists of a large area at between approximately 5.5 - 12m AOD with nominal gradients. The central and southern areas exhibit areas of hardstanding with a group of loosely clustered aircraft hangers and numerous interconnecting taxi-ways. The site includes a substantial area of undeveloped land to the north, which comprises scrub, grass, hedges and trees.

2.18. The Hangars East site contains a total of 18 buildings. These are listed in Table 2.4 and their locations are shown on Figure 4.

TABLE 2.4: EXISTING BUILDINGS WITHIN HANGARS EAST

Building No.	Building Name
286	Hangar A
287	Hangar C
289	Hangar D
290	Hangar E
291	Hangar F
292	Hangar B
296	Hangar G
299	Hangar O
300	Transformer Pen
301	Hangar N
302	Guided Weapons Building
303	Hangar M
304	Hangar L
305	Hangar K

Building No.	Building Name
306	Hangar J
307	Hangar H
322	Stand-by Set House
Unknown (Near B307)	Currently unknown building

Surrounding Land-Use

2.19. Land uses bordering the site are described as follows:

- North – B3334 Gosport Road, two schools (Crofton and Baycroft), agricultural land and Peel Common sewage works;
- East of the airfield – primarily agricultural land and Lee-on-Solent Golf Club;
- East of the Waterfront zone. A recent housing redevelopment of eastern parts of HMS Daedalus and pre-existing residential areas of Kings Road, Lee-on-Solent; and,
- South east of the Waterfront zone – Residential housing with gardens along Richmond Road and Marine Parade West / Solent;
- South west of the Waterfront zone – Marine Way and the seafront;
- West – Residential areas associated with Stubbington Lane and Kingsmead Avenue.

2.20. Residential housing is located in all directions surrounding the site but most notably adjacent to Marine Way, south east of the Waterfront and to the west of Hangars West. The close proximity of large numbers of residential properties offsite, in addition to proposed residential usage as shown in the Masterplan, indicates areas of High sensitivity.

Airfield

2.21. The airfield covers approximately 108 hectares and is currently under the ownership of the Maritime and Coastguard Agency (MCA). It is located outside of the current development zones, although surrounded by them, being bounded to the north by the B3334 Gosport Road, to the west by Hangars West, to the east by Hangars East and to the south by the Waterfront zone. The airfield contains one operational runway and is used by a variety of organisations including the MCA Search and Rescue, the Solent Microlight Group and the Lee Flying Association.

Site After-Use Proposals

2.22. The proposed site redevelopment is shown in [8] Proposed Development Masterplan, LDA Design LDA Design Dwg No. REV8 2780_078_Masterplan Whole Site_REV_FEB_2011 and [9] Design & Access Statement, which are shown within Figures 5 and 6.

2.23. It is understood that the proposed redevelopment of the Daedalus site will be subject to two planning applications submitted to Gosport Borough Council (GBC) and Fareham Borough Council (FBC).

Planning Application to Gosport Borough Council

2.24. Mixed-use development comprising a change of use and conversion of existing buildings, and demolition and erection of new buildings, for commercial floorspace of use class (B1, B2, B8, D1 & D2), retail space (A1, A3 & A4), up to 200 residential units (C3), a hotel (C1), public and private open space and car and cycle parking, together with landscaping and associating servicing, including new main access from Broom Way and secondary access from Stubbington Lane, together with internal access roads.

Planning Application to Fareham Borough Council

2.25. Mixed-use development around the airfield comprising change of use and conversion of existing buildings, as well as demolition and erection of new buildings, for commercial use class (B1, B2, B8, D1 & D2), and residential units (C3), public open space and car and cycle parking, together with landscaping and associating servicing, including new main access from Broom Way and secondary access from Gosport Road, together with internal access roads.

Waterfront

2.26. The Waterfront zone is proposed for a variety of land uses and in summary, these comprise:

- Commercial use in Airport Park, Marine Business Park, part of Unicorn Square and Seaplane Square;
- Residential use in Drake Gardens, (including part of Seaplane Square), up to 2-4 storeys;
- Residential use housing at Wykeham Hall (up to 2-storeys), and part of Barracks Square;
- Mixed-Use development (comprising sheltered accommodation, community hall and leisure facilities) at Barracks Square and adjacent Westcliffe Seafront, (although it is proposed to retain number of the existing buildings in this area).

2.27. In addition, the Masterplan provides for up to 3.32 hectares of public open space within Waterfront split between five areas: Barracks Square, Seaplane Square, Westcliffe House / The Wardroom Gardens, Ross House Par and Wykeham Hall Green Link.

2.28. Whilst the site has traditionally been described in terms of the Waterfront, Hangars West and Hangars East, prior to the emergence of a clear development plan, the Design & Access Statement also presents the current Masterplan in terms of specific 'Character Areas' as listed in Table 2.5 and shown on Figure 7.

TABLE 2.5: MASTERPLAN CHARACTER AREAS

Zone	Proposed Land Use	Area Reference No.
Drake Gardens	Residential	1
Airport Park	Commercial	2
Marine Business Park	Commercial	3
Wykeham Hall	Residential	4
Barracks Square	Mixed-use (sheltered accommodation, community and some commercial use)	5a
	Residential	5b
Westcliffe Seafront	Mixed-use (residential flats and leisure use)	6
Unicorn Triangle	Commercial	7a
	Mixed-use (residential flats and retail)	7b
Seaplane Square	Residential	8a
	Commercial	8b

2.29. The above list of Character Areas have been referred to in the assessment of human health risk to future end users of the development based upon the sensitivity of the proposed land use.

Hangars West

2.30. It is proposed to develop this zone as predominantly commercial use with 1 hectare of allotments as shown in Figure 5.

Hangars East

2.31. It is proposed to develop this zone as predominantly commercial use as shown in Figure 5.

2.32. A total of 13.9 hectares of public open space is also proposed in the low-grade arable fields to the north of Hangars East. In addition, one hectare of allotments is also proposed within Hangars West.

3.0 ENVIRONMENTAL SETTING

Geology

3.1. The site geology is summarised in Table 3.1 and the associated references are presented at the rear of the report.

TABLE 3.1: SUMMARY OF GEOLOGY

Type	Description	Reference
Made Ground	A veneer of Made Ground is anticipated due to the presence of historical development at the site.	[14] [16-20]
Superficial Deposits	River Terrace Deposits and Aeolian deposits (Brickearth - windborne dust reworked by river action). The site is primarily underlain by 'Brickearth', although these deposits may be absent in areas where the Plateau and Terrace Gravels outcrop at the surface (generally beneath the central parts of Hangars).	[1] [2] [14] [16-20]
	Plateau Gravels (fluvial sands and gravels). The areas of gravels appear to be related to tributaries of the River Alver floodplain to the east of the site (WSP refer to this as possible 'buried river valleys').	[1] [2] [14] [16-20]
Solid Deposits	Reference to the BGS geological map indicates the solid geology to be outcropping bands from the Bracklesham Group (sands, silts and clays), in parallel with the coastline on a northwest to southeast alignment and gently dipping towards the south. The north eastern parts of the Daedalus site and most of Hangars East are directly underlain by the Wittering Formation. This is typically described as a brownish grey laminated clay; sand with clay bands; clayey sands and beds of glauconitic sands. Earnley Sand and the Marsh Farm Formation underlie most of the airfield and adjacent hangar areas. The Earnley Sand is a sandy clay formation which overlies the Marsh Farm formation and is primarily a greyish brown, laminated sandy clay. Selsey Sands (green, glauconitic, shelly sands) are shown to predominantly underlie the Waterfront zone.	[1] [2] [14] [16-20]
Other		
Geotechnical Hazards	The Envirocheck Report indicates that the site is not in an area affected by coal mining, ground dissolution features or gulls and cambering. However, there is a High compressible ground subsidence hazard, Moderate risk of swelling clay subsidence and a Low risk of landslip on site. It is noted that a high risk of swelling clay subsidence is indicated approximately 260m to the northeast.	[4]

Hydrogeology

3.2. The site hydrogeology is summarised in Table 3.2 and the associated references presented at the rear of the report.

TABLE 3.2: SUMMARY OF HYDROGEOLOGY

Type	Distance	Description	Reference
'Secondary A' Aquifer (Superficial geology)	On Site	Secondary 'A' Aquifer[1]. The River Terrace Deposits (Brickearth) and Plateau Gravels indicate permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.	[2] [4]
'Secondary A' Aquifer (Solid geology)	On Site	Secondary 'A' Aquifer[1] associated with the Bracklesham Beds.	[2] [4]
Soil Leaching Potential	On Site	The overlying soils have been classified as having a 'High (U)' leaching potential. Soil information for urban areas is generally based on fewer observations.	[4]
Other			
Source Protection Zones	>1km	There are no source protection zones within 1km of the site.	[2] [4]
Nearest Drinking Water (Potable) Abstraction	240m West	Private water supply operated by Hampshire County Council at Stubbington Study Centre. 629m^3 of groundwater per year from tertiary deposits.	[4]
Nearest Non-Potable Water Abstraction.	14m West 24m West 236m West	All three records are for I Hamond & Son for agricultural use at 'The Nurseries', Stubbington Lane.	[4]

Notes: [1]Secondary A Aquifers are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases form an important source of base flow to rivers. These are generally aquifers formerly classified as Minor Aquifers.

3.3. Groundwater is of **Medium** sensitivity given the presence of Secondary A Aquifer at the site and records of local groundwater abstractions. The Plateau and River Terrace Gravel are likely to be of high permeability that will facilitate lateral groundwater flow. It is likely that the aquifer provides shallow groundwater base-flow to the River Alver to the east of the site and also be in continuity with The Solent Estuary. Any contaminants present within shallow groundwater therefore have the potential to migrate to nearby surface waters.

Hydrology

3.4. The site hydrology is summarised in Table 3.3 and the associated references presented at the rear of the report.

TABLE 3.3: SUMMARY OF HYDROLOGY

Type	Distance	Description	Reference
Surface Waters	30m South west 484m East <c.10m North <c.10m North	The Solent River Alver Tributary / drainage ditch of the River Alver Drainage ditch along B3344 at Peel Common	[2] [3] [4]
River Quality	484m East	River Alver Reach: Tide Gate – Newlands Farm (7.6m long) GQA Grade: River Quality E (yr 2000) (The nearest EA River Quality Record for 2009 is the River Meon approx 2km north west of the site)	[2] [4]
EA Floodplain status	On Site	The site in not situated within a flood risk area.	[2] [4]

3.5. The nearest significant watercourses to the site are The Solent and the River Alver. The Solent is located approximately 30m to the south west of the Waterfront zone, although this area has a slipway that provides access directly into The Solent. The River Alver flows in a southerly direction to the east of Lee-on-the-Solent.

3.6. Additionally, there are numerous drainage ditches, ponds and small tributaries of the River Alver present within the locale. One of these drainage ditches or tributaries is indicated adjacent to Hangars East and passes beneath Broom Way joining with the River Alver at Shoot Farm. The River Alver then passes through the 'The Wild Grounds' Nature Reserve, to the west of Rowner, and discharges into The Solent approximately 3km downstream at Stokes Bay.

3.7. Another drainage ditch runs along the B3344 Gosport Road, which borders the northern boundary of the site and appears to emanate from the Peel Common sewage works.

3.8. The site is located within Environment Agency Flood Zone 1. This comprises land assessed as having a less than 1 in 1000 annual probability of river and coastal flooding in any year (<0.1%). In accordance with PPS25 all uses of land are considered appropriate in this zone.

3.9. The risk of fluvial and coastal flooding at the site is considered to be low.

3.10. The site is considered to have a **Medium** sensitivity with respect to hydrology and associated ecological designations (discussed in Section 3.16).

Radon

3.11. The available information indicates the site is in an area where there is a risk of <1% of homes exceeding the radon action level.

3.12. [6] Building Research Establishment Report BR 211 "Radon: Guidance on Protective Measures for New Dwellings" was consulted with respect to determining the risk to the study area posed by radon gas.

3.13. BRE211 indicates that the study area does not fall within an area where basic or full protection measures are required by default and also confirms that a site specific geological risk assessment is not required for the site.

3.14. The Radon Atlas of England and Wales [5] indicates the study area is in an area where <1% of homes exceed the Radon Action Level of 200 Bq/m^3 for residential properties and 400 Bq/m^3 for commercial properties.

3.15. Taking into account information provided above, the risk posed by radon is considered to be **Low**.

Sensitive Land-Uses

Ecology and Conservation

3.16. Daedalus lies within two kilometres of a number of sites designated at international, national and local level on the basis of their ecological value. These are listed in Table 3.4.

TABLE 3.4: ECOLOGICAL DESIGNATIONS

Site Name	Designation(s)	Distance from site	Ref
Solent and Southampton Water	SPA and Ramsar	65m	[3] [10 -13]
Lee-on-the-Solent to Itchen Estuary	SSSI	65m	
The Wild Grounds	SSSI and LNR	1540m	
Titchfield Haven	NNR / LNR	1980m	

3.17. Special Protection Areas (SPAs) are areas which have been identified as being of international importance for the breeding, feeding, wintering or migration of rare and vulnerable species of birds found within European Union countries. They are classified under the Birds Directive (EC Directive on the conservation of wild birds (79/409/EEC)).

3.18. Ramsar sites are wetlands of international importance, designated under the Ramsar Convention 1971.

3.19. Sites of Special Scientific Interest (SSSIs) are nationally protected sites designated by Natural England in accordance with the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000 for their special floral, faunal, geomorphological or physiological aspects.

Japanese Knotweed

3.20. One stand of Japanese Knotweed (Fallopia japonica) has been recorded within the site boundary (15m x 4m x 1.2m tall). This was identified adjacent to Building 166. Many of the stems were old with only two or three saplings noted during the 2009 survey. Additionally, a second small stand of Japanese Knotweed (0.4m x 0.2m x 1.2m tall) has been noted just outside of the site boundary to the south of Building 142.

3.21. Japanese Knotweed has also been identified adjacent to building 301 in Hangars East albeit outside the site boundary.

3.22. Japanese Knotweed is listed under Schedule 9 Part II Section 14 of the Wildlife and Countryside Act 1981 (as amended). Under Section 14, if any person plants or otherwise causes to grow any plant listed in Schedule 9, they shall be guilty of an offence.

3.23. The site is considered to have a **High** sensitivity with respect to the ecological setting.

Built Heritage

3.24. There are three Listed Buildings that lie within 'Waterfront – Conservation'. These are listed in Table 3.5.

TABLE 3.5: LISTED BUILDINGS WITHIN 'WATERFRONT – CONSERVATION'

Building No.	Building Name	Grade	Brief Description	Ref
91	Dining Room and Cook House	II	Dining room and cook house for ratings. Dated 1931 and 1939, with minor addition post-1941.	[10 – 13]
118	The Wardroom and Officers' Mess	II	Dated 1935, the building formed part of the original 1930s expansion of the base. It was soon evident that the original Officers' Mess, in Westcliffe House, would be inadequate for the station. Officers' Mess for 100 and quarters for 54 single officers (ceased use 1995).	
119	Westcliffe House	II	Large detached villa formerly pupils' quarters, mess and class rooms and then the Officers' Mess and WRNS Officers' accommodation. Built 1904.	

3.25. None of the buildings within Waterfront – Commercial are Listed, however CampbellReith's Site Appraisal Reports refer to a document (HGP Report, dated March 2010), which states that two other buildings are being considered for Listing (Buildings 31 and 33).

3.26. None of the buildings within Hangars West and Hangars East are Listed and none lie within a Conservation Area.

4.0 SITE HISTORY AND INDUSTRIAL SETTING

Site History

4.1. Information relating to the site history has been obtained by reference to the previous studies undertaken for the site and ordnance survey mapping presented in the [4] Landmark Envirocheck Report and is summarised for the site and surrounds in Table 4.1 – 4.2.

TABLE 4.1: SITE HISTORY

Date	Development	Reference
Pre 1900s	The site was open farmland until the 1880s when there was an attempt to develop a seaside health resort at Lee-on-the-Solent.	[10-13]
1910 - 1911	The site is generally shown to be undeveloped with the exception of Westcliffe House in the Waterfront zone and what is indicated to be several new development plots and an associated road layout. The wider parts of the site generally consisted of agricultural field boundaries, hamlets, farms and copses. A school, kiln and brick works were located within the northern parts of the current airfield, which was dissected by Millfield Lane.	[4] [16]
1932 - 1942	Historical maps dated 1938 and 1942 show few changes from the previous plan of 1911, however the removal of important features such as airfields and bases from maps was routine practice during times of war. Allotments and playing fields are shown within the site boundary in the west of the site. The site was first established as a seaplane base (RNAS Lee-on-Solent) in 1917 during the First World War and later became the main seaplane training establishment and administrative centre. In the initial development stages of the site as a base in 1917, accommodation was largely provided by bell tents and temporary Bessonneau 'canvas' hangars for seaplane aircraft. An aerial photograph dated circa. 1917- 1918 is presented as Figure 8 In 1918, the RNAS combined with the Royal Flying Corps (RFC) to form the Royal Air Force (RAF) and the Lee-on-Solent Naval Seaplane Training School became an RAF station and then part of the Fleet Air Arm when it was formed in 1924. Previous desk study information and historical reviews indicate the site to have undergone a major expansion by 1932, when the Headquarters of Coastal Area moved from Central London to Lee-on-the-Solent. The site expanded with the acquisition of additional land, and aerodrome construction began with new barrack blocks, administration and technical buildings. The number of aircraft stationed at the site increased, with both land and seaplane training taking place on the base and significant site development continued into the mid 1930's. The base was transferred to the Admiralty during this period, and commissioned as HMS Daedalus, used extensively for both training and squadron flying.	[4] [16] [16]
1944 - 1945	During early 1944, as part of the build up to Operation Overlord, the number of aircraft stationed at HMS Daedalus rose considerably to over 100 Spitfires and Seafires plus at least three more squadrons.	[16]
1945 - 1959	Following the war, repairs and improvements were made to the base.	[16]

	Operations did not significantly reduce, although in 1946 marine operations ceased and the slipway was abandoned. Various squadrons used the base through the remainder of the 1940's and into the 1950's, including for helicopter pilot training.	
1959 - 1962	In 1959, HMS Daedalus was developed as the Fleet Air Arm's major technical training establishment. The air electrical school long established on-site was re-named HMS Ariel, and this became the name of the base.	[16]
1962 - 1968	The Ordnance Survey map shows the plan of the airfield, large aircraft hangars adjacent to the airfield and the barracks area including Westcliffe House. The airfield exhibited three runways in a triangular arrangement with numerous small hangars and taxi ways in the eastern and north western parts. Historical reviews note that in 1962, the Joint Service Hovercraft Unit was established on the site, for the purposes of testing hovercraft for military use, particularly in mine countermeasures. The site continued to be used by squadrons as a helicopter base. In about 1965 there were approximately ten aircraft based on site at this time.	[4] [16]
1970 - 1988	During 1970, the Naval Air Command Headquarters and Air Engineering School vacated the site, and closure of the site was under consideration. However, the site reverted to its original role of training. In addition, an RAF search and rescue unit operated from the base between 1973 and 1988. The communications element of 781 squadron closed in 1981 and search and rescue moved away in 1988. At around this time, the local Coast Guard began operating helicopters from the base. Additionally, the site housed guided missile research within building 302. Also, Southampton University Air Squadron and the police used the base around this time. The site was also used for refuelling aircraft operating from ships in the English Channel. A new accommodation block was opened in 1980 followed by upgrading of pre-war RAF accommodation. Ordnance survey maps of 1975 and 1983 show no changes to the site itself.	[16] [4]
1991	The Ordnance Survey map dated 1991 shows some reduction in the number of buildings at the far north of the base and access tracks in the west of the site. In addition the area of heath close to the centre of the airfield is no longer shown.	[4]
1999	The aerial photographs for 1999 show the site layout similar to the present-day layout. An area of disturbed ground in the far southwest corner of the site is shown on oblique aerial photos taken in October 1999 (NMR 18534/19). A further area of possible disturbed ground is shown on photo NMR 18534/04 in the south-east corner of the site.	[4] [16]
2000	An ordnance survey plan for the year 2000 shows no significant changes from previous maps, on site.	[4]

TABLE 4.2: ADJACENT LAND HISTORY

Date	Development	
1910 - 1911	The surrounding area was principally agricultural with small hamlets and copses present. A sparse settlement is shown adjacent to the south east of the site populated by relatively few properties, a nursery and St Faith's Church. It was served by a main road named West Cliffe Park (now called Marine Way) that ran along the seafront. Stubbington Lane traversed northwards to Stubbington to the northwest of the site from a	[4] [16]

	junction between Sea Lane and West Cliffe Park to the west of the Waterfront zone. To the east, the general area was wooded or heathland and a smithy was located to the south of Shoot Farm. A gravel pit was also present between Cherque and Shoot Farms to the south east of the site (east of the Waterfront zone). Another was present to the west of the site in the vicinity of Stubbington Lane. To the north and just within the site boundary there was also a small brick works and kiln present with a much larger brick works at Peel to the north east. A school is shown adjacent to the northern site boundary and to the south of Hollyers Copse.	
1938 - 1942	The settlement to the south east of the site appears on the historical mapping to have become more fully developed by this time and a slipway to The Solent is shown with the juncture of West Cliff Park. An extensive area of disturbed ground / heathland characterised the area of the gravel pit in the vicinity of Cherque and Shoot Farms to the south east of the site, although a second gravel pit had been formed to the south of Shoot Farm over the location of the smithy. To the north of the site, extensive sewage filter beds were present at the end of the lane that dissects the site (airfield). A new settlement called 'Peel Common' with terraced workers houses had been formed to the south of Peel. To the west, a large nursery had been constructed midway along Stubbington Lane.	[4] [16]
1962 - 1963	By 1963, the centre of the site had become an airfield. The settlement to the south east of the Waterfront zone had become more densely populated and a new barracks complex had been constructed to the east of the Waterfront zone comprising numerous small accommodation blocks. To the west, Stubbington Lane appears to have become populated along it full length between The Solent and Stubbington. A school is still shown adjacent to the northern site boundary and to the north west, the beginnings of a new residential estate was shown.	[4] [16]
1968 - 1975	The 1968 map shows significant residential development on land surrounding the site, mainly to the north west and south east of site. A substantial increase in residential property had occurred particularly in the Stubbington area. In addition, there had been a substantial redevelopment of the barracks complex to the east of the Waterfront zone, which now exhibited several very large buildings. To the east, a new Golf Course is shown with a distinct absence of woodland that previously characterised this area. The disturbed area of land in the centre of the airfield is shown on the map as 'heath' at this time.	[4] [16]
1983 - 1991	There had been no significant change in the development of the surrounding area with the exception of the new Peel Common Sewage Works to the north of the site, which exhibited extensive earthworks and bunds around its boundary.	[4] [16]
2000	No significant change.	[4] [16]

Summary of Previous Studies and Site Investigations

4.2. The following core reports have been produced in relation to contamination issues at the site:

[14] WSP Phase One (Desk Study), May 1995;

[15] Entec LQA Review Draft Technical Note, 5 January 2001;

[16] Entec Phase One Desk Study, May 2005; and,

[17] Entec Phase Two: Shallow Groundwater Investigation for Defence Estates, 8 May 2003.

[14] WSP Phase One (Desk Study), May 1995

4.3. This report provided a detailed informative of potential areas of contamination observed during a comprehensive site reconnaissance exercise. Particular attention was made to areas of:

- hydrocarbon storage;
- drums, bottles and cylinders;
- demolition rubble and building material areas;
- engineering and maintenance areas;
- pesticides and herbicides;
- unexploded ordnance and munitions;
- miscellaneous potentially contaminative users; and,
- sewage and drainage.

4.4. A detailed walkover survey was undertaken by G&E Consultants on behalf of WSP in 1994 and is detailed within this report. Notable areas of potential contamination have been included within the Preliminary Conceptual Site Model in Chapter 5.0.

[15] Entec LQA Review Draft Technical Note, 5 January 2001

4.5. It is understood that WSP undertook an intrusive site investigation following the production of the Desk study. Unfortunately, the WSP Site Investigation report is not available for review by CampbellReith, although Entec were able to summarise its contents. They reported that WSP's intrusive investigation was undertaken in 1995 and proposed drilling 116 No. shallow probe-holes targeted at the hangar areas where the desk study had identified a high likelihood of contamination to be present.

4.6. Areas of contamination identified by the WSP work was summarised by Entec, although the location of where contamination was encountered was not reported.

[16] Entec Phase One Desk Study, May 2005

4.7. A detailed review of commercial activities at Daedalus was undertaken by Entec in November 2004, and provided a detailed account of all tenanted activity and areas of potential contamination. These potential sources have been included within Table 5.1 of Chapter 5.0 Preliminary Conceptual Site Model.

4.8. In addition, a large number of historic potentially contaminative operations and processes were identified to have occurred at the site and these relate to the:

- Bulk Fuel Installation (BFI);
- hangars, workshops for aircraft maintenance and repair;
- Motor Transport (MT Section) and petrol dispensing station had underground fuel tanks;
- former Central Boiler House and associated storage tanks;
- numerous fuel storage tanks at workshops and hangar locations;
- Petrol Tanker Shed (Crash Tender Bay) near BFI;
- historic Workshops - blacksmiths, joiners, polishers, shipwrights and engineering works;
- burning grounds and fire training areas in Hangars East and West;
- firing ranges;
- scrap Metal Compound and coal yard; and,
- asbestos associated with fabric of buildings and also in soils (notably demolished buildings.

Bulk Fuel Installation (BFI)

4.9. The Bulk Fuel Installation (BFI) comprised an arrangement of 6 No. cylindrical underground aviation fuel tanks, a motor room, pump room and pipe infrastructure and vent pipes encased within a circular earth mound in the west of the Waterfront zone and designated as building 10 on the plans.

4.10. Figure 9 shows the arrangement of the underground fuel storage tanks at the former BFI prior to its decommissioning.

Former Central Boiler House

4.11. Entec reported that the former boiler house (building 81) and above ground fuel storage tanks (buildings 82 and 83) were located to the south of the Dunning Hangar (building 73). The boiler

house served the southern parts of the former commercial areas of the Waterfront zone and was replaced in the 1990s by the nearby facility adjacent to the south of Dunning Hangar.

Motor Transport Section

4.12. The Motor Transport Section consisted of the following structures:

- MT Section oil store, pump house and underground petrol storage tanks (building 99);
- MT Shed (building 100); and,
- MT Hangars and oil stores on slipway (buildings 35-39).

4.13. In the initial development stages of HMS Daedalus, accommodation was largely provided by 'Bell' tents and temporary 'Bessonneau (canvas) hangars for aircraft. One of these was initially used for the MT garage until a permanent structure was built on the same site. As such, fuel storage areas were initially located upon bare ground.

Fuel Storage Tanks

4.14. The Entec Phase One desk study provides a list of fuel storage tanks present at the site at the time of their walkover survey and this is reproduced in Table 4.3.

TABLE 4.3: SUMMARY OF FUEL AND HYDROCARBON STORAGE TANKS

Location	Contents	Current or Former	AST/UST	Comments	Entec 2003 SI	Area
Buildings 82 & 83	Fuel Oil	Former	AST	Fuel for Old Boiler House	BH202	2
Central Boiler House	Fuel Oil	Current (disused)	AST	No evidence of spillage		2
Bulk Fuel Installation	Aviation Fuel	Current (disused) tanks removed	UST	TCE and fuel contamination	BH218, 219, 220	1
Building 99 (MT Fuel Store)	Petroleum	Former	UST	Petroleum Contamination	BH201	5a
Building 274 (Ground Maintenance Section)	Fuel Oil	Former	UST	Diesel Contamination	BH203	Offsite
Building 295	Fuel Oil	Current (disused)	AST	Historical surface staining observed	BH204, 205, 206	Hangars East
Building 301	Fuel Oil	Current (disused)	AST	Historical surface staining observed	BH207, 208, 209	

Location	Contents	Current or Former	AST/UST	Comments	Entec 2003 SI	Area
Building 303	Fuel Oil	Current (disused)	AST	Historical surface staining observed		
Building 343	Fuel Oil	Current	UST		BH210, 211, 212	Hangars West
Building 344	Fuel Oil	Current	AST			
Building 353	Fuel Oil	Former	AST		BH213	
Building 351	Diesel	Current	AST	Surface staining	BH214	
Building 51 & 55	Diesel	Current	AST		-	7a
Building 16 (Air Traffic Control)	Fuel Oil & Aviation Fuel	Current	AST		-	Offsite near 1
Site S	Waste Oil	Current	AST		-	Unknown
Site J2 Building 159	Diesel	Current	AST	Surface staining evident	-	Unknown

4.15. Figure 10 shows the arrangement of numerous fuel storage tanks predominantly located in Hangars East and the Waterfront zone.

Electrical Substations and Transformers (Polychlorinated Biphenyls (PCBs))

4.16. The WSP and Entec Phase One Desk Studies included a review of onsite electricity substations / transformers. This is because of the potential for polychlorinated biphenyls (PCBs), which are a class of organic compound widely used for many applications (especially as dielectric fluids in transformers, capacitors, and coolants) to be present in the ground. Due to PCB's toxicity and classification as a persistent organic pollutant, they have been banned but may still leave a legacy of contamination in areas where they were used.

4.17. WSP reported that the main transformers and switchgear were contained within Building 141. However, transformer oils used on the site are reported to be PCB free, but there is a high possibility that they contained PCBs in the past.

4.18. The transformer station (building 298) was built between 1985 and 1988 and is unlikely to have used oils containing PCBs. However, tests carried out on transformer oils from transformers 1, 2, 4, 6, 7 and 8 all showed the presence of Type 1260 PCBs up to concentrations of 4ppm, although the locations of these structures is currently unknown.

4.19. Entec also reported that a number of electrical transformers were present on the site and these locations included buildings 27, 141, 269, 298, 340 and 361.

Radioactive Materials

4.20. Previous studies for the Daedalus site reported that historical site operations included the potential to cause radioactive contamination and these activities included the following:

- Aircraft Hangars, Workshops and Maintenance facilities – Possible that radium luminised instruments were maintained and stored within the hangars. Radium luminised instrumentation would have repaired along with the storage of radium luminising paints and this may have led to the ad-hoc disposal of such materials locally to the ground around these facilities.

- Fire Training Area – Entec reported that obsolete and damaged aircraft were burnt for fire training purposes. Furthermore, it is noted that the Defence Radiological Protection Services (DRPS) had undertaken a radiological survey of an area within Hangars East and subsequent remedial works to remove the radiological sources identified.

- Burning Grounds / Waste Disposal Areas – Three potential waste burial and burning ground were identified on the south eastern areas of the airfield. Such areas may contain radium contaminated residues.

- Anecdotal Evidence – Entec reported that a crash investigation team were based within buildings 343 and 344 in Hangars West and radioactively contaminated aircraft debris may have been released to the ground.

4.21. Further information regarding the potential for radioactive contamination is summarised within Chapter 9.0.

[17] Entec Phase Two: Shallow Groundwater Investigation for Defence Estates, 8 May 2003

4.22. Entec undertook an intrusive shallow groundwater investigation on behalf of their client (Defence Estates) in May 2003. The Entec study identified that the previous site investigations had been insufficient to understand the full extent of groundwater impaction and radiological contamination of the soil and so recommended that additional intrusive investigations be undertaken in order to clarify the potential risks posed by groundwater and radiological contamination.

4.23. The works comprised the drilling of 20 No. boreholes (referred to as BH201-BH220 and an additional shallow well at BH201 referred to as BH201B) and the installation of monitoring

standpipes. These were generally targeted at areas of historic land uses and sources of potential contamination as detailed in Table 4.4.

TABLE 4.4: SCHEDULE OF EXPLORATORY HOLE LOCATIONS

Exploratory Hole Location	Building No	Former Use	Likely Contamination	Development Area
BH201	Building 39	MT Section	Hydrocarbons	5a
BH202	Building 81	Central Boiler House		2
BH203	Building 273	Ground Staff & Maintenance		Offsite but adjacent to 3
BH204	Building 293	Workshop		Hangars East
BH205	Building 293	Workshop		
BH206	Building 293	Workshop		
BH207	Building 301	N Hangar		
BH208	Building 301	N Hangar		
BH209	Building 301	N Hangar		
BH210	Building 343	R Hangar		Hangars West
BH211	Building 343	R Hangar		
BH212	Building 343	R Hangar		
BH213	Building 353	Northwest Boiler House		
BH214	Building 353	Northwest Boiler House		
BH215	Building 356	No 4 Bellman Hangar	Mercury, boron, ethylbenzene in groundwater	
BH216	Building 390	Fire Burning Area	Copper and zinc in soil and hydrocarbons in groundwater	Hangars East
BH217	Building 390	Fire Burning Area		
BH218	Building	BFI	Hydrocarbons	1
BH219	Building	BFI		
BH220	Building	BFI		

4.24. Borehole monitoring standpipes were monitored on four occasions to investigate the tidal influence upon groundwater levels. Table 4.5 shows the data for both morning and afternoon readings undertaken on two consecutive days (6th and 7th March 2003) shortly after high and low tides. Entec's findings showed that BH217, BH218 and BH219 displayed a daily variation of 0.02m indicating only a minor tidal influence, although being located within 50m of The Solent.

TABLE 4.5: EXCERPT FROM ENTEC REPORT (2003) TABLE 5.3 RESULTS OF GROUNDWATER LEVEL MONITORING

Borehole No.	06/03/2003				07/03/2003			
	GW Level (m AOD)	Time	GW Level (m AOD)	Time	GW Level (m AOD)	Time	GW Level (m AOD)	Time
BH201B (shallow)	6.39	8.18	6.59	16.29	6.41	09.35	6.38	14.20
BH201 (deep)	4.48	8.19	4.51	16.31	4.50	09.31	4.54	14.21
BH202	5.43	8.33	5.43	16.11	5.44	09.17	5.45	14.06
BH203	5.96	8.38	5.96	16.15	5.98	09.22	6.00	14.02
BH204	5.50	8.43	5.50	16.05	5.53	09.10	5.55	13.17
BH205	5.48	8.46	5.41	16.04	5.41	09.08	5.42	13.21
BH206	5.41	8.45	5.40	16.02	5.41	09.05	5.41	13.20
BH207	6.20	8.53	6.19	15.56	6.19	08.56	6.19	13.24
BH208	6.64	8.59	5.13	15.59	6.55	08.53	6.58	13.29
BH209	5.87	8.56	5.86	15.57	5.85	08.58	5.86	13.26
BH210	8.07	9.12	8.07	15.15	8.06	08.41	8.09	13.40
BH211	7.85	9.10	7.84	15.36	7.85	08.45	7.86	13.36
BH212	7.88	9.11	7.87	16.37	7.89	08.44	7.91	13.39
BH213	7.38	9.16	7.37	15.42	5.41	08.36	7.45	13.45
BH214	7.42	9.20	7.42	15.44	7.46	08.39	7.51	13.47
BH215	7.76	9.30	7.77	15.46	7.70	08.34	7.65	13.52
BH216	7.68	9.03	7.07	15.52	7.68	08.50	7.73	14.29
BH217	8.08	9.37	7.92	15.50	7.99	08.48	8.03	14.31
BH218	4.23	8.27	4.21	16.26	4.20	09.29	4.21	14.17
BH219	4.18	8.25	4.20	16.23	4.19	09.27	4.30	14.15
BH220	4.19	8.23	4.17	16.21	4.17	09.25	4.28	14.13

4.25. Plotted groundwater contours as shown in Figure 11 infers that groundwater flow is generally towards the south west in the direction of The Solent.

4.26. Well head chemistry observed during the groundwater monitoring is shown in Table 4.6. Visual and olfactory evidence of contamination was observed in the form of strong petrol odours at BH201 (former MT section), BH203 (former grounds maintenance area) and headspace analysis using a Photoionization Detector (PID) meter recorded elevated VOCs at 600ppm in BH201B at approximately 2.0m bgl with an oily sheen observed on the interface probe sensor in BH211.

TABLE 4.6: EXCERPT FROM ENTEC 2003 WELL HEAD CHEMISTRY DURING GROUNDWATER SAMPLING

Borehole	pH			EC (uS/cm)			DO%			Temperature (˚c)			Groundwater Level (m bgl)			
	Vol 1	Vol 2	Vol 3	Vol 1	Vol 2	Vol 3	Vol 1	Vol 2	Vol 3	Vol 1	Vol 2	Vol 3	Vol 0	Vol 1	Vol 2	Vol 3
201	7.1	7.0	6.9	1010	816	714	3.2	13.5	19.8	12.4	12.6	12.4	3.73	-	-	-
201B	7.4	-	-	640	-	-	51.6	-	-	10.1	-	-	1.79	Dry	-	-
202	6.5	6.5	6.7	493	500	506	50	49.8	54.5	11.5	11.4	11.6	3.43	-	-	-
203	6.3	6.3	6.4	963	1000	980	-	-	-	10.4	10.8	10.8	1.93	1.97	1.98	1.94
204	7.2	7.3	7.4	2131	1609	1314	62.0	47.6	50.1	11.5	11.8	11.8	2.95	-	-	-
205	7.0	6.9	-	483	482	-	20.1	21.1	-	12.0	11.9		2.60	-	Dry	-
206	6.8	7.0	7.0	399	395	394	38.8	40.0	42.3	10.5	10.7	10.7	2.80	-	-	-
207	7.2	7.3	-	626	623	-	30.8	35.4	-	10.0	10.1	-	0.9	-	Dry	-
208	7.1	6.8	-	506	490	-	48.3	61.9	-	11.1	11.9		-	-	Dry	-
209	7.1	7.1	7.1	610	620	622	31.0	44.3	30.9	9.7	9.8	10.1		-		
210	7.5	7.6	-	1170	541	-	4.94	8.36	-	9.9	9.7	-	1.98	-	Dry	
211	7.4	7.4	7.4	1085	1001	976	11.0	18.0	13.7	11.5	11.3	11.4	2.37	-	-	-
212	10.6	8.2	7.6	679	646	640	26.1	25.5	16.9	8.2	10.0	10.6	-	-	-	-
213	6.3	6.6	6.5	719	525	488	33.1	35.2	37.6	10.5	10.5	10.7	3.88	-	-	-
214	6.5	6.6	6.7	670	566	548	24.1	28.5	27.8	10.8	10.5	10.4	2.11	-	-	-
215	6.1	6.3	-	924	603	-	43.0	49.8	-	10.1	10.0	-	1.58	-	-	-
216	7.3	7.3	-	1338	1294	-	3.43 mg/l	5.5 mg/l	-	11.0	11.8	-	0.80	-	Dry	-
217	7.9	8.0	-	890	930	-	29.6	27.4	-	10.2	10.7	-	-	-	Dry	-
218	6.3	6.5	6.6	568	475	468		-	-	11.8	11.9	11.9	3.74	3.74	3.74	3.74
219	6.2	6.3	6.4	402	394	395		-	-	11.3	11.3	11.0	3.83	3.84	3.84	3.84
220	5.7	5.9	6.0	372	532	460	33.1	40.2	-	11.2	11.3	11.1	4.07	4.03	4.04	4.05

4.27. Entec reported that the results of the investigation indicate that the majority of the groundwater underlying the site is likely to be free from significant contamination. However, there are localised areas where contamination is present.

4.28. The principal contaminant of concern encountered was reported to be the chlorinated solvents in the groundwater within the south west of the site around the former BFI. The extent of the solvent contamination in the groundwater was not accurately defined but Entec concluded that the plume was likely to extend some distance up-gradient of the BFI with the likely origin at the aircraft hangars and workshops.

4.29. In addition, localised occurrences of hydrocarbon contamination (DRO and PRO) were also identified in shallow perched groundwater at the former MT Section refuelling area and DRO contamination was also encountered at the location of a former grounds maintenance depot (offsite to the east of the waterfront). The extent of hydrocarbon contamination in the groundwater was considered to be limited at these locations.

4.30. Whilst the risk to groundwater with respect to chlorinated solvents, petroleum hydrocarbons and diesel range organics was assessed as high, as these contaminants have been identified to be present within the groundwater, the risk to coastal waters was assessed as low. Impacted groundwaters were considered to be in hydraulic continuity with The Solent, but it was considered unlikely to have a significant impact due to dilution effects. The risk to surface waters (River Alver) was assessed as low, although there was no mention of the tributary located onsite in Hangars East.

4.31. Entec recommended that the site was suitable for redevelopment to a residential or commercial end use subject to measures being taken to address risk identified from organic contamination in groundwater. The most effective risk reduction measures would be to undertake a more detailed groundwater investigation.

Summary of Previous Remediation Works

4.32. The Bulk Fuel Installation (BFI) comprised 6 No 54,000 litre (30' x 9') horizontal cylindrical tanks buried beneath a hardened bunker. Records show that the facility was decommissioned and the underground storage tanks removed in 2005 as detailed in [18] Adler + Allan.

[18] Adler + Allan Health, Safety & Environmental Technical Return (Tender Document), dated December 2004

4.33. The works comprised the decommissioning and physical removal of the tanks, which were filled with water at the time of their removal but were recorded as last containing AVTUR (Aviation Turbine Fuel) and AVGAS (a high-octane aviation fuel).

4.34. During the works, strong odours were associated with the soils surrounding one of the tanks and arrangements for soil sampling were made. OHES Environmental (consultants) were then instructed to review the analytical data on the behalf of Adler and Allan. Observations of the works in February 2005 showed that potentially contaminated soils were stockpiled and that excavations extended to approximately 3m bgl. Upon review of the analytical data, the hydrocarbon content was shown to be low with a maximum concentration of 350mg/kg. As such, soils were aerated to remove volatile organic compounds associated with the aviation fuel contamination prior to be placed back in the excavations.

Current Industrial Setting

4.35. HMS Daedalus closed in 1996 when the Ministry of Defence (MoD) declared it surplus to requirements. It was subsequently purchased by SEEDA and the Maritime and Coastguard Agency (MCA) in 2006 and the airfield has been retained by the MCA as an active private airfield. SEEDA have retained a variety of commercial and industrial operations across the remaining parts of the site around the airfield.

4.36. Table 4.7 summarises identified industrial features which may present a potential source of contamination to the site based upon a review of previous reports and [4] Landmark Envirocheck Report.

TABLE 4.7: INDUSTRIAL SETTING

Type	Distance	Description	Reference
Contemporary Trade Entries	On Site	Area D1 (located in north east corner of the commercial area) - BP haulage - oil filters and unbunded 200 litre drums resting on grassed area.	[4] [16]
	On Site	M & J Transport (located to the north of the E & T Block and BFI) - oily drums, batteries and metal oil tank.	
	On Site	Area J (located adjacent east of the Overlord Hangar) - Buckland & Langley Demolition - oily residue on yard surface.	

Type	Distance	Description	Reference
	On Site	2 No Contemporary Trade Directory Entries: Hampshire Pallets – inactive and active.	
	0 – 500m	24 No Contemporary Trade Directory Entries comprising engineering, garage services, maintenance contractors, glass engravers, plastics suppliers, cleaners, haulage, car dealers, printers and aggregate supplies.	
Petrol Stations	<10m South east	'Total' petrol filling station on Broom Way.	[4] [16]
	409m NW	'Shell' petrol station at Stubbington.	
Registered Landfill Sites	0m South east	Chark Farm licensed to BM Recycling Limited in 1978 and recorded to have accepted household and commercial waste. Status: either lapsed, cancelled, revoked or surrendered.	[4] [16]
	0m South east	Chark Farm licensed to Hampshire County Council in 1986 for commercial, household and industrial waste including sand, chalk, gravel and earth spoil. Status: either lapsed, cancelled, revoked or surrendered.	[4] [16]
	10m East	F Dykes Pit, Sandhills Lane licensed to Hall Aggregates Ltd in 1977 for concrete and concrete drum washings. Status: either lapsed, cancelled, revoked or surrendered.	[4] [16]
	170m East	Shoot Farm, Shoot Lane, licensed to K & R Demolition in 1985 for construction and Demolition waste, biodegradable, contaminated rubble, special waste, paper and cardboard, poison, noxious and polluting wastes. Non-operational. Status: either lapsed, cancelled, revoked or surrendered.	[4] [16]
	300m South east	Cherque Farm licensed to Hall Aggregates in 1982 for construction and demolition waste, biodegradable, contaminated rubble, special waste, paper and cardboard, poison, noxious and polluting wastes. Status: either lapsed, cancelled, revoked or surrendered.	[4] [16]
	180m South east	Land at Cherque Farm – Historic landfill first received waste in 1981 comprising inert commercial and house waste.	[2]
	300m South East	F Dykes Pit and Shoot Farm Historic Landfills located around Sandhills Lane received a mixture of industrial, commercial and household waste from the 1970s and 1980s.	[2]
	180m South east	Cherque Farm Authorised Landfill operated by RMC Logistics (south east) Ltd for construction, demolition and dredgings waste)	[2]

Type	Distance	Description	Reference
		License 19951 Landfill Class: Pending Status: Closure	
Victorian Landfills	On Site	Anecdotal information suggests that a Victorian Tip is present within the northern boundary of the airfield and adjacent hangar areas although there is no evidence shown on historical mapping.	[16]
Licensed Waste Management Facilities	200 South east	Cheque Farm, Lee-on-Solent licensed to RMC Aggregates Southern) Ltd (licence 19951) from 1992 for construction, demolition and dredgings equal to or greater then 75,000 tonnes per year. Status: Active	[4] [16]
Pollution Incidents	0m at airfield Control Tower 51m South east 463m North west	In addition, loss of 9000 litres of aviation fuel (JET-A1/AVTVR) from an above ground tank near the Control Tower occurred in March 2005. Category 3 Minor Incident involving oil on pond and fish killed. Category 3 Minor Incident involving discharge of chemicals (paints and dyes) to storm water drain at domestic/residential property.	[7] [16] [4] [16] [4] [16]
Discharge Consents	Off Site 0 - 500m	10 No discharge consents although none of the discharge consent records relate to discharges from the site.	[4] [16]
Radioactive Substances	On Site	3 No records of Registered Radioactive Substances authorised under the Radioactive Substances Act. All three records are for radioactive materials held at the site: Interserve (Defence) Ltd Authorisation under 5 13 of RSA for disposal of Radioactive Waste; Ministry of Defence Authorisation under 57 of RSA for keeping and use of radioactive material; Ministry of Defence Authorisation under 57 of R5A for keeping and use of radioactive materials -1 or more closed sources (<4 terabecquerels).	[4] [16]

4.37. Research did not establish the presence of any of the following at or within 500m of the subject site:

- **Agency and Hydrological:** Contaminated Land Register Entries and Notices; Discharge Consents; Enforcement and Prohibition Notices; Integrated Pollution Controls; Integrated Pollution Prevention and Control; Local Authority Integrated Pollution Prevention and Control; Local Authority Pollution Prevention and Controls; Local Authority Pollution Prevention and Control Enforcements; Prosecutions Relating to Authorised Processes; Prosecutions Relating to Controlled Waters; Substantiated Pollution Incident Registers; and, Water Industry Act Referrals.

- **Waste:** BGS Recorded Landfill Sites; Integrated Pollution Control Registered Waste Sites; Licensed Waste Management Facilities (Locations); Local Authority Recorded Landfill Sites; Registered Waste Transfer Sites; and, Registered Waste Treatment or Disposal Sites.

- **Hazardous Substances:** Control of Major Accident Hazards Sites (COMAH); Explosive Sites; Notification of Installations Handling Hazardous Substances (NIHHS); Planning Hazardous Substance Consents; and, Planning Hazardous Substance Enforcements.

Liaison With Regulatory Authorities

4.38. Recent Consultation with the Environment Agency on 18th June 2010 [7] was undertaken in order to update the regulator in regard to the proposed development and to understand the regulatory position in relation to Controlled Waters at the site and in the surrounding area.

4.39. The consultation included a discussion on the relative sensitivity of the River Alver to the east of the site in terms of river quality etc and it was indicated that this area may be subject to more stringent environmental controls in future.

Current Tenant Activity

4.40. Table 4.8 presents details of current tenant activity at the Daedalus site, which are referenced on the existing site layout for the site (Figures 2-4). Activities where potential contamination is considered to be a risk are included within Table 5.1 - 5.4 of the Preliminary Conceptual Site Model in Chapter 5.0, although currently tenanted activity does not infer a significant risk.

TABLE 4.8: CURRENT TENANTED USE (JANUARY 2011)

Building / Site	Occupied By	Comments
Building 14	SEEDA	
Hardstand (North of Bldg 14)	Eclips Corporation	Lorry parking.
Bldg 15	Powerboat P1 Management Ltd	Marine use, boat and lorry parking.
Site A (Helipad)	SEEDA	Very occasional use by helicopters i.e. Open days.
Site Adj. to Bldg 27	Darren Strand t/a Owton Freight Limited	Lorry parking.
Bldgs 31 & 40 + Ext Store Area	The Hovercroft Museum Trust	
Site adj to Bldgs 31 & 40	Professor Wensley Hayden-Ballie	
Building 35A	AFI Uplift Ltd	Storage and maintenance of highlift platforms/cherry pickers
Building 35B	Ross-Smith Marine	Small marine craft restoration and maintenance
Part Building 37A	SEEDA	
Building 39(A)	Gosport Borough Council	Storage of wheelie bins
Building 39(B)	The Provincial Society	Storage of vintage buses
Building 39(C)	Southampton City Council	Storage of buses
Building 39 (D)	SEEDA	
Bldg 51, Pt Bldg 37B & Pt Site P	Hampshire Pallets Ltd	Manufacture and storage of new timber pallets
Site adj. Bldg 51	Cougar Marine Sales Ltd	Boat mould storage
Building 55	Nightingale Contractors Ltd	
Building 56	SEB Furnishings	Furniture manufacture
Building 61	SEEDA	
Part Building 67	Shearwood Steel Fabrications	Large structural steel fabrication
Part Building 67	Tracey O'Grady	Blacksmith and arc welding
Part only of Building 67	Beauty Glass by WEN X1A Ltd	Importing & exporting small goods
Nrth Wkshop Prt Buiding 67	Tony O'Grady	Steelworking fabrication
Building 67 (Part)	Colin Mcaskill	Storage and refurbishment of vehicles
Workshop adj to Building 67	Kevin Duffy	General storage and workshop
Building 68 (Swann Building)	SMR Automotive Mirrors UK Ltd	Warehousing for motor trade
Hardstanding adj. Bldg 68	Whiteley Skips	Storage of empty skips
Building 71 (A)	Airport Precision Engineering	Machining workshop
Building 71(B)	Skirts & Shirts Ltd	
Building 71 (C)	SEEDA	
Part Building 73 (Dunning Hangar)	Marine Concepts Ltd	Moulding and fabrication of medium/large marine craft
Part Building 73	BN Group Ltd	Manufacture of aircraft parts
Building 96 (A)	Dave & Nicole Caswell t/a Blast Off UK Ltd	Spray painting
Building 96B & Adj. Hardstanding	Cougar Marine Sales Ltd	Small marine equipment storage and vehicles.
Pt Bldg 100 & Forecourt	J & H Repairs	Car repairs

Building / Site	Occupied By	Comments
U.A & Forecourt Adj Bldg 100	SEEDA	
Pt Bldg 100 (3 bays) & H'stand	KTL Landscaping & Son	
Unit C-storage adj. Bldg 100	SEEDA	
Pt Bldg 100 & Forecourt	Arrow Tools (UK) Ltd	
Building 153 (Part)	Alison & Thomas Stocker	
Building 153 (Part)	The Flower Co.	Storage of wedding accessories
Building 153 (Part)	SEEDA	
Site Adj. to Building 153	SEEDA	
Hardstand to Rear Bldg 154	Paul Ingrey t/a 'Kwikfr8'	Lorry storage
Part Building 154	Bees Marquees Ltd	Marquee storage and maintenance
Building 159 & Site	Premier Pallets Supplies Ltd	Repair and storage of timber pallets
Building 286 (Hangar A)	Clarks Caravan & Boat Haulage Ltd	Storage of boats and vehicles
Building 287 (Hangar C)	Solent Ribs Ltd	
Land Adj.Bldg 287	SEEDA	
Building 289 (Hangar D)	Vision Travel Minibuses Ltd	Storage of buses and coaches
Hardst.Adj.Bldg 289 (Hangar D)	Vision Travel Minibuses Ltd	Storage of buses and driver training
Building 290 (Hangar E)	Vision Travel International Ltd	Storage of buses and coaches
Building 291 (Hangar F)	Ian Blamire	Aviation hangar
Building 292 (Hangar B)	Lee Flying Association Ltd	Aviation hangar used by Flying Club
Site Adj.to Hangar B	SEEDA	
Building 296 (Hangar G)	Ashwin G Hill Esq	
Buildings 297 & 298	SEEDA	
Buildings 300 & 301 (Hangar N)	Kevin Butcher	General storage and use of microlight plus small workshop
Building 303 (Hangar M)	Solent Microlight Group	Storage and maintenance of microlight aircraft
Building 304 (Hanger L)	Atlas Helicopters Ltd	Commercial helicopter operation
Building 305 (Hangar K)	B-N Group Ltd	
Eastern Dispersal - North H'stand Area	SEEDA	
Building 306 (Hangar J)	The Portsmouth Naval Gliding Club	
Building 307 (Hangar H)	Brian Nutley t/a Nason Energy	Storage of a portable hangar building
Land adj Bldg 307 (Fuel Tank Bund)	SEEDA	
Land adj Bldg 307	Russell Luke	
Eastern dispersal Area - South Hardst	Flying at Lee on Solent	
B'man 4 & Adj H'stand, Hang O & Q & Bldgs 351/352	The Portsmouth Naval Gliding Club	
Hangar Bellman 1	BN Defence Ltd	
Part Building 389	-	Vehicle and ancillary storage
Pt Building 389	1st Choice Recovery	Vehicle storage and ancillary use

Building / Site	Occupied By	Comments
Site PPI adjac. Building 389	Premier Pallets Supplies Ltd	Vehicle parking
Hangars P & R	Paul: Malcolm	Two aviation hangars
Westcliffe House	SEEDA	
Whytecroft House	First Secretary of State	
Site D1	Boarhunt Group Ltd	Lorry storage
Part Site J	Portsmouth Demolition & Salvage Ltd	Demolition contractors compound
Site J3 - Eastern Section	Commercial Exports Ltd	Open storage
Site J2	Commercial Exports Ltd	Open storage
Site M	Eden (GM Ltd)	New car storage
Part Site P2	O'Neil Construction (Fareham) Ltd	Vehicle storage and ancillary
Sites Q1, Q2 & Q3 & H to R Bldg 96	DK Transport	Lorry storage
Site S	M & J Transport (Southampton) Ltd	Lorry storage
Hangar T (Building 339)	Hampshire Police Authority	
Telecoms Mast	Hutchison 3G UK Ltd	
Telecoms Mast	Telefónica O2 UK Ltd	
Telecoms Mast	Vodafone Ltd	
Manor Way	Jade Cronin	
Plot 1 Stubbington Lane	Wilson:Marilyn Anne	
North-east Field	Dunley Estates	
Slipway	SEEDA	
Land North of Hanger J	TUV Product Service Ltd	
Tower (ELECTRICITY)	Hampshire Police Air Support Unit	
Hanger U Daedalus Broom Way	Hampshire Police Air Support Unit	
Garage 9	Mathison Engineering	

5.0 PRELIMINARY CONCEPTUAL SITE MODEL

5.1. Current practice for land contamination evaluation involves appraisal of contaminant source-pathway-receptor pollutant linkages. These are summarised below, based upon information presented in the previous sections.

Potential Sources of Contamination

5.2. Tables 5.1–5.5 summarise the potential contamination sources that have been identified on or near the site. This utilises information contained within both the [14] WSP and [16] Entec Phase One Desk Study Reports. In addition, assessment of potentially contaminating activities by tenanted use was made by both WSP in 1995 and Entec in 2005. Those activities or areas that were considered to require further investigation have been included within the following summary of potential sources and shown on Figures 12-14. Radioactive contamination and Unexploded Ordnance issues are summarised in Chapters 9.0 and 10.0 respectively.

5.3. The potential contaminant types associated with these is then given based upon a review of CLR11, industry profiles and anecdotal information.

5.4. The potential sources of contamination are considered on the basis of the existing zones:

- Waterfront – Commercial;
- Waterfront – Conservation;
- Hangars West; and,
- Hangars East.

5.5. Furthermore, the proposed development areas are also indicated as this reflects proposed end users of differing sensitivities.

TABLE 5.1: SOURCES OF CONTAMINATION IN WATERFRONT - COMMERCIAL ZONE

Feature on or near site	Potential Contaminant	Development Area
Areas of Potential Contamination		
Bulk Fuel Installation (BFI) (building 10)	H	1
E & T Block		
Historic Central Boiler House (building 81), fuel tanks (buildings 82-83), and oil stores (buildings 84-85)	H	2
Two large circular oil tanks of the more recent Central Boiler House (building 74) now used for Emergency Water Storage (building 79)	H	2
Hangars for aircraft maintenance and repair. The use of a solvent called 'BASOL' was used to clean the floors of hangars and workshops	H, VOCs	2
Naval Stores (building 71)	M, H, ACM	
Dunning Hangar (building 73) WSP reported that this location contained a small drum store of synthetic lubricating oil for aircraft engines with hardstanding in poor condition and drum corroded and holed. Some drums held contaminated oil for disposal	H	2
Building 84 (oil store) has a blacktop apron displaying spillage. Area contained hydraulic and lubricating oils, white spirit, petrol, diesel, brush cleaner and jointing compound.	H	2
Building 40 (HTU Hangar) located on the west side of the slipway exhibited a bunded fuel oil tank with moderate spillage evident	H	8b
Crash Tender Bay used as a petrol tanker shed (building 15)	H	1
Old Workshops - Blacksmiths, joiners, polishers, shipwrights and engineering works adjacent to Scrap Metal Compound and Naval Stores Buildings (buildings 41-51)	H, M, ACM	7a
Bund for 2 nr 60,000l and 20,000l double tank arrangement near building 60	H	7b
Slipway - a winch and pulley system was utilised to take the seaplanes to the sea at the end of Richmond Road	H	8b
Former pistol firing range located near to building 161	M	3
Scrap Metal Compound (near to building 64)	M, H	7a
An area of potential or identified asbestos was highlighted in the north eastern parts of the commercial zone (near to Area D1)	ACM	3
Kingston Villa (building 14) exhibited an auto-start generator with 4,660 litre diesel tank and spillage was evident. In addition, there were 14 No 40 gallon drums containing ethylene glycol for de-icing and diesel. Two of the drums were leaking onto the gravel surface	H	1
Electricity substation (building 27) in vicinity of the slipway	PCB	8b
New Central Boiler House (building 74) - chemical storage containing 'caustic' and hydrochloric acid'	M, H	2

Feature on or near site	Potential Contaminant	Development Area
Paint Store (building 62) – WSP noted that the gully cover appeared to have paint residue on the surface and inside, spillages of polyurethane varnish, toluene and xylene was evident	H	7b
Building 6 was reported by WSP to contain eight fuel tanks for outboard motors although no spillage was apparent.	-	1
Areas Potentially Contaminative Uses by Previous Tenants		
Area D1 (located in north east corner of the commercial area) BP Haulage – discarded oil filters / fuel drums	H	3
M & J Transport (located to the north of the E & T Block and BFI)	H	1
Area J (located adjacent east of the Overlord Hangar) Buckland & Langley Demolition – oily yard area	H	3
Areas of Identified Contamination		
WSP Investigation: Building 41 Paint Stores Building 60 (location to be confirmed) Timber Stores Building 81 Historic Central Boiler House	 Zinc in soil Oil in soil Oil in soil	 8b 7b 2
Entec 2003 Investigation: BH202 at 2.0m bgl Widespread elevated metals, notably zinc in BH218, BH219 and BH220 (in the vicinity of BFI)	 VOCs (337μg/kg) Trichloroethene (6μg/kg)	 2
Notes: **M** – Metals. **H** – Hydrocarbons. **VOC** – Volatile Organic Compounds. **PRO** - Petrol Range Organics. **DRO** - Diesel Range Organics. **ACM** – Asbestos Contaminant Materials. **PCB** – Polychlorinated Biphenyl, **R** – Radioactivity.		

TABLE 5.2: SOURCES OF CONTAMINATION IN WATERFRONT - CONSERVATION ZONE

Feature on or near site	Potential Contaminant	Proposed Development Area
Areas of Potential Contamination		
Motor Transport (MT Section) oil store and petrol dispensing station during early stages comprised underground fuel tanks at building 99	H	7b
Former building 59 near to the double tank arrangement and air raid shelter at building 60 exhibited general spillage in cracked concrete forecourt	H	7b
Hangars and workshops at slipway	M, H, ACM	8b
Shipwrights shop (building 103)	M, H, ACM	6
Former Coal Storage Compound (north of main officers wardroom at building 118)	H	5a

Feature on or near site	Potential Contaminant	Proposed Development Area
Guardhouse boiler house (building 131)	H, ACM	5a
Triumph Galley and boiler house (building 91)	H, ACM	5a
Former laundry (building 141) exhibits a new bunded tank (capacity 14,100 litres) is currently used for drum and bottle storage and exhibits hydrocarbon spillage and staining inside	H	5a
Fire Booster Pump - house boiler house had an underground fuel tank (building 133)	H, ACM	5a
Printing shop (building 164)	H	4
Eagle Block (building 116) – WSP report that this building was cleared of blue (crocilodite) asbestos in 1978	ACM	5a
Asbestos associated with fabric of buildings and also in soils (notably demolished buildings)	ACM	-
Electricity substation at building 132 in vicinity of fire pump house and fire /police station	PCB	5a
Electricity substation at the main transformer (building 141)	PCB	5a
Areas of Identified Contamination		
Entec 2003 Investigation: BH201B (MT Section) at 2.0m bgl BH201B at 2.0m bgl BH201 adjacent to the former Military Transport Compound and BH201B (installed in the perched groundwater)	PRO (206mg/kg) VOC (59,231µg/kg) H – BTEX, VOC (naphthalene) PRO (15,053µg/l comprising Benzene at 837µg/l and toluene at 3,306µg/l) DRO (279µg/l) VOC analysis comprised Benzene (1,159 µg/l), Toluene 5,053 µg/l) Ethylbenzene 1,118 (µg/l) Xylene (2,497 µg/l) Naphthalene (86 µg/l) Perched groundwater comprised 9,827µg/l of BTEX and a VOC concentration of 10,200µg/l	5a

Notes: **M** – Metals. **H** – Hydrocarbons. **VOC** – Volatile Organic Compounds. **PRO** - Petrol Range Organics. **DRO** - Diesel Range Organics. **ACM** – Asbestos Contaminant Materials. **PCB** – Polychlorinated Biphenyl, **R** – Radioactivity.

TABLE 5.3: SOURCES OF CONTAMINATION IN HANGARS WEST

Feature on or near site	Potential Contaminant	Proposed Development Area
Areas of Potential Contamination		
Hangars for aircraft maintenance and repair. The use of BASOL solvent was used to clean the floors of hangars and workshops	H, VOCs	HANGARS WEST
WSP referred to a gas bottle store in building 386, although not located on any map	H	
Hangar P (building 344) displayed an oil tank in moderately good condition with little spillage at the filling point	H	
No1 and 4 Bellman Hangar (Building 356 and 358) occupied by HM Coast Guard (MCA). Oily contamination around fuel bowsers. Building 358 displayed two 40 gallon cans and drums of super diesel , aviation lubricant and spillage was evident on the tarmac surface	H	
Cylindrical SW tank near to building 361	H	
Areas of potential burning from aerial photography of the Bellman Hangar No 4 (building No 356)	M, H, ACM, R	
Asbestos associated with fabric of buildings and also in soils (notably demolished buildings)	ACM	
Former 0.303 rifle firing range near to building 361	M	
Hangar R (building 343) displayed possible broken asbestos ACM in demolition rubble	ACM	
WSP referred to building 350 (Nissen hut at the Fleetlands Store) had asbestos cement exterior in poor condition, broken and delaminating	ACM	
WSP referred to building 381 and 389 displayed broken ACM sheeting on the ground	ACM	
Electricity substation at building 340	PCB	
A pistol range was indicated at building 349	M	
Electricity substation at building 361	PCB	
Areas of Identified Contamination		
WSP Investigation: Building 343 R Hangar Building 353 Northwest Boiler House (disused) evidence of spillage around intake cover and pipes and staining evident Building 356 No 4 Bellman Hangar Building 390 Fire ground and scrap aircraft area	Oil in soils. Oil, ethylbenzene and aromatics in groundwaters Oils in groundwater Mercury, boron, ethylbenzene in groundwater Copper and zinc in soil and oil in groundwater	HANGARS WEST
Entec 2003 Investigation: BH212 near building 343 (Hangar R)	DRO (1,252mg/kg)	

Feature on or near site	Potential Contaminant	Proposed Development Area
BH211 near building 343 (Hangar R) BH211	DRO (789 mg/kg), VOCs, Zinc (165-348 µg/l) in soils and DRO (370µg/l) in groundwater	
Notes: **M** – Metals. **H** – Hydrocarbons. **VOC** – Volatile Organic Compounds. **PRO** - Petrol Range Organics. **DRO** - Diesel Range Organics. **ACM** – Asbestos Contaminant Materials. **PCB** – Polychlorinated Biphenyl, **R** – Radioactivity.		

TABLE 5.4: SOURCES OF CONTAMINATION IN HANGARS EAST

Feature on or near site	Potential Contaminant	Proposed Development Area
Areas of Potential Contamination		
Fuel and oil storage tanks associated with boiler houses etc (fuel tanks at individual hangars. Approximately 6 No 10,000l tanks at Hangar B, N, M, L, K and J and possible new tanks at hangars B, C, D, E, F and G	H	HANGARS EAST
Hangar B (building 292) displayed possible contamination and the presence of several oil cans in addition to a 40 gallon drum with hand dispensing attachment	H	
Building 293 - MARSTU Workshop	M,H, ACM	
Hangar N (building 301) was reported by WSP to have showed a significant amount of spillage on the soft landscaping areas and leakage was visible from a pipe along the front of the building	H	
Two burning areas located near building 286 (Hangar A) and 322 in Hangars East (identified as the Aircraft Dumping Ground) and fire training area). WSP reported a very strong odour of aviation fuel downwind of the fire training area. Some bituminous materials were also dumped in this location, which exhibited recent disposal of drum and cyclinders following recent works at the time of WSP's walkover survey	M, H, VOC, R	
Adjacent to building 295 exhibited a above ground storage fuel storage tank for the boiler house and showed extensive staining of the blacktop apron and significant dissolution of the bitumen binder adjacent to the bund wall	H	
Building 298 contained an electricity substation	PCB	
Building 310 contained paints, thinners, oils, greases and solvents	H	
Building 311 exhibited a brick compound containing drums showing spillage of oily material	H	
Areas Potentially Contaminative Uses by Previous Tenants		
Hangar F (building 291) currently occupied by Blamire & Barton. Some fibrous lagging on ground outside - possible asbestos	ACM	HANGARS EAST

Feature on or near site	Potential Contaminant	Proposed Development Area
Hangar H (building 307) - currently occupied by Atlas Helicopters. Anecdotal evidence of oily contamination in runoff from adjacent grass	H	
Hangar J (building 306) currently occupied by AM Ware. Possibly fibrous lagging visible on grass outside hangar indicative of potential asbestos	ACM	
Hangar K (building 305) - currently occupied by Marine Concepts – discarded empty resin drums	H, M	
Areas of Identified Contamination		
WSP Investigation: Building 293 MARSTU Workshop nr Hangar B Building 301 Hangar N	H - Ethylbenzene and hydrocarbons in groundwater H - Oil in soil and groundwater	HANGARS EAST
Entec 2003 Investigation: BH205 (3.5m bgl) (Hangar B) BH216 (Fire Training Area) BH216 (Fire Training Area) BH209 DRO BH216 BH216 BH216	M - (arsenic 22.6 mg/kg) M – (cadmium copper and zinc) DRO (911mg/kg) VOCs PAH (107mg/kg) M - zinc (168-333 μg/l) in groundwater M - chromium and copper in groundwater	

Notes: **M** – Metals. **H** – Hydrocarbons. **VOC** – Volatile Organic Compounds. **PRO** - Petrol Range Organics. **DRO** - Diesel Range Organics. **ACM** – Asbestos Contaminant Materials. **PCB** – Polychlorinated Biphenyl, **R** – Radioactivity.

TABLE 5.5: SOURCES OF CONTAMINATION OFF SITE

Feature on or near site	Potential Contaminant	Proposed Development Area
Air Traffic Control Tower (building 16) occupied by Hampshire Police. Central Heating Oil tank and Aircraft Fuel Tank facilities. Records show a 10,000l and 7,000l tank arrangement located in the grounds of the Control Tower. Consultation with the Environment Agency indicated a localised fuel spillage in the past at this location.	H, ACM	N/A
Building 273 - grounds maintenance area WSP Investigation: Building 273 (offsite) Grounds Maintenance Stores Entec 2003 Investigation BH203 at 2.9-3.1m bgl (former grounds maintenance area and building 273)	M, H, ACM Oil in soils and groundwater	
Building 227 - former incinerator	M, H, ACM	
Building 269 – electricity substation		
Boiler house and fuel storage tanks located in the centre of the airfield	H, ACM	
Victorian Landfill area (located adjacent to the northern parts of Hangars East)	M, H	
Three landfills are recorded as being within 500m of the site to the east between the site and the River Alver to the east	M, H	
Large sewage works to the north at Peel Common	M, H	
Two petrol filling stations to the east	H, M, VOC, PRO, DRO, ACM	

Notes: **M** – Metals. **H** – Hydrocarbons. **VOC** – Volatile Organic Compounds. **PRO** - Petrol Range Organics. **DRO** - Diesel Range Organics. **ACM** – Asbestos Contaminant Materials. **PCB** – Polychlorinated Biphenyl, **R** – Radioactivity.

Pathways

5.6. In the context of the proposed site uses, the potential pathways presented in Table 5.6 for residential, mixed and proposed commercial use are considered applicable.

TABLE 5.6: EXPOSURE PATHWAYS

Pathway		Phase
Proposed Commercial Areas		
Ingestion of soil / dust	Outdoor	C, O
	Indoor	C, O
Inhalation of soil / dust	Outdoor	C, O
	Indoor	C, O
Inhalation of vapour from soil / dust / water	Outdoor	C, O
	Indoor	C, O
Dermal contact with soil / dust / water	Outdoor	C, O
	Indoor	C, O
Migration of soil gasses to confined spaces / structures	Indoor	C, O
Uptake by flora / fauna	Outdoor	O
Additional Pathways for Proposed Residential Areas		
Consumption of vegetables / plants	Outdoor	O
Additional Pathways for Proposed Mixed-Use Areas		
Uptake by flora / fauna	Outdoor	O
Pathways Relevant to Controlled Waters		
Leaching of contamination from Made Ground	On-site	C, O
	Off-site	C, O, E
Migration of water borne contaminants	On-site	C, O
	Off-site	C, O, E
Pathways Relevant to Buildings and Infrastructure		
Leaching of contamination from Made Ground	On-site	C, O
	Off-site	C, O, E
Movement of contaminants to engineered structures (e.g. water pipes)	On-site	C, O
Notes: **C** Construction. **O** Occupation. **E** Environmental Affect (e.g. Groundwater Quality). **NA** Non Applicable.		

Receptors

5.7. In the context of the above the following potential receptors have been identified:

TABLE 5.7: POTENTIAL RECEPTORS

Receptor	Description	Sensitivity	Area(s)
End Users (Residential)	Residential end users including private gardens proposed at Drake Gardens (including part of Seaplane Square) and a second zone at Wykeham Hall (including part of Barracks Square) sub-areas	High	1, 4, 5b, 8a
End Users (Mixed Use)	End users within mixed use areas including residential flats, areas of public open space, sheltered accommodation, communal soft landscaping and leisure facilities proposed in parts of Barracks Square, Unicorn Triangle and leisure facilities at Westcliffe Seafront	Medium	5a, 6, 7b
End Users (Commercial)	Commercial end users with limited soft landscaping proposed	Low	2, 3, 7a, 8b
Groundworks Workers	Construction workers associated with the development are likely to be exposed in the short term only, however, longer and intermittent visits are likely to be made by maintenance workers	Medium	All
Controlled Waters (Hydrogeological)	Secondary 'A' Aquifer associated with the underlying superficial and solid geology	Medium	N/A
Controlled Waters (Hydrological)	The Solent and associated ecological designations	Medium	N/A
Ecological Conservation Areas	Offsite internationally and nationally designated ecological features such as The Solent assessed in terms of Controlled Waters (hydrological) sensitivity	High	N/A
Adjacent end-users	Residential areas to the south west along Marine Way, north west and south east and schools to the north are situated in the surrounding area	Medium	N/A
Buildings & Infrastructure	Buried concrete and other materials, such as water supply pipework, to be installed as part of the development	Medium	All

6.0 SITE INVESTIGATION

Summary of Investigation

Entec and Halcrow Investigations, 2005

6.1. The Entec / Halcrow site investigations were undertaken concurrently in November and December 2005 by the same ground investigation contractor (Subsurface Ltd) and laboratory testing by TES Bretby albeit for two differing scopes of works. It is understood Entec were acting on the behalf of Defence Estates, who were the owners of the site at the time, and Halcrow, on behalf of SEEDA as part of the due diligence acquisition of the site.

6.2. The exploratory locations from this combined site investigation are shown on Figures 15-17.

[19] Halcrow Ground Investigation Interpretative Report, 31 March 2006

6.3. The scheduled site work comprised:

- 21 No boreholes (HBH402-403, HBH405-410, HBH412-413, HBH416-426);
- 9 No window samples (HWS401, HWS404 - HWS416);
- 12 No trial pits (HTP401 - HTP416); and,
- 3 No trial trenches (HTT401-HTT403).

6.4. Sampling and chemical testing was undertaken to assess ground and groundwater conditions.

6.5. A number of installations targeted particular strata: HBH416 and HBH418 to determine the nature of near surface groundwater within the airfield; HBH413 to assess the nature of sand lenses within the Bracklesham Beds; HBH423 to assess the near surface groundwater regime within sand lenses where the Plateau Gravels were absent; and HBH402 to determine near surface groundwater quality where visual diesel contamination was evident.

6.6. Groundwater monitoring comprised a single round of monitoring undertaken in December 2005.

6.7. A trial trenching exercise was targeted at the former Bulk Fuel Installation, which had previously contained 6 No. underground storage tanks. Whilst these works removed the fuel storage tanks and associated infrastructure it has been recorded that impacted soils were replaced at this location after it was found they were unacceptable for disposal to landfill. Evidence of

contamination was made by visual observations and PID readings with maximum PID readings of VOCs recorded at 1640ppm (HTT1). No contamination testing data for this area has been provided.

[20] Entec Phase Two Site Investigation (DE Project No 05002), 3 May 2007

6.8. The scheduled site work comprised:

- 10 No boreholes (EBH301-EBH310);
- 12 no window samples (EWS301 - EWS312); and,
- 26 no trial pits (ETP301 - ETP326).

6.9. Visual and olfactory evidence of contamination was observed during these works and comprised staining and hydrocarbon odours in EBH302 (southwest corner of the Swann Hangar), EBH306 (to the north of Dunning Hangar), EBH307, EBH309 (MT Section and slipway down gradient), EWS310 (in the vicinity of the former grounds maintenance yard) and strong odours in ETP307 (within the former aircraft breaking area of Hangars East) and EWS312 (near circular oil tank adjacent to the former firing range in Hangars West).

6.10. Entec monitored ground gas in well standpipes and utilised a PID for VOC monitoring. Volatile Organic Compounds (VOCs) were detected at maximum concentrations of 640ppm in EBH307 and 415ppm in EBH309 being indicative of hydrocarbon contamination at the former MT Section and the slipway to the south west.

6.11. Whilst no discernible thickness of free product (NAPL or DNAPL) was detected during groundwater monitoring, Entec did note that an oily sheen was observed on the interface probe when recording groundwater levels from BH211 in the vicinity of Hangar R.

Sampling and Analysis

6.12. A combined total (Entec / Halcrow) of 33 samples of Made Ground and 48 samples of natural soils were analysed at the laboratory to assess ground conditions.

6.13. A total of 92 soil samples were analysed to identify elevated contaminants in soils for the human heath risk assessment. This data was combined with 46 soils samples from the Entec 2003 data to increase the coverage of the development sites and utilised within the assessments presented in Chapter 7.0.

6.14. Chemical testing data is available for HBH426 but with no exploratory hole location apparent on report figures.

6.15. Furthermore, sample data refers to borehole HBH10, which has been incorrectly referenced and does not exist on the plans. It is assumed that it relates to HBH410.

6.16. A total of 26 sample leachates were prepared and analysed to assess the potential mobility of identified contaminants.

6.17. A total of 30 groundwater samples from both the Entec and Halcrow 2005 investigations were also undertaken. These were combined with 23 water samples from the Entec 2003 investigation for the respective assessments for Controlled Waters presented in Chapter 7.0.

6.18. Chemical testing data is absent for the following exploratory hole locations:

- EBH307 - EBH310;
- EWS306-307;
- Trial trenches from BFI (HTT401-403);
- HBH402;
- HTP428; and,
- HWS405.

6.19. In addition, it is noted that some of the Entec / Halcrow exploratory hole locations are positioned outside of the proposed development areas and therefore not included within the assessments made herein.

Investigation Coverage and Uncertainty

6.20. Upon review of the distribution of all previous exploratory hole locations it is noted that exploratory hole locations are widely positioned and are currently considered to correspond with a 'preliminary' level of investigation given the size of the site and will require further investigatory work in due course as development planning proceeds. Several areas of potential contamination have not been adequately targeted by the Entec / Halcrow site investigation and this is particularly relevant to areas occupied by the former Boiler House, scrap metal compound, various fuel tank locations, MT Oil Store on the slipway and the location of former workshops. Furthermore, the central areas of the Waterfront zone between the large hangars was also inadequately investigated in terms of characterising the tetrachloroethene plume in groundwater that was previously identified by the Entec 2003 investigation.

6.21. It is also noted that the positions of some exploratory holes do not correspond with those presented on the drawings from Entec / Halcrow and their joint subcontractor and furthermore, typographical errors appear to have resulted in the duplication of some positions. In some cases there are significant disparities in distance between referenced positions (as great as 75-100m) possibly attributable to the inaccuracy of the drawings or survey coordinate errors recorded on the logs. A particular case in point relates to HBH408, which indicates the position of the maximum tetrachloroethene solvent contamination in the underlying groundwater in the vicinity of both the Central Boiler House and the Triumph Galley in the Waterfront zone approximately 75m to the south. As such, there is a high degree of uncertainty associated with the location of the tetrachloroethene contamination encountered and thus doubt over other assertions of the Entec / Halcrow reports.

6.22. Additionally, two locations for HTP405 have been identified on the Halcrow plan and so there is uncertainty as to its true location of the point and the data gathered from it.

6.23. The site investigation disparities and areas of uncertainty in the 2005 site investigations for Entec / Halcrow are shown in Figures 15-17.

Ground Gas Monitoring

6.24. Monitoring standpipes were monitored for soil gas and VOCs using a PID and infra-red gas analyser on one occasion.

Visual and Olfactory Evidence of Contamination

6.25. Visual and olfactory evidence of contamination was generally observed across three distinct areas of the site. These are summarised in Table 6.1.

TABLE 6.1 EXCERPT FROM ENTEC (2003) TABLE 4.2 SUMMARY OF VISUAL AND OLFACTORY EVIDENCE OF CONTAMINATION

Exploratory	Depth (m bgl)	Description Hole	Areas
EBH302	6.0-6.2	Slight hydrocarbon odour	1
EBH305	0.4-0.45	Possible fragments of cement bonded asbestos containing materials	2
EBH306	1.5-3.5	Possible slight hydrocarbon odour	2
EBH307	3.5-5.5	Slight staining and slight hydrocarbon odour	5a
EBH309	2.8-3.0	Medium to strong hydrocarbon odour	8b

Exploratory	Depth (m bgl)	Description Hole	Areas
EBH309	3.1-4.5	Hydrocarbon odour, possibly diesel, diminishing with depth	8b
EBH310	0.2	Possible fragments of cement bonded asbestos containing materials	3
EWS310	1.5-1.8	Slight hydrocarbon odour	Hangars East
EWS312	2.3-2.5	Slight hydrocarbon odour	Hangars East
EWS312	2.5-2.6	Strong hydrocarbon odour	Hangars East
ETP307	1.40-3.00	Strong hydrocarbon odour	Hangars West
ETP307	3.00-3.80	Hydrocarbon odour	Hangars West
ETP323	1.30	Rotten egg odour, decomposing organic matter	Hangars West

Summary of Overall Ground Conditions

6.26. The following is a combined summary from the WSP, Entec and Halcrow investigations across the entire Daedalus site:

- **Made Ground** - comprising sandy silt clay fill and reworked natural ground with brick and concrete at depths between 0.10m - 2.70mbgl. Maximum depths of MG were encountered by Entec at the MT Section (in BH201, 3201A and 201B).
- **Brickearth** - Soft to firm mottled yellow to brown sandy clay with flint gravel ('Brickearth') between 0.30m and 2.60m bgl (BH214 in Hangars West).
- **Plateau and Terrace Gravels** - Medium dense and dense sandy fine to coarse flint gravel with sand horizons between 2.50m and 7.00m bgl.
- **Bracklesham Group** - Medium dense yellowish grey mottled silty fine sands alternating with firm to stiff bluish grey laminated clay up to 10.5m bgl although Entec encountered this stratum at depths between 3.70m to 6.50m bgl.

Waterfront - *Commercial Zone*

6.27. The Made Ground was generally be encountered at varying thickness across this zone between 0.35 - 1.50m bgl with an average 0.75m bgl. A notably thicker area of Made Ground of 2.70m bgl was recorded in BH202 near the Central Boiler House. In the area of the slipway, the Made Ground was generally recorded to be between 0.30 - 0.50m in thickness, whilst to the north around the hangars and former BFI, the Made Ground was observed to be thicker, between 0.50 - 0.80m and 0.40 - 1.50m respectively.

6.28. Brickearth deposits generally comprised of a sandy, silty clay with gravel and ranged between 1.00m and 1.70m in thickness across the site with the greatest thicknesses occurring in the

vicinity of the hangars and areas adjacent to the airfield in EWS305 and HTP405. Average thicknesses of Brickearth were 1.10m in this zone.

6.29. The Plateau and Terrace Gravel ranged between 2.40m and 7.00m (HBH408) in thickness overlying the Bracklesham Beds. The thickness was greatest in the north of this zone (7.00m in EBH304 to the north of Swann Hangar, 6.1m in EBH305 near the Dunning Hangar, 6.10m in HBH426 near the former BFI). On average, the gravels were around 4.70m in thickness with the thinnest deposits in an area to the east of the former BFI and the area to the north of the Dunning and Overlord Hangars.

6.30. The Bracklesham Beds were encountered below the gravels. Bracklesham Beds were encountered at 3.5m bgl in EBH306 (Dunning Hangar).

Waterfront - Conservation Zone

6.31. Made Ground was recorded between 0.30 - 2.50m bgl. In the south of this zone, it was approximately 0.60m thick on average, whilst in central and eastern parts of this zone it has a marginally thicker average of 0.70m. BH201 (located in the MT Section) recorded Made Ground to a depth of 2.50m bgl.

6.32. Brickearth deposits were generally comprised of a sandy silty clay with gravel and ranged between 0.70m - 2.00m thick with the maximum thickness occurring in HBH410 in the vicinity of the Triumph Galley.

6.33. The Plateau and Terrace Gravel ranged between 1.20m – c.5.00m in thickness overlying the Bracklesham Beds.

Hangars West

6.34. Made Ground was recorded between 0.10 - 1.30m bgl and are generally shallow in comparison with the Waterfront zones respectively with average thicknesses around 0.35m.

6.35. Brickearth deposits were generally comprised of a sandy silty clay with gravel and ranged between 0.50m - 2.60m thick with the maximum thickness occurring in BH214, BH215 in the vicinity of No 4 Bellman hangar (building 356) and HTP415 near Hangar P.

6.36. The Plateau and Terrace Gravels were encountered at shallow depth, although their depth was not proven. The logs show them to be very thin and interspersed with sands and clays of the Bracklesham Beds in the north of the site.

Hangars East

6.37. For this specific development zone, the majority of exploratory hole locations encountered a topsoil in the top 0.20m typically comprising brown loamy and clayey topsoil. The ground conditions beneath generally comprise several alternating bands of an orange-brown clayey sand and a sandy clay stratum overlying olive green/grey laminated silty sand and clay deposits at around 4-5m bgl.

6.38. In the south of this zone, the ground conditions show around 0.90 - 1.0m of clay (Brickearth) overlying a band of gravel (around 1.30m in thickness) and then a sandy clay, which becomes increasingly granular with depth. In some places, the clay is more granular and therefore classified as sandy strata.

Groundwater Observations

6.39. Groundwater monitoring was undertaken by Entec and Halcrow and their observations are presented in Table 6.2.

TABLE 6.2: EXCERPT OF HALCROW TABLE 2.2 GROUNDWATER LEVEL DATA

Location	Elevation (m AOD)	Depth to Water (m bgl)	Groundwater Level (m AOD)
Halcrow			
HBH402	4.23	1.00	3.23
HBH403	8.54	4.65	3.89
HBH 405	8.51	4.70	3.81
HBH406	8.42	4.40	4.02
HBH407	8.61	3.85	4.76
HBH408	8.18	3.00	5.18
HBH409	8.55	2.48	6.07
HBH410	8.27	2.82	5.45
HBH412	8.19	2.90	5.29
HBH413	8.01	2.58	5.43
HBH416	7.12	1.05	6.07
HBH417	7.36	1.88	5.48
HBH418	6.61	1.20	5.41
HBH419	8.47	3.85	4.62
HBH420	7.98	1.26	6.72
HBH421	8.38	1.17	7.21
HBH422	8.42	1.29	7.13

Location	Elevation (m AOD)	Depth to Water (m bgl)	Groundwater Level (m AOD)
HBH423	9.54	0.91	8.63
HBH424	8.79	1.97	6.82
HBH425	9.05	1.00	8.05
HBH426	8.06	3.06	5.00
Entec			
EBH301	8.23	5.05	3.18
EBH302	8.14	4.64	3.50
EBH303	8.52	4.76	3.76
EBH304	8.18	4.63	3.55
EBH305	8.21	3.41	4.80
EBH306	7.97	2.98	4.99
EBH307	8.37	2.59	5.78
EBH308	8.72	4.54	4.18
EBH309	8.23	2.48	5.75
EBH310	8.86	3.24	5.62

6.40. The following summary of groundwater levels across the site includes groundwater level observations from the Entec 2003 site investigation as well as the recent studies by Entec and Halcrow in 2005.

Waterfront - Commercial Zone

6.41. Based upon previous ground investigations, groundwater depths within the Plateau and Terrace Gravels have been reported at an average level of 4.6m AOD.

Waterfront - Conservation Zone

6.42. Based upon previous ground investigations, groundwater depths within the Plateau and Terrace Gravels have been reported at an average level of 4.8m AOD.

Hangars West

6.43. Based upon previous ground investigations, groundwater depths within the Plateau and Terrace Gravels have been reported at an average level of 7.7m AOD.

Hangars East

6.44. Based upon previous ground investigations, groundwater depths within the Plateau and Terrace Gravels have been reported at an average level of 6.3m AOD.

7.0 TIER 2 ENVIRONMENTAL RISK ASSESSMENT

Assessment Framework

7.1. Subsequent to the identification and quantification of contaminant species in soils, waters and gases, it is necessary to select a method for assessing their significance in view of the current and proposed future use of the land. The initial assessment comprises a comparison of identified contaminant levels to generic screening values that have been prepared to assess the risk to the receptors identified. The guidance used to provide this initial screening is listed in Table 7.1 in order of application. The assessment is primarily orientated toward identifying land affected by contamination under PPS23.

TABLE 7.1: TIER 2 (GENERIC) SCREENING VALUES

	Key Guidance
SOIL	Environment Agency, Soil Guideline Values based upon Contaminated Land Exposure Assessment Model (CLEA) and the CLEA 1.06 software. SGV Reports SC050021/SGV.
	Generic Assessment Criteria based upon Environment Agency CLEA Version 1.06 software. Environment Agency Science Reports SC050021 SR2/SR3, Toxicological Reports SC050021/Tox. EA Toxicological Reports 1-25.
	Generic Assessment Criteria published by CL:AIRE. The Soil Generic Assessment Criteria for Human Health Risk Assessment. December 2009.
	Generic Assessment Criteria based upon Environment Agency CLEA UK Beta Version 1.0. Environment Agency Toxicological Reports: 1-25.
WATER	Environmental Quality Standards for the protection of aquatic life.
	Surface Water Standards.
	EC and UK Drinking Water Standards.
	Background Water Quality.
GAS	CIRIA Report C665, 'Assessing Risks Posed by Hazardous Ground Gases to Buildings'
	British Standard BS:8485, 2007, 'Code of practice for the characterization and remediation from ground gas in affected developments'.
	CIRIA Report 150 'Methane Investigation Strategies'.
	BRE 414 'Protective Measures for Housing on Gas Contaminated Land', 2001.
	The Building Regulations 2000, Approved Document C, Section 2. Updated 2004.
	BR211, 'Radon: Guidance on Protective Measures for New Buildings', 2007.
	Health Protection Agency Publication HPA RPD-033, 2007,' Indicative Atlas of Radon in England and Wales.

7.2. With respect to human health risk assessment, the selection of screening values considers the proposed land use sensitivity based upon the Masterplan and Design Access Statement. These areas are listed in Table 2.5 in Section 2.0 and are summarised below to:

Residential With Plant Uptake

- Proposed residential areas in the west of the Waterfront – [Area 1 - Drake Gardens] and [Area 8a - Seaplane Square] have been assessed against a '**Residential With Plant Uptake'** scenario use to reflect the activities associated with private gardens. It is recognised that this assessment is conservative as some of the properties within the Drake Gardens will consist of residential buildings that are greater than two storeys in height with no private gardens;

- Proposed residential areas in the east of the Waterfront – [Area 4 - Wykeham Hall] and [Area 5b - part of Barracks Square] have been assessed against a **'Residential With Plant Uptake'** scenario use to reflect the activities associated with private gardens;

Residential Without Plant Uptake

- Areas of Mixed-Use – [Area 5a - Barracks Square] comprising sheltered accommodation, community use and leisure [Area 6 - Westcliffe Seafront] and Residential blocks of flats at [Area 7b - Unicorn Triangle] have been conservatively appraised against **'Residential Without Plant Uptake'** assuming a less intensive communal land use of this zone. It is recognised that some private gardens may be feature of this zone (sheltered accommodation areas) but for simplicity and based upon the site coverage, the assessment scenario is considered to be appropriate; and,

Commercial

- Proposed commercial areas within the entire Waterfront development zone have been assessed as a single development area and include [Area 2 - Airport Park], [Area 3 - Marine Business Park], [Area 7a - Unicorn Triangle], and [Area 8b - Seaplane Square].

7.3. These assessment areas for human health risk to proposed end users are shown in Figure 7.

7.4. In view of the limited site investigation coverage afforded by the combined Entec and Halcrow site investigation and in consideration of the need to appraise the various land use proposals indicated within the Masterplan, chemical testing data provided within the Entec Phase Two, Shallow Groundwater Investigation (dated 8th May 2003) has been incorporated and utilised within this assessment and provides data at key locations within all the proposed development zones.

7.5. The assessment for human health risk from soils conservatively assumes a 1% Soil Organic Matter (SOM) content.

7.6. This report also considers potential risks to Controlled Waters (groundwaters and surface waters) in relation to risks from any historical contamination. The most stringent test is that defined for Contaminated Land under Part 2A of the Environmental Protection Act, 1990. However, it should be recognised that a wider evaluation of risk is considered within the planning regime described in PPS23 and CLR 11.

7.7. Furthermore, the Environment Agency has a wider policy agenda for the protection of Controlled Waters that will impinge upon judgements in relation to land contamination issues. This includes those for the Water Framework Directive and Groundwater Directive and wider legislation for both groundwater, surface water and associated elements (such as fisheries)[5].

7.8. The results of water analysis for the Waterfront, Hangars West and Hangars East development zones have been compared to screening values selected to assess the potential risk to the identified Controlled Waters receptors in the Conceptual Site Model. The specific standards utilised for this purpose are considered in the assessment table footnotes and typically comprise: Environmental Quality Standards for the protection of aquatic life; Surface Water Standards; EC and UK Drinking Water Standards; or Background water quality (where no applicable standard exists).

[5] Refer to Environment Agency Publications for Groundwater Protection Policy and Practice. http://publications.environment-agency.gov.uk/pdf/GEHO0708BOGU-e-e.pdf?lang=_e

Generic Quantitative Soil Risk Assessment

Drake Gardens and Seaplane Square Residential [Areas 1 and 8a]

Soil Analyses

7.9. The statistics associated with soil analysis are summarised in Table 7.3. The Mean Value (95%ile) and Maximum Value Tests were undertaken on the sample population for those parameters exceeding the Tier 2 screening levels. If required the Maximum Value Test was undertaken to identify any potential localised areas of increased risk or 'hotspots'. Where the 95%ile exceeds the Tier 2 screen, these results are highlighted and discussed. The remainder are not considered indicative of significant contamination for the proposed end use.

TABLE 7.2: SUMMARY OF SOIL SAMPLES ANALYSED

Exploratory Holes	Sample (m bgl)
EBH301	1.2, 7.8
BH218	0.5, 4.0
HBH428	-
HTP416	0.6, 2.2
BH220	3.0
BH219	0.3, 5.8, 5.8 duplicate

7.17. Elevated contaminant concentrations in relation to the proposed end use are shown on Figure 18.

TABLE 7.3: SUMMARY OF SOIL ANALYSIS RESIDENTIAL WITH PLANT UPTAKE (1.0% SOM)

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
Metals					
Arsenic	mg/kg	0/ 10	13.2	NC	32[F]
Cadmium	mg/kg	0/ 10	0.5	NC	10[F]
Chromium	mg/kg	0/ 10	43	NC	627[E]
Copper	mg/kg	0/ 10	20	NC	2310[E]
Inorganic Mercury	mg/kg	0/ 10	0.5	NC	170[F]
Nickel	mg/kg	0/ 10	14.2	NC	127[F]
Lead	mg/kg	0/ 10	76	NC	450[C]
Selenium	mg/kg	0/ 10	0.5	NC	350[F]
Zinc	mg/kg	0/ 10	610	NC	1634[E]
Organics					
Benzene	mg/kg	0/ 10	0.01	NC	0.08[E]
Toluene	mg/kg	0/ 10	0.281	NC	119[E]
Ethylbenzene	mg/kg	0/ 10	0.01	NC	65[E]

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
o - Xylene	mg/kg	0/ 3	0.01	NC	45[E]
Speciated Total Hydrocarbons					
Aliphatics >EC8-EC10	mg/kg	0/ 2	0.84	NC	11[E]
Aromatics >EC8-EC10	mg/kg	0/ 2	0.84	NC	16[E]
Aliphatics >EC10-EC12	mg/kg	0/ 2	0.84	NC	53[E]
Aromatics >EC10-EC12	mg/kg	0/ 2	0.84	NC	66[E]
Aromatics >EC12-EC16	mg/kg	0/ 2	1.68	NC	156[E]
Aliphatics >EC12-EC16	mg/kg	0/ 2	1.68	NC	237[E]
Aliphatics >EC16-EC21	mg/kg	0/ 2	2.1	NC	17670[E]
Aromatics >EC16-EC21	mg/kg	0/ 2	2.1	NC	272[E]
Aromatics >EC21-EC35	mg/kg	0/ 2	5.89	NC	887[E]
Aliphatics >EC21-EC35	mg/kg	0/ 2	5.89	NC	17670[E]
Speciated Polyaromatic Hydrocarbons					
Polynuclear aromatic hydrocarbons (Total)	mg/kg	4/ 4	**4.0**	**4.0**	0.76[E]
Naphthalene	mg/kg	0/ 4	0.2	NC	1.54[E]
Acenaphthylene	mg/kg	0/ 4	0.2	NC	145[E]
Acenaphthene	mg/kg	0/ 4	0.2	NC	150[E]
Fluorene	mg/kg	0/ 4	0.2	NC	155[EX]
Phenanthrene	mg/kg	0/ 4	0.2	NC	206[ES]
Anthracene	mg/kg	0/ 4	0.2	NC	38[E]
Fluoranthene	mg/kg	0/ 4	0.2	NC	130[E]
Pyrene	mg/kg	0/ 4	0.2	NC	284[E]
Chrysene	mg/kg	0/ 4	0.2	NC	6[E]
Benzo (a) anthracene	mg/kg	0/ 4	0.2	NC	3.1[E]
Benzo (b) fluoranthene	mg/kg	0/ 4	0.2	NC	7.8[E]
Benzo (k) fluoranthene	mg/kg	0/ 4	0.2	NC	8.5[E]
Benzo (a) pyrene	mg/kg	0/ 4	0.2	NC	0.83[E]
Indeno (1,2,3 - cd) pyrene	mg/kg	0/ 4	0.2	NC	4.9[E]
Benzo (ghi) perylene	mg/kg	0/ 4	0.2	NC	9.7[E]
Dibenzo (ah) anthracene	mg/kg	0/ 4	0.2	NC	0.76[E]
Other					
1,1,2 - Trichloroethane	mg/kg	0/ 3	0.006	NC	0.6[D]
1,1 Dichloroethane	mg/kg	0/ 2	0.006	NC	2.4[D]
1,1 - Dichloroethene	mg/kg	0/ 2	0.006	NC	0.23[D]
cis 1,2 - Dichloroethene	mg/kg	0/ 2	0.006	NC	0.11[D]
1,2 - Dichloropropane	mg/kg	0/ 3	0.006	NC	0.024[D]
Bromobenzene	mg/kg	0/ 3	0.006	NC	0.87[D]
Bromoform	mg/kg	0/ 3	0.006	NC	2.8[D]
Bromodichloromethane	mg/kg	0/ 3	0.006	NC	0.016[D]
Chloromethane	mg/kg	0/ 2	0.006	NC	0.0083[D]
iso - Propylbenzene	mg/kg	0/ 3	0.006	NC	11[D]
Styrene	mg/kg	0/ 3	0.006	NC	8.1[D]
Trans - 1,2 - Dichloroethene	mg/kg	0/ 2	0.006	NC	0.19[D]
Tetrachloroethene	mg/kg	0/ 3	0.031	NC	0.997[C]
Trichloroethene	mg/kg	0/ 3	0.006	NC	0.133[C]
Vinyl chloride	mg/kg	2/ 2	**0.006**	LoD>T	0.00118[C]
No Tier 2 Screen					
C5 - C6	mg/kg	-	0.2	NC	NT
C7 - C8	mg/kg	-	0.2	NC	NT

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
C8 - C10	mg/kg	-	0.2	NC	NT
1,1,1,2 - Tetrachloroethane	mg/kg	-	0.01	NC	NT
1,2 - Dichloroethane	mg/kg	-	0.006	NC	NT
cis 1,3 - Dichloropropene	mg/kg	-	0.006	NC	NT
Sulphide	mg/kg	-	5	NC	NT

Residential with Plant Uptake, Assumming 1.0 % SOM, **A** SGV from CLEA V1.04 at 6% SOM only, **B** GAC from CLEA v1.04, **C** SGV/GAC based on CLEA UK Beta Version at 1%, 2.5% and 5%, **D** GAC from CL:AIRE V1.06 : 1%, 2.5% and 6% SOM (note: 2.5% SOM rather than 3%), **E** GAC from CLEA V1.06 at 1%, 3% and 6% SOM, **F** SGV from CLEA V1.06 at 1%,3% and 6% SOM, CLEA GACs assume that no free product is present, **X** Oral GAC used, no inhalation GAC derived (inhalation data not available) **Z** Soil Saturation limit used as a cap to GAC due to high value of oral GAC and absence of inhalation GAC (No data available), **NC** Not Calculated.

TABLE 7.4: EXPLORATORY HOLES EXCEEDING TIER 2 SCREEN VALUES

Contaminant	Hole ID	Concentration (mg/kg)	Tier 2 ScreenValue	Depth
Polynuclear aromatic hydrocarbons (Total)	HTP416	3.5	0.76	2.2
	HTP416	3.9	0.76	0.6
Vinyl chloride	HTP416	0.005	0.00118	2.2
	HTP416	0.006	0.00118	0.6

7.18. No outliers were identified in any of the samples.

7.19. Vinyl chloride (a VOC) was recorded at the Level of Detection (LoD), which varied between 5-7 mg/kg but nonetheless was above the Tier 2 screen.

7.20. Contaminant concentrations were not identified in excess of the screening values with the exception of total polyaromatic hydrocarbons identified in the two samples tested in this zone. Further statistical analysis (mean value or maximum value tests) were therefore not applied to the remaining dataset. Total PAH concentrations are considered below.

Polyaromatic Hydrocarbons

7.21. Total PAHs were detected in two exploratory hole locations to be above the screen for human health in this development area corresponding with the location of Kingston Villa. Speciated assessment of PAHs was undertaken and the results compared to the GACs for each PAH species. No individual PAH concentrations were identified in excess of the screening level and as such no further assessment of PAH concentrations is required herein in terms of human health risk assessment.

7.22. It is noted that benzo(a)pyrene was detected by the Entec investigation at 2.6mg/kg in EWS302 and therefore above the screen in the vicinity of the Control Tower, although it is noted that this location is outside of the current red line boundary of the development.

Lead

7.23. It is noted that some data from the Entec / Halcrow investigation has not been provided. Where statistical assessment of the available data did not highlight any exceedences of the screen, it was reported by Entec, that lead was present at 1570mg/kg in EBH301 at 0.3m bgl located in the vicinity of the former BFI.

Wykeham Hall and Barracks Square Residential [Areas 4 and 5b]

Soil Analyses

7.24. The statistics associated with soil analysis are summarised in Table 7.6. The Mean Value (95%ile) and Maximum Value Tests were undertaken on the sample population for those parameters exceeding the Tier 2 screening levels. If required the Maximum Value Test was undertaken to identify any potential localised areas of increased risk or 'hotspots'. Where the 95%ile exceeds the Tier 2 screen, these results are highlighted and discussed. The remainder are not considered indicative of significant contamination for the proposed end use.

TABLE 7.5: SUMMARY OF SOIL SAMPLES ANALYSED

Exploratory Holes	Sample (m bgl)
EWS304	0.3, 0.8
HTP411	0.5, 2.0
HBH409	-

7.29. Elevated contaminant concentrations are shown on Figure 18.

TABLE 7.6: SUMMARY OF SOIL ANALYSIS RESIDENTIAL WITH PLANT UPTAKE (1.0% SOM)

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
Metals					
Arsenic	mg/kg	0/ 4	10.3	NC	32[F]
Cadmium	mg/kg	0/ 4	0.15	NC	10[F]
Chromium	mg/kg	0/ 4	27.4	NC	627[E]
Copper	mg/kg	0/ 4	21.6	NC	2310[E]
Inorganic Mercury	mg/kg	0/ 4	0.1	NC	170[F]
Nickel	mg/kg	0/ 4	18.4	NC	127[F]
Lead	mg/kg	0/ 4	158.2	NC	450[C]
Selenium	mg/kg	0/ 4	0.6	NC	350[F]
Zinc	mg/kg	0/ 4	78.9	NC	1634[E]
Organics					
Benzene	mg/kg	0/ 4	0.031	NC	0.08[E]
Toluene	mg/kg	0/ 4	0.031	NC	119[E]

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
Ethylbenzene	mg/kg	0/ 4	0.031	NC	65[E]
o - Xylene	mg/kg	0/ 4	0.01	NC	45[E]
Speciated Total Hydrocarbons					
Aliphatics >EC8-EC10	mg/kg	0/ 2	0.83	NC	11[E]
Aromatics >EC8-EC10	mg/kg	0/ 2	0.83	NC	16[E]
Aliphatics >EC10-EC12	mg/kg	0/ 2	0.83	NC	53[E]
Aromatics >EC10-EC12	mg/kg	0/ 2	0.83	NC	66[E]
Aromatics >EC12-EC16	mg/kg	0/ 2	1.67	NC	156[E]
Aliphatics >EC12-EC16	mg/kg	0/ 2	1.67	NC	237[E]
Aliphatics >EC16-EC21	mg/kg	0/ 2	2.08	NC	17670[E]
Aromatics >EC16-EC21	mg/kg	0/ 2	2.08	NC	272[E]
Aromatics >EC21-EC35	mg/kg	0/ 2	5.82	NC	887[E]
Aliphatics >EC21-EC35	mg/kg	0/ 2	5.82	NC	17670[E]
Speciated Polyaromatic Hydrocarbons					
Naphthalene	mg/kg	0/ 2	0.2	NC	1.54[E]
Acenaphthylene	mg/kg	0/ 2	0.2	NC	145[E]
Acenaphthene	mg/kg	0/ 2	0.2	NC	150[E]
Fluorene	mg/kg	0/ 2	0.2	NC	155[EX]
Phenanthrene	mg/kg	0/ 2	0.2	NC	206[ES]
Anthracene	mg/kg	0/ 2	0.2	NC	38[E]
Fluoranthene	mg/kg	0/ 2	0.6	NC	130[E]
Pyrene	mg/kg	0/ 2	0.6	NC	284[E]
Chrysene	mg/kg	0/ 2	0.4	NC	6[E]
Benzo (a) anthracene	mg/kg	0/ 2	0.4	NC	3.1[E]
Benzo (b) fluoranthene	mg/kg	0/ 2	0.4	NC	7.8[E]
Benzo (k) fluoranthene	mg/kg	0/ 2	0.2	NC	8.5[E]
Benzo (a) pyrene	mg/kg	0/ 2	0.2	NC	0.83[E]
Indeno (1,2,3 - cd) pyrene	mg/kg	0/ 2	0.2	NC	4.9[E]
Benzo (ghi) perylene	mg/kg	0/ 2	0.2	NC	9.7[E]
Dibenzo (ah) anthracene	mg/kg	0/ 2	0.2	NC	0.76[E]
Other					
1,1,2 - Trichloroethane	mg/kg	0/ 2	0.006	NC	0.6[D]
1,1 Dichloroethane	mg/kg	0/ 2	0.006	NC	2.4[D]
1,1 - Dichloroethene	mg/kg	0/ 2	0.006	NC	0.23[D]
cis 1,2 - Dichloroethene	mg/kg	0/ 2	0.006	NC	0.11[D]
1,2 - Dichloropropane	mg/kg	0/ 2	0.006	NC	0.024[D]
Bromobenzene	mg/kg	0/ 2	0.006	NC	0.87[D]
Bromoform	mg/kg	0/ 2	0.006	NC	2.8[D]
Bromodichloromethane	mg/kg	0/ 2	0.006	NC	0.016[D]
Chloromethane	mg/kg	0/ 2	0.006	NC	0.0083[D]
iso - Propylbenzene	mg/kg	0/ 2	0.006	NC	11[D]
Styrene	mg/kg	0/ 2	0.006	NC	8.1[D]
Trans - 1,2 - Dichloroethene	mg/kg	0/ 2	0.006	NC	0.19[D]
Tetrachloroethene	mg/kg	0/ 2	0.03	NC	0.997[C]
Trichloroethene	mg/kg	0/ 2	0.006	NC	0.133[C]
Vinyl chloride	mg/kg	2/ 2	**0.006**	LoD>T	0.00118[C]
No Tier 2 Screen					
C5 - C6	mg/kg	-	0.2	NC	NT
C7 - C8	mg/kg	-	0.2	NC	NT
C8 - C10	mg/kg	-	0.2	NC	NT

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
1,1,1,2 - Tetrachloroethane	mg/kg	-	0.01	NC	NT
1,2 - Dichloroethane	mg/kg	-	0.006	NC	NT
cis 1,3 - Dichloropropene	mg/kg	-	0.006	NC	NT
Sulphide	mg/kg	-	6	NC	NT

Residential with Plant Uptake, Assumming 1.0 % SOM, **A** SGV from CLEA V1.04 at 6% SOM only, **B** GAC from CLEA v1.04, **C** SGV/GAC based on CLEA UK Beta Version at 1%, 2.5% and 5%, **D** GAC from CL:AIRE V1.06 : 1%, 2.5% and 6% SOM (note: 2.5% SOM rather than 3%), **E** GAC from CLEA V1.06 at 1%, 3% and 6% SOM, **F** SGV from CLEA V1.06 at 1%,3% and 6% SOM, CLEA GACs assume that no free product is present, **X** Oral GAC used, no inhalation GAC derived (inhalation data not available) **Z** Soil Saturation limit used as a cap to GAC due to high value of oral GAC and absence of inhalation GAC (No data available), **NC** Not Calculated.

TABLE 7.7: EXPLORATORY HOLES EXCEEDING TIER 2 SCREEN VALUES

Contaminant	Hole ID	Concentration (mg/kg)	Tier 2 ScreenValue	Depth
Vinyl chloride	HTP411	0.005 (LOD)	0.00118	0.5
Vinyl chloride	HTP411	0.006 (LOD)	0.00118	2

7.30. No outliers were identified in any of the samples.

7.31. No exceedences of the screen were identified for this development area with the exception of vinyl chloride (a VOC), which was recorded at the LoD and therefore above the Tier 2 screen by default.

Barracks Square, Westcliffe Seafront and Unicorn Triangle Mixed-Use [Areas 5a, 6 and 7b]

Soil Analyses

7.32. The statistics associated with soil analysis are summarised in Table 7.9. The Mean Value (95%ile) and Maximum Value Tests were undertaken on the sample population for those parameters exceeding the Tier 2 screening levels. If required the Maximum Value Test was undertaken to identify any potential localised areas of increased risk or 'hotspots'. Where the 95%ile exceeds the Tier 2 screen, these results are highlighted and discussed. The remainder are not considered indicative of significant contamination for the proposed end use.

TABLE 7.8: SUMMARY OF SOIL SAMPLES ANALYSED

Exploratory Holes	Sample (m bgl)
HBH410	-
HBH408	-
HTP407	2.0
HTP404	-
HTP405	0.3, 0.9, 2.5
HBH407	-

Exploratory Holes	Sample (m bgl)
HTP406	0.5, 2.0
HBH405	0.3, 1.3
HBH403	0.35, 1.0
HWS409	-
HWS408	-
HWS407	-
EBH307	-
BH201	2.0
EBH308	-

7.34. Elevated contaminant concentrations are shown on Figure 18.

TABLE 7.9: SUMMARY OF SOIL ANALYSIS RESIDENTIAL WITHOUT PLANT UPTAKE (1.0% SOM)

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
Metals					
Arsenic	mg/kg	1/ 11	**55.8**	10.59*	35[E]
Cadmium	mg/kg	0/ 11	0.94	NC	85[E]
Chromium	mg/kg	0/ 11	25.5	NC	627[E]
Copper	mg/kg	0/ 11	54	NC	3802[E]
Inorganic Mercury	mg/kg	0/ 11	0.6	NC	238[E]
Nickel	mg/kg	0/ 11	28.4	NC	127[E]
Lead	mg/kg	1/ 11	**572.9**	36.53*	450[B]
Selenium	mg/kg	0/ 11	0.82	NC	595[E]
Zinc	mg/kg	0/ 11	619	NC	20216[E]
Organics					
Benzene	mg/kg	2/ 11	**0.29**	0.12	0.26[E]
Toluene	mg/kg	0/ 11	0.326	NC	607[E]
Ethylbenzene	mg/kg	0/ 11	0.42	NC	162[E]
o - Xylene	mg/kg	0/ 5	0.01	NC	60[E]
Speciated Total Hydrocarbons					
Aliphatics >EC8-EC10	mg/kg	0/ 3	0.84	NC	11[E]
Aromatics >EC8-EC10	mg/kg	0/ 3	0.84	NC	18[E]
Aliphatics >EC10-EC12	mg/kg	0/ 3	0.84	NC	53[E]
Aromatics >EC10-EC12	mg/kg	0/ 3	0.84	NC	93[E]
Aromatics >EC12-EC16	mg/kg	0/ 3	1.67	NC	450[E]
Aliphatics >EC12-EC16	mg/kg	0/ 3	1.67	NC	237[E]
Aliphatics >EC16-EC21	mg/kg	0/ 3	2.08	NC	17697[E]
Aromatics >EC16-EC21	mg/kg	0/ 3	2.08	NC	928[E]
Aromatics >EC21-EC35	mg/kg	0/ 3	5.84	NC	1328[E]
Aliphatics >EC21-EC35	mg/kg	0/ 3	5.84	NC	17697[E]
Speciated Polyaromatic Hydrocarbons					
Polynuclear aromatic hydrocarbons (Total)	mg/kg	3/ 3	**3.9**	**4.09**	0.865[E]
Naphthalene	mg/kg	0/ 10	0.2	NC	1.637[E]
Acenaphthylene	mg/kg	0/ 9	0.2	NC	463.5[E]
Acenaphthene	mg/kg	0/ 9	0.2	NC	338.8[E]

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
Fluorene	mg/kg	0/ 9	0.2	NC	855.7[EX]
Phenanthrene	mg/kg	0/ 9	0.2	NC	494.6[ES]
Anthracene	mg/kg	0/ 9	0.2	NC	396[E]
Fluoranthene	mg/kg	0/ 9	0.6	NC	504.2[E]
Pyrene	mg/kg	0/ 9	0.7	NC	1201[E]
Chrysene	mg/kg	0/ 9	0.5	NC	8.839[E]
Benzo (a) anthracene	mg/kg	0/ 9	0.5	NC	3.72[E]
Benzo (b) fluoranthene	mg/kg	0/ 9	0.5	NC	9.822[E]
Benzo (k) fluoranthene	mg/kg	0/ 9	0.2	NC	10.06[E]
Benzo (a) pyrene	mg/kg	0/ 9	0.4	NC	1[E]
Indeno (1,2,3 - cd) pyrene	mg/kg	0/ 9	0.2	NC	6.9[E]
Benzo (ghi) perylene	mg/kg	0/ 9	0.4	NC	10.27[E]
Dibenzo (ah) anthracene	mg/kg	0/ 9	0.2	NC	0.865[E]
Other					
1,1,2 - Trichloroethane	mg/kg	0/ 4	0.006	NC	0.88[D]
1,1 Dichloroethane	mg/kg	0/ 2	0.006	NC	2.5[D]
1,1 - Dichloroethene	mg/kg	0/ 2	0.006	NC	0.23[D]
cis 1,2 - Dichloroethene	mg/kg	0/ 2	0.006	NC	0.12[D]
1,2 - Dichloropropane	mg/kg	0/ 4	0.006	NC	0.024[D]
Bromobenzene	mg/kg	0/ 7	0.006	NC	0.91[D]
Bromoform	mg/kg	0/ 7	0.006	NC	5.2[D]
Bromodichloromethane	mg/kg	0/ 7	0.006	NC	0.019[D]
Trichloroethene	mg/kg	0/ 7	0.006	NC	0.15[C]
Vinyl chloride	mg/kg	2/ 2	**0.006**	LoD>T	0.00155[C]
Chloromethane	mg/kg	0/ 2	0.006	NC	0.0085[D]
iso - Propylbenzene	mg/kg	0/ 7	0.006	NC	12[D]
Styrene	mg/kg	0/ 7	0.006	NC	35[D]
Trans - 1,2 - Dichloroethene	mg/kg	0/ 5	0.006	NC	0.19[D]
Tetrachloroethene	mg/kg	0/ 7	0.031	NC	1.46[C]
No Tier 2 Screen					
C5 - C6	mg/kg	-	0.2	NC	NT
C7 - C8	mg/kg	-	0.2	NC	NT
C8 - C10	mg/kg	-	0.2	NC	NT
1,1,1,2 - Tetrachloroethane	mg/kg	-	0.01	NC	NT
1,2 - Dichloroethane	mg/kg	-	0.006	NC	NT
cis 1,3 - Dichloropropene	mg/kg	-	0.006	NC	NT
Sulphide	mg/kg	-	5	NC	NT

Residential without Plant Uptake, Assumming 1.0 % SOM, **A** SGV from CLEA V1.04 at 6% SOM only, **B** GAC from CLEA v1.04 **C** SGV/GAC based on CLEA UK Beta Version at 1%, 2.5% and 5%, **D** GAC from CL:AIRE V1.06 : 1%, 2.5% and 6% SOM (note: 2.5% SOM rather than 3%), **E** GAC from CLEA V1.06 at 1%, 3% and 6% SOM, **F** SGV from CLEA V1.06 at 1%,3% and 6% SOM, CLEA GACs assume that no free product is present, **X** Oral GAC used, no inhalation GAC derived (inhalation data not available), **Z** Soil Saturation limit used as a cap to GAC due to high value of oral GAC and absence of inhalation GAC (No data available), **NC** Not Calculated.

TABLE 7.10: EXPLORATORY HOLES EXCEEDING TIER 2 SCREEN VALUES

Contaminant	Hole ID	Depth	Concentration (mg/kg)	Tier 2 Screen Value
Arsenic	HBH403	0.35	55.8	35
Benzene	HTP405	2.5	0.29	0.26
Benzene	HBH405	1.3	0.29	0.26

Contaminant	Hole ID	Depth	Concentration (mg/kg)	Tier 2 Screen Value
Lead	HTP405	0.3	572.9	450
Polynuclear aromatic hydrocarbons (Total)	HTP407	2	3.4	0.865
Polynuclear aromatic hydrocarbons (Total)	HTP406	2	3.7	0.865
Polynuclear aromatic hydrocarbons (Total)	HTP406	0.5	3.9	0.865
Vinyl chloride	HTP407	2	0.005 (LOD)	0.00155
Vinyl chloride	HTP406	0.5	0.006 (LOD)	0.00155
Vinyl chloride	HTP405	0.3	0.006 (LOD)	0.00155
Vinyl chloride	HTP405	0.9	0.006 (LOD)	0.00155
Vinyl chloride	HTP405	2.5	0.006 (LOD)	0.00155

TABLE 7.11: LIST OF OUTLIERS

Contaminant	Hole Ref	Depth	Concentration (mg/kg)
Arsenic	HBH403	0.35	55.8
Lead	HTP405	0.3	572.9

7.35. Contaminants were generally not observed to be in excess of the screening values with the exception of arsenic, lead, benzene, total polyaromatic hydrocarbons and vinyl chloride, which are discussed in turn below.

Arsenic

7.36. Elevated arsenic was identified on a single occasion HBH403 at 55.8mg/kg, which is marginally above the screen for this development area. This exploratory hole corresponds with proposed residential block of flats and communal landscaping in the vicinity of the slipway in Area 6. This data value was also identified as an outlier, which is potentially indicative of a separate localised area of arsenic contamination.

Lead

7.37. Elevated lead was also identified on a single occasion in HTP405 at 572.9mg/kg, which is marginally above the screen for this development area and corresponds with public open space in the vicinity of the sheltered accommodation. This data value was also identified as an outlier which is potentially indicative of a separate localised area of lead contamination.

Benzene

7.38. Elevated benzene was found on two occasions in exceedence of the screen in HTP405 and HBH405, which correspond with the public open space of the proposed sheltered accommodation blocks and area to the south of Westcliffe House.

Total Polyaromatic Hydrocarbons

7.39. Total polyaromatic hydrocarbons were detected in two of the three exploratory hole locations to be above the screen for human health in this development area in the vicinity if Westcliffe House and the Triumph Galley. Speciated assessment of PAHs was undertaken and the results compared to the GACs for each PAH species. No individual PAH concentrations were identified in excess of the screening level and as such no further assessment of PAH concentrations is required herein in terms of human health risk assessment.

Vinyl chloride

7.40. Vinyl chloride (a VOC) was recorded at the LoD and therefore above the Tier 2 screen by default.

Airport Park, Marine Business Park, Unicorn Triangle and Seaplane Square Commercial Areas [Areas 2, 3, 7a and 8b]

Soil Analyses

7.41. The statistics associated with soil analysis are summarised in Table 7.13. The Mean Value (95%ile) and Maximum Value Tests were undertaken on the sample population for those parameters exceeding the Tier 2 screening levels. If required the Maximum Value Test was undertaken to identify any potential localised areas of increased risk or 'hotspots'. Where the 95%ile exceeds the Tier 2 screen, these results are highlighted and discussed. The remainder are not considered indicative of significant contamination for the proposed end use.

TABLE 7.12: SUMMARY OF SOIL SAMPLES ANALYSED

Exploratory Holes	Sample (m bgl)
EBH302	6.0, 7.0
EBH303	0.3, 1.5, 6.0
EBH304	0.1, 6.5
EBH305	0.2, 5.5
EBH306	1.6, 4.0

Exploratory Holes	Sample (m bgl)
EBH309	-
EBH310	-
HWS401	0.4
HWS404	0.4
HWS405	-
HWS406	0.2
HWS415	0.2
HTP409	2.3
HTP405	0.3, 0.9, 2.5
HTP410	-
BH202	2.0, 7.9
EWS305	2.5
EWS303	1.9
HBH413	0.4, 1.2, 4.4
HBH412	0.3, 0.7, 5.0

7.43. Elevated contaminant concentrations are shown on Figure 18.

TABLE 7.13: SUMMARY OF SOIL ANALYSIS COMMERCIAL (1.0% SOM)

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
Metals					
Arsenic	mg/kg	0/ 29	19.7	NC	640[F]
Cadmium	mg/kg	0/ 29	6.29	NC	230[F]
Chromium	mg/kg	0/ 29	34	NC	5,175[E]
Copper	mg/kg	0/ 29	270.6	NC	49,146[E]
Inorganic Mercury	mg/kg	0/ 29	0.76	NC	3,600[F]
Nickel	mg/kg	0/ 29	35.8	NC	1,800[F]
Lead	mg/kg	1/ 29	**1033.5**	37.11	750[C]
Selenium	mg/kg	0/ 29	1.8	NC	13,000[F]
Zinc	mg/kg	0/ 29	376.3	NC	332,700[E]
Organics					
Benzene	mg/kg	0/ 32	0.31	NC	28[E]
Toluene	mg/kg	0/ 32	0.326	NC	870[E]
Ethylbenzene	mg/kg	0/ 32	0.31	NC	520[E]
o - Xylene	mg/kg	0/ 32	0.29	NC	480[E]
Phenol (Total)	mg/kg	0/ 32	12	NC	3,200[E]
Speciated Total Hydrocarbons					
Aliphatics >EC8-EC10	mg/kg	0/ 11	7.6	NC	1195[E]
Aromatics >EC8-EC10	mg/kg	0/ 11	7.6	NC	1969[E]
Aliphatics >EC10-EC12	mg/kg	0/ 11	7.6	NC	5885[E]
Aromatics >EC10-EC12	mg/kg	0/ 11	7.6	NC	9737[E]
Aromatics >EC12-EC16	mg/kg	0/ 11	37.1	NC	29375[E]
Aliphatics >EC12-EC16	mg/kg	0/ 11	15.3	NC	24929[E]
Aliphatics >EC16-EC21	mg/kg	0/ 11	19.1	NC	1067249[E]

Aromatics >EC16-EC21	mg/kg	0/ 11	241	NC	26151[E]
Aromatics >EC21-EC35	mg/kg	0/ 11	610	NC	28406[E]
Aliphatics >EC21-EC35	mg/kg	0/ 11	53.4	NC	1067249[E]
Speciated Polyaromatic Hydrocarbons					
Polynuclear aromatic hydrocarbons (Total)	mg/kg	5/ 21	**188.8**	5.06*	13[E]
Naphthalene	mg/kg	0/ 22	3.2	NC	204[E]
Acenaphthylene	mg/kg	0/ 22	1	NC	37,210[E]
Acenaphthene	mg/kg	0/ 22	3.1	NC	31,242[E]
Fluorene	mg/kg	0/ 22	3.1	NC	32,888[E]
Phenanthrene	mg/kg	0/ 22	34.3	NC	11,750[E]
Anthracene	mg/kg	0/ 22	8.1	NC	25,547[E]
Fluoranthene	mg/kg	0/ 22	33	NC	11,412[E]
Pyrene	mg/kg	0/ 22	34.3	NC	27,359[E]
Chrysene	mg/kg	0/ 22	15	NC	137[E]
Benzo (a) anthracene	mg/kg	0/ 22	14.3	NC	90[E]
Benzo (b) fluoranthene	mg/kg	0/ 22	12.7	NC	140[E]
Benzo (k) fluoranthene	mg/kg	0/ 22	5.1	NC	141[E]
Benzo (a) pyrene	mg/kg	0/ 22	11.3	NC	14[E]
Indeno (1,2,3 - cd) pyrene	mg/kg	0/ 22	4.7	NC	156E
Benzo (ghi) perylene	mg/kg	0/ 22	4	NC	143[E]
Dibenzo (ah) anthracene	mg/kg	0/ 22	1	NC	13[E]
Other					
1,1,2 - Trichloroethane	mg/kg	0/ 21	0.007	NC	94[D]
1,1 Dichloroethane	mg/kg	0/ 10	0.007	NC	280[D]
1,1 - Dichloroethene	mg/kg	0/ 10	0.007	NC	26[D]
cis 1,2 - Dichloroethene	mg/kg	0/ 10	0.007	NC	14[D]
1,2 - Dichloropropane	mg/kg	0/ 21	0.007	NC	3.3[D]
2,4 - Dimethylphenol	mg/kg	0/ 1	12	NC	16000[D]
24DNT	mg/kg	0/ 1	3	NC	3700[D]
2,6 - Dinitrotoluene	mg/kg	0/ 1	3	NC	1900[D]
bis (2 - ethylhexyl) phthalate	mg/kg	0/ 1	3	NC	85000[D]
Butyl benzyl phthalate	mg/kg	0/ 1	3	NC	940000[D]
Biphenyl	mg/kg	0/ 1	1	NC	18000[D]
Bromobenzene	mg/kg	0/ 21	0.007	NC	97[D]
Bromoform	mg/kg	0/ 21	0.007	NC	760[D]
Bromodichloromethane	mg/kg	0/ 21	0.007	NC	2.1[D]
Chloromethane	mg/kg	0/ 10	0.007	NC	1[D]
Di-n-butyl phthalate	mg/kg	0/ 1	3	NC	15000[D]
Di - n - octyl phthalate	mg/kg	0/ 1	1	NC	89000[D]
Hexachloroethane	mg/kg	0/ 1	3	NC	22[D]
iso - Propylbenzene	mg/kg	0/ 21	0.007	NC	1400[D]
Styrene	mg/kg	0/ 21	0.007	NC	3300[D]
Trans - 1,2 - Dichloroethene	mg/kg	0/ 10	0.007	NC	22[D]
Tetrachloroethene	mg/kg	0/ 21	0.177	NC	63.1[C]
Trichloroethene	mg/kg	0/ 21	0.007	NC	6.42[C]
Vinyl chloride	mg/kg	0/ 10	0.007	NC	0.0709[C]
No Tier 2 Screen					
C5 - C6	mg/kg	-	6	NC	NT
C7 - C8	mg/kg	-	6	NC	NT
C8 - C10	mg/kg	-	6	NC	NT

1,1,1,2 - Tetrachloroethane	mg/kg	-	0.29	NC	NT
1,2 - Dichloroethane	mg/kg	-	0.007	NC	NT
cis 1,3 - Dichloropropene	mg/kg	-	0.007	NC	NT
2,4,6 - Trichlorophenol	mg/kg	-	12	NC	NT
Hexachlorobenzene	mg/kg	-	3	NC	NT
Hexachlorobutadiene	mg/kg	-	3	NC	NT
Pentachlorophenol	mg/kg	-	30	NC	NT
Sulphide	mg/kg	-	28	NC	NT

All Tier 2 screening values are calculated for a 'Commercial / Industrial' land use at a Soil Organic Matter (SOM) of 1%.
A SGV from CLEA V1.04 at 6% SOM only, **B** GAC from CLEA V1.04, D GAC from CL:AIRE V1.06 : 1%, 2.5% and 6% SOM (note: 2.5% SOM rather than 3%), **E** GAC from CLEA V1.06 at 1%, 3% and 6% SOM,
F SGV from CLEA V1.06 at 1%,3% and 6% SOM, CLEA GACs assume that no free product is present,
X Oral GAC used, no inhalation GAC derived (inhalation data not available), **Z** Soil Saturation limit used as a cap to GAC due to high value of oral GAC and absence of inhalation GAC (No data available),
NC Not Calculated, * Outliers identified using the maximum value test (omitted from the 95th percentile calculation)

TABLE 7.14: EXPLORATORY HOLES EXCEEDING TIER 2 SCREEN VALUES

Contaminant	Hole ID	Depth	Concentration (mg/kg)	Tier 2 Screen Value
Polynuclear aromatic hydrocarbons (Total)	HWS406	0.3	18	13
Polynuclear aromatic hydrocarbons (Total)	HWS415	0.3	188.8	13
Polynuclear aromatic hydrocarbons (Total)	HWS401	0.4	61.5	13
Lead	HTP409	0.3	1033.5	750

TABLE 7.15: LIST OF OUTLIERS

Contaminant	Hole Ref	Depth	Concentration (mg/kg)
Polynuclear aromatic hydrocarbons (Total)	HWS415	0.3	188.8
Polynuclear aromatic hydrocarbons (Total)	HWS401	0.4	61.5
Polynuclear aromatic hydrocarbons (Total)	HWS406	0.3	18

7.44. With the exception of Total PAHs and an isolated lead concentration, contaminant concentrations in excess of the screening values were not identified. As such no further statistical analysis (mean value or maximum value tests) were applied to the dataset. Lead and total PAH concentrations are considered further herein.

Lead

7.45. Elevated lead was detected above the screen at 1033.5mg/kg in HTP409 in the vicinity of the historical workshops (blacksmiths and joiners etc) in Area 2.

Polyaromatic Hydrocarbons

7.46. Elevated total polyaromatic hydrocarbons were detected above the screen and all were identified to be outliers indicative of localised hotspots of contamination at HWS401 (Swann Hangar). HWS406 (Slipway) and HWS415 (Dunning Hangar). Speciated assessment of these PAHs was undertaken and the results compared to the GACs for each PAH species. No individual PAH

concentrations were identified in excess of the screening level and as such no further assessment of PAH concentrations is required herein in terms of human health risk assessment.

Asbestos

7.47. Chrysotile (white) asbestos 2-15% was encountered by the Entec investigation at EBH310 between 0.2-0.4mbgl located in the vicinity of the proposed Marine Business Park.

Hangars West Commercial Area

Soil Analyses

7.48. The statistics associated with soil analysis are summarised in Table 7.17. The Mean Value (95%ile) and Maximum Value Tests were undertaken on the sample population for those parameters exceeding the Tier 2 screening levels. If required the Maximum Value Test was undertaken to identify any potential localised areas of increased risk or 'hotspots'. Where the 95%ile exceeds the Tier 2 screen, these results are highlighted and discussed. The remainder are not considered indicative of significant contamination for the proposed end use.

TABLE 7.16: SUMMARY OF SOIL SAMPLES ANALYSED

Exploratory Holes	Sample (m bgl)
BH210	2.3, 2.3 duplicate, 4.0
BH211	1.6, 5.0, 7.8
BH212	1.3, 2.4
BH213	5.3
BH214	2.5, 2.5 duplicate, 5.6, 5.6 duplicate
BH215	0.1, 6.0
HTP414	2.4, 3.5
HTP415	0.4, 2.5
HBH423	0.5, 1.4
EWS312	2.7
EWS310	1.1, 1.5
EWS311	0.9, 1.4
HBH425	0.0, 2.2
HBH424	0.4, 1.9

7.50. Elevated contaminant concentrations are shown on Figure 19.

TABLE 7.17: SUMMARY OF SOIL ANALYSIS COMMERCIAL (1.0% SOM)

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
Metals					
Arsenic	mg/kg	0/ 27	15.4	NC	640[F]
Cadmium	mg/kg	0/ 27	1.68	NC	230[F]
Chromium	mg/kg	0/ 27	38	NC	5,175[E]
Copper	mg/kg	0/ 27	767.5	NC	49,146[E]
Inorganic Mercury	mg/kg	0/ 27	0.6	NC	3,600[F]
Nickel	mg/kg	0/ 27	49.6	NC	1,800[F]
Lead	mg/kg	1/ 27	**1100**	14.04*	750[C]
Selenium	mg/kg	0/ 27	2.4	NC	13,000[F]
Zinc	mg/kg	0/ 27	595.7	NC	332,700[E]
Organics					
Benzene	mg/kg	0/ 25	0.34	NC	28[E]
Toluene	mg/kg	0/ 25	0.446	NC	870[E]
Ethylbenzene	mg/kg	0/ 25	0.34	NC	520[E]
o - Xylene	mg/kg	0/ 12	0.34	NC	480[E]
Speciated Total Hydrocarbons					
Aliphatics >EC8-EC10	mg/kg	0/ 10	0.92	NC	1195[E]
Aromatics >EC8-EC10	mg/kg	0/ 10	0.92	NC	1969[E]
Aliphatics >EC10-EC12	mg/kg	0/ 10	0.92	NC	5885[E]
Aromatics >EC10-EC12	mg/kg	0/ 10	0.92	NC	9737[E]
Aromatics >EC12-EC16	mg/kg	0/ 10	1.85	NC	29375[E]
Aliphatics >EC12-EC16	mg/kg	0/ 10	1.85	NC	24929[E]
Aliphatics >EC16-EC21	mg/kg	0/ 10	2.31	NC	1067249[E]
Aromatics >EC16-EC21	mg/kg	0/ 10	2.31	NC	26151[E]
Aromatics >EC21-EC35	mg/kg	0/ 10	6.46	NC	28406[E]
Aliphatics >EC21-EC35	mg/kg	0/ 10	6.46	NC	1067249[E]
Speciated Polyaromatic Hydrocarbons					
Polynuclear aromatic hydrocarbons (Total)	mg/kg	2/ 12	**64.2**	**28.48**	13[E]
Naphthalene	mg/kg	0/ 15	0.3	NC	204[E]
Acenaphthylene	mg/kg	0/ 13	0.3	NC	37,210[E]
Acenaphthene	mg/kg	0/ 13	0.5	NC	31,242[E]
Fluorene	mg/kg	0/ 13	0.5	NC	32,888[E]
Phenanthrene	mg/kg	0/ 13	9.4	NC	11,750[E]
Anthracene	mg/kg	0/ 13	3	NC	25,547[E]
Fluoranthene	mg/kg	0/ 13	11.9	NC	11,412[E]
Pyrene	mg/kg	0/ 13	10.1	NC	27,359[E]
Chrysene	mg/kg	0/ 13	6	NC	137[E]
Benzo (a) anthracene	mg/kg	0/ 13	6.4	NC	90[E]
Benzo (b) fluoranthene	mg/kg	0/ 13	8.1	NC	140[E]
Benzo (k) fluoranthene	mg/kg	0/ 13	2.7	NC	141[E]
Benzo (a) pyrene	mg/kg	0/ 13	5	NC	14[E]
Indeno (1,2,3 - cd) pyrene	mg/kg	0/ 13	2.1	NC	156E
Benzo (ghi) perylene	mg/kg	0/ 13	2.5	NC	143[E]
Dibenzo (ah) anthracene	mg/kg	0/ 13	0.8	NC	13[E]
Other					
1,1,2 - Trichloroethane	mg/kg	0/ 8	0.007	NC	94[D]
1,1 Dichloroethane	mg/kg	0/ 6	0.007	NC	280[D]
1,1 - Dichloroethene	mg/kg	0/ 6	0.007	NC	26[D]

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
cis 1,2 - Dichloroethene	mg/kg	0/ 6	0.007	NC	14[D]
1,2 - Dichloropropane	mg/kg	0/ 8	0.007	NC	3.3[D]
Bromobenzene	mg/kg	0/ 8	0.007	NC	97[D]
Bromoform	mg/kg	0/ 8	0.007	NC	760[D]
Bromodichloromethane	mg/kg	0/ 8	0.007	NC	2.1[D]
Chloromethane	mg/kg	0/ 6	0.007	NC	1[D]
iso - Propylbenzene	mg/kg	0/ 8	0.007	NC	1400[D]
Styrene	mg/kg	0/ 8	0.007	NC	3300[D]
Trans - 1,2 - Dichloroethene	mg/kg	0/ 6	0.007	NC	22[D]
Tetrachloroethene	mg/kg	0/ 8	0.034	NC	63.1[C]
Trichloroethene	mg/kg	0/ 8	0.007	NC	6.42[C]
Vinyl chloride	mg/kg	0/ 6	0.007	NC	0.0709[C]
No Tier 2 Screen					
C5 - C6	mg/kg	-	7	NC	NT
C7 - C8	mg/kg	-	7	NC	NT
C8 - C10	mg/kg	-	7	NC	NT
1,1,1,2 - Tetrachloroethane	mg/kg	-	0.34	NC	NT
1,2 - Dichloroethane	mg/kg	-	0.007	NC	NT
cis 1,3 - Dichloropropene	mg/kg	-	0.007	NC	NT
Sulphide	mg/kg	-	5	NC	NT

All Tier 2 screening values are calculated for a 'Commercial / Industrial' land use at a Soil Organic Matter (SOM) of 1%.
A SGV from CLEA V1.04 at 6% SOM only, **B** GAC from CLEA V1.04, D GAC from CL:AIRE V1.06 : 1%, 2.5% and 6% SOM (note: 2.5% SOM rather than 3%), **E** GAC from CLEA V1.06 at 1%, 3% and 6% SOM,
F SGV from CLEA V1.06 at 1%,3% and 6% SOM, CLEA GACs assume that no free product is present,
X Oral GAC used, no inhalation GAC derived (inhalation data not available), **Z** Soil Saturation limit used as a cap to GAC due to high value of oral GAC and absence of inhalation GAC (No data available),
NC Not Calculated, * Outliers identified using the maximum value test (omitted from the 95th percentile calculation)

TABL 7.18: LIST OF OUTLIERS

Contaminant	Hole Ref	Depth	Concentration (mg/kg)
Lead	EWS310	1.7	1100

TABLE 7.19: EXPLORATORY HOLES EXCEEDING TIER 2 SCREEN VALUES

Contaminant	Hole ID	Depth	Concentration (mg/kg)	Tier 2 ScreenValue
Polynuclear aromatic hydrocarbons (Total)	EWS310	1.4	62.7	13
Polynuclear aromatic hydrocarbons (Total)	EWS311	1.2	64.2	13
Lead	EWS310	1.7	1100	750

7.51. Contaminants were generally not observed to be in excess of the screening values with the exception of lead and polyaromatic hydrocarbons, which are discussed in turn below.

Lead

7.52. Elevated lead was identified on a single occasion in EWS310 at 1100mg/kg, which is above the screen (750mg/kg) for this development area and corresponds with a former oil storage tank near

to buildings 358 (Bellman Hangar) and building 361. This value was also identified as a statistical outlier being potentially indicative of a separate localised area of lead contamination.

Polyaromatic Hydrocarbons

7.53. Total polyaromatic hydrocarbons were detected in two of the eleven exploratory hole locations to be above the screen for human health in this development area. The data also showed that the average concentration was above the screen indicating a site wide issue with PAHs. However, limited speciated assessment of PAHs was undertaken and the results compared to the GACs for each PAH species. No individual PAH concentrations were identified in excess of the screening level and as such no further assessment of PAH concentrations is required herein in terms of human health risk assessment.

Hangars West –Allotment Area

Soil Analyses

7.54. There are only a few exploratory hole locations corresponding with the area proposed for allotments in Hangars West and unfortunately no soil data that can be used in the assessment. As such, this appraisal for human health in this area will be based upon a conservative qualitative appraisal of desk study information.

Hangars East –Commercial Area

Soil Analyses

7.55. The statistics associated with soil analysis are summarised in Table 7.21. The Mean Value (95%ile) and Maximum Value Tests were undertaken on the sample population for those parameters exceeding the Tier 2 screening levels. If required the Maximum Value Test was undertaken to identify any potential localised areas of increased risk or 'hotspots'. Where the 95%ile exceeds the Tier 2 screen, these results are highlighted and discussed. The remainder are not considered indicative of significant contamination for the proposed end use.

TABLE 7.20: SUMMARY OF SOIL SAMPLES ANALYSED

Exploratory Holes	Sample (m bgl)
ETP323	-
ETP324	-
ETP310	-

Exploratory Holes	Sample (m bgl)
ETP309	-
ETP308	-
ETP307	-
ETP325	-
ETP326	-
BH217	2.2, 4.5
BH216	0.0, 4.8
BH208	2.0, 7.0
BH207	1.5, 3.1
BH209	2.0, 3.3
BH204	0.9, 4.1
BH205	2.0, 3.5, 6.0, 8.0
BH206	0.6, 4.7
HBH422	3.0
EWS309	1.2, 2.6
EWS308	0.2
HBH421	0.4, 2.6
HTP402	-
HBH420	0.1, 2.6
HBH419	0.6, 4.0
HTP401	0.5, 1.7
ETP306	-
ETP305	-
ETP305B	-
ETP304	-
ETP303	0.3
ETP301	0.3, 0.6
ETP302	0.3
HBH418	-
HBH417	-
HBH416	-

7.57. Elevated contaminant concentrations are shown on Figure 20.

TABLE 7.21: SUMMARY OF SOIL ANALYSIS COMMERCIAL (1.0% SOM)

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
Metals					
Arsenic	mg/kg	0/ 34	22.6	NC	640[F]
Cadmium	mg/kg	0/ 34	12.9	NC	230[F]
Chromium	mg/kg	0/ 34	113	NC	5,175[E]
Copper	mg/kg	0/ 34	570	NC	49,146[E]
Inorganic Mercury	mg/kg	0/ 34	0.9	NC	3,600[F]
Nickel	mg/kg	0/ 34	23	NC	1,800[F]
Lead	mg/kg	1/ 34	**1570**	7.41*	750[C]

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
Selenium	mg/kg	0/ 34	1.46	NC	13,000[F]
Zinc	mg/kg	0/ 34	506	NC	332,700[E]
Organics					
Benzene	mg/kg	0/ 29	0.31	NC	28[E]
Toluene	mg/kg	0/ 29	0.31	NC	870[E]
Ethylbenzene	mg/kg	0/ 29	1.053	NC	520[E]
o - Xylene	mg/kg	0/ 8	0.01	NC	480[E]
Speciated Total Hydrocarbons					
Aliphatics >EC8-EC10	mg/kg	0/ 6	0.93	NC	1195[E]
Aromatics >EC8-EC10	mg/kg	0/ 6	0.93	NC	1969[E]
Aliphatics >EC10-EC12	mg/kg	0/ 6	0.93	NC	5885[E]
Aromatics >EC10-EC12	mg/kg	0/ 6	0.93	NC	9737[E]
Aromatics >EC12-EC16	mg/kg	0/ 6	1.85	NC	29375[E]
Aliphatics >EC12-EC16	mg/kg	0/ 6	1.85	NC	24929[E]
Aliphatics >EC16-EC21	mg/kg	0/ 6	2.31	NC	1067249[E]
Aromatics >EC16-EC21	mg/kg	0/ 6	2.31	NC	26151[E]
Aromatics >EC21-EC35	mg/kg	0/ 6	6.47	NC	28406[E]
Aliphatics >EC21-EC35	mg/kg	0/ 6	6.47	NC	1067249[E]
Speciated Polyaromatic Hydrocarbons					
Polynuclear aromatic hydrocarbons (Total)	mg/kg	1/ 16	**117**	4.19*	13[E]
Naphthalene	mg/kg	0/ 16	1	NC	204[E]
Acenaphthylene	mg/kg	0/ 16	1	NC	37,210[E]
Acenaphthene	mg/kg	0/ 16	1.6	NC	31,242[E]
Fluorene	mg/kg	0/ 16	1	NC	32,888[E]
Phenanthrene	mg/kg	0/ 16	15.4	NC	11,750[E]
Anthracene	mg/kg	0/ 16	5.3	NC	25,547[E]
Fluoranthene	mg/kg	0/ 16	22.8	NC	11,412[E]
Pyrene	mg/kg	0/ 16	18.7	NC	27,359[E]
Chrysene	mg/kg	0/ 16	8.5	NC	137[E]
Benzo (a) anthracene	mg/kg	0/ 16	8.9	NC	90[E]
Benzo (b) fluoranthene	mg/kg	0/ 16	8.7	NC	140[E]
Benzo (k) fluoranthene	mg/kg	0/ 16	5	NC	141[E]
Benzo (a) pyrene	mg/kg	0/ 16	8.4	NC	14[E]
Indeno (1,2,3 - cd) pyrene	mg/kg	0/ 16	4.3	NC	156E
Benzo (ghi) perylene	mg/kg	0/ 16	4.6	NC	143[E]
Dibenzo (ah) anthracene	mg/kg	0/ 16	1	NC	13[E]
Other					
1,1,2 - Trichloroethane	mg/kg	0/ 4	0.007	NC	94[D]
1,1 Dichloroethane	mg/kg	0/ 2	0.007	NC	280[D]
1,1 - Dichloroethene	mg/kg	0/ 2	0.007	NC	26[D]
cis 1,2 - Dichloroethene	mg/kg	0/ 2	0.007	NC	14[D]
1,2 - Dichloropropane	mg/kg	0/ 4	0.007	NC	3.3[D]
Bromobenzene	mg/kg	0/ 4	0.007	NC	97[D]
Bromoform	mg/kg	0/ 4	0.007	NC	760[D]
Bromodichloromethane	mg/kg	0/ 4	0.007	NC	2.1[D]
Chloromethane	mg/kg	0/ 2	0.007	NC	1[D]
iso - Propylbenzene	mg/kg	0/ 4	0.008	NC	1400[D]
Styrene	mg/kg	0/ 4	0.007	NC	3300[D]
Trans - 1,2 - Dichloroethene	mg/kg	0/ 2	0.007	NC	22[D]

Contaminant	Units	Exceeding	Max	95th%	Tier 2 Screen
Tetrachloroethene	mg/kg	0/ 4	0.034	NC	63.1[C]
Trichloroethene	mg/kg	0/ 4	0.007	NC	6.42[C]
Vinyl chloride	mg/kg	0/ 2	0.007	NC	0.0709[C]
No Tier 2 Screen					
C5 - C6	mg/kg	-	0.3	NC	NT
C7 - C8	mg/kg	-	0.3	NC	NT
C8 - C10	mg/kg	-	0.3	NC	NT
1,1,1,2 - Tetrachloroethane	mg/kg	-	0.01	NC	NT
1,2 - Dichloroethane	mg/kg	-	0.007	NC	NT
cis 1,3 - Dichloropropene	mg/kg	-	0.007	NC	NT
Sulphide	mg/kg	-	5	NC	NT

All Tier 2 screening values are calculated for a 'Commercial / Industrial' land use at a Soil Organic Matter (SOM) of 1%. **A** SGV from CLEA V1.04 at 6% SOM only, **B** GAC from CLEA V1.04, D GAC from CL:AIRE V1.06 : 1%, 2.5% and 6% SOM (note: 2.5% SOM rather than 3%), **E** GAC from CLEA V1.06 at 1%, 3% and 6% SOM, **F** SGV from CLEA V1.06 at 1%,3% and 6% SOM, CLEA GACs assume that no free product is present, **X** Oral GAC used, no inhalation GAC derived (inhalation data not available), **Z** Soil Saturation limit used as a cap to GAC due to high value of oral GAC and absence of inhalation GAC (No data available), **NC** Not Calculated, * Outliers identified using the maximum value test (omitted from the 95th percentile calculation)

TABLE 7.22: EXPLORATORY HOLES EXCEEDING TIER 2 SCREEN VALUES

Contaminant	Hole ID	Depth	Concentration (mg/kg)	Tier 2 Screen Value
Polynuclear aromatic hydrocarbons (Total)	HBH420	0.2	117	13
Lead	ETP301	0.3	1570	750

TABLE 7.23: LIST OF OUTLIERS

Contaminant	Hole Ref	Depth	Concentration (mg/kg)
Polynuclear aromatic hydrocarbons (Total)	HBH420	0.2	117
Lead	ETP301	0.3	1570

7.58. Contaminants were generally not observed to be in excess of the screening values with the exception of lead and polyaromatic hydrocarbons, which are discussed in turn below.

Lead

7.59. Elevated lead was identified on a single occasion in ETP301 at 1570mg/kg, which is above the screen (750mg/kg) for this development area and corresponds with the southern parts of Hangars East. This data value was also identified as an outlier, which is potentially indicative of a separate localised area of lead contamination, although no indication of its origin is currently apparent.

Polyaromatic Hydrocarbons

7.60. Total polyaromatic hydrocarbons were detected on a single occasion at HBH420 at 117mg/kg. This data value was also identified as an outlier, which is potentially indicative of a separate localised area of PAH contamination. Speciated assessment of PAHs was undertaken and the results compared to the GACs for each PAH species. No individual PAH concentrations were identified in excess of the screening level and as such no further assessment of PAH concentrations is required herein in terms of human health risk assessment.

Leachate Analysis

7.61. Soil samples were scheduled and subsequently analysed in the laboratory for leaching analysis depending, in part, on visual and olfactory observations made by Entec / Halcrow. A total of 26 sample leachates were prepared and analysed to assess the potential mobility of identified contaminants. This included two soil samples which contained ash and displayed elevated metal concentrations were scheduled for leaching test analysis.

7.62. The assessment of leachate data has been undertaken in view of potential risks to Controlled Waters and is not considered to be development specific. As such, the appraisal of leachate and groundwater impaction has been based upon the broad zoning of the site (Waterfront, Hangars West and Hangars East).

7.63. The results of the leachate analyses have been compared to the values contained within the references detailed in Table 7.1 for water quality. The selection of Environmental Quality Standards (EQS) for saltwater (where available) has been assumed in light of the site's location upon a Secondary A Aquifer and vicinity to The Solent.

Waterfront Zone

7.64. The concentrations of those contaminants encountered in excess of Tier 2 screening levels are summarised in Table 7.24. Results below the limits of detection are excluded. The locations of potentially leachable contaminants are shown in Figure 21.

TABLE 7.24: LEACHATE CONCENTRATIONS EXCEEDING TIER 2 SCREEN

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Inorganics					
Arsenic	µg/ l	1/ 18	**31**	4.05	25[1]
Cadmium	µg/ l	0/ 18	0.4	NC	2.5[1]
Cyanide	µg/ l	18/ 18	**50**	LoD>T	1[1]

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Chromium	µg/ l	2/ 18	**76**	10.7	15[1]
Copper	µg/ l	6/ 18	**14**	5.22	5[1]
Inorganic Mercury	µg/ l	0/ 18	0.2	NC	0.3[1]
Nickel	µg/ l	1/ 18	**121**	9	15[1]
Lead	µg/ l	0/ 18	14	NC	25[1]
Selenium	µg/ l	0/ 18	8	NC	10[k]
Zinc	µg/ l	8/ 18	**578**	**69.8**	40[1]
Organics					
Benzene	µg/ l	1/ 3	**24000**	**8003**	30[J]
Toluene	µg/ l	1/ 3	**90**	33.3	40[1]
Ethylbenzene	µg/ l	0/ 3	10	NC	20[1]
o - Xylene	µg/ l	-	10	NC	NT
Phenol (Total)	µg/ l	0/ 3	5.96	NC	30[1]
Speciated Petroleum Hydrocarbons					
Aliphatics >EC8-EC10	µg/ l	-	2	NC	NT
Aromatics >EC8-EC10	µg/ l	-	2.2	NC	NT
Aliphatics >EC10-EC12	µg/ l	-	2.9	NC	NT
Aromatics >EC10-EC12	µg/ l	-	2.9	NC	NT
Aromatics >EC12-EC16	µg/ l	-	1.7	NC	NT
Aliphatics >EC12-EC16	µg/ l	-	1.7	NC	NT
Aliphatics >EC16-EC21	µg/ l	-	2.1	NC	NT
Aromatics >EC16-EC21	µg/ l	-	2.2	NC	NT
Aliphatics >EC21-EC35	µg/ l	-	5.9	NC	NT
Aromatics >EC21-EC35	µg/ l	-	15.8	NC	NT
C5 - C6	µg/ l	-	10	NC	NT
C6 - C7	µg/ l	-	10	NC	NT
C7 - C8	µg/ l	-	310	NC	NT
C8 - C10	µg/ l	-	10	NC	NT
Poly Aromatic Hydrocarbons					
Acenaphthylene	µg/ l	-	0.312	NC	NT
Acenaphthene	µg/ l	-	4.217	NC	NT
Anthracene	µg/ l	0/ 18	0.04	NC	0.1[11]
Benzo (a) anthracene	µg/ l	-	0.139	NC	NT
Benzo (a) pyrene	µg/ l	0/ 18	0.04	NC	0.05[11]
Benzo (b) fluoranthene	µg/ l	3/ 18	**8**	**1.34**	0.03[11]
Benzo (ghi) perylene	µg/ l	18/ 18	**0.04**	LoD>T	0.002[11]
Benzo (k) fluoranthene	µg/ l	3/ 18	**0.04**	0.016	0.03[11]
Chrysene	µg/ l	-	0.139	NC	NT
Fluorene	µg/ l	-	1.11	NC	NT
Fluoranthene	µg/ l	0/ 18	0.04	NC	0.002[1]
Dibenzo (ah) anthracene	µg/ l	-	0.04	NC	NT
Indeno (1,2,3 - cd) pyrene	µg/ l	18/ 18	**0.04**	LoD>T	0.002[11]
Naphthalene	µg/ l	0/ 18	0.073	NC	10[J]
Phenanthrene	µg/ l	-	0.222	NC	NT
Pyrene	µg/ l	-	0.04	NC	NT
Volatile Organic Hydrocarbons					
1,1,1,2 - Tetrachloroethane	µg/ l	-	5	NC	NT
1,1,1 - Trichloroethane	µg/ l	0/ 3	10	NC	100[1]
1,1,2 - Trichloroethane	µg/ l	0/ 3	10	NC	300[1]

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
1,1 - Dichloroethane	µg/ l	-	10	NC	NT
1,1 - Dichloroethene	µg/ l	-	10	NC	NT
1,2,4 - Trimethylbenzene	µg/ l	-	10	NC	NT
1,2 - Dibromo - 3 - Chloropropane	µg/ l	-	10	NC	NT
1,2 - Dichloroethane	µg/ l	0/ 3	10	2.80	10[G]
cis 1,2 - Dichloroethene	µg/ l	-	10	NC	NT
1,2 - Dichloropropane	µg/ l	-	10	NC	NT
cis 1,3 - Dichloropropene	µg/ l	-	10	NC	NT
2,4,6 - Trichlorophenol	µg/ l	-	0.4	NC	NT
2,4 - Dimethylphenol	µg/ l	-	0.4	NC	NT
2,4 - Dinitrotoluene	µg/ l	-	0.1	NC	NT
2,6 - Dinitrotoluene	µg/ l	-	20	NC	NT
Bromobenzene	µg/ l	-	10	NC	NT
Bromoform	µg/ l	-	10	NC	NT
Bromodichloromethane	µg/ l	-	10	NC	NT
Chloroform	µg/ l	1/ 3	**32**	8.80	12[F]
Chloromethane	µg/ l	-	10	NC	NT
Di - n - octyl phthalate	µg/ l	-	40	NC	NT
Hexachloroethane	µg/ l	-	0.1	NC	NT
Hexachlorobenzene	µg/ l	3/ 3	**0.1**	LoD>T	0.03[F]
Hexachlorobutadiene	µg/ l	0/ 3	0.1	NC	0.1[F]
iso - Propylbenzene	µg/ l	-	10	NC	NT
Pentachlorophenol	µg/ l	3/ 3	**1**	LoD>T	0.4[11]
Styrene	µg/ l	0/ 3	10	NC	50[1]
Trans - 1,2 - Dichloroethene	µg/ l	-	10	NC	NT
Tetrachloroethene	µg/ l	1/ 3	**1405**	469	10[G]
Trichloroethene	µg/ l	1/ 3	**23**	8.33	10[G]
Vinyl chloride	µg/ l	-	10	NC	NT

Source: Environmental Agency Chemical Standards for Water:

[1] Environmental Quality Standard Average (Maximum Allowable) Concentrations - Saltwater Range. [Values derived from EA Publication 'Technical Advice to 3rd Parties on Pollution of Controlled Waters for Part IIa].

Driver
Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List II substances: Council Directive 76/464/EEC Substances) (Classification) Regulations 1998: S.I. 1998/389

[11] Directive establishing a framework for Community action in the field of water policy (Water Framework Directive):Directive 2000/60/EC

[F] Surface Waters (Dangerous Substances) (Classification) Regulations 1989: S.I. 1989/2286

Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List I substances

[G] Surface Waters (Dangerous Substances) (Classification) Regulations 1992: S.I. 1992/337

Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List I substances

[J] UK Standard for protection of aquatic life in surface waters - Surface Waters (Dangerous Substances) (Classification) Regulations 1998: S.I. 1998/389

Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community - List II substances

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
[K] UK Drinking Water Standards or World Health Organisation Guidelines for Drinking Water 1984.					

Heavy Metals

7.65. Elevated heavy metals such as arsenic, chromium, copper, nickel and zinc are indicated to be leachable from soil samples collected from this development zone and at concentrations that are above the screen. Additionally, average concentrations of zinc also exceeded the screen protective of Controlled Waters and therefore infers that shallow groundwater may be of poor quality as a result, although it is unlikely to represent a significant risk to Controlled Waters receptors.

Cyanide

7.66. Cyanide was detected at 50ug/l in a leachate sample from soils taken from HWS401 (in the vicinity of Swann Hangar) and infers a potential leachate concentration that would significantly exceed the screen protective of Controlled Waters.

Benzene

7.67. Elevated benzene and associated BTEX compound toluene were identified to be highly leachable from a soil sample originating from exploratory hole position HBH410 indicating that contaminants are readily transmittable from the soil to the aqueous media. This infers that the underlying groundwater may be impacted by BTEX compounds at this location.

7.68. In addition to benzene, elevated Gasoline Range Organics between C7 –C8 were also detected up to 310μg/l in HBH410.

Benzo (b) fluoranthene

7.69. Benzo(b)fluoranthene and to a lesser extent benzo(k)fluoranthene were also identified within leachate three samples to be above the screen.

Tetrachloroethene

7.70. Tetrachloroethene, and to a lesser extent, trichloroethene and chloroform, were identified to be highly leachable from the same soil sample referenced HBH410. Similarly to BTEX, this result infers that the underlying groundwater may be impacted by chlorinated solvents at this location.

Hangars West

7.71. In comparison to the standards selected, several elevated concentrations were noted. The concentrations of those contaminants encountered in excess of Tier 2 screening levels are summarised in Table 7.25. Results below the limits of detection are excluded. The locations of potentially leachable contaminants are shown in Figure 22.

TABLE 7.25: LEACHATE CONCENTRATIONS EXCEEDING TIER 2 SCREEN

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Inorganics					
Arsenic	µg/ l	0/ 2	1	NC	25[1]
Cadmium	µg/ l	0/ 2	0.1	NC	2.5[1]
Cyanide	µg/ l	2/ 2	**10**	LoD>T	1[1]
Chromium	µg/ l	0/ 2	6	NC	15[1]
Copper	µg/ l	0/ 2	3	NC	5[1]
Inorganic Mercury	µg/ l	0/ 2	0.1	NC	0.3[1]
Nickel	µg/ l	0/ 2	3	NC	15[1]
Lead	µg/ l	0/ 2	4	NC	25[1]
Selenium	µg/ l	0/ 2	1	NC	10[K]
Zinc	µg/ l	1/ 2	**45**	28.5	40[1]
Poly Aromatic Hydrocarbons					
Acenaphthylene	µg/ l	-	0.053	NC	NT
Acenaphthene	µg/ l	-	0.134	NC	NT
Ammoniacal nitrogen	µg/ l	-	10	NC	NT
Anthracene	µg/ l	0/ 2	0.012	NC	0.1[11]
Benzo (a) anthracene	µg/ l	-	0.13	NC	NT
Benzo (a) pyrene	µg/ l	0/ 2	0.012	NC	0.05[11]
Benzo (b) fluoranthene	µg/ l	0/ 2	0.012	NC	0.03[11]
Benzo (ghi) perylene	µg/ l	2/ 2	**0.012**	LoD>T	0.002[11]
Benzo (k) fluoranthene	µg/ l	0/ 2	0.012	NC	0.03[11]
Chrysene	µg/ l	-	0.13	NC	NT
Dibenzo (ah) anthracene	µg/ l	-	0.012	NC	NT
Fluorene	µg/ l	-	0.012	NC	NT
Fluoranthene	µg/ l	2/ 2	**0.012**	LoD>T	0.002[1]
Indeno (1,2,3 - cd) pyrene	µg/ l	2/ 2	**0.012**	LoD>T	0.002[11]
Naphthalene	µg/ l	0/ 2	0.094	NC	10[J]
Phenanthrene	µg/ l	-	0.012	NC	NT
Pyrene	µg/ l	-	0.012	NC	NT

Source: Environmental Agency Chemical Standards for Water:

[1] Environmental Quality Standard Average (Maximum Allowable) Concentrations - Saltwater Range. [Values derived from EA Publication 'Technical Advice to 3rd Parties on Pollution of Controlled Waters for Part IIa].

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Driver Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List II substances: Council Directive 76/464/EEC Substances) (Classification) Regulations 1998: S.I. 1998/389 [11] Directive establishing a framework for Community action in the field of water policy (Water Framework Directive):Directive 2000/60/EC [F] Surface Waters (Dangerous Substances) (Classification) Regulations 1989: S.I. 1989/2286 **Driver:** Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List I substances [G] Surface Waters (Dangerous Substances) (Classification) Regulations 1992: S.I. 1992/337 **Driver:** Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List I substances [J] UK Standard for protection of aquatic life in surface waters - Surface Waters (Dangerous Substances) (Classification) Regulations 1998: S.I. 1998/389 **Driver:** Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community - List II substances [K] UK Drinking Water Standards or World Health Organisation Guidelines for Drinking Water 1984.					

7.72. There are no exceedences of the screen with the exception of marginally elevated zinc above the screen and those results for contaminants with LoDs above the Tier 2 screen.

Hangars East

7.73. In comparison to the standards selected, several elevated concentrations were noted. The concentrations of those contaminants encountered in excess of Tier 2 screening levels are summarised in Table 7.26. Results below the limits of detection are excluded. The locations of potentially leachable contaminants are shown in Figure 23.

TABLE 7.26: LEACHATE CONCENTRATIONS EXCEEDING TIER 2 SCREEN

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Inorganics					
Arsenic	µg/ l	0/ 2	3	NC	25[1]
Cadmium	µg/ l	0/ 2	0.1	NC	2.5[1]
Cyanide	µg/ l	1/ 1	**10**	LoD>T	1[1]
Chromium	µg/ l	0/ 2	3	NC	15[1]
Copper	µg/ l	0/ 2	4	NC	5[1]
Inorganic Mercury	µg/ l	0/ 2	0.1	NC	0.3[1]
Lead	µg/ l	0/ 2	1	NC	15[1]
Nickel	µg/ l	0/ 2	2	NC	25[1]
Selenium	µg/ l	0/ 2	1	NC	10[K]
Zinc	µg/ l	0/ 2	32	NC	40[1]
Organics					

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Benzene	µg/ l	0/ 1	5	NC	30[J]
Toluene	µg/ l	0/ 1	5	NC	40[1]
Ethylbenzene	µg/ l	0/ 1	5	NC	20[1]
o - Xylene	µg/ l	-	5	NC	NT
Phenol (Total)	µg/ l	0/ 1	0.4	NC	30[1]
Speciated Total Hydrocarbons					
Aliphatics >EC8-EC10	µg/ l	-	1.1	NC	NT
Aromatics >EC8-EC10	µg/ l	-	1.2	NC	NT
Aliphatics >EC10-EC12	µg/ l	-	2	NC	NT
Aromatics >EC10-EC12	µg/ l	-	2.5	NC	NT
Aromatics >EC12-EC16	µg/ l	-	1.4	NC	NT
Aliphatics >EC12-EC16	µg/ l	-	1.4	NC	NT
Aliphatics >EC16-EC21	µg/ l	-	1.7	NC	NT
Aromatics >EC16-EC21	µg/ l	-	1.9	NC	NT
Aliphatics >EC21-EC35	µg/ l	-	4.8	NC	NT
Aromatics >EC21-EC35	µg/ l	-	6.2	NC	NT
C5 - C6	µg/ l	-	10	NC	NT
C6 - C7	µg/ l	-	10	NC	NT
C7 - C8	µg/ l	-	10	NC	NT
C8 - C10	µg/ l	-	10	NC	NT
Poly Aromatic Hydrocarbons					
Naphthalene	µg/ l	0/ 2	0.04	NC	10[J]
Acenaphthylene	µg/ l	-	0.04	NC	NT
Acenaphthene	µg/ l	-	0.04	NC	NT
Anthracene	µg/ l	0/ 2	0.04	NC	0.1[11]
Benzo (a) anthracene	µg/ l	-	0.04	NC	NT
Benzo (a) pyrene	µg/ l	0/ 2	0.04	NC	0.05[11]
Benzo (b) fluoranthene	µg/ l	1/ 2	**8**	**4.01**	0.03[11]
Benzo (ghi) perylene	µg/ l	2/ 2	**0.04**	LoD>T	0.002[11]
Benzo (k) fluoranthene	µg/ l	1/ 2	**0.04**	LoD>T	0.03[11]
Chrysene	µg/ l	-	0.04	NC	NT
Dibenzo (ah) anthracene	µg/ l	-	0.04	NC	NT
Fluorene	µg/ l	-	0.04	NC	NT
Fluoranthene	µg/ l	1/ 2	**0.04**	LoD>T	0.002[1]
Phenanthrene	µg/ l	-	**0.04**	LoD>T	NT
Pyrene	µg/ l	-	**0.04**	LoD>T	NT
Indeno (1,2,3 - cd) pyrene	µg/ l	2/ 2	**0.04**	LoD>T	0.002[11]
Volatile Organic Compounds					
1,1,1,2 - Tetrachloroethane	µg/ l	-	5	NC	NT
1,1,1 - Trichloroethane	µg/ l	0/ 1	1	NC	100[1]
1,1,2 - Trichloroethane	µg/ l	0/ 1	1	NC	300[1]
1,1 - Dichloroethane	µg/ l	-	1	NC	NT
1,1 - Dichloroethene	µg/ l	-	1	NC	NT
1,2,4 - Trimethylbenzene	µg/ l	-	1	NC	NT
1,2 - Dibromo - 3 - Chloropropane	µg/ l	-	1	NC	NT
1,2 - Dichloroethane	µg/ l	0/ 1	1	NC	10[G]
cis 1,2 - Dichloroethene	µg/ l	-	1	NC	NT
1,2 - Dichloropropane	µg/ l	-	1	NC	NT
cis 1,3 - Dichloropropene	µg/ l	-	1	NC	NT

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
2,4,6 - Trichlorophenol	µg/ l	-	0.4	NC	NT
2,4 - Dimethylphenol	µg/ l	-	0.4	NC	NT
2,4 - Dinitrotoluene	µg/ l	-	0.1	NC	NT
2,6 - Dinitrotoluene	µg/ l	-	20	NC	NT
Bromobenzene	µg/ l	-	1	NC	NT
Bromoform	µg/ l	-	1	NC	NT
Bromodichloromethane	µg/ l	-	1	NC	NT
Chloroform	µg/ l	0/ 1	1	NC	12[F]
Chloromethane	µg/ l	-	1	NC	NT
Di - n - octyl phthalate	µg/ l	-	40	NC	NT
Hexachloroethane	µg/ l	-	0.1	NC	NT
Hexachlorobenzene	µg/ l	1/ 1	**0.1**	LoD>T	0.03[F]
Hexachlorobutadiene	µg/ l	0/ 1	0.1	NC	0.1[F]
iso - Propylbenzene	µg/ l	-	1	NC	NT
Pentachlorophenol	µg/ l	1/ 1	**1**	LoD>T	0.4[11]
Styrene	µg/ l	0/ 1	1	NC	50[1]
Trans - 1,2 - Dichloroethene	µg/ l	-	1	NC	NT
Tetrachloroethene	µg/ l	0/ 1	1	NC	10[G]
Trichloroethene	µg/ l	0/ 1	1	NC	10[G]
Vinyl chloride	µg/ l	-	1	NC	NT

Source: Environmental Agency Chemical Standards for Water:

[1] Environmental Quality Standard Average (Maximum Allowable) Concentrations - Saltwater Range. [Values derived from EA Publication 'Technical Advice to 3rd Parties on Pollution of Controlled Waters for Part IIa].

Driver
Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List II substances: Council Directive 76/464/EEC Substances) (Classification) Regulations 1998: S.I. 1998/389

[11] Directive establishing a framework for Community action in the field of water policy (Water Framework Directive):Directive 2000/60/EC

[F] Surface Waters (Dangerous Substances) (Classification) Regulations 1989: S.I. 1989/2286

Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List I substances

[G] Surface Waters (Dangerous Substances) (Classification) Regulations 1992: S.I. 1992/337

Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List I substances

[J] UK Standard for protection of aquatic life in surface waters - Surface Waters (Dangerous Substances) (Classification) Regulations 1998: S.I. 1998/389

Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community - List II substances

[K] UK Drinking Water Standards or World Health Organisation Guidelines for Drinking Water 1984.

7.74. There are no exceedences of the screen with the exception of marginally elevated benzo(b)fluoranthene above the screen and those results for contaminants with LoDs above the Tier 2 screen.

Groundwater Analyses

7.75. The results of the groundwater analyses have been compared to the values contained within the references detailed in Table 7.1 for water quality.

7.76. The assessment of groundwater data has been undertaken in view of potential risks to Controlled Waters and is not considered to be development specific. As such, the appraisal of leachate and groundwater impaction has been based upon the traditional zoning of the site (Waterfront, Hangars West and Hangars East).

7.77. The selection of Environmental Quality Standards (EQS) for saltwater (where available) has been assumed in light of the site's location upon a Secondary A Aquifer, nearby abstractions and vicinity to The Solent.

Waterfront Zone

7.78. The statistics associated with groundwater analysis are summarised in Table 7.27 and elevated metal contamination in groundwaters is shown on Figure 21 and VOCs in Figure 24.

TABLE 7.27: SUMMARY OF GROUNDWATER ANALYSIS IN WATERFRONT ZONE

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Inorganics					
Arsenic	µg/ l	1/ 21	**28**	4.19	25[1]
Cadmium	µg/ l	0/ 21	1.6	NC	2.5[1]
Chromium	µg/ l	1/ 21	**19**	4.71	15[1]
Copper	µg/ l	5/ 21	**43**	4.81	5[1]
Inorganic Mercury	µg/ l	4/ 21	**0.5**	LoD>T	0.3[1]
Nickel	µg/ l	5/ 21	**33**	8.14	15[1]
Lead	µg/ l	0/ 21	18	NC	25[1]
Selenium	µg/ l	2/ 18	**45**	7.28	10[K]
Zinc	µg/ l	7/ 21	**307**	**55.8**	40[1]
Organics					
Benzene	µg/ l	0/ 22	10	NC	30[J]
Toluene	µg/ l	0/ 22	18	NC	40[1]
Ethylbenzene	µg/ l	0/ 22	10	NC	20[1]
o - Xylene	µg/ l	-	12	NC	NT
Xylene (Total)	µg/ l	-	10	NC	NT
Phenol (Total)	µg/ l	0/ 17	5.96	NC	30[1]
Speciated Petroleum Hydrocarbons					
Aliphatics >EC8-EC10	µg/ l	-	50.2	NC	NT
Aromatics >EC8-EC10	µg/ l	-	55.6	NC	NT
Aliphatics >EC10-EC12	µg/ l	-	41.2	NC	NT
Aromatics >EC10-EC12	µg/ l	-	52.2	NC	NT
Aromatics >EC12-EC16	µg/ l	-	69.1	NC	NT

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Aliphatics >EC12-EC16	µg/ l	-	84.9	NC	NT
Aliphatics >EC16-EC21	µg/ l	-	187	NC	NT
Aromatics >EC16-EC21	µg/ l	-	152	NC	NT
Aliphatics >EC21-EC35	µg/ l	-	198	NC	NT
Aromatics >EC21-EC35	µg/ l	-	202	NC	NT
C5 - C6	µg/ l	-	400	NC	NT
C7 - C8	µg/ l	-	1790	NC	NT
C8 - C10	µg/ l	-	290	NC	NT
Total GRO	µg/ l	-	3210	NC	NT
Poly Aromatic Hydrocarbons					
Acenaphthylene	µg/ l	-	0.076	NC	NT
Acenaphthene	µg/ l	-	0.943	NC	NT
Anthracene	µg/ l	3/ 17	**0.574**	0.10	0.1[11]
Benzo (a) anthracene	µg/ l	-	1.136	NC	NT
Benzo (a) pyrene	µg/ l	2/ 17	**1.515**	**0.13**	0.05[11]
Benzo (b) fluoranthene	µg/ l	17/ 17	**8**	LoD>T	0.03[11]
Benzo (ghi) perylene	µg/ l	2/ 17	**1.849**	LoD>T	0.002[11]
Benzo (k) fluoranthene	µg/ l	2/ 17	**1.148**	LoD>T	0.03[11]
Chrysene	µg/ l	-	1.098	NC	NT
Fluorene	µg/ l	-	1.311	NC	NT
Fluoranthene	µg/ l	4/ 17	**2.728**	LoD>T	0.002[1]
Naphthalene	µg/ l	0/ 18	1	NC	10[J]
Dibenzo (ah) anthracene	µg/ l	-	0.26	NC	NT
Phenanthrene	µg/ l	-	1.955	NC	NT
Pyrene	µg/ l	-	3.026	NC	NT
Indeno (1,2,3 - cd) pyrene	µg/ l	1/ 17	**1.648**	**0.13**	0.002[11]
Volatile Organic Hydrocarbons					
1,1,1,2 - Tetrachloroethane	µg/ l	-	5	NC	NT
1,1,1 - Trichloroethane	µg/ l	0/ 18	10	NC	100[1]
1,1,2 - Trichloroethane	µg/ l	0/ 18	10	NC	300[1]
1,1 - Dichloroethane	µg/ l	-	10	NC	NT
1,1 - Dichloroethene	µg/ l	-	10	NC	NT
1,2,4 - Trimethylbenzene	µg/ l	-	34	NC	NT
1,2 - Dibromo - 3 - Chloropropane	µg/ l	-	10	NC	NT
1,2 - Dichloroethane	µg/ l	0/ 18	10	NC	10[G]
cis 1,2 - Dichloroethene	µg/ l	-	10	NC	NT
1,2 - Dichloropropane	µg/ l	-	10	NC	NT
cis 1,3 - Dichloropropene	µg/ l	-	10	NC	NT
2,4,6 - Trichlorophenol	µg/ l	-	0.4	NC	NT
2,4 - Dimethylphenol	µg/ l	-	0.4	NC	NT
2,4 - Dinitrotoluene	µg/ l	-	0.1	NC	NT
2,6 - Dinitrotoluene	µg/ l	-	20	NC	NT
bis (2 - ethylhexyl) phthalate	µg/ l	-	20	NC	NT
Butyl benzyl phthalate	µg/ l	-	20	NC	NT
Biphenyl	µg/ l	0/ 17	0.04	NC	25[J]
Bromobenzene	µg/ l	-	10	NC	NT
Bromoform	µg/ l	-	10	NC	NT
Bromodichloromethane	µg/ l	-	10	NC	NT
Chloroform	µg/ l	1/ 18	**32**	4.06	12[F]

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Chloromethane	µg/ l	-	10	NC	NT
Carbon tetrachloride	µg/ l	-	10	NC	NT
Di-n-butyl phthalate	µg/ l	-	2.412	NC	NT
Di - n - octyl phthalate	µg/ l	-	40	NC	NT
Hexachloroethane	µg/ l	-	0.1	NC	NT
Hexachlorobenzene	µg/ l	0/ 17	0.01	NC	0.03[F]
Hexachlorobutadiene	µg/ l	1/ 18	**1**	**0.15**	0.1[F]
iso - Propylbenzene	µg/ l	-	10	NC	NT
Pentachlorophenol	µg/ l	17/ 17	**1**	LoD>T	0.4[11]
Styrene	µg/ l	0/ 18	10	NC	50[1]
Trans - 1,2 - Dichloroethene	µg/ l	-	10	NC	NT
Tetrachloroethene	µg/ l	5/ 18	**2069**	**206.5**	10[G]
Trichloroethene	µg/ l	2/ 18	**62**	5.89	10[G]
Vinyl chloride	µg/ l	-	10	NC	NT
XYLTOT	µg/ l	-	17	NC	NT

Source: Environmental Agency Chemical Standards for Water:

[1] Environmental Quality Standard Average (Maximum Allowable) Concentrations - Saltwater Range. [Values derived from EA Publication 'Technical Advice to 3rd Parties on Pollution of Controlled Waters for Part IIa].

Driver
Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List II substances: Council Directive 76/464/EEC Substances) (Classification) Regulations 1998: S.I. 1998/389

[11] Directive establishing a framework for Community action in the field of water policy (Water Framework Directive):Directive 2000/60/EC

[F] Surface Waters (Dangerous Substances) (Classification) Regulations 1989: S.I. 1989/2286

Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List I substances

[G] Surface Waters (Dangerous Substances) (Classification) Regulations 1992: S.I. 1992/337

Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List I substances

[J] UK Standard for protection of aquatic life in surface waters - Surface Waters (Dangerous Substances) (Classification) Regulations 1998: S.I. 1998/389

Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community - List II substances

[K] UK Drinking Water Standards or World Health Organisation Guidelines for Drinking Water 1984.

7.79. Contaminants in the groundwater were generally observed to comprise elevated metals, PAHs (Benzo(a)pyrene and Indeno(1,2,3 - cd)pyrene) and several VOCs.

Heavy Metals

7.80. Elevated heavy metals such as arsenic, chromium, copper, nickel, selenium and zinc have been identified to be present within the groundwaters underlying this development zone and with the average concentration of zinc indicated as a potential site wide issue. However, in the majority

of cases, the concentrations of these metals are only marginally above the screen used in the assessment and so unlikely to represent a significant risk to Controlled Waters.

Polyaromatic Hydrocarbons

7.81. Speciated PAHs have been identified in the analysis to be above the respective screen for Controlled Waters on a frequent basis. This is related to the very low Tier 2 screening thresholds associated with these compounds.

7.82. Benzo(a)pyrene was detected on two occasion above the LOD in EBH307 and EBH309.

7.83. Indeno (1,2,3 - cd)pyrene was recorded once above the LOD in EBH309.

Volatile Organic Compounds

7.84. Elevated VOCs, notably tetrachloroethene and trichloroethene (the former up to 2,069ug/l in HBH408 and 1,405ug/l in HBH410) have been detected within the underlying groundwaters of this development zone at levels that exceed the respective screen.

7.85. In addition, the previous Entec investigation recorded the following in BH201 and BH203 located in the central area of the Waterfront zone and are shown on Figure 24.

TABLE 7.28: ELEVATED HYDROCARBONS AND VOC CONTRATIONS FROM ENTEC 2003 INVESTIGATION

Contaminant	Units	Concentration		Tier 2 Screen
		BH201	BH203	
Total Volatile C4 - C13	µg/l	15053	156	NT
MTBE	µg/l	538	< 10	NT
Benzene	µg/l	837	< 10	30[J]
Toluene	µg/l	3306	< 10	40[1]
Ethylbenzene	µg/l	563	< 10	20[1]
Total Xylene	µg/l	1570	< 10	NT
DRO	µg/l	279	2074	NT

Source: Environmental Agency Chemical Standards for Water:

[1] Environmental Quality Standard Average (Maximum Allowable) Concentrations - Saltwater Range. [Values derived from EA Publication 'Technical Advice to 3rd Parties on Pollution of Controlled Waters for Part IIa].

Driver
Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List II substances: Council Directive 76/464/EEC Substances) (Classification) Regulations 1998: S.I. 1998/389

[J] UK Standard for protection of aquatic life in surface waters - Surface Waters (Dangerous Substances) (Classification) Regulations 1998: S.I. 1998/389

Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community - List II substances

7.86. In addition, total Gasoline Range organics were detected in borehole EBH309 up to 3210µg/ l and this location corresponds with the four hangars on the slipway in the vicinity of The Solent.

7.87. based upon the above, a potential risk to offsite Controlled Waters receptors may be present as the data shows concentrations to progressively weaken with distance towards the west around the former BFI.

Hangars West

7.88. The statistics associated with groundwater analysis are summarised in Table 7.29 and elevated contamination in groundwaters is shown on Figure 22.

TABLE 7.29: SUMMARY OF GROUNDWATER ANALYSIS IN HANGARS WEST

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Inorganics					
Arsenic	µg/ l	0/ 9	5	NC	25[1]
Cadmium	µg/ l	0/ 9	1.5	NC	2.5[1]
Chromium	µg/ l	0/ 9	13	NC	15[1]
Copper	µg/ l	6/ 9	**12**	**7.33**	5[1]
Nickel	µg/ l	2/ 9	**17**	12.11	15[1]
Inorganic Mercury	µg/ l	6/ 9	**0.5**	LoD>T	0.3[1]
Lead	µg/ l	0/ 9	2	NC	25[1]
Selenium	µg/ l	0/ 3	3	NC	10[K]
Zinc	µg/ l	6/ 9	**215**	**125**	40[1]
Organics					
Benzene	µg/ l	0/ 9	10	NC	30[J]
Toluene	µg/ l	0/ 9	10	NC	40[1]
Ethylbenzene	µg/ l	0/ 9	10	NC	20[1]
o - Xylene	µg/ l	-	5	NC	NT
Xylene (Total)	µg/ l	-	10	NC	NT

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Phenol (Total)	µg/ l	0/ 3	0.4	NC	30[1]
Speciated Petroleum Hydrocarbons					
Aliphatics >EC8-EC10	µg/ l	-	1.5	NC	NT
Aromatics >EC8-EC10	µg/ l	-	4.8	NC	NT
Aliphatics >EC10-EC12	µg/ l	-	1.7	NC	NT
Aromatics >EC10-EC12	µg/ l	-	4.8	NC	NT
Aromatics >EC12-EC16	µg/ l	-	4.1	NC	NT
Aliphatics >EC12-EC16	µg/ l	-	1.7	NC	NT
Aliphatics >EC16-EC21	µg/ l	-	2.5	NC	NT
Aliphatics >EC21-EC35	µg/ l	-	35.7	NC	NT
Aromatics >EC16-EC21	µg/ l	-	4.9	NC	NT
Aromatics >EC21-EC35	µg/ l	-	9.1	NC	NT
C5 - C6	µg/ l	-	10	NC	NT
C7 - C8	µg/ l	-	10	NC	NT
C8 - C10	µg/ l	-	10	NC	NT
Total GRO	µg/ l	-	10	NC	NT
Diesel Range Organics	µg/ l	-	370	NC	NT
MTBE	µg/ l	-	10	NC	NT
Poly Aromatic Hydrocarbons					
Acenaphthylene	µg/ l	-	0.04	NC	NT
Acenaphthene	µg/ l	-	0.048	NC	NT
Anthracene	µg/ l	0/ 3	0.04	NC	0.1[11]
Benzo (a) anthracene	µg/ l	-	0.04	NC	NT
Benzo (a) pyrene	µg/ l	0/ 3	0.04	NC	0.05[11]
Benzo (b) fluoranthene	µg/ l	3/ 3	**8**	LoD>T	0.03[11]
Benzo (ghi) perylene	µg/ l	3/ 3	**0.04**	LoD>T	0.002[11]
Benzo (k) fluoranthene	µg/ l	3/ 3	**0.04**	LoD>T	0.03[11]
Chrysene	µg/ l	-	0.04	NC	NT
Fluorene	µg/ l	-	0.06	NC	NT
Fluoranthene	µg/ l	3/ 3	**0.04**	LoD>T	0.002[1]
Naphthalene	µg/ l	0/ 3	0.148	NC	10[J]
Dibenzo (ah) anthracene	µg/ l	-	0.04	NC	NT
Indeno (1,2,3 - cd) pyrene	µg/ l	3/ 3	**0.04**	LoD>T	0.002[11]
Phenanthrene	µg/ l	-	0.124	NC	NT
Pyrene	µg/ l	-	0.04	NC	NT
Volatile Organic Hydrocarbons					
1,1,1,2 - Tetrachloroethane	µg/ l	-	5	NC	NT
1,1,1 - Trichloroethane	µg/ l	0/ 2	1	NC	100[1]
1,1,2 - Trichloroethane	µg/ l	0/ 2	1	NC	300[1]
1,1 - Dichloroethane	µg/ l	-	1	NC	NT
1,1 - Dichloroethene	µg/ l	-	1	NC	NT
1,2,4 - Trimethylbenzene	µg/ l	-	1	NC	NT
1,2 - Dibromo - 3 - Chloropropane	µg/ l	-	1	NC	NT
1,2 - Dichloroethane	µg/ l	0/ 2	1	NC	10[G]
cis 1,2 - Dichloroethene	µg/ l	-	1	NC	NT
1,2 - Dichloropropane	µg/ l	-	1	NC	NT
cis 1,3 - Dichloropropene	µg/ l	-	1	NC	NT
2,4,6 - Trichlorophenol	µg/ l	-	0.4	NC	NT
2,4 - Dimethylphenol	µg/ l	-	0.4	NC	NT

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
2,4 - Dinitrotoluene	µg/ l	-	0.1	NC	NT
2,6 - Dinitrotoluene	µg/ l	-	20	NC	NT
bis (2 - ethylhexyl) phthalate	µg/ l	-	20	NC	NT
Butyl benzyl phthalate	µg/ l	-	20	NC	NT
Biphenyl	µg/ l	0/ 3	0.04	NC	25[J]
Bromobenzene	µg/ l	-	1	NC	NT
Bromoform	µg/ l	-	1	NC	NT
Bromodichloromethane	µg/ l	-	2	NC	NT
Chloroform	µg/ l	0/ 2	3	NC	12[F]
Chloromethane	µg/ l	-	5	NC	NT
Carbon tetrachloride	µg/ l	-	1	NC	NT
Di-n-butyl phthalate	µg/ l	-	0.528	NC	NT
Di - n - octyl phthalate	µg/ l	-	40	NC	NT
Hexachloroethane	µg/ l	-	0.1	NC	NT
Hexachlorobenzene	µg/ l	0/ 3	0.01	NC	0.03[F]
Hexachlorobutadiene	µg/ l	0/ 3	0.1	NC	0.1[F]
iso - Propylbenzene	µg/ l	-	1	NC	NT
Pentachlorophenol	µg/ l	3/ 3	**1**	LoD>T	0.4[11]
Styrene	µg/ l	0/ 2	1	NC	50[1]
Trans - 1,2 - Dichloroethene	µg/ l	-	1	NC	NT
Tetrachloroethene	µg/ l	0/ 3	1	NC	10[G]
Trichloroethene	µg/ l	0/ 2	1	NC	10[G]
Vinyl chloride	µg/ l	-	1	NC	NT
XYLTOT	µg/ l	-	10	NC	NT

Source: Environmental Agency Chemical Standards for Water:

[1] Environmental Quality Standard Average (Maximum Allowable) Concentrations - Saltwater Range. [Values derived from EA Publication 'Technical Advice to 3rd Parties on Pollution of Controlled Waters for Part IIa].

Driver
Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List II substances: Council Directive 76/464/EEC Substances) (Classification) Regulations 1998: S.I. 1998/389

[11] Directive establishing a framework for Community action in the field of water policy (Water Framework Directive):Directive 2000/60/EC

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[G] Surface Waters (Dangerous Substances) (Classification) Regulations 1992: S.I. 1992/337

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Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community - List II substances

[K] UK Drinking Water Standards or World Health Organisation Guidelines for Drinking Water 1984.

7.89. Contaminants in the groundwater were generally observed to be heavy metals and PAHs.

Heavy Metals

7.90. Elevated heavy metals such as copper, nickel and zinc have been identified to be present within the groundwaters underlying this development zone with the average concentration of copper and zinc also exceeding the screen indicating a more site wide issue. However, in the majority of cases, the concentrations of these metals are only marginally above the screen used in the assessment and so are considered unlikely to represent a significant risk to Controlled Waters.

7.91. In addition to elevated diesel range organics were also detected at 370ug/l within BH211 in the vicinity of Hangar R (building 343) indicating some localised impaction.

Polyaromatic Hydrocarbons

7.92. Speciated polyaromatic hydrocarbons were detected in a limited number of groundwaters tests with limits of detection above the level of the screen.

Hangars East

7.93. The statistics associated with groundwater analysis are summarised in Table 7.30 and elevated contamination in groundwaters is shown on Figure 23.

TABLE 7.30: SUMMARY OF GROUNDWATER ANALYSIS IN HANGARS EAST

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Inorganics					
Arsenic	µg/ l	0/ 15	3	NC	25[1]
Cadmium	µg/ l	0/ 15	1.6	NC	2.5[1]
Chromium	µg/ l	1/ 15	**16**	7.33	15[1]
Copper	µg/ l	9/ 15	**12**	**6.66**	5[1]
Inorganic Mercury	µg/ l	9/ 15	**0.5**	LoD>T	0.3[1]
Nickel	µg/ l	3/ 15	**19**	9.6	15[1]
Lead	µg/ l	0/ 15	2	NC	25[1]
Selenium	µg/ l	0/ 7	4	NC	10[K]
Zinc	µg/ l	8/ 15	**333**	**131.6**	40[1]
Organics					
Benzene	µg/ l	0/ 15	10	NC	30[J]
Toluene	µg/ l	0/ 15	10	NC	40[1]
Ethylbenzene	µg/ l	0/ 15	10	NC	20[1]
o - Xylene	µg/ l	-	5	NC	NT
Phenol (Total)	µg/ l	0/ 6	0.4	NC	30[1]
Speciated Petroleum Hydrocarbons					
Aliphatics >EC8-EC10	µg/ l	-	1.9	NC	NT
Aromatics >EC8-EC10	µg/ l	-	4.3	NC	NT
Aliphatics >EC10-EC12	µg/ l	-	2.4	NC	NT
Aromatics >EC10-EC12	µg/ l	-	4.3	NC	NT

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Aromatics >EC12-EC16	µg/ l	-	3.7	NC	NT
Aliphatics >EC12-EC16	µg/ l	-	1.8	NC	NT
Aliphatics >EC16-EC21	µg/ l	-	3.6	NC	NT
Aromatics >EC16-EC21	µg/ l	-	4.7	NC	NT
Aliphatics >EC21-EC35	µg/ l	-	14.9	NC	NT
Aromatics >EC21-EC35	µg/ l	-	20.3	NC	NT
C5 - C6	µg/ l	-	10	NC	NT
C7 - C8	µg/ l	-	10	NC	NT
C8 - C10	µg/ l	-	10	NC	NT
Diesel Range Organics	µg/ l	-	10	NC	NT
MTBE	µg/ l	-	10	NC	NT
Poly Aromatic Hydrocarbons					
Acenaphthylene	µg/ l	-	0.04	NC	NT
Acenaphthene	µg/ l	-	0.054	NC	NT
Anthracene	µg/ l	0/ 7	0.04	NC	0.1[11]
Benzo (a) anthracene	µg/ l	-	0.04	NC	NT
Benzo (a) pyrene	µg/ l	0/ 7	0.04	NC	0.05[11]
Benzo (b) fluoranthene	µg/ l	7/ 7	**8**	LoD>T	0.03[11]
Benzo (ghi) perylene	µg/ l	7/ 7	**0.04**	LoD>T	0.002[11]
Benzo (k) fluoranthene	µg/ l	7/ 7	**0.04**	LoD>T	0.03[11]
Chrysene	µg/ l	-	0.04	NC	NT
Chrysene	µg/ l	-	0.04	NC	NT
Dibenzo (ah) anthracene	µg/ l	-	0.04	NC	NT
Fluorene	µg/ l	-	0.05	NC	NT
Fluoranthene	µg/ l	7/ 7	**0.04**	LoD>T	0.002[1]
Indeno (1,2,3 - cd) pyrene	µg/ l	7/ 7	**0.04**	LoD>T	0.002[11]
Naphthalene	µg/ l	0/ 7	0.138	NC	10[J]
Phenanthrene	µg/ l	-	0.084	NC	NT
Pyrene	µg/ l	-	0.04	NC	NT
Volatile Organic Hydrocarbons					
1,1,1,2 - Tetrachloroethane	µg/ l	-	5	NC	NT
1,1,1 - Trichloroethane	µg/ l	0/ 7	22	NC	100[1]
1,1,2 - Trichloroethane	µg/ l	0/ 7	1	NC	300[1]
1,1 - Dichloroethane	µg/ l	-	1	NC	NT
1,1 - Dichloroethene	µg/ l	-	1	NC	NT
1,2,4 - Trimethylbenzene	µg/ l	-	1	NC	NT
1,2 - Dibromo - 3 - Chloropropane	µg/ l	-	1	NC	NT
1,2 - Dichloroethane	µg/ l	0/ 7	1	NC	10[G]
cis 1,2 - Dichloroethene	µg/ l	-	1	NC	NT
1,2 - Dichloropropane	µg/ l	-	1	NC	NT
cis 1,3 - Dichloropropene	µg/ l	-	1	NC	NT
2,4,6 - Trichlorophenol	µg/ l	-	0.4	NC	NT
2,4 - Dimethylphenol	µg/ l	-	0.4	NC	NT
2,4 - Dinitrotoluene	µg/ l	-	0.1	NC	NT
2,6 - Dinitrotoluene	µg/ l	-	20	NC	NT
bis (2 - ethylhexyl) phthalate	µg/ l	-	20	NC	NT
Butyl benzyl phthalate	µg/ l	-	20	NC	NT
Biphenyl	µg/ l	0/ 7	0.04	NC	25[J]
Bromobenzene	µg/ l	-	1	NC	NT

Contaminant	Units	Exceeding	Max	50th%	Tier 2 Screen
Bromoform	µg/ l	-	1	NC	NT
Bromodichloromethane	µg/ l	-	1	NC	NT
Chloroform	µg/ l	0/ 7	1	NC	12[F]
Chloromethane	µg/ l	-	11	NC	NT
Carbon tetrachloride	µg/ l	-	1	NC	NT
Di-n-butyl phthalate	µg/ l	-	0.525	NC	NT
Di - n - octyl phthalate	µg/ l	-	40	NC	NT
Hexachloroethane	µg/ l	-	0.1	NC	NT
Hexachlorobenzene	µg/ l	0/ 7	0.01	NC	0.03[F]
Hexachlorobutadiene	µg/ l	0/ 7	0.1	NC	0.1[F]
iso - Propylbenzene	µg/ l	-	1	NC	NT
Pentachlorophenol	µg/ l	6/ 7	1	LoD>T	0.4[11]
Styrene	µg/ l	0/ 7	1	NC	50[1]
Xylene (Total)	µg/ l	-	10	NC	NT
Trans - 1,2 - Dichloroethene	µg/ l	-	1	NC	NT
Tetrachloroethene	µg/ l	0/ 7	1	NC	10[G]
Trichloroethene	µg/ l	0/ 7	1	NC	10[G]
Vinyl chloride	µg/ l	-	1	NC	NT
XYLTOT	µg/ l	-	10	NC	NT

Source: Environmental Agency Chemical Standards for Water:

[1] Environmental Quality Standard Average (Maximum Allowable) Concentrations - Saltwater Range. [Values derived from EA Publication 'Technical Advice to 3rd Parties on Pollution of Controlled Waters for Part IIa].

Driver
Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List II substances: Council Directive 76/464/EEC Substances) (Classification) Regulations 1998: S.I. 1998/389

[11] Directive establishing a framework for Community action in the field of water policy (Water Framework Directive):Directive 2000/60/EC

[F] Surface Waters (Dangerous Substances) (Classification) Regulations 1989: S.I. 1989/2286

Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List I substances

[G] Surface Waters (Dangerous Substances) (Classification) Regulations 1992: S.I. 1992/337

Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List I substances

[J] UK Standard for protection of aquatic life in surface waters - Surface Waters (Dangerous Substances) (Classification) Regulations 1998: S.I. 1998/389

Driver: Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community - List II substances

[K] UK Drinking Water Standards or World Health Organisation Guidelines for Drinking Water 1984.

7.94. Contaminants in the groundwater were generally observed to be heavy metals and PAHs and are discussed below.

Heavy Metals

7.95. Elevated heavy metals such as chromium, copper, nickel and zinc have been identified to be present within the groundwaters underlying this development zone with the average concentrations of copper and zinc also exceeding the screen indicating a more site wide issue for these contaminants. However, in the majority of cases, the concentrations of these metals are only marginally above the screen used in the assessment and so unlikely to represent a significant risk to Controlled Waters.

Polyaromatic Hydrocarbons

7.96. Speciated polyaromatic hydrocarbons were detected in a limited number of groundwaters tests with limits of detection above the level of the screen.

Ground Gas Assessment

7.97. Ground gas monitoring was undertaken on a single visit by the Entec site investigation for a limited number of borehole installations corresponding with the proposed development zones listed in Table 7.31.

TABLE 7.31: GAS MONITORING WITHIN PROPOSED DEVEOPMENT ZONES

Proposed Development Zone	Borehole
Drake Gardens and Seaplane Square Residential [Areas 1 and 8a]	EBH301
	EBH302
Wykeham Hall and Barracks Square Residential [Areas 4 and 5b]	-
Barracks Square, Unicorn Triangle and Westcliffe Seafront Mixed-use [Area 5a, 6 and 7b]	EBH307
	EBH308
Airport Park, Marine Business Park, Unicorn Triangle and Seaplane Square Commercial [Areas 2, 3, 7a, 8b]	EBH303
	EBH304
	EBH305
	EBH306
	EBH309
	EBH310
	EWS305
Hangars West	-
Hangars East	ETP301

7.98. Based upon the above, a preliminary appraisal of ground gas issues can be made at this time for those proposed development areas where gas monitoring was completed. It is noted however, that additional gas monitoring is required throughout the site.

Drake Gardens and Seaplane Square Residential [Areas 1 and 8a]

7.99. The notable pre-purge results, where carbon dioxide exceeded 1.5%, methane 1% and/or oxygen fell below 18%, and elevated PID readings are summarised in Table 7.32.

TABLE 7.32: SUMMARY GAS CONCENTRATIONS

Borehole	Date	Oxygen (%v/v)	Carbon Dioxide (%v/v)	Methane (%v/v)	Carbon Monoxide (ppm)	H_2S (ppm)	PID (ppm)	Atmospheric Pressure (mb)
EBH301	06/12/05	20.8	0.0	0.0	5	0	0.3	1005
EBH302	06/12/05	20.5	0.0	0.0	2	0	0.2	1007

7.100. During the course of this monitoring, no detectable concentrations of carbon dioxide (CO_2) or methane (CH_2) were detected. With regards to oxygen, concentrations ranged between typically average concentrations of 20.5-20.8%.

7.101. PID readings (Volatile Organic Compounds (VOCs)), carbon monoxide (CO) and hydrogen sulphide (H_2S) were generally low or below detectable limits.

7.102. Based upon the guidance presented in Table 7.1, an initial assessment has been made of the requirements for gas protection that consider sources of gas generation, gas flows and concentrations and potential exposure routes. This is summarised below:

- Potential on-site source of generation. Identified sources of ground gas and VOCs comprise the former BFI and identified VOC impaction of groundwater.
- Potential off-site source of generation. Identified sources of gas generation offsite have been recorded as historic pollution incident at the Control Tower.
- Gas Flows – None recorded.
- A Gas Screening Value has not been calculated.
- Exposure Routes. Gas at the site primarily presents a concern following ingress into confined spaces both during and after construction.

7.103. Initial gas monitoring data infers a CIRIA Characteristic Situation 1, although it is noted that elevated VOCs are present within underlying groundwaters, which will require additional consideration.

7.104. For this development area, CIRIA 665 recommends a total of 12 monitoring visits over a period of 6 months. This monitoring frequency is considered suitable for high sensitivity (residential with gardens) end use and sites with a moderate-high potential for ground gas generation. Such a

frequency is considered appropriate for this site and may require approval with the local authority.

Wykeham Hall and Barracks Square Residential [Areas 4 and 5b]

7.105. No gas monitoring has been undertaken within this proposed development area. In accordance with CIRIA 665, it is recommended that a total of 9 monitoring visits over a period of six months. This monitoring frequency is considered suitable for high sensitivity (residential with gardens) end use and sites with a low potential for ground gas generation. Such a frequency is considered appropriate for this site and may require approval with the local authority.

Barracks Square, Unicorn Triangle and Westcliffe Seafront Mixed-Use [Areas 5a, 6 and 7b]

7.106. The notable pre-purge results, where carbon dioxide exceeded 1.5%, methane 1% and/or oxygen fell below 18%, are summarised in Table 7.33.

TABLE 7.33: SUMMARY GAS CONCENTRATIONS

Borehole	Date	Oxygen (%v/v)	Carbon Dioxide (%v/v)	Methane (%v/v)	Carbon Monoxide (ppm)	H_2S (ppm)	PID (ppm)	Atmospheric Pressure (mb)
EBH307	06/12/05	19.9	0.0	0.0	5	0	610	1007
EBH308	06/12/05	20.0	0.0	0.0	4	0	21.7	1007

7.107. During the course of this monitoring, no detectable concentrations of carbon dioxide (CO_2) or methane (CH_2) were detected. With regards to oxygen, concentrations were typically 20%.

7.108. PID readings (Volatile Organic Compounds (VOCs) were notably elevated at this location with a maximum reading of 610ppm in EBH307. It is noted that this borehole location corresponds with identified groundwater impaction at the former MT Section fuel store.

7.109. Based upon the guidance presented in Table 7.1, an initial assessment has been made of the requirements for gas protection that consider sources of gas generation, gas flows and concentrations and potential exposure routes. This is summarised below:

- Potential on-site source of generation. Identified sources of ground gas and VOCs comprise the former MT Section, fuel storage areas and VOC impacted groundwater.
- Potential off-site source of generation. Former commercial areas to the north of this zone.
- Gas Flows. None recorded.

- A Gas Screening Value has not been calculated.
- Exposure Routes. Gas at the site primarily presents a concern following ingress into confined spaces both during and after construction.

7.110. Initial gas monitoring data infers a CIRIA Characteristic Situation 1, although it is noted that elevated VOCs are present within underlying groundwaters, which will require additional consideration.

7.111. For this development area, CIRIA 665 recommends a total of 6 monitoring visits over a period of 3 months. This monitoring frequency is considered suitable for moderate sensitivity (mixed-use and residential flats) end use and sites with a low potential for ground gas generation, although VOCs have been detected in groundwater. Such a frequency is considered appropriate for this site and may require approval with the local authority.

Airport Park, Marine Business Park, unicorn Triangle and Seaplane Square Commercial [Areas 2, 3, 7a and 8b]

7.112. The notable pre-purge results, where carbon dioxide exceeded 1.5%, methane 1% and/or oxygen fell below 18%, are summarised in Table 7.34.

TABLE 7.34: SUMMARY GAS CONCENTRATIONS

Borehole	Date	Oxygen (%v/v)	Carbon Dioxide (%v/v)	Methane (%v/v)	Carbon Monoxide (ppm)	H_2S (ppm)	PID (ppm)	Atmospheric Pressure (mb)
EBH303	06/12/05	20.0	0.0	0.0	2	0	1.0	1011
EBH304	06/12/05	20.9	0.0	0.0	6	0	0.2	1005
EBH305	06/12/05	20.2	0.0	0.0	0	0	1.0	1016
EBH306	06/12/05	20.6	0.0	0.0	6	0	0.2	1004
EBH309	06/12/05	19.9	0.0	0.0	3	0	415	1008
EBH310	06/12/05	20.0	0.0	0.1	5	0	17	1017
EWS305	06/12/05	20.0	0.0	0.0	2	0	0.3	1016

7.113. During the course of this monitoring, no detectable concentrations of carbon dioxide (CO_2) or methane (CH_2) were detected. With regards to oxygen, concentrations ranged between typically average concentrations of 19.9 – 20.9%.

7.114. PID readings (Volatile Organic Compounds (VOCs) were notably elevated with a maximum reading of 415ppm in EBH309 at the slipway in Seaplane Square, which is down-gradient of previous occurrences of VOCs at the former MT Section fuel store.

7.115. Based upon the guidance presented in Table 7.1, an initial assessment has been made of the requirements for gas protection that consider sources of gas generation, gas flows and concentrations and potential exposure routes. This is summarised below:

- Potential on-site source of generation. Identified sources of ground gas and VOCs comprise the hangar areas and identified VOC impaction of groundwater.
- Potential off-site source of generation. Identified sources of ground gas generation offsite have been recorded as areas around the former BFI to the west and MT Section to the south of this zone and historic pollution incident at the Control Tower.
- Gas Flows. None recorded.
- A Gas Screening Value has not been calculated.
- Exposure Routes. Gas at the site primarily presents a concern following ingress into confined spaces both during and after construction.

7.116. Initial gas monitoring data infers a CIRIA Characteristic Situation 1, although it is noted that elevated VOCs are present within underlying groundwaters, which will require additional consideration.

7.117. For this development area, CIRIA 665 recommends a total of 6 monitoring visits over a period of 3 months. This monitoring frequency is considered suitable for low sensitivity (commercial) end use and sites with a moderate potential for ground gas generation corresponding with the historical use of this area. Such a frequency is considered appropriate for this site and may require approval with the local authority.

Hangars West Commercial

7.118. No gas monitoring has been undertaken within this proposed development area. In accordance with CIRIA 665, it is recommended that a total of 6 monitoring visits over a period of 2 months. This monitoring frequency is considered suitable for low sensitivity (commercial) end use and sites with a low potential for ground gas generation. Such a frequency is considered appropriate for this site and may require approval with the local authority.

Hangars East Commercial

7.119. The notable pre-purge results, where carbon dioxide exceeded 1.5%, methane 1% and/or oxygen fell below 18%, are summarised in Table 7.35.

TABLE 7.35: SUMMARY GAS CONCENTRATIONS

Borehole	Date	Oxygen (%v/v)	Carbon Dioxide (%v/v)	Methane (%v/v)	Carbon Monoxide (ppm)	H_2S (ppm)	PID (ppm)	Atmospheric Pressure (mb)
ETP301	06/12/05	19.9	0.0	0.0	6	0	0.1	1016

7.120. During the course of this monitoring, no detectable concentrations of carbon dioxide (CO_2) or methane (CH_2) were detected. With regards to oxygen, concentrations recorded 19.9%.

7.121. PID readings (Volatile Organic Compounds (VOCs)), carbon monoxide (CO) and hydrogen sulphide (H_2S) were generally below detectable limits

7.122. Based upon the guidance presented in Table 7.1, an assessment has been made of the requirements for gas protection that consider sources of gas generation, gas flows and concentrations and potential exposure routes. This is summarised below:

- Potential on-site source of generation. Areas of Made Ground and potential fuel spillage from storage tanks around aircraft hangars.
- Potential off-site source of generation. Identified sources of gas generation offsite have been recorded as nearby landfills to the east and Victoria landfill to the north, organic rich deposits associated with the tributary of the River Alver and areas of Made Ground.
- Gas Flows. None recorded.
- A Gas Screening Value has not been calculated.
- Exposure Routes. Gas at the site primarily presents a concern following ingress into confined spaces both during and after construction.

7.123. Initial gas monitoring data infers a CIRIA Characteristic Situation 1.

7.124. For this development area, CIRIA 665 recommends a total of 6 monitoring visits over a period of 2 months. This monitoring frequency is considered suitable for low sensitivity (commercial) end use and sites with a low potential for ground gas generation. Such a frequency is considered appropriate for this site and may require approval with the local authority.

8.0 REVISED CONCEPTUAL MODEL AND RISK ASSESSMENT

8.1. Current guidance for contaminated land advocates the assessment of risk by determining the presence of pollutant linkages and weighting the likelihood of harm occurring with the potential severity of that harm. The framework is set out in various publications by the DETR, Environment Agency, Institute for Environment and Health and CIRIA.

8.2. Tables 5.1 - 5.7 indicate the potential contaminants, pollutant linkages and receptors that have been considered at the site. Following the investigation of these by Entec / Halcrow, a revised Conceptual Site Model is presented below in Tables 8.1 - 8.7 for each of the viable pollutant linkages and particular receptors and illustrated in Figures 25-27. For the purpose of this assessment, the following descriptions of risk have been utilised, which take into account the magnitude of the source contamination identified, likelihood of exposure via a pathway and significance of harm likely to result on the given receptor[6]:

- **High Risk.** Pollutant linkage is likely to exist and be causing significant harm.
- **Medium Risk.** Pollutant linkage is likely to exist but significant harm is unlikely.
- **Low Risk**. Pollutant linkage may exist but any harm is likely to be mild.

[6] IEH 'Guidelines for Environmental Risk Assessment and Management' and CIRIA 552 'Contaminated Land Risk Assessment, Guide to Good Practice'. Section 6 of CIRIA 552 presents matrices for risk assessment. These have been simplified herein.

TABLE 8.1: END USERS DURING OCCUPATION IN RESIDENTIAL AREAS

PATHWAY	RISK	COMMENT
Drake Gardens and Seaplane Square Residential [Areas 1 and 8a]		
Inhalation of vapour from soil / dust / water	High•	This assessment is based upon the findings of: • Potential sources of contamination (Table 5.1) • Soil results screened against thresholds (Table 7.3) • Leachate results (Table 7.24) • Groundwater results (Table 7.27) • Gas Results (Table 7.32) The investigation has not identified contamination by metal and hydrocarbons to soils with the exception of lead at EBH301. Elevated VOCs comprising BTEX and Tetrachloroethene (HBH410) in groundwater have been identified that could present a risk to human health. A **MEDIUM / HIGH** risk is considered to exist associated with VOCs and the potential for fuel based hydrocarbons / unforeseen contamination to be present locally due to the potential sources of contamination at the bulk fuel installation listed in Table 5.1. Further gas monitoring is required.
Inhalation of soil / dust	Medium•	
Ingestion of soil / dust	Medium•	
Dermal contact with soil / dust / water	Medium•	
Migration of soil gases to confined spaces/structure	High	
Consumption of home-grown vegetables	High•	
Uptake by flora / fauna	Medium	
Wykeham Hall and Barracks Square Residential [Areas 4 and 5b]		
Inhalation of vapour from soil / dust / water	Low	This assessment is based upon the findings of: • Potential sources of contamination (Table 5.1) • Soil results screened against thresholds (Table 7.6) • Leachate results (Table 7.24) • Groundwater results (Table 7.27) The investigation has not identified contamination by
Inhalation of soil / dust	Medium	
Ingestion of soil / dust	Medium	
Dermal contact with soil / dust / water	Medium	
Migration of soil gases to confined spaces/structure	Low	

PATHWAY	RISK	COMMENT
Consumption of home-grown vegetables	Low/Medium	metal and hydrocarbons to soils or groundwaters, although sampling in this area was limited. On the basis that offsite contamination was previously identified at the former grounds maintenance area (building 273) and asbestos inferred within demolition arisings, a **LOW / MEDIUM** risk is considered. Further gas monitoring is required.
Uptake by flora / fauna	Medium	
Hangars West Allotments		
Inhalation of vapour from soil / dust / water	Low•	Insufficient information from the site investigation exists, however, desk study information infers localised contamination around an area of burning, boiler house, oil store and rifle range. A **MEDIUM / HIGH** risk is considered to exist associated with the potential for metals, hydrocarbons and asbestos or unforeseen contamination to be present locally at the site although the proposed usage suggests limited exposure. Further gas monitoring is not required in this area due to proposed outdoor usage.
Inhalation of soil / dust	High•	
Dermal contact with soil / dust / water	High•	
Ingestion of soil / dust	High•	
Consumption of home-grown vegetables	High•	
Uptake by flora / fauna	Medium	

• Associated with areas of allotment growing areas corresponding with identified contamination.

TABLE 8.2: END USERS DURING OCCUPATION IN MIXED-USE AREAS

PATHWAY	RISK	COMMENT
Barracks Square, Unicorn Triangle and Westcliffe Seafront Mixed-use [Areas 5a, 6 and 7b]		
Inhalation of vapour from soil / dust / water	High•	This assessment is based upon the findings of: • Potential sources of contamination (Table 5.1) • Soil results screened against thresholds (Table 7.9) • Leachate results (Table 7.24) • Groundwater results (Table 7.27) • Gas Results (Table 7.33) The investigation identified localised contamination by arsenic (HBH403), lead (HTP405) and benzene (HTP405 and HBH405) in soils and elevated BTEX and VOCs (tetrachloroethene) in the groundwater in the area of the former MT Section (proposed residential part of Unicorn Triangle and sheltered accommodation in Barracks Square). A **MEDIUM / HIGH** risk is considered to exist associated with VOCs and the potential for fuel based hydrocarbons / unforeseen contamination to be present locally. Further gas monitoring is required.
Inhalation of soil / dust	Medium•	
Ingestion of soil / dust	Medium•	
Dermal contact with soil / dust / water	Medium•	
Migration of soil gases to confined spaces/structure	Medium/High•	
Uptake by flora / fauna	. Medium•	

• Associated with areas of private gardens / soft landscaping corresponding with identified contamination.

TABLE 8.3: END USERS DURING OCCUPATION IN COMMERCIAL AREAS

PATHWAY	RISK	COMMENT
Airport Park, Marine Business Park, Unicorn Triangle and Seaplane Square Commercial [Areas 2, 3, 7a and 8b]		
Inhalation of vapour from soil / dust / water	Low/Medium	This assessment is based upon the findings of:

PATHWAY	RISK	COMMENT
Inhalation of soil / dust	Low	• Potential sources of contamination (Table 5.1) • Soil results screened against thresholds (Table 7.13) • Leachate results (Table 7.24) • Groundwater results (Table 7.27-28) • Gas Results (Table 7.34) The investigation has identified localised lead (1033.5mg/kg at HTP409) and PAH contamination in soils at the vicinity of the historical workshops (south of Esmonde Hangar) and elevated levels of VOCs in groundwater. In addition, localised asbestos has previously been detected within Area 3 – Marine Business Park, which may present a risk if used within landscaping areas. A **LOW / MEDIUM** risk is considered to exist associated with VOCs and the potential for fuel based hydrocarbons / unforeseen contamination to be present locally. Further gas monitoring is required.
Ingestion of soil / dust	Low	
Dermal contact with soil / dust / water	Low	
Uptake by flora / fauna	Low	
Migration of soil gases to confined spaces/structure	Medium•	
Hangars West Commercial		
Inhalation of vapour from soil / dust / water	Low	This assessment is based upon the findings of: • Potential sources of contamination (Table 5.1) • Soil results screened against thresholds (Table 7.17) • Leachate results (Table 7.25) • Groundwater results (Table 7.29)
Inhalation of soil / dust	Low/Medium	
Ingestion of soil / dust	Low/Medium	
Dermal contact with soil / dust / water	Low/Medium	
Uptake by flora / fauna	Low	

PATHWAY	RISK	COMMENT
Migration of soil gases to confined spaces/structure	Low	The investigation has identified localised lead (1100mg/kg at EWS310) and PAH contamination in soils in the vicinity of the former circular above ground oil tank although PAHs are not considered to represent a risk to human health. A **LOW** risk is considered to exist associated with the potential for metals and hydrocarbons or previously unforeseen contamiantion to be present locally at the site. Further gas monitoring is required.
Hangars East Commercial		
Inhalation of vapour from soil / dust / water	Low	This assessment is based upon the findings of: • Potential sources of contamination (Table 5.1) • Soil results screened against thresholds (Table 7.21) • Leachate results (Table 7.26) • Groundwater results (Table 7.30) • Gas Results (Table 7.35) The investigation has identified localised lead (ETP301) and PAH contamination in soils in the south of this development zone not corresponding with the footprint of the commercial development. A **LOW** risk is considered to exist associated with the potential for metals and hydrocarbons or previously unforeseen contamiantion to be present locally at the site. Further gas monitoring is required.
Inhalation of soil / dust	Low/Medium	
Ingestion of soil / dust	Low/Medium	
Dermal contact with soil / dust / water	Low/Medium	
Uptake by flora / fauna	Low	
Migration of soil gases to confined spaces/structure	Low	

• Associated with areas of soft landscaping corresponding with identified contamination.

TABLE 8.4: RISK ASSESSMENT: BUILDINGS & INFRASTRUCTURE

PATHWAY	RISK	COMMENT
Drake Gardens and Seaplane Square Residential [Areas 1 and 8a]		
Leaching of contamination from Made Ground	High	The investigation has identified metal and hydrocarbon impacted soils and groundwater and metals, cyanide (west of Swann Hangar), benzene and VOCs were found to be readily leachable from soils in the Waterfront zone.
Movement of contaminants to engineered structures (e.g. water pipes)	High	
Wykeham Hall and Barracks Square Residential [Areas 4 and 5b]		
Leaching of contamination from Made Ground	Low/Medium	The investigation has identified metal and hydrocarbons in leachates and groundwater samples, although there is limited data from this development area.
Movement of contaminants to engineered structures (e.g. water pipes)	Low/Medium	
Barracks Square, Unicorn Triangle and Westcliffe Seafront Mixed-use [Areas 5a, 6 and 7b]		
Leaching of contamination from Made Ground	High	The investigation identified significantly elevated BTEX leachate from impacted soils and presence in groundwater in the vicinity of the former MT Section. VOC contamination was identified in the northern parts of this development zone [Area 5a].
Movement of contaminants to engineered structures (e.g. water pipes)	High	
Airport Park, Marine Business Park, Unicorn Triangle and Seaplane Square Commercial [Areas 2, 3, 7a and 8b]		
Leaching of contamination from Made Ground	High	The investigation has identified VOC hydrocarbon impacted groundwater in the vicinity of the former BFI and Boiler House / Triumph Galley.
Movement of contaminants to engineered structures (e.g. water pipes)	High	
Hangars West Commercial		
Leaching of contamination from Made Ground	Low	The investigation has not identified widespread

PATHWAY	RISK	COMMENT
Movement of contaminants to engineered structures (e.g. water pipes)	Low	contamination in the soils and no elevated leachate.
Hangars East Commercial		
Leaching of contamination from Made Ground	Low	The investigation has not identified widespread contamination in the soils and no elevated leachate.
Movement of contaminants to engineered structures (e.g. water pipes)	Low	

TABLE 8.5: RISK ASSESSMENT: CONTROLLED WATERS

PATHWAY	RISK	COMMENT
Waterfront zone		
Leaching of contamination from Made Ground	Medium/High•	The investigation has identified hydrocarbon impacted soils, metals and hysdrocarbons readily leachable from soils and impacted groundwater comprising dissolved phase VOCs in the vicinity of the hangars and former BFI. Elevated heavy metals such as arsenic, chromium, copper, nickel, selenium and zinc are indicated to be leachable from soil samples but unlikely to represent a significant risk to Controlled Waters receptors. Cyanide was identified to be highly leachable from HWS401 (in the vicinity of Swann Hangar) and infers a potential leachate concentration that would significantly exceed the screen protective of Controlled Waters. Tetrachloroethene, and to a lesser extent, trichloroethene and BTEX were identified to be highly leachable at HBH10 (possibly near building 141). Identified contamination exists and a **MEDIUM / HIGH** risk is considered to exist which requires further assessment and/or remediation.
Migration of water borne contaminants	Medium/High•	
Hangars West Commercial		
Leaching of contamination from Made Ground	Low	The investigation has identified a single lead hotspot at EWS310 in soils. However, several elevated metals were present in groundwaters above the screen but there were no

PATHWAY	RISK	COMMENT
		exceedences of the screen from leachates.
Migration of water borne contaminants	Medium•	Identified localised contamination exists which may require further assessment although currently considered unlikely to present a significant risk to Controlled Waters and a **LOW / MEDIUM** risk is currently considered to exist.
Hangars East Commercial		
Leaching of contamination from Made Ground	Low	The investigation has identified a single lead hotspot at ETP301 in soils and several elevated metals present in groundwater above the screen but there were no exceedences of the screen from leachates with the exception of zinc.
Migration of water borne contaminants	Medium•	Identified localised contamination exists which may require further assessment although currently considered unlikely to present a significant risk to Controlled Waters and a **LOW / MEDIUM** risk is currently considered to exist.

• Associated with area in vicinity identified contamination.

TABLE 8.6: GROUNDWORKS (ASSUMING BASIC PPE)*

PATHWAY	RISK	COMMENT
Ingestion of soil/dust	Medium•	Redevelopment or maintainance of the site may involve ground workers coming into contact with the underlying soils and water. Hydrocarbon impacted soils and groundwater have been identfied locally associated with the former use of the site resulting in a **MEDIUM** risk across the site. Normal Health and Safety precautions associated with a site where potential contamination may exist (of the levels identified), will mitigate the general risk to **LOW**.
Inhalation of soil/dust	Medium•	
Inhalation of vapour from soil / dust / water	Medium•	
Dermal contact with soil / dust / water	High•	
Migration of soil gases to confined spaces	High	
Migration of water borne contaminants	Medium•	
Leaching of contamination from Made ground	Low•	

* Separate assessments are required in relation to asbestos risk. • Associated with area in vicinity of identified contamination.

TABLE 8.7: RISK ASSESSMENT: OFFSITE RECEPTORS

PATHWAY	RISK	COMMENT
Adjacent Residential Areas		
Dermal contact with soil / dust / water	Low	Hydrocarbon VOC impacted groundwater has been identified in the Waterfront zone. Residential properties bound the site along Marine Way. There is a **MEDIUM** risk is considered in relation to the risk of contaminants migrating beneath adjacent offsite properties.
Inhalation of vapour from soil / dust / water	High•	
Migration of soil gases to confined spaces/structure	Medium/High•	
Movement of contaminants to engineered structures (e.g. water pipes)	Medium•	
Controlled Waters		
Migration of water borne contaminants	Medium/High	As Table 8.5 above.

• Associated with area in vicinity identified contamination.

9.0 RADIOACTIVE CONTAMINATION

9.1. Under Part IIA of the Environmental Protection Act 1990, (amended by regulation 4(a) of the Modification Regulations), land is determined as contaminated by virtue of radioactivity if 'harm' is being caused or if there is a significant possibility of 'harm' being caused.

9.2. Furthermore, Paragraph A41 of the Statutory Guidance states that a local authority should regard 'harm' as being caused where lasting exposure gives rise to doses that exceed one or more of the following criteria:

- An effective dose of 3 millisieverts per annum (3.0 $mSv.y^{-1}$);
- An equivalent does of the lens of the eye of 15 millisieverts per annum (15 $mSv.y^{-1}$); or
- An equivalent dose to the skin of 50 millisieverts per annum (50 $mSv.y^{-1}$).

9.3. As such, these criteria are referred to as the 'A41' criteria' and are central to undertaking risk assessments into radioactive contamination.

9.4. However, whilst the above definition of radioactive contamination is provided by Part IIA, it is Planning Policy Statement 23 (PPS23) that will be the controlling framework to address radiation contamination risk via the planning process.

9.5. The following text provides a review of the various investigations into radioactive contamination at the Daedalus site, which are referenced [21 – 25] and illustrated in Figures 28-30.

[21] Defence Radiological Protection Service (DRPS), 24 April 1996

9.6. A review of available information suggested that in previous years, aircraft were burned on the fire ground site in Hangars East for fire fighting and training purposes. As such, it is likely that old aircraft fitted with radioactively luminised dials (such as Radium 226^{Ra}) would have been released to the ground. Similar burning areas may have existed in the north of Hangars West. In addition, Thorium-232 was also considered to be a potential contaminant as it may be found within aircraft engines, where it was present as an alloy of magnesium.

9.7. The DRPS undertook a radiological survey in 1996 of the fire-fighting training ground in Hangars East and their survey comprised monitoring by hand-held instrumentation (Mini-Monitor 900 and a portable dose meter) in addition to the collection of three samples for both qualitative and quantitative assessment of the radioactivity.

9.8. The analysis, by gamma spectroscopy, identified radioactive contaminants radium-226 and thorium-232 to be present within the ground that would be of regulatory concern with levels up to 21.0Bq.g^{-1} and exceeding the threshold set at the time (Schedule 3 of the Radioactive Substances Act 1993 - 0.37Bq.g^{-1}), therefore requiring remedial action. It was recommended that the radioactively contaminated material covering an area of approximately 65m^2 be removed from the site.

9.9. Whilst no verification report for this remediation has been made available, reference to a letter report by DRPS (dated 9 March 1998), was made by Entec in their Phase One Desk Study and this provides confirmation that radiological material had been cleared from the Fire Training Ground by Westechem.

[22] Entec Phase Two Radiological Survey Draft Report, 8 April 2003

9.10. Entec undertook a walkover survey of the wider area in 2003, which comprised a review of former building land use, a radiological walkover survey and qualitative assessment. They described several historical operations identified as potential sources of radioactive contamination comprising:

- Aircraft hangars, workshops and maintenance facilities - possible maintenance and storage of radium luminised instruments and paints.
- Fire training area - potential burning of obsolete and damaged aircraft for fire training purposes. It is also noted that DRPS undertook a radiological survey of the fire training ground between January and February 1996 and subsequent remedial works to remove radiological sources identified within this area.
- Burning grounds / waste disposal areas - Three potential burning and waste burial grounds were identified on the south eastern area of the airfield. Entec noted that such areas may contain radium contaminated residues depending upon the nature of material buried. CampbellReith have also identified an area of burning from aerial photograph located in the Hangars West area adjacent to the Bellman Hangar No 4 (building No 356).
- Anecdotal information - evidence that a crash investigation team were based in Hangars R and P (buildings 343 and 344) and that aircraft wrecks were reassembled in these locations inferring that aircraft debris may have temporarily been stored outside of these buildings and radium released to the ground.

9.11. The works were considered by Entec to have covered 100% of all high risk areas such as the surrounds of hangars and workshops; 50 percent coverage of a 20m buffer surrounding these areas. Where small point sources were discovered, the 100% coverage was extended by 5m.

9.12. A guideline screening level of 0.34 $Bq.g^{-1}$ corresponding with 0.3 $mSv.y^{-1}$ (National Radiological Protection Board, NRPB, now part of the Health Protection Agency) as uniform surface contamination as opposed to surface patches was derived for the risk assessment. It is based upon:

- a dose constraint of 0.3 $mSv.yr^{-1}$ for exposure to a 'new' source corresponding to an annual risk of 10-5 of fatal cancer;
- dose limits for members of the public of 1.0$mSv.yr^{-1}$ (dose constraint for the public under the Ionising Radiation Regulations); and,
- a 10 $mSv.yr^{-1}$ dose (risk 5 x 10-4/yr) above which intervention is always justified on risk grounds.

9.13. The dose criteria for 10 mSv.yr-1 and 0.3 mSv.yr-1 screening levels in terms of activity concentrations have been proposed for two situations:

i) Uniform surface contamination i.e. radionuclides widely and fairly uniformly distributed in the top 15cm of soil; and,
ii) Surface patches and buried contamination where radionuclides are distributed in the top 15cm of soil over an area of less than about 20% of the site or radionuclides are at greater depth than 15cm.

TABLE 9.1: EXCERPT FROM ENTEC PHASE 2 RADIOLOGICAL SURVEY REPORT, 2003, TABLE 5.1: SCREENING LEVELS FOR RADIUM ($Bq.g^{-1}$)

Situation	10mS/yr	0.3mS/yr
Uniform Surface Contamination	11.47	**0.34**
Surface Patches and Buried Contamination	57.35	1.72

9.14. Overall, the walkover survey found the majority of the potentially high risk areas to be free from radiological contamination. However, 28 locations surrounding former workshops, hangars and burning grounds exhibited point sources of elevated radioactivity, although their locations have not been provided. They included localised areas where surface soils containing radium-226 were in excess of the Radioactive Substances Act threshold level of 0.37 Bq.g-1 and also exceeded the guideline screening level of 0.34 Bq.g-1.

9.15. The key findings of this study were:

- majority of locations were free from radioactive contamination;
- radioactive contamination was encountered at 28 locations as point sources;
- surface soils were also locally contaminated in excess of Radioactive Substances Act thresholds and guideline screening values recommended by NRPB;
- exposure to radioactive contamination from ingestion of soil and dust represents a potential hazard, although the likelihood is low and the risk to human health is considered by Entec to be moderate; and,
- Entec recommended intervention (i.e. removal of radioactive material to mitigate potential risks to human health).

[23] Entec Radiological Survey Interim Report, 14 July 2005

9.16. Another radiological walkover survey was undertaken by Entec in 2005 covering all soft landscaping areas with the exception of a field in the north east of the Hangars East that was ploughed at the time. Areas covered with hard surfacing (concrete, tarmac or by building footprint) were also not surveyed.

9.17. The study showed that the greater part of the site was unaffected by radioactive contamination, although several clusters and isolated hotspots were identified by surface probe measurements. Sources greater than 0.34 $Bq.g^{-1}$ were identified in 14 locations. Points 1 – 6 were located in the vicinity of the former hangars and workshops of the Waterfront zone. Most of these were already known from the previous 2003 survey. Points 7 - 11 were new finds not previously identified and were located adjacent to buildings in Hangars East. These occurrences were considered likely to require some form of remedial action in the context of site redevelopment. Points 12 – 14 were previously identified in Hangars East, with Points 13 and 14 within a burning area in the south.

9.18. Principal anomalies of concern are presented in Table 9.2.

TABLE 9.2: EXCERPT FROM ENTEC RADIOLOGICAL SURVEY REPORT 2005 TABLE 4.1 RADIOACTIVE ANOMALIES

Point No	Location	Maximum Concentration above background (Bq/g)	Equivalent Maximum Dose Rate at Ground Level (μSv/hr)	Areas
1 [a]	North of technical area	0.37	0.2	Offsite (near 3)
2*	Grassed area near building 134	1.81	0.7	3
3	East of Overlord Hangar	3.98	1.3	3
4*	East of Overlord Hangar	1.07	0.5	3
5*	Small oval area south west of building 73 (Dunning Hangar)	1.09	0.5	2
6	Grassed area near fuel bunker / Crash Tender Bay	0.39	0.2	1
7	Grassed area south of hangars in west of site	0.86	0.4	Hangars West
8		0.41	0.2	
9		1.51	0.6	
10		1.02	0.4	
11	North of hangars in west of site	0.66	0.3	
12*	Nr Hangar G (building 296)	0.56	0.3	Hangars East
13*	Former burning area	0.63	0.3	
14*	Former burning area	2.37	0.9	

Note: [a] Denotes Hotspot 1 was not re-locatable. * Denotes identified by the 2003 Entec survey

9.19. Based upon both the 2003 and 2005 surveys, the general extent of radioactive contamination in the Waterfront zone comprised approximately 19 locations within southern parts near to the Aircraft Control Tower (building 16), the E & T Block (building 3), Crash Tender Bay (building 15), to the south west of Esmonde Hangar in the vicinity of Overlord Hangar, adjacent to the Wardroom Annex (building 107) in the vicinity of Westcliffe House, to the west and north of the Triumph Galley.

9.20. In Hangars West, the general extent of radioactive contamination comprised approximately 11 locations, 5 areas to the south of the 303 firing range; 3 locations positioned around Bellman Hangar No 4; and 3 locations to the north east in the vicinity of Hangars T and U.

9.21. The general extent of radioactive contamination in Hangars East comprised approximately 6 locations within southern parts near to Hangars A, B, E, F, G and J in the north near to the fire training burning ground.

[24] Halcrow Appendices to Review of Data Room Information, September 2005

9.22. A review by Halcrow of the Entec radiological surveys undertaken up to 2005 identified the following limitations:

- two areas were excluded from the surveys comprising a ploughed field to the north east and an area of undergrowth to the north. Whilst the ploughed field had not been used by the MOD and can be excluded, the area of undergrowth is relatively large and several identified sources of radioactivity have been reported in adjacent areas;
- the survey did not include areas beneath building footprints and concrete hardstanding. As such, it would be appropriate to determine when structures were built in order to assess any potential for radioactive material to be present beneath more recent installations; and,
- the majority of the site was surveyed utilising a wheeled system. Its ability to detect small sources 1m radially from the detector and below the surface of the ground is considered by Halcrow to have been limited. Whilst this is a criticism of the methodology employed, the system is of standard use for ground surveys and still likely to detect large sources and large areas of diffuse radiological contamination.

9.23. The subsequent recommendations were made by Halcrow:

- intrusive investigation to characterise the nature and volumes of radioactive material that is present on site. Halcrow also considered this to be a necessary further step in the investigation of the Daedalus site;
- areas not previously investigated e.g. large area of undergrowth should be cleared and surveyed (if within SEEDA's ownership);
- the potential for recent hardstanding and buildings constructed upon impacted ground should be re-considered;
- a remediation scheme should be developed for the site, which takes account of its currently proposed usage and future risks to occupants. The risk based strategy should be made cognisant of current guidance and government policy and consultation with the Environment Agency also undertaken in this regard.

[25] Entec Radiological Survey Report, 31 May 2007

9.24. Following the previous walkover surveys, Entec also undertook an intrusive investigation in September 2005 and this is reported in their 2007 report. The intrusive survey was undertaken in order to:

- investigate whether radioactive materials of higher activity were present in areas where surface probe readings were below 'exempt waste' levels but greater than 1.5 times the background readings;
- investigate the spatial extent of areas where probe readings were higher than the 'exempt waste threshold and whether it fell into the Low Level Waste (LLW) classification;
- collect soil sampling to fingerprint the radioactive contamination; and,
- quantify volumes in accordance with 'exempt waste' or low Level Waste (LLW) for the purposes of designing and costing a remediation strategy.

9.25. The scope of works comprised a total of 69 trial pits, which were excavated to a maximum depth of 1.60m bgl: 29 trial pits were excavated to investigate the 14 numbered hotspots identified during the 2003 and 2005 walkover survey. No above ground radioactivity was detectable in hotspots 1 and 13 so trial pits were subsequently not excavated in these areas. Furthermore, radioactive contamination was not found to extend into the natural ground.

9.26. A further 40 excavations were undertaken to investigate the 24 alphabetically denoted zones of 'elevated radiological activity' together with 15 additional 'minor anomalies'.

9.27. The extent of radioactivity following the intrusive site investigation confirmed 14 localised areas, which qualified for either 'radiological exempt waste' or 'low level waste' in accordance with RSA 1993. These locations are shown on Figures 28 – 30. Estimated volumes of 0.21m^3 of LLW and 7.3m^3 of radiological exempt waste were identified.

9.28. In addition to the intrusive works, Entec undertook an environmental risk assessment for the site, although confirmation or a reassessment by CampbellReith is outside the scope of this report.

9.29. Entec reported that the threshold criterion for formal determination under 'Part IIA' in cases of harm from radioactivity relating to lasting exposure is set at 3 $mSv.yr^{-1}$ above local background. On this basis and using the Environment Agency's Radioactively Contaminated Land Exposure Assessment (RCLEA) DEFRA methodology, a range of threshold concentrations can be derived for various land-use scenarios. For radium-226, assuming the most conservative end-use scenario (i.e. residential), it was calculated to be 1.1 Bq/g, although this threshold assumes a homogenous source averaged across the site. Notwithstanding this, Entec had previously derived a conservative level protective of risk to site users to be 0.34 Bq/g based upon dose criteria from the NRPB (1990) and continued to utilise this value as the clean-up threshold despite being significantly lower than the lowest RCLEA threshold.

9.30. The risk assessment was undertaken for the current use of the site and for a variety of potential future site users such as for a residential development, where areas indicated to contain radioactive material could potentially be incorporated into a domestic garden resulting in a scenario of greatest concern.

9.31. For existing site users, Entec concluded a **low** risk. Whilst the worst case scenario did illustrate the possibility of an individual receiving a dose in exceedence of the guideline thresholds, it was considered unlikely to occur in practice.

9.32. The risks to future site users were assessed as being **moderate** and on a risk basis, remediation was recommended to reduce potential dose less than 0.3mSv/yr. This could be achieved by removing all material having an activity concentration greater than 0.34 Bq/g above background levels.

[26] Entec Phase Land Quality Assessment, Radiological Survey Report, Final Technical Note – Remediation Proposal 31 May 2007

9.33. This report detailed of Entec's proposed remediation strategy, which considers the most appropriate remedial strategy for radioactively contaminated soils is to remove them from site for disposal at a suitably licensed repository.

9.34. This can be undertaken in accordance with the various categories of radium contaminated waste soils as defined by the Radioactive Substances Act 1993, the regulatory regime that governs the accumulation and disposal of radioactive waste. The activity concentrations of relevant categories of radium-contaminated material are given in Table 9.3.

TABLE 9.3: EXCERPT FROM ENTEC RADIOLOGICAL SURVEY REPORT 2007 TABLE 5.1 RADIUM-CONTAMINATED WASTE CATEGORIES AS DEFINED BY RADIOACTIVE SUBSTANCES ACT 1993

Activity Concentration	Description	Classification
<0.37 Bq/g	Such material is not regarded as radioactive for the purposes of statutory control.	Free Release
>0.37 <4.9 Bq/g	Contaminated soil in this range is exempt from the controls in RSA93 by virtue of 'The Radioactive Substances (Phosphatic Substances, Rare Earths etc) Exemption Order 1962', Such material is generally disposed of to landfill under normal duty of care arrangements. (Note: whilst some volume averaging may be acceptable in this category disposal of discrete sources would generally have 10be isolated and removed).	Exempt Waste
>4.9 Bq/g	Material above this concentration is regarded as low level Radioactive Waste (LLW). Such material is normally dispatched to BNFL Drigg in Cumbria for disposal under an authorisation issued by the Environment Agency. The upper activity	Low Level waste (LLW)

Activity Concentration	Description	Classification
	concentrations for such disposals is 4000 Bq/g for alpha activity and 12000 Bq/g for beta/gamma activity. For radium and daughters in equilibrium this would equate to a radium-226 concentration of 2000 Bq/g.	

9.35. All wastes are disposed of according to their activity concentration. 'Free release' material is not classed as radioactive and therefore does not need to be removed from site. Exempt wastes may be sent to any suitably licensed landfill, subject to the agreement of the site operator. In the case of Low Level Waste (LLW), the only such site available is at Drigg, Cumbria, operated by the British Nuclear Group (formerly BNFL). There is currently no permanent disposal facility in the UK for material exceeding the upper limit of activity concentration for LLW, above which the material would be classed as intermediate level waste (ILW). However, no such material is expected to be found at this site.

10.0 MUNITIONS AND UNEXOPLODED ORDNANCE

10.1. The investigation into munitions and explosive ordnance at the site has been undertaken by a review of the studies referenced [27 – 31].

[27] WSP Phase One (Desk Study), May 1995

10.2. The WSP report generally describes the findings of the walkover survey and discussions with onsite personnel. Anecdotal evidence that the old NACTEC building / E & T Block (building No 3) housed the torpedo unit during the war. WSP also reported that four old inert 'depth charges' were stored on the ground in front of the concrete wall at the fire ground.

10.3. In Hangars West, WSP made reference to a rifle range to the west of the airfield near to building 356, which comprised a layer of sand where spent bullets and casing were removed, although the final material may have been rolled into the ground and buried.

10.4. In Hangars East, WSP made reference to the existence of an old bomb dump that was located to the east and north of the fire ground and surmised that 'Amatol' and 'Minol' (both explosive mixtures made from TNT and ammonium nitrate during World War Two) may have leaked into the ground as this did occur occasionally.

10.5. A pipemine was discovered between Swann and Dunning Hangars in the Waterfront zone.

[28] Entec Phase One Desk Study, May 2005

10.6. Entec reported that there was a large number of buildings where there was a potential for ordnance issues. Historical plans of the site indicate areas where explosives were stored and these locations are listed in Table 10.1 reproduced from the Entec Phase One Desk Study.

TABLE 10.1: EXCERPT OF TABLE 3.3 BUILDINGS WITH POTENTIAL ORDNANCE ISSUES

Building No	Use
3	Held pyrotechnics for life rafts
6 & 7	Explosive Store
8	Explosive Store
14	Driving Store-Held Thunderflashes
15	Fire station ready use locker – held gas generators
16	Police tower – Held Pyrotechnics
18, 20 & 21	Explosive Store
73 – Dunning Hangar	Bombed in WW2
87	Armoury Store-Held pyrotechnics
132	Held small arms ammunition

Building No	Use
153, 154 & 155	Special Squadrons-held explosives
161	Small Arms Range
165	Naval Air Station classrooms – held pyrotechnics
313-319	Explosive Store
349	Pistol Range
363	303 Range
364	Firing Point for 303 Range

Notes: The use or storage of explosive ordnance at a location does not necessarily mean that these materials remain at the location or have been lost or disposed to ground.

10.7. The above locations are shown on Figure 31 - 33.

[29] Environmental Science Group (ESG) Phase One Assessment for Defence logistics Organisation (DLO) report No ESG/05/041/F dated December 2005

10.8. The ESG desk study report (December 2005) comprised discussions with former site personnel, research of documentation and site visits. The report noted the following areas of potential concern in this development zone as:

- Armoury - building now disused and cleared September 1997;
- Danger buildings - buildings with low explosive content required for pyrotechnics and ammunition;
- Torpedo workshop - explosives normally removed for servicing but reported not to be stored on site;
- Small arms range and stop butts - 25 yard firing range (offsite);
- Ground defence structures - concrete bunkers, emplacements, weapons pits or guard towers;
- Area 6, School of Aviation (located offsite residential area near main entrance) - inert munitions kept for training;
- Guard room - local defence weapons stored;
- approximately eight explosives stores were identified within the former aircraft breaking area and fire training area;
- Guided weapons workshop - servicing bays for test and maintenance. Building was later used a gliding club; and,
- Pipemines - laid in 1942-43 and subject to some clearance. A pipemine has been found near to the Dunning Hangar.

10.9. In addition, the following records are contained within the ESG report:

- Annex C of the ESG 2005 report described a 'bomb dump' in the vicinity of the aircraft breaking area and fire training ground;
- Annex D Site map 1973 - 'alleged lend/lease burial site' within central parts of Hangars East development zone;
- Annex E and F - WW2 bomb plots; and,
- Annex G, H and I - documentation of pipemines whereabouts and removal works.

10.10. The desk study highlighted a period of WW2 in which the airfield experienced the significant upheaval and rapid change whereby the site was bombed by the enemy and the airfield was laid with a matrix of airfield denial mines in accordance with the War Office in case of invasion.

10.11. The bombing raids are understood to have occurred on three occasions during WW2 (16th August 1940, 8th October 1940 and 23rd May 1944) targeting the main areas of the Waterfront zone as well as areas at the end of the runway and centrals parts of Hangars West. Records also show that the Dunning Hangar was hit by the bombing.

10.12. In relation to the pipemines, these were placed on a grid pattern across the exposed parts of the airfield and so are generally unlikely to be found within the development areas of the Waterfront, although a single pipemine has been removed from the vicinity of the Dunning Hangar. The locations of pipemines and surveyed areas can be seen on Figures 31-33.

10.13. ESG undertook an instrumental survey of the area within the perimeter track and recommended an intrusive (Phase Two) investigation. The airfield was deemed to present a medium risk until the completion of an intrusive investigation, although the surrounding areas occupied by buildings etc represented a low risk.

[30] Environmental Science Group (ESG) Phase Two & Three Assessment for Defence Logistics Organisation (DLO) report dated January 2007

10.14. ESG subsequently undertook a Phase Two and Three investigation in January 2007 and discovered the presence of one confirmed live pipemine and nineteen further suspected mines of undetermined explosive content. ESG in co-operation with 33 Engineer Regiment then coordinated the removal of these mines. The subsequent risk rating following these works was then considered to be very low, with an area of slight concern beneath an area of concrete hardstanding located in the south adjacent to building 389, where scanning could not differentiate between concrete reinforcing and a potentially explosive structure.

10.15. From the magnetrometry scans, ESG located and removed 8 expended air dropped British practice bombs located in a small cluster along the airfield near to the Air Traffic Control Tower in the Waterfront zone. No other bombs were identified onsite.

10.16. It is noted that the area subjected to Phase II and III clearance primarily covered the airfield with the northern parts of the Waterfront zone and central parts of Hangars West.

[31] Entec Phase Two Site Investigation (DE Project No 05002), 3 May 2007

10.17. Reference to Table 2.4 (Entec 2007) summarised the ordnance clearance and related activities:

- clearance of incomplete array of pipemines installed across the airfield 1939-1947; and,
- south of Swann Hangar - pipemine recovered in 1984.

10.18. Entec reported that there is no evidence of abandoned bombs at the site (referring to 33 Engineer Regiment correspondence, 8 October 2004). Furthermore, it was reported that pipemine plans for the site from 1943 were incomplete in two respects. Firstly, pipemines have been located in areas not marked as mined; and secondly, there are no mines marked on the northern part of the airfield and infers that the mining programme may have been cancelled mid way through once the threat of wartime invasion had receded.

10.19. Entec also reported that explosive ordnance clearance certification for this site had been withdrawn from the site as Defence Logistics Organisation Ordnance Group had concerns over their completeness, accuracy and whether they were applicable for site disposal purposes. A new clearance review was reportedly underway (commenced May 2005) but information as to this outcome has not been provided.

11.0 ENVIRONMENTAL CONCLUSIONS AND RECOMMENDATIONS

Summary

11.1. The site has historically been used as an operational Royal Navy air station, barracks and training establishment from 1917 until it was vacated by the MoD in 1996. Since its acquisition, the site has since been divided into a number of tenancies and is currently used for a variety of commercial / industrial uses with the airfield remaining in use and run by the MCA as a private aerodrome. In terms of the potential for pollution, the Waterfront zone in the south of the site has experienced the most industrial development with numerous potentially contaminating activities including the former bulk fuel installation (BFI), Central Boiler House, large maintenance hangars and old workshops.

11.2. The site is considered to lie in an area of **Medium** environmental sensitivity with respect to groundwaters due to the site's location over a Secondary A Aquifer and nearby private abstractions, and **Medium** sensitivity with respect to The Solent in terms of its ecological designations despite the size of the feature and relative dilution factor. The proposed residential end use is considered to be of **High** sensitivity, mixed-use as **Medium** sensitivity and commercial use as **Low** sensitivity. Tier 2 assessments for human health risk have been implemented based upon CLEA guidance.

Contamination

11.3. The site has been subject three historic site investigations by WSP, Entec (2003) and Entec / Halcrow (2005). Whilst in isolation the Entec / Halcrow 2005 site investigation appears to be limited, in conjunction with the previous shallow groundwater investigation by Entec in 2003, it is noted that the coverage is improved. The information from the 1996 WSP investigation has not been made available although principal areas of contamination were reported.

11.4. The site investigation commissioned jointly by Entec / Halcrow incorporated contamination testing of soils, leachates and groundwaters and limited monitoring of ground gas across the site.

11.5. In general, the site investigations have not identified a site wide concern with regard to soil contamination when assessed against generic UK screening thresholds. Identified contamination in the soil and groundwater generally comprises localised occurrences of elevated heavy metals and polyaromatic hydrocarbons in the soils associated with specific features such as the BFI.

11.6. Metals and Volatile Organic Compounds (VOCs, such as BTEX and tetrachloroethene) have been identified in groundwaters of the Waterfront zone. In terms of the VOCs, two groundwater plumes consisting of tetrachloroethene and, to a lesser extent, BTEX have been identified beneath the following development zones:

- Drake Gardens [Area 1] - tetrachloroethene
- Airport Park [Area 2] - tetrachloroethene
- Unicorn Triangle [Area 8] - tetrachloroethene
- Barracks Square [Area 5] - tetrachloroethene
- Barracks Square [Area 5] - BTEX

Radioactivity

11.7. In terms of radioactive contamination, several areas of elevated levels of radioactive contamination have been identified suggesting a low risk to current end users of the site and a moderate risk to potential future site users such as for a residential development.

Unexploded Ordnance* / *Munitions

11.8. In terms of unexploded ordnance and munitions, several survey studies have been conducted by specialists resulting in the removal of numerous pipemines over the years. However, it has been noted that ESG's Phase I report highlighted the risk from airfield pipemines and that the works described in their Phase II and III report were undertaken to address these risks only. A residual risk remains for the occurrence of unexploded ordnance or discovery of unrecorded wartime burial of munitions.

Environmental Risk Assessment

11.9. The site investigations to date have identified areas of localised soil impaction or 'hotspots' and potentially significant groundwater contamination within the Waterfront zone. Furthermore, currently unidentified sources of contamination may exist onsite given the numerous historical uses that have taken place at the site and in view of the current coverage afforded by the investigation.

End Users

11.3. The risks identified within the Revised Conceptual Site Model are summarised below based upon the proposed end use sensitivities:

Drake Gardens and Seaplane Square Residential [Areas 1 and 8a]

11.4. In summary, soil results were not generally observed to be in excess of the human health screening values with respect the proposed residential land use, although this assessment is based upon a limited number of samples. Elevated total Poly Aromatic Hydrocarbons (PAHs) have been detected above the screening levels in soils in the vicinity of Kingston Villa to the east of the former BFI, which may correspond with proposed gardens but speciated testing does not infer a significant risk to human health.

11.5. The presence of a large chlorinated solvent plume within Waterfront zone identified by the site investigations infers a potential risk to human health of end use occupiers within this development area.

11.6. The current assessment is based upon limited data and potential sources of contamination have been assumed. It is therefore recommended that further investigations are undertaken to fully characterise the various potential contamination sources (e.g. the BFI) and groundwater plume. The data from future investigations of the VOC plume should be appraised in accordance with CIRIA Publication C682 (2009) The VOCs handbook – Investigating, Assessing and managing Risks from Inhalation of VOCs at land affected by Contamination.

11.7. On the basis of the above, a **MEDIUM / HIGH** risk is considered.

Wykeham Hall and Barracks Square Residential [Areas 4 and 5b]

11.8. In summary, soil results were not generally observed to be in excess of the human health screening values with respect the proposed residential land use, although this assessment is based upon a limited number of samples.

11.9. On the basis that offsite contamination was previously identified at the former grounds maintenance area (building 273) and asbestos inferred within demolition arisings, currently unidentified contamination may be present as a result and further investigation is required. Consequently, a **LOW / MEDIUM** risk is considered.

Barracks Square, Unicorn Triangle and Westcliffe Seafront Mixed-use [Areas 5a, 6 and 7b]

11.10. Contaminants were generally not observed to be in excess of the screening values with the exception of localised occurrences of arsenic, lead and benzene. The arsenic and lead have been indicated to be potential hotspots of contamination, which are marginally above the screen for this development area corresponding with proposed residential block of flats in Area 6 and lead in the vicinity of the sheltered accommodation of Area 5a.

11.11. However, it should be recognised that several potential sources of contamination have been identified (particularly in Area 7b) with very limited sampling undertaken.

11.12. A **MEDIUM / HIGH** risk is considered to exist associated with the potential for VOCs, hydrocarbons and previously unforeseen contamination to be present locally at the site.

Airport Park, Marine Business Park, Unicorn Triangle and Seaplane Square Commercial [Areas 2, 3, 7a and 8b]

11.13. In summary, soil results were not generally observed to be in excess of the human health screening values with respect the proposed commercial land use, although this assessment is based upon a limited number of samples. However, it should be recognised that several potential sources of contamination have been identified, including the boiler house / tanks / oil store in Area 2 and hangars and workshops in Area 7a and 8b.

11.14. Elevated lead has been identified as an outlier indicative of a potential hotspot of contamination at HTP409 in Area 7a. The elevated lead concentration corresponds with the location of historical workshops.

11.15. Elevated levels of VOCs (notably tetrachloroethene) were identified to be widespread within the underlying groundwaters.

11.16. Asbestos containing materials (ACMs) have also been previously reported within demolition arisings within Area 3.

11.17. Based upon the above, a **LOW / MEDIUM** risk is considered to exist associated with the potential for VOC based contaminants or previously unforeseen contamination to be present locally at the site.

Hangars West Allotments

11.18. This area was not assessed due to the lack of soils data from the site investigation. Based upon the previous uses in this locale, the area of the proposed allotments should be conservatively assessed as being of **MEDIUM / HIGH** risk until site investigations confirm otherwise.

Hangars West Commercial

11.19. In summary, soil results were not generally observed to be in excess of the human health screening values with respect to a commercial end use scenario with the exception of elevated lead identified as a hotspot corresponding to the location of a former fuel oil storage tank, although this assessment is based upon a limited number of samples. However, it should be recognised that several potential sources of contamination have been identified (particularly in relation to fuel tanks and the use of solvents in hangars) with very limited sampling undertaken.

11.20. A **LOW** risk is considered to exist associated with the potential for metals and hydrocarbons or previously unforeseen contamination to be present locally at the site.

Hangars East Commercial

11.21. In summary, soil results were not generally observed to be in excess of the human health screening values with respect the proposed commercial land use, although this assessment is based upon a limited number of samples. Isolated occurrences of elevated lead and PAHs were both identified as hotspots of localised contamination corresponding with the southern parts of Hangars East. However, it should be recognised that several potential sources of contamination have been identified (particularly in relation to fuel tanks and the use of solvents in hangars) as shown in Figure 14 which do not appear to have been targeted by the investigations.

11.22. A **LOW** risk is considered to exist associated with the potential for metals and hydrocarbons or previously unforeseen contamination to be present locally at the site.

Controlled Waters

11.23. In terms of groundwater contamination, it has been reported that there was a widespread distribution of solvents across the Waterfront zone covering several proposed development areas and likely to be in close proximity to the site boundary with The Solent and associated ecological designations. As such, the risk to the underlying groundwater (classified as a Secondary A

Aquifer) has been assessed as **MEDIUM- HIGH** (given that chlorinated solvent and hydrocarbon contamination have already been detected within this media).

11.24. Further monitoring and Detailed Quantitative Risk Assessment (DQRA) of contaminant levels identified within groundwater will be required in relation to potential impaction of The Solent, which exhibits particular ecological conservation designations (SSSI and RAMSAR etc).

11.25. In terms of risk to the River Alver and its tributaries, it is noted that there are three landfills (both active and historic) at Cherque Farm and Sandhill Lane and a nearby sewage works (Peel Common), which discharges into the River Alver. Furthermore, it has been reported by the Environment Agency that there is generally poor water quality in this area and as such, marginal groundwater contamination in Hangars East is unlikely to present a significant risk. A **LOW** risk to these surface waters is therefore considered.

Construction Workers

11.26. The qualitative assessment identified a **MEDIUM** risk to construction workers who may come into contact with contaminated soils. The Health and Safety Plan and Risk Assessments / Method Statements for works should consider worker protection from skin contact, ingestion and inhalation of contaminants. It is noted the localised area of soils and waters containing hydrocarbons, volatile compounds and ACMs may be encountered. Provided appropriate health and safety provisions are made, the risk can be considered **LOW**.

Adjacent Residential Receptors

11.27. The potential presence of a large chlorinated solvent plume within the Waterfront zone infers a potential risk to offsite residential receptors in properties along Marine Way if it is found to be migrating towards these receptors. As such, it is recommended that further site investigation is undertaken to ascertain whether or chlorinated solvents are present at the site boundary. Should groundwater contamination extend this far towards offsite residential uses, a Detailed Quantitative Risk Assessment (DQRA) may be required to appraise the potential risks to the human health of occupiers.

11.28. Based upon the above, a **MEDIUM** risk to offsite receptors is considered.

Contaminated Land Liability

11.29. The principal legislation governing the identification and remediation of contaminated land is Part IIA of the Environmental Protection Act (EPA 1990), implemented in April 2000. The legislation is supported by the Contaminated Land (England) Regulations (2000) and Statutory Guidance (DETR Circular 02/2000 superseded by DEFRA Circular 01/2006), which together provide the regulatory regime, and sets out the nature of liabilities that can be incurred by owners of contaminated land and groundwater. From September 2006, the regime was extended to include radioactivity in Circular 01/2006.

11.30. However, it is noted that in respect to the change in site usage and classification, land quality would be addressed through the planning regime as described in Planning Policy Statement (PPS23) where land contamination is stated as a material planning consideration. Where a change the use of land is proposed as part of a planning application, the Planning Authority would satisfy itself that potential contamination is properly assessed and the development incorporates the necessary remediation. Annex 2 of the Planning Policy Statement 23 'Development on land affected by contamination', requires risk from contamination to be assessed in accordance with Part IIA principles, and after carrying out development and commencement of its use, the land should be both 'suitable for use' and not be capable of being determined under Part IIA.

11.31. With regard to the identified groundwater contamination by chlorinated solvents, a significant pollutant linkage may exist in relation to the Secondary Aquifer and the possibility of offsite contamination of coastal waters (Controlled Waters) and any associated ecological receptors. As such, this could potentially establish the site as 'contaminated land' under the statutory definition of Part IIA of the Environmental Protection Act 1990 and therefore require management. Furthermore, there is also a potential liability associated with Section 161 of the Water Resources Act 1991 whereby the Environment Agency has the power to remedy the pollution of Controlled Waters to any person who has 'caused or knowingly permitted' pollution.

11.32. It is also noted that as the site was formerly used by the MOD, it is possible that the site considered as a 'Special Site' under the contaminated land regime. As such, the primary regulator is likely to be the Environment Agency.

Ground Gas

11.33. Limited gas monitoring has been undertaken at the site to date. Whilst elevated methane or carbon dioxide have not been identified within borehole installations in any of the development zones, elevated VOCs have been detected primarily associated with chlorinated solvents and BTEX within groundwater.

Recommendations

11.34. Based upon the information available it is likely that the site will be suitable for proposed residential, mixed-use and commercial development subject to further investigation, risk assessments and/or remediation / groundworks in accord with regulatory approvals.

11.35. In terms of proposed residential end use areas, localised occurrences of contamination are likely to require limited remediation where gardens and soft landscaping areas are proposed. Further site investigation will be required for residential development in order to confirm the absence of contamination risk.

11.36. Notable solvent and hydrocarbon contamination in the groundwater requires further quantitative risk assessment also as this presents an additional potential pollutant linkages relating to human health that require specific consideration.

11.37. Based upon this review of available information and the findings of the assessments made in this report the following recommendations are made:

- regulatory discussions and planning consultation;
- design and procurement of further 'phased' site investigation and groundwater monitoring essential for identification / remediation of non-development related contamination liabilities and costs;
- gas monitoring tailored to each development area;
- Detailed Quantitative Risk Assessment for Controlled Waters and Human Health; and,
- Remediation Options Appraisal and Remediation Strategy / Groundworks Specification.

Further Site Investigations Works

11.38. The site investigations undertaken by Entec / Halcrow are considered to comprise a preliminary phase of works as it does not provide sufficient coverage of the site to fully characterise areas where contamination sources are likely to be found and associated pollutant linkages / risks.

11.39. The principal concerns at this stage also relate to a degree of uncertainty that exists in the current data set, comprising errors in reporting borehole locations and areas of ambiguity in the results. It is therefore considered essential that this uncertainty is addressed through the commissioning of further site investigation of these areas.

Design Philosophy

11.40. As a number of contamination hazards and risks associated with the site's contamination status have been identified and it is recommended that future work must be undertaken to confirm the sources of contamination, the extent of the contamination and determine whether there is a risk to receptors.

11.41. The site investigation works should be designed to support the use of the previously available information and to accord with current technical guidelines stemming from CLR11 and the requirements of the Environment Agency and Local Authorities. A phased programme of site investigation works are therefore proposed at the site in order to enable to fully established the contaminative status of each separate development zone and to form the basis for any remediation that may be required to facilitate development. This phase of works should aim to focus in on suspected 'high priority' areas such as identified contamination that correspond with proposed residential gardens and areas where there has been no site investigation coverage to date.

11.42. The proposed works will need to comprise a series of borehole installations and trial pit investigations to enable soil, groundwater and ground gas sampling. The design of the investigation should address the following objectives:

- existing boreholes have either not been located or previously decommissioned / backfilled, it will be necessary to target the identified areas of previously identified contamination to verify results;
- characterise the extent and nature of contamination already observed and suspected 'hotspot' areas;

- soil characterisation testing to provide sufficient data to enable risk assessment modelling and remedial design;
- investigate beneath existing structures and buildings;
- fully characterise the extent of groundwater contamination (e.g. VOC plumes). This will also require an array of shallow monitoring wells within the central area of the site, which have not been previously investigated;
- it is recommended that areas of inferred groundwater impaction are delineated to a certain extent with several wells positions down-gradient to aid modelling;
- monitoring boundary wells are required in order indicate whether there is breakthrough of identified groundwater contamination;
- examine the leaching potential of contaminants from the soil;
- fully characterise the depth profile and nature of made ground soils and characterise any hydrogeology - hydrology interactions;
- basic waste testing and classification of samples may be required to undertake an assessment of waste and infer either 'hazardous' or 'non-hazardous' waste classifications; and,
- fully characterise the underlying hazardous gas regime to inform the appropriate gas protection measures for structures.

11.43. A potential scope of works for each development zone is detailed in Table 11.1.

TABLE 11.1: POTENTIAL SCOPE OF FURTHER SITE INVESTIGATIONS FOR EACH PROPOSED DEVELOPMENT ZONE

Zone	Scope of Site Investigation
Drake Gardens and Seaplane Square Residential [Areas 1 and 8a]	Former Bulk Fuel Installation should be reinvestigated and comprehensive testing undertaken to confirm the absence of risk as it is believed that impacted soil was replaced at this location after it was found to be unacceptable for disposal to landfill.
Wykeham Hall and Barracks Square Residential [Areas 4 and 5b]	This area should be formally investigated to substantially increase the site coverage in areas of proposed residential gardens.
Barracks Square, Unicorn Triangle and Westcliffe Seafront Mixed-use [Areas 5a, 6 and 7b]	This area requires increased site investigation coverage, particularly in areas of proposed public open space, communal gardens / landscaping. Furthermore, this area should be subject to a a specific groundwater investigation in view of the BTEX plume in the south and tetrachloroethene plume present in the north of the development zone.
Airport Park, Marine Business Park, Unicorn Triangle and Seaplane Square Commercial [Areas 2, 3, 7a and 8b]	This area requires increased site investigation coverage and particular groundwater monitoring works to fully investigate the presence of a tetrachloroethene plume identified in the vicinity of the former BFI in the west and Central Boiler House / Triumph

Zone	Scope of Site Investigation
	Galley in the east. It is currently envisaged that additional boreholes will be required in between these features to determine connectivity and strength of the plume.
Hangars West Commercial	This site requires an increase in site investigation coverage and particularly within the proposed commercial development and areas of soft landscaping. A particular part of the site investigation should be to fully investigate the 1 Ha area of proposed allotments to determine the suitability for use and/or remediation.
Hangars East Commercial	This site requires an increase in site investigation coverage and particularly within the proposed commercial development and areas of soft landscaping.

11.56. In addition to the recommended intrusive works, additional gas monitoring is considered necessary in order to meet likely requirements and sign off potential risks from ground gas.

TABLE 11.2: POTENTIAL GAS INVESTIGATION REQUIREMENTS FOR EACH PROPOSED DEVELOPMENT ZONE

Zone	CIRIA 665 Gas Monitoring Recommendations
Drake Gardens and Seaplane Square Residential [Areas 1 and 8a]	12 monitoring visits over a period of 6 months is considered suitable for high sensitivity (residential with gardens) end use and sites with a moderate-high potential for ground gas generation. VOCs have been identified within groundwater beneath this development zone, which require monitoring.
Wykeham Hall and Barracks Square Residential [Areas 4 and 5b]	9 monitoring visits over a period of 6 months is considered suitable for high sensitivity (residential with gardens) end use and sites with a low potential for ground gas generation.
Barracks Square, Unicorn Triangle and Westcliffe Seafront Mixed-use [Areas 5a, 6 and 7b]	6 monitoring visits over a period of 3 months considered suitable for moderate sensitivity (mixed-use and residential flats) end use and sites with a low potential for ground gas generation. VOCs have been identified within groundwater beneath this development zone, which require monitoring.
Airport Park, Marine Business Park, Unicorn Triangle and Seaplane Square Commercial [Areas 2, 3, 7a and 8b]	6 monitoring visits over a period of 3 months is considered suitable for low sensitivity (commercial) end use and sites with a moderate-high potential for ground gas generation. VOCs have been identified within groundwater beneath this development zone, which require monitoring.
Hangars West Commercial	6 monitoring visits over a period of 2 is considered suitable for low sensitivity (commercial) end use and sites with a low potential for ground gas generation.
Hangars East Commercial	6 monitoring visits over a period of 2 months is considered suitable for low sensitivity (commercial) end use and sites with a low potential for ground gas generation.

11.70. Please note that these monitoring proposals are generic and should be reviewed after each visit. Curtailed monitoring periods or use of continued monitoring techniques may be appropriate.

Detailed Quantitative Risk Assessments

11.71. In addition to further site investigation works, it likely that detailed quantitative risk assessments will be required to address risk from VOCs in the soil and groundwater. These assessments may be required for both human health in proposed residential and commercial areas as well as to appraise the risk to Controlled Waters.

Remediation of Radioactive Contamination

11.72. Remediation of localised point sources has been recommended to reduce risks to future site users by removing all material having an activity concentration greater than 0.34Bq/g above background.

11.73. A remediation strategy should be developed for the site, which takes account of future risks to occupants. The risk based strategy should be made cognisant of current guidance and government policy and consultation with the Environment Agency also undertaken in this regard. Furthermore, consultation with the regulators will be required in order to ascertain the acceptability of the strategy.

Unexploded Ordnance / Munitions

11.74. Consultation with the Defence Logistics Organisation Ordnance Group to ascertain the status of the explosive ordnance clearance certification that was withdrawn in 2005 is recommended.

11.75. Furthermore, the risks associated with UXO should be fully recognised within the Health & Safety risk assessments for below ground works, provision of a watching brief and contingency plans should be prepared.

Japanese Knotweed

11.76. Areas affected by Japanese Knotweed identified on the site should be cordoned off and access to these areas prohibited until the area can be treated by Japanese Knotweed Specialists.

General

Regulatory Consultation

11.77. The approval of contaminated land assessments is an iterative process. This document should be submitted to the regulators via the planning process in order to agree the findings of this report. The Regulator may require a Remediation Strategy, Works Specification and subsequent Verification Report to control and verify the completion of matters as detailed above.

11.78. It is anticipated that planning conditions will be applied to the site associated with land quality issues. Normally these require the agreement of the site characterisation reports prior to the commencement of site works and agreement of further stages comprising works controls / remediation and verification.

11.79. Depending on the specifics of the contamination related planning conditions, the records noted above may be required for inclusion within a site Verification Report. If so, then the scope of these records should be detailed in a Remediation Specification. This is a common requirement of planning and should be discussed with the Local Authority.

Groundworks

11.80. Residential gardens and communal landscaping areas are likely to require the importation of a 'validated' topsoil/subsoil in the absence of a suitable medium for the construction of these features. However, proposed commercial areas within the Waterfront zone are indicated to primarily comprise hardstanding and so remediation of shallow soils may not be required to ameliorate risk to human health with the exception of areas of soft landscaping.

11.81. It should be recognised that additional remediation may be required to address the risks from localised hotspots of contamination and volatile organic compounds once those have been properly assessed.

11.82. Records should be maintained that certify the source, chemical suitability and appropriate placement of any imported soils that may be required by the landscape architect.

Underground Services

11.83. Given the site history and the identified VOC hydrocarbon concentrations in groundwaters, consideration should be given to the selection of service pipework resistant to degradation by

organic contaminants. Consultation with the Statutory Service Provider is recommended in this regard. Additional advice on this topic is available from UKWIR (Guidance for the Selection of Water Supply Pipes to be used on Brownfield Sites).

Piling Risk Assessment

11.84. The site is located on a Secondary A Aquifer associated with the superficial and slid geology. As such, if the foundation design is to include a piled solution, the risk of creating a contaminant migration pathway to the underlying major aquifer should be assessed (i.e. Piling Risk Assessment). Reference should be made to Environment Agency Guidance Document 'Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination', (2001).

Unforeseen Contamination

11.85. A watching brief for unforeseen contamination should be maintained during works. Should any additional fuel tanks, interceptors, stained, odorous or contaminated soils (odorous, black staining, significant quantities of ash, etc) be encountered, the advice of an Environmental Scientist should be sought to determine appropriate action. In general, these soils should be separated in order to avoid mixing of waste streams in accord with the prepared method statement.

11.86. Taking into account the age of the current buildings there is potential for ACM to be present within the building fabric. It is a requirement of the Control of Asbestos at Work Regulations (CAWR) 2006 to complete an Asbestos Survey in accord with HSG 264 prior to the demolition of buildings on site.

11.87. Asbestos has been noted to be present at the site, as such, a watching brief should be undertaken during construction and the advice of an asbestos specialist sought should any potential asbestos containing material be observed. It should be anticipated that some ACM will intermittently occur in soils and associated precautions considered in advance.

11.88. A risk exists to construction workers who may come into contact with potentially contaminated soils, soil vapours, groundwater, UXOs or ACMs. As such it is required that a documented risk assessment and Health and Safety Plan is implemented by the Contractor to address these potential issues. The Contractor must also control matters such as waste disposal, further inspections for contamination and environmental protection. The scheme will fall under notifiable CDM regulations and will require a Site Waste Management Plan. Further guidance on this topic is provided in CIRIA C692 *'Environmental good practice on site'*.

Sustainability

11.89. Considering the overall site areas and mixture of potential issues there is considerable potential to manage both contamination and waste issues in a collective and sustainable manner. This is also likely to reflect cost and scale efficiencies, rather than incremental treatments applied to individual development areas.

11.90. In conjunction with the development of an overarching remediation strategy for the site, consideration should be given at an early stage to the adoption of a collective remediation process and central treatment/hub area, able to address contamination issues from soils across the development area. In addition, there is considerable potential for materials recycling at the site which could be exploited via the adoption of a considered materials management plan and site waste management plan.

11.91. CampbellReith provide support associated with sustainability, materials management, waste classification in conjunction with our wider engineering services and these have been previously applied to SEEDA sites of this nature to achieve cost efficiencies, CEEQUAL rating and awards for sustainability.

Waste

11.92. There is the potential for metal and hydrocarbon impacted soils exists associated with the point sources identified in this report, which could potentially be classed as 'hazardous waste' and require either remediation for reuse or disposal. Any subsequent works should implement a Materials Management Plan (MMP) to control these issues. Further discussion (and potentially testing) is required with respect to a final waste classification and associated tax band applied to waste soils arising from the site and all works will require completion in accord with Waste Management Duty of Care guidance.

11.93. All waste related activities must be undertaken in accordance with the Waste Management and Landfill Regulations. Any proposed reuse of materials must be in accordance with the Environmental Permitting (England and Wales) Regulations 2010 (as amended). With respect to waste soils disposal, as a minimum, the following information should be collected and retained by the Contractor for subsequent validation:

- source and origin of the waste;
- information on the process producing the waste;

- European Waste Catalogue code and characteristics of material;
- for hazardous waste, definition of the relevant properties according to the Hazardous Waste Directive (Annex III 91/689/EC);
- confirmation that waste is not prohibited waste;
- appearance of the waste;
- landfill class; and,
- Duty of Care records including full and completed chain of custody documentation.

11.94. **Given that the correct classification of waste is likely to have a significant impact on the redevelopment budget, all contractor submissions should confirm that their development tenders, incorporating waste removal, consider the full requirements of the Landfill Directive and associated waste legislation. This is to ensure waste is correctly classified and costed at the inception of the project. It is recommended that the waste classification aspect of the tenders should be reviewed independently by a consultant at the tender assessment stage.**

11.95. The Landfill Directive states that all hazardous and non-hazardous waste requires treatment prior to landfill. Treatment must provide a 'three-point step'. All three criteria must be satisfied for all the waste to have been treated:

1. a physical, chemical or biological process including sorting;
2. it must change the characteristics of the waste;
3. it must do so in order to:

    - reduce its volume; or,
    - reduce its hazardous nature; or,
    - facilitate its handling; or,
    - enhance recovery.

11.96. As such, provision for treating (including physical separation) should be made for all arisings that are likely to be classified as hazardous or non-hazardous so that each of the above three requirements are met.

11.97. Responsibility for waste classification, disposal and Duty of Care responsibilities (including record collection) should be clearly assigned and waste costs ascertained in advance of site works. A Site Waste Management Plan is likely to be required for this project.

TECHNICAL REFERENCES

Ref	Reference Title	Type
[1]	British Geological Survey 1:50 000. Sheet 331 (Portsmouth)	Geological Map
[2]	Environment Agency website www.environment-agency.gov.uk	Environment Agency Website
[3]	Multi Agency Geographical Information for the Countryside website (www.magic.gov.uk)	Website
[4]	Landmark Envirocheck Report (Ref: 7167001-1-2, dated 9 November 2004)	Database Report
[5]	HPA Indicative Atlas of Radon in England and Wales. HPA-RPD-033. HPA 2007.	Publication
[6]	Building Establishment Research (BRE) Document 211 "Radon: Guidance on Protective Measures for New Dwellings", 2007 Edition.	Publication
[7]	Consultation with the Environment Agency	Regulatory Letter

SITE INVESTIGATION REPORTS OF OTHERS

Ref	Report Title	Author	Date	ICARUS Reference
[8]	LDA Design Masterplan, Dwg No. REV8 2780_078_Masterplan Whole Site_REV_FEB_2011	LDA Design	2011	-
[9]	Design & Access Statement	LDA Design	2011	-
[10]	Site Appraisal Report – Waterfront Commercial	CampbellReith	2010	-
[11]	Site Appraisal Report – Waterfront Conservation	CampbellReith	2010	-
[12]	Site Appraisal Report – Hangars West	CampbellReith	2010	-
[13]	Site Appraisal Report – Hangars East	CampbellReith	2010	-
[14]	Phase One LQA (Desk Study) (by G&E Consultants)	WSP	May 1995;	SILQ0067F19950500
[15]	Draft Technical Note (LQA Review of WSP Phase Two Investigation)	Entec	January 2001	SILQ0058F20010105
[16]	Phase One Desk Study including Envirocheck dated 9 November 2004 Ref: 7167001-1-2	Entec	May 2005	SILQ0059F20050518
[17]	Phase Two: Shallow Groundwater Report for Defence Estates	Entec	8 May 2003	SILQ0059F20030508
[18]	Environmental Investigation Report	Adler & Allen Ltd	March 25	-
[19]	Ground Investigation Interpretative Report	Halcrow	31 March 2006	SILQ0009F20060331
[20]	Phase Two: Site Investigation (DE Project No 05002	Entec	3 May 2007	SILQ0008F20040503

Ref	Report Title	Author	Date	ICARUS Reference
Radiological Assessments				
[21]	Radiological Survey of HMS Daedalus	Defence Radiological Protection Service (DRPS)	24 April 1996	SILQ0053F19960424
[22]	Phase Two Radiological Investigation for Defence Estates	Entec	8 April 2003	SILQ0051F20030408
[23]	Radiological Survey Interim Report for Defence Estates	Entec	14 July 2005	SILQ0052F20050714
[24]	Appendices to Review of Data Room Information	Halcrow	September 2005	MULT0083F20050922
[25]	Radiological Survey Report	Entec	31 May 2007	SILQ0050F20070531
[26]	Phase Two Radiological Survey Report, Final Technical Note – Remediation Proposal	Entec	31 May 2007	SILQ0084F20070531
Munitions and Ordnance Report				
[27]	Phase One LQA (Desk Study) (by G&E Consultants)	WSP	May 1995	SILQ0067F19950500
[28]	Phase One Desk Study including Envirocheck dated 9 November 2004 Ref: 7167001-1-2	Entec	May 2005	SILQ0059F20050518
[29]	Phase One Assessment for Defence Logistics Organisation (DLO) report No ESG/05/041/F dated	Environmental Science Group (ESG)	December 2005	UXO0003F20051200
[30]	Phase Two & Three Reports for Defence Logistics Organisation (DLO)	Environmental Science Group (ESG)	January 2007	UXO0004F20070100
[31]	Phase Two: Site Investigation (DE Project No 05002	Entec	3 May 2007	SILQ0008F20040503

ENVIRONMENTAL RISK ASSESSMENT SUPPORTING INFORMATION

Soil Screening Values: CLEA Values

The Environment Agency has published non statutory technical guidance for Regulators and their advisors to assess the chronic risk posed to human health from land contamination, known as the Contaminated Land Exposure Assessment (CLEA) Framework.

The CLEA Framework documents and associated risk assessment model are subject to ongoing technical review. The most recent and significant revision was in July 2008, with the withdrawal of guidance documents CLR7 to 10, which previously underpinned the CLEA Framework. In January 2009 the Environment Agency published CLEA V1.04 risk assessment software and associated guidance documents[7] as a replacement to the previous CLEA UK Beta Version and documents CLR 7 to 10. More recent revisions have been made in September 2009 to CLEA V1.05 and October 2009 to CLEA 1.06 risk assessment software.

The Environment Agency has produced several Soil Guideline Values (SGVs) based upon the revised framework. At the time of writing SGVs exist for the following substances: Benzene; Toluene; Ethylbenzene; Xylenes; Dioxins and dioxin like polychlorinated biphenyls; Arsenic; Cadmium, Mercury; Nickel; Phenol and Selenium. SGV reports are currently being compiled by the Environment Agency for: Chromium; Cyanide; Lead and PAHS.

In the absence of a comprehensive list of SGVs, CampbellReith have generated Generic Assessment Criteria (GAC) utilising CLEA 1.06 and the associated software. This is a rolling review and will continue as further Environment Agency publications become available. Contaminant specific toxicological data for GACs has been obtained from Environment Agency and DEFRA toxicological reports where available, or secondary 'authoritative literature references (as detailed in Appendix A of SR2).

Where CLEA compliant SGVs or GAC are not available reference may also be made to GAC derived using the CLEA UK model (beta version) or other values. These are currently used for lead and cyanide. Where referred to, the non compliant standing of these values is considered.

The recently published GACs within CL:AIRE Publication 'The Soil Generic Assessment Criteria for Human Health Risk Assessment', December 2009 have been applied where CLEA compliant CampbellReith GACs are not available.

Selection of Appropriate Tier 2 Soil Screening Values

The CLEA model is based upon defined exposure scenarios and three generic land uses are defined within the model. These set out a discrete set of circumstances where exposure may occur, including a source, the pathways, and the exposed population.

The three generic land use scenarios used in the development of SGVs are:

- **commercial / Industrial;**
- **allotments; and,**
- **residential (with or without plant uptake).**

It is noted that the CLEA screening values are generic and not always applicable. Where the CLEA conceptual model is not appropriate it will be necessary to develop site specific Detailed Quantitative Risk Assessment screening values as a further stage of assessment.

It is noted that the CLEA model does not consider risks from contaminated waters beneath the site to human health and the model also assumes that no free product is present. Should such conditions exist at the subject site the requirement for application of an alternative risk assessment model should be assessed. Alternatively, construction workers are potentially exposed to acute risk and therefore require separate consideration.

Statistical Analysis of Soil Analytical Results

Statistical analysis of soil based analytical results has been undertaken as detailed in Appendix A of CLEA R&D Publication CLR7, 2002. Although CLR 7 has recently been withdrawn, the use of the Mean Value Test and Maximum Value Test is still

[7] Environment Agency Report Ref: SC050021/SR2 - *Human Health Toxicological Assessment of Contaminants in Soil.* January 2009. Environment Agency Report Ref: SC050021/SR3 – *Updated background to the CLEA model.* January 2009.

considered appropriate for site assessments given current guidance[8]. This guidance advocates use of the one - sample t test, which is a variation of the mean value test and establishes the confidence level at which the assessor can determine whether a particular screening level has / has not been succeeded. The mean value test used herein is set at the 95th percentile confidence limit in order to be risk conservative.

The Maximum Value Test is a statistical tool that is used to identify outlier values from a numerical distribution of results for a given determinant. These outlier values can be excluded and considered separately, and the remaining values are then used to calculate upper bound 95th percentile values ($95^{\%ile}$) (Mean Value Test) for comparison with the screening values.

Unless specifically stated within the report text the statistical assessment has treated the site as a single averaging area and screened in its entirety. Additional tables are presented where appropriate to reflect distinct ground characteristics relevant to the conceptual model.

Water Screening Values

This assessment considers potential risks to controlled waters (groundwater and surface waters) in relation to risks from any historical contamination. The most stringent test is that defined for Contaminated Land under Part 2A of the Environmental Protection Act, 1990. However, it should be recognised that a wider evaluation of risk is considered within the planning regime described in PPS23 and CLR 11.

The Environment Agency has a wider policy agenda for the protection of controlled waters that will impinge upon judgements in relation to land contamination issues. This includes those for the Water Framework Directive and Groundwater Directive and wider legislation for both groundwater, surface water and associated elements (such as fisheries)[9].

The results of water analysis have been compared to screening values selected to assess the potential risk to the identified controlled water receptors in the Conceptual Site Model. The specific standards utilised for this purpose are considered in the assessment table footnotes and typically comprise: Environmental Quality Standards for the protection of aquatic life; Surface Water Standards; EC and UK Drinking Water Standards; or Background water quality (where no applicable standard exists).

The initial assessment considers the sensitivity of the receptor in the selection of the screening value. Advice for this purpose has been obtained principally from Environment Agency Technical Advice to Third Parties on Pollution of Controlled Waters for Part 2A of the Environmental Protection Act 1990, No 07/02. EA, 2002. (INFO-RA2-3e).

Where a viable pollutant linkage is considered to be present and the screening criteria exceeded, a qualitative risk assessment is presented with associated recommendations. Depending on the specific objectives, policy and practice of the Environment Agency, discussion of water screening values may be subsequently required.

[8]Guidance on Comparing Soil Contamination Data with a Critical Concentration, CL:AIRE, May 2008.
[9] Refer to Environment Agency Publications for Groundwater Protection Policy and Practice. http://publications.environment-agency.gov.uk/pdf/GEHO0708BOGU-e-e.pdf?lang=_e

LIMITATIONS

This report provides available factual data for the site obtained only from the sources described in the text and related to the site on the basis of the location information provided by the Client.

Where any data or information supplied by the Client or other external source, including that from previous desk studies or reports, has been used, it has been assumed that the information is correct. No responsibility can be accepted by CampbellReith for inaccuracies within this data or information. In relation to historic maps it should be recognised that the accuracy of maps cannot be guaranteed and it should be recognised that different conditions on site may have existed between and subsequent to the various map surveys.

This report is limited to those aspects of historical land use and enquiries related to environmental matters reported on and no liability is accepted for any other aspects. The opinions expressed cannot be absolute due to the limit of time and resources implicit within the agreed brief and the possibility of unrecorded previous uses of the site and adjacent land.

The material encountered and samples obtained during on-site investigations represent only a small proportion of the materials present on the site. There may be other conditions prevailing at the site which have not been revealed and which have therefore not been taken into account in this report. These risks can be minimised and reduced by additional investigations. If significant variations become evident, additional specialist advice should be sought to assess the implications of these few findings

The generalised soil conditions described in the text are intended to convey trends in subsurface conditions. The boundaries between strata are approximate and have been developed on interpretations of the exploration locations and samples collected.

Water level and soil gas readings have been taken at times and under conditions stated on the exploration logs. It must be noted that fluctuations in the level of groundwater or soil gas may occur due to a variety of factors which may differ from those prevailing at the time the measurements were taken.

The findings and opinions expressed are relevant to those dates of the reported enquiries and site work and should not be relied upon to represent conditions at substantially later dates.

Please note that CampbellReith cannot accept any liability for observations or opinions expressed regarding the absence or presence of asbestos or on any product or waste that may contain asbestos. We recommend that an asbestos specialist, with appropriate professional indemnity insurance, is employed directly by the client in every case where asbestos may be present on the site or within the buildings or installations. Any comments made in this report with respect to asbestos, or asbestos containing materials, are only included to assist the client with the initial appraisal of the project and should not be relied upon in any way.

This report is produced solely for the benefit of the Client and no liability is accepted for any reliance placed upon it by any other party unless specifically agreed in writing.

APPENDIX A: FIGURES

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Figure 33: Munitions and UXO - Hangars East

APPENDIX B: PHOTOGRAPHS

APPENDIX C: DESK STUDY INFORMATION (CD)

1 Landmark Envirocheck Report, reference: 7167001-1-2, dated 9 November 2004,
2 Environment Agency Consultation letter dated 17th June 2010

APPENDIX D: SITE INVESTIGATION INFORMATION (CD)

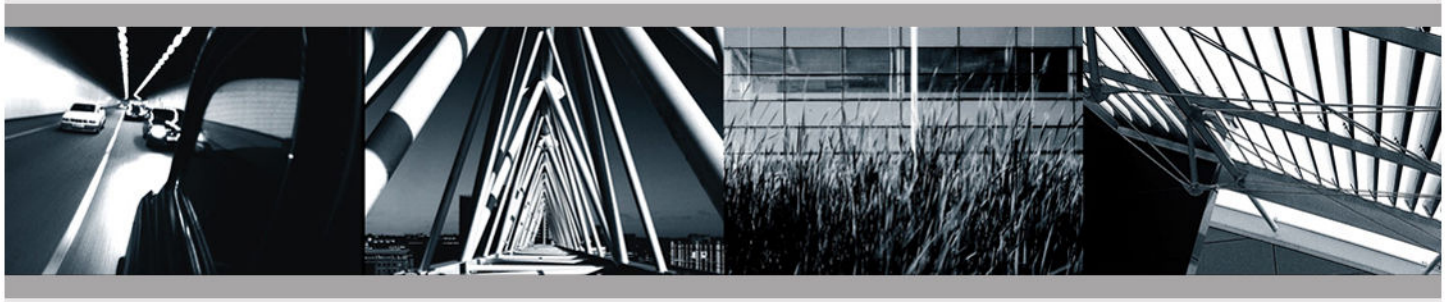
Halcrow, *Ground Investigation Interpretative Report,* dated 31 March 2006

Entec, *Phase Two: Site Investigation, Final Land Quality Assessment Report* (DE Project No 05002), dated 3 May 2007

APPENDIX A: FIGURES

APPENDIX B: PHOTOGRAPHS

APPENDIX C – D (CD)



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20140729-EOC Risk Assessments - HMS Daedalus
DIO ODC-IPS EOC Offr(Swarbrick, Keith)
05/08/2014 14:07
To:
DIO ODC-LMS HMNB3 (Greaves, Philip Mr), DickenMaclean
Hide Details
From: "DIO ODC-IPS EOC Offr(Swarbrick, Keith)" <DIOODC-IPSEOCOffr@mod.uk>
To: "DIO ODC-LMS HMNB3 (Greaves, Philip Mr)" <DIOODC-LMSHMNB3@mod.uk>,
<DickenMaclean@campbellreith.com>

0 Attachment

image001.gif

Gentlemen

To clarify:

The DLO has since become Defence Equipment & Support (DE&S) and our group transferred to Defence Infrastructure Organisation (DIO), now known as DIO-EOC. The group now focuses on ordnance contamination and no longer deals with general land quality issues.

I was heavily involved in this issue at the time and can probably answer most of your questions on the subject.

1. The 2005 Entec report states that all clearance certificate were withdrawn due to DLO concerns. This is true (I withdrew them), however the reason for withdrawal was not explained in the Entec report. The certificates were withdrawn solely because of doubt as to the effectiveness of the search for WWII pipe mines. Extensive geophysical survey and intrusive investigations were conducted in 2006 and all identified mines were extracted.

2. The area of concern with regard to pipe mines is mainly outside of the proposed development area, however an area to the north of the proposed 'Waterfront Commercial' and the east side of 'Hangers West' does overlap. See ESG Phase II/III report for more details.

3. We have not issued clearance certificates since around 2004 as they implied an area was 100% clear of ordnance. The subsequent EORA was intended to give a full and open account of what research and clearance work had been undertaken and why, it also assessed the remaining levels of risk. Latterly we have refined the EORA inline with Construction Industry Guidance C681 – UXO A guide for the construction industry. The current ESG reports should provide sufficient information for the compilation of a detailed risk assessment as defined by C681.

4. UXO history is detailed in an earlier DLO-ESG report (ESG/05//041/F Dec 2007 Explosive Ordnance Risk Assessment – Phase I). I don't have an electronic copy of this available at the moment however please see the extracts below:

CONCLUSIONS
The aim of the explosive ordnance assessment Phase one desk study has been to identify and assess the risk from possible ordnance contamination to present and future site users at HMS Daedalus.

ESG has recognised that the redevelopment and future use of the site remains fluid, and with this in mind, proposes that the airfield site be regarded in two areas.

The first area, consisting of the technical area, accommodation area, hangars and grounds surrounding the perimeter track, are assessed as Very Low.

The second area, consisting of the runways and land contained within the perimeter track, is assessed as Medium. Recommendations are made in Section 6 for mitigating the risk. Implementation of these measures should result in a very low risk rating.

The risk posed by unexploded wartime bombs to estate management teams, contractors and other personnel involved in future excavations is assessed as Very Low. However it should be noted that the whole of the Gosport area was regarded as a legitimate military target and the possible presence of air dropped munitions still exists in the area. In this regard the risks associated with the site are judged to be no higher than the surrounding area.
Please advise any contractors that if for any reason they suspect they have come across an explosive ordnance item, to contact the local civilian police.

The risk to flora and fauna, buildings, services and controlled waters has been assessed as Very Low (see Annex K Explosive Ordnance Risk Assessment areas).

RECOMMENDATIONS

Based on the findings of the desk study and geophysical survey, and having carried out the preliminary risk assessment, the following recommendations are made for HMS Deadalus:

The explosive ordnance risk assessment study has found little evidence of explosive ordnance contamination on the technical and accommodation areas, hangars and the grounds surrounding the perimeter track. This also extends to the area known as Site 6 currently under development and subject to an earlier search (ref letter DLO/DSES/150/8/052 Annex J). In this respect no further actions are required in these areas.

In response to the potential presence of pipe mines, and further to the full instrumental survey carried out by ESG using the towed array detection system, it is recommended that selected objects identified by ESG as being of a possible explosive ordnance nature, should be extracted and examined (Phase 2 Extractions). This intrusive investigation work can be coordinated and carried out by ESG, with service support when necessary.

Please feel free to contract me for any further advice.

Regards,

Keith Swarbrick

Defence Infrastructure Organisation

Explosive Ordnance Clearance

Room 106,
Building 420,
MoD Corsham,
Corsham,
Wilts,
SN13 9NR

MOD telephone: 94396 7231 | Telephone: 01225 847231 | Fax: ** 7237

e-mail: keith.swarbrick657@mod.uk Group e-mail: dio-eoc@mod.uk

Website: www.mod.uk/DIO

From: DIO ODC-LMS HMNB3 (Greaves, Philip Mr)
Sent: 29 July 2014 10:49
To: DIO ODC-IPS EOC Offr(Swarbrick, Keith)
Subject: 20140729-EOC Risk Assessments - HMS Daedalus

Hi Keith,

A number of years have passed since we were involved with the Daedalus project – I trust you are well.

Grateful if you could cast your eyes over the chain of e-mails below – Campbell Reith are working on behalf of the Homes & Communities Agency, the current owners of the Daedalus site (less the airfield). They are enquiring about EOC Risk Assessments affecting the three areas edged red on the attached plan. Following the last report prepared by Adrian P (ESG/06/047/F – Jan 2007), are you please able to confirm risk from ordnance within these areas is assessed as very low. There are no questions in respect of the 2007 report, they are just seeking clarification on whether the assertion made by Entec (second attachment) is correct, or whether this purely related to the airfield site?

Please call if any of this does not make sense!

Many thanks.

Kind regards,

Phil Greaves

Phil Greaves|Senior Estate Surveyor|
Land Management Services|
Defence Infrastructure Organisation|
Building 1/150 (PP19D)|Murrays Lane|

HM Naval Base|Portsmouth|Hampshire|PO1 3NH|
Civ:023 92723298|Mil:9380 23298|
Mob:07990 790412|Fax: 023 92 722724|
Email:philip.greaves682@mod.uk
Website:www.mod.uk/dio/

From: DickenMaclean@campbellreith.com [mailto:DickenMaclean@campbellreith.com]
Sent: 29 July 2014 10:16
To: DIO ODC-LMS HMNB3 (Greaves, Philip Mr)
Subject: Re: Query on works conducted on HMS Daedalus

Hi Phil

We are undertaking a variety of different works in different areas of Daedalus, so actually it would be helpful if you could clarify the status of hangars west, waterfront and the northern part of hangars east as shown on the figure attached,

Kind regards

Dicken Maclean
Environmental Scientist

CampbellReith
consulting engineers

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Redhill, Surrey
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From: "DIO ODC-LMS HMNB3 (Greaves, Philip Mr)" <DIOODC-LMSHMNB3@mod.uk>
To: <DickenMaclean@campbellreith.com>
Date: 29/07/2014 09:08
Subject: Query on works conducted on HMS Daedalus

Dicken,

Could you please forward me a plan showing all of the areas you wish me to investigate? I will then go to the Explosives Team for clarification.

KR

Phil Greaves

Phil Greaves|Senior Estate Surveyor|
Land Management Services|
Defence Infrastructure Organisation|
Building 1/150 (PP19D)|Murrays Lane|
HM Naval Base|Portsmouth|Hampshire|PO1 3NH|
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Mob:07990 790412|Fax: 023 92 722724|
Email:philip.greaves682@mod.uk
Website:www.mod.uk/dio/

From: DickenMaclean@campbellreith.com [mailto:DickenMaclean@campbellreith.com]
Sent: 28 July 2014 12:21
To: DIO ODC-LMS HMNB3 (Greaves, Philip Mr)
Subject: Re: Query on works conducted on HMS Daedalus

Thanks for sending that through, presumably comment 3. 'on behalf of the Ministry of Defence please inform the interested parties that search of the area is completed. Under no circumstances must the actual clearance certificate be issued to private landowners or contractors.' would suggest that we can't rely upon the findings?

That aside, I am interested in finding some backing behind the statement by the Entec report suggesting that all previous certificates had been withdrawn by the DLO, which i guess might be yourselves? Do you have any records of this?

Kind regards

Dicken Maclean
Environmental Scientist

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consulting engineers

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From: "DIO ODC-LMS HMNB3 (Greaves, Philip Mr)" <DIOODC-LMSHMNB3@mod.uk>
To: <DickenMaclean@campbellreith.com>
Date: 28/07/2014 11:18
Subject: Query on works conducted on HMS Daedalus

Dicken,

I've managed to dig out all the previous clearance certificates issued – too much paperwork to scan and forward. As I mentioned in our conversation, the EO Risk Assessment only makes an assessment of the likely probability of ordnance being located in the searched areas – in this case, either very low or low. No guarantee can be given that the site is 100% clear of ordnance.

I attach one copy of a survey carried out in September 86, which I hope covers the area you are particularly interested in – if so, please confirm. I will then seek comment from the Explosives Team to ascertain the associated risk.

Kind regards,

Phil Greaves

Phil Greaves|Senior Estate Surveyor|
Land Management Services|
Defence Infrastructure Organisation|
Building 1/150 (PP19D)|Murrays Lane|
HM Naval Base|Portsmouth|Hampshire|PO1 3NH|
Civ:023 92723298|Mil:9380 23298|
Mob:07990 790412|Fax: 023 92 722724|
Email:philip.greaves682@mod.uk
Website:www.mod.uk/dio/

From: DickenMaclean@campbellreith.com [mailto:DickenMaclean@campbellreith.com]
Sent: 28 July 2014 09:55
To: DIO ODC-LMS HMNB3 (Greaves, Philip Mr)
Subject: Re: Query on works conducted on HMS Daedalus

Hi Phil

Thanks for your help on Friday.

I was wondering however if you could help me with another query.

I appreciate that the 2005 desk study report deems the outer area 'very low risk', however before our client passes on sections of the site, we need those areas to have explosives free certificates. I am aware that portions of the site have previously been cleared, however in a report written by Entec in 2005, noted that the DLO withdrew 'all clearance certificates and risk assessments'. Does that suggest that any details of areas cleared before 2005 should be deemed not to have been cleared? Specifically I am interested in the areas in hangars west cleared for telegraph poles in 1987.

Attached is a scan of the page of report i am referring to.

If you could shed any light on the matter that would be great.

Dicken Maclean
Environmental Scientist

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From: "DIO ODC-LMS HMNB3 (Greaves, Philip Mr)" <DIOODC-LMSHMNB3@mod.uk>
To: <DickenMaclean@campbellreith.com>
Date: 25/07/2014 10:49
Subject: Query on works conducted on HMS Daedalus

Hi Dicken,

I have in my possession a hard copy of the report, however, somewhat surprised at the request as this information has been provided on previous occasions. Happy to forward a further copy, but you may first wish to contact the Site Manager at Daedalus – Peter Seidenstucker – who should already have access to the information you require.

Kind regards,

Phil Greaves

Phil Greaves|Senior Estate Surveyor|
Land Management Services|
Defence Infrastructure Organisation|
Building 1/150 (PP19D)|Murrays Lane|
HM Naval Base|Portsmouth|Hampshire|PO1 3NH|
Civ:023 92723298|Mil:9380 23298|
Mob:07990 790412|Fax: 023 92 722724|
Email:philip.greaves682@mod.uk
Website:www.mod.uk/dio/

From: DIO ODC-LMS HMNB1 (Ogden-Haigh, Frances Mrs)
Sent: 24 July 2014 12:50
To: DIO ODC-LMS HMNB3 (Greaves, Philip Mr)
Subject: FW: Query on works conducted on HMS Daedalus

Phil

This looks like something you'll know a lot more about than me.

Frances Ogden-Haigh | Senior Estates Surveyor | Land Management Services|
| Defence Infrastructure Organisation |
1/150 Murrays Lane (PP19D) | HMNB Portsmouth | PO1 3NH
Civ: 023 9272 8624 | Mil: 9380 28624 | Fax: 023 9272 2724
Email: DIOODC-LMSHMNB1@mod.uk Website: www.mod.uk/dio/

From: DickenMaclean@campbellreith.com [mailto:DickenMaclean@campbellreith.com]
Sent: 24 July 2014 12:47
To: DIO ODC-LMS HMNB1 (Ogden-Haigh, Frances Mrs)
Subject: Query on works conducted on HMS Daedalus

Hello

I have been trying to get in contact with somebody from the DLO, which i understand no longer exists.

My enquiry relates to HMS Daedalus, and a report produced by the DLO and ESG (Environmental Science Group).

The report title is 'HMS Daedalus, Phase II & III Explosive Ordinance Risk Assessment, Reference: ESG/06/047/F, January 2007.

I was wondering if my query could be passed onto somebody who might be able to provide further details on the above report, and

also the UXO history of the site.

We are working on behalf of the Homes and Communities Agency, and are looking to find further details of the UXO status of the site for investigative works.

If somebody could get in touch with me by phone 01737784500 or by email that would be great.

Many thanks.

Dicken Maclean
Environmental Scientist

CampbellReith
consulting engineers

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[attachment "20140728 Lee-on-Solent Airfield.pdf" deleted by Dicken Maclean/CRH]

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APPENDIX C: SITE INVESTIGATION INFORMATION

Entec (2007a) Phase Two: Site Investigation. Ref: SILQ0008F20040503

HGE (2014) Ground Investigation Final Factual Report – Daedalus, Lee-on-the-Solent – Waterfront. Ref: GL18065

Document: Ground Investigation Final Factual Report

Project: Daedalus, Lee-on-the-Solent - Waterfront

Project No.: GL18065

Date: June 2014

Prepared for: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

harrisongeotechnical
ENGINEERING



A division of Harrison Group Environmental Ltd.

HARRISON GROUP ENVIRONMENTAL LIMITED

Document: **Ground Investigation Final Factual Report**

Project: **Daedalus, Lee-on-the-Solent – Waterfront**

Reference No.: **GL18065**

Date: **June 2014**

Prepared For: **Homes and Communities Agency**

Engineer: **Campbell Reith Hill LLP**

REPORT STATUS:

		INIT SIGN COMMENTS DATE	INIT SIGN COMMENTS DATE	INIT SIGN COMMENTS DATE	INIT SIGN COMMENTS DATE
0	FINAL	INIT JB SIGN  COMMENTS DATE 03/06/2014	INIT JK SIGN  COMMENTS DATE 03/06/2014	INIT JB SIGN  COMMENTS DATE 03/06/2014	INIT JK SIGN  COMMENTS DATE 03/06/2014
1	DRAFT	INIT JB SIGN  COMMENTSDATE 21/05/14	INIT JK SIGN  COMMENTS DATE 21/05/14	INIT JB SIGN  COMMENTS DATE 21/05/14	INIT JK SIGN  COMMENTS DATE 21/05/14
0	DRAFT	INIT JB SIGN  COMMENTS DATE 09/05/14	INIT JK SIGN  COMMENTS DATE 09/05/14	INIT JB SIGN  COMMENTS DATE 09/05/14	INIT JK SIGN  COMMENTS DATE 09/05/14
Revision	**Comments**	**Prepared By**	**Approved By**	**Issued By**	**Audited By**

This sheet to be kept on PSI / Report file.
Auditors to insert their comments on the table, to annotate the report itself or provide comments on a separate sheet. (Please state which)
For final reports a hard copy of the signed off form will be kept on the appropriate QA file.

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FOREWORD

General Conditions Relating To Site Investigation

This investigation has been devised to generally comply with the relevant principles and requirements of BS10175: 2001 “Investigation of potentially contaminated sites - Code of practice” and where directed by the principles and application rules of Eurocode 7 (EC7 – Part 1 and Part 2). The recommendations made and opinions expressed in this report are based on the information obtained from the sources described using a methodology intended to provide reasonable consistency and robustness.

The opinions expressed in this report are based on the ground conditions revealed by the site works, together with an assessment of the site and of laboratory test results. Whilst opinions may be expressed relating to sub-soil conditions in parts of the site not investigated, for example between exploratory positions, these are only for guidance and no liability can be accepted for their accuracy.

Boring, sampling and field test procedures are undertaken in accordance with BS5930:1999+A2:2010 "Code of Practice for Site Investigations". Likewise in-situ and laboratory testing complies with B.S.1377, "Methods of Tests for Soils for Civil Engineering Purposes", unless stated otherwise in the text.

The groundwater conditions entered on the boring records are those observed at the time of investigation. The normal rate of boring usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions.

Some items of the investigation have been provided by third parties and whilst Harrison Group have no reason to doubt the accuracy, the items relied on have not been verified. No responsibility can be accepted for errors within third party items presented in this report.

This report is produced for the benefit of the client alone. No responsibility can be accepted for any consequences of this information being passed to a third party who may act upon its contents/recommendations.

GROUND INVESTIGATION

FINAL FACTUAL REPORT

DAEDALUS, LEE-ON-THE-SOLENT – WATERFRONT

1.0 TERMS OF REFERENCE AND INTRODUCTION

The work covered by this report was undertaken on behalf of the Homes and Communities Agency Ltd in accordance with the relevant contract documentation (SMmw11575-15.01.2014 SI Tender_D1GI Spec). Campbell Reith Hill LLP (CampbellReith) acted as Consulting Engineers for the project.

At the time of writing this report the development proposal is unknown for the Waterfront and is likely to be based on information obtained from the ground investigation works.

The investigation was required to provide factual geotechnical and geoenvironmental data, both from field work and from subsequent laboratory testing.

This report presents the results of the fieldwork and laboratory testing, along with records of the post fieldwork monitoring.

If the development proposals are a mixture of Geotechnical Categories 1 and 2 (GC1 and GC2) the design objectives should be attainable by relatively routine field, laboratory testing design and execution.

2.0 LOCATION AND DESCRIPTION OF SITE

The Daedalus site is located on the Gosport peninsula, situated to the west of the built up areas of Lee-on-the-Solent, south of Fareham, and to the east of Hill Head and Stubbington and centred at a National Grid Reference of 456002E, 102050N.

The Waterfront zone covers approximately 24.7 hectares (excluding junction and slipway areas) and lies between the seafront, the residential area of Lee-on-the-Solent and the airfield to the north. This area is by far the most developed part of the Daedalus site and has direct access to The Solent via a slipway. The Waterfront can be considered to have two distinct zones; commercial and conservation.

The Waterfront (commercial) zone covers an area of 16.7 hectares and lies between the seafront and the airfield. A total of 44 buildings primarily made up airfield hangars and workshops. Notable buildings within this zone are the four large hangars adjacent to the airfield (Dunning, Swann, Esmonde and Overlord Hanger), new boiler house and four hangars at the slipway.

The Waterfront (conservation) zone covers an area of approximately 8 hectares and is comprised of 47 buildings associated with the former barracks element of the former HMS Daedalus.

A site location plan (GL18065-DR001) has been presented in Appendix A.

3.0 EXPECTED GEOLOGY

The British Geological Survey (BGS) 1:50,000 scale geological map for Portsmouth indicates that the site is underlain by Drift deposits comprising Brickearth (windborne dust reworked by river action) and Gravels (fluvial sands and gravels), beneath which are sand and clays of the Bracklesham Group (sands, silts and clays).

The site is primarily underlain by 'Brickearth', although these deposits are absent in areas where the Plateau and Terrace Gravels crop out at the surface (generally beneath the eastern extent of the Waterfront Conservation area). The areas of out cropping gravels appear to be related to tributaries of the River Alver floodplain to the east of the site.

The solid geology shows bands from the Bracklesham Group in parallel with the coastline and gently dipping towards the south. The Selsey Sand is likely to been countered along the boundary with the Solent.

4.0 FIELDWORK

The scope of the site works was generally in accordance with that proposed by the Engineer and comprised the following:

- Cable Percussive Boreholes (20 No. to maximum depth 15.00m)
- Window Sample Boreholes (20 No. to maximum depth 5.00m)
- Machine Excavated Trial Pits (22 No. to maximum depth 4.10m)
- Concrete coring (9 No.)
- California Bearing Ratio tests (9 No.)
- Gas and groundwater monitoring of installations (3 rounds)
- Surveying of the exploratory locations carried out by Target Ltd.
- Permeability Testing (7 No.)

The fieldworks were carried out between the 03rd February 2014 and the 04th April 2014 at the locations shown on the appended drawing GL18188–DR002 presented in Appendix A.

Prior to intrusive activities taking place a utility survey scan of the exploratory locations was carried out Subscan Technology Ltd. An Explosive Ordnance briefing and surface scan of the exploratory locations was carried out by MACC International. A magnetometer survey was undertaken in all exploratory holes penetrating greater than 1.20m.

The sampling strategy was designed by the engineer and took into account local constraints, but included reference to the topography of the site, the geology encountered, including made ground and the development proposals.

During and immediately following completion of the fieldwork geotechnical samples were transported to Harrison Group's Laboratory in Norwich via in house transportation and/or couriers were they were upon arrival they were logged into sample management system.

Environmental samples were dispatched to the nominated chemical test house on a daily basis using cool boxes and refrigerant blocks. Chain of Custody (CoC) Sheets were prepared, copies of which accompanied the samples.

4.1 Cable Percussive Boreholes

Twenty cable percussive boreholes, LEPBH01, LEPBH02, MCBH01, MCBH02, MCBH03, NGBH01, WFBH01, WFBH02, WFBH03, WFBH04, WFBH05, WFBH06, WFBH07, WFBH08, WFBH09, WFBH11, WFBH12, WFBH13, WFBH13A and WFBH14 were required in order to sample, test and log the sub-soils underlying the site. These boreholes were progressed using 200mm and 150mm diameter casing and equipment.

WFBH13A was terminated at 0.50m due to a concrete obstruction and replaced by WFBH13.

Upon completion the boreholes were installed with combined gas and groundwater monitoring wells, as summarised in Table 4.5.

A detailed description of all the strata encountered, position and types of samples taken along with any groundwater observations made at the time of drilling are included on the borehole logs presented in Appendix B.

4.2 Window Sampler Boreholes

Twenty window sample boreholes, LEPWS02, LEPWS03, LEPWS04, LEPWS05, MCWS01, MCWS02, NGWS01, NGWS02, WFWS01, WFWS02, WFWS03, WFWS04, WFWS06, WFWS10 WFWS12, WFWS13, WFWS16, WFWS20, WFWS21, WFWS22, were drilled to a maximum depth of 4.10mbgl using a tracked premier window sampling rig.

Upon completion window sampler borehole WFWS21 was installed with combined gas and groundwater monitoring wells, as summarised in Table 4.5.

A detailed description of all the strata encountered, position and types of samples taken along with any groundwater observations made at the time of drilling are included on the window sample borehole logs presented in Appendix B.

4.3 Machine Excavated Trial Pits

Twenty two trial pits LEPTP01, LEPTP02, LEPTP03, LEPTP04, LEPTP05, LEPTP06, MCTP01, MCTP02, NGTP01, NGTP02 NGTP03, WFTP01, WFTP02, WFTP03, WFTP04, WFTP05, WFTP06, WFTP07, WFTP08, WFTP09, WFTP10 and WFTP11 was excavated using a JCB3CX excavator to a maximum depth of 4.10mbgl in order to sample, test and log the sub-soils underlying the site.

Soakaway tests in accordance with BRE 365 were undertaken in LETP04, MCTP02, NGTP03, WFTP01 and WFTP10.

Details of the equipment used, along with a detailed description of the strata encountered, position and types of samples taken along with any groundwater observations made at the time of excavating are included on the relevant record sheets presented in Appendix B.

4.4 California Bearing Ratio tests

Nine concrete core holes LEPCBR01, LEPCBR02, LEPCBR03, LEPCBR04, LEPCBR05, LEPCBR06, LEPCBR07, LEPCBR08, LEPCBR08A were required within the carriageway in order to investigate the thickness of the existing asphalt. The sub-base was then excavated by hand then a Dynamic Penetrometer Test was undertaken at each location using a TRL probe to obtain in situ CBR values of the soil. LEPCBR08 was terminated at 0.60mbgl due encountering an asphalt road surface at 0.60m and a second attempt was made as LEPCBR08A.

Details of the equipment used, along with a detailed description of the strata encountered, and photographs of the cores are included on the relevant record sheets presented in Appendix B.

4.5 Installations

The boreholes were installed to engineer's instructions with standpipes for monitoring the gas and groundwater within the soils encountered, Table 4.5 summarises these installations.

Monitoring Point I.D	Diameter of Installation (mm)	Base Depth of Installation (m bgl)	Response Zone (m bgl)		Target Strata
			Top	Base	
LEPBH01	50	9.00	1.00	9.00	Made Ground /Brickearth/Gravels/ Bracklesham Group
LEPBH02	50	6.00	1.00	6.00	Brickearth/Gravels
MCBH01	50	10.00	1.00	10.00	Made Ground /Brickearth/Gravels/ Bracklesham Group
MCBH02	50	10.00	1.00	10.00	Made Ground /Brickearth/Gravels/ Bracklesham Group
MCBH03	50	9.00	1.00	9.00	Made Ground /Brickearth/Gravels/ Bracklesham Group
NGBH01	50	9.00	1.00	9.00	Made Ground /Brickearth/Gravels/ Bracklesham Group
WFBH01	50	15.00	1.00	15.00	Made Ground /Brickearth/Gravels/ Bracklesham Group
WFBH02	50	9.00	1.00	9.00	Made Ground /Brickearth/Gravels/ Bracklesham Group
WFBH03	50	9.00	1.00	9.00	Made Ground /Gravels/ Bracklesham Group
WFBH04	50	9.00	1.00	9.00	Made Ground /Brickearth/Gravels
WFBH05	50	9.00	1.00	9.00	Made ground/Brickearth/Gravels/ Bracklesham Group
WFBH06	50	11.00	1.00	11.00	Made Ground /Brickearth/Gravels/ Bracklesham Group
WFBH07	50	9.00	1.00	9.00	Made Ground /Brickearth/Gravels
WFBH08	50	10.00	1.00	10.00	Made Ground /Brickearth/Gravels/ Bracklesham Group
WFBH09	50	9.00	2.00	9.00	Made Ground /Brickearth/Gravels/ Bracklesham Group
WFBH11	50	6.00	1.00	6.00	Made Ground /Brickearth/Gravels
WFBH12	50	6.00	1.00	6.00	Made Ground /Brickearth/Gravels
WFBH13	50	6.00	1.00	6.00	Made Ground /Brickearth/Gravels
WFBH14	50	6.00	1.00	6.00	Made Ground /Brickearth/Gravels/ Bracklesham Group
WFWS21	50	3.00	1.00	3.00	Made Ground /Brickearth

Table 4.5: Summary of Gas and Groundwater Installations.

Detailed descriptions of the installations and their corresponding backfill materials are included on the relevant exploratory hole logs presented in Appendix B.

4.6 Surveying

Following completion of the intrusive works a survey was carried out to establish the co-ordinates of these positions the details of which are shown on the appropriate logs.

4.7 Gas and Groundwater Monitoring

Three complete rounds of gas monitoring were carried out within borehole installations, with a fourth round carried out in selected boreholes MCBH01, WFBH03, WFBH12 and WSBH13. Water sampling was undertaken on the on the first and fourth rounds.

The monitoring rounds took place as follows on the 1st, 11th 17th of April and 15th May 2014.

The results of groundwater monitoring rounds are presented in Appendix C and as summarised in the table 4.7a below.

Monitoring Point ID	Water Strikes		Standing Water Level During Monitoring	
	Struck	Rose to	Min.	Max.
	m bgl	m bgl	m bgl	m bgl
LEPBH01	3.50	2.80	2.68	2.84
LEPBH02	5.20	2.80	3.67	3.99
MCBH01	6.00	2.80	3.11	3.26
MCBH02	4.70	2.80	3.51	3.74
MCBH03	3.40	2.90	2.39	2.67
NGBH01	5.40	4.70	3.12	3.55
WFBH01	6.40	3.80	4.08	4.44
WFBH02	5.20	2.80	3.79	4.41
	6.40	3.10		
WFBH03	5.60	2.20	4.16	4.40
WFBH04	6.60	3.20	3.85	4.18
WFBH05	8.60	5.20	5.14	5.33
WFBH06	5.70	3.00	3.28	3.75
WFBH07	8.50	2.20	3.44	3.61
WFBH08	3.90	1.00	2.89	3.15
WFBH09	6.50	3.20	3.80	3.94
WFBH11	3.40	2.10	4.21	4.47
WFBH12	4.90	3.10	3.41	3.57
WFBH13	5.20	2.80	3.12	3.30
WFBH14	Not Observed	-	2.78	3.01
WFWS21	0.50	-	dry	dry

Table 4.7a: Summary of Groundwater Observations

Gas monitoring was undertaken prior to groundwater monitoring and sampling, the results of which are presented in Appendix C and as summarised in Table 4.7b overleaf:

The installations contain response zones in the Made Ground, Alluvium and River Terrace Gravels to reflect general ground conditions across the site.

Monitoring Point ID	Gas Concentration Ranges					Flow Rate Range (l/hr)
	Ch_4 (%)	$C0_2$ (%)	0_2 (%)	HS2 (ppm)	CO (ppm)	
LEPBH01	0.0	1.6 – 3.6	13.7 – 17.8	0.0	1.0	0.0 – 0.1
LEPBH02	0.0	0.1 – 2.2	17.7 – 21.6	0.0	0.0 - 1.0	-0.0 - 0.3
MCBH01	0.0	0.3 – 3.9	12.8 – 21.5	0.0	0.0 – 1.0	0.0 – 0.3
MCBH02	0.0	3.0 – 4.7	4.9 – 5.8	0.0	0.0	0.1 – 0.3
MCBH03	0.0	0.5 – 1.6	16.3 – 19.8	0.0	1.0	0.0 - 0.3
NGBH01	0.0	0.2 – 3.4	8.7 – 10.1	0.0	0.0	-1.4 – 0.0
WFBH01	0.0	2.0 – 2.3	14.3 – 19.5	0.0	1.0 – 2.0	-0.2 – 0.1
WFBH02	0.0	0.7 – 8.2	8.9 - 20.2	0.0	0.0 – 1.0	-0.1 - 0.3
WFBH03	0.0	0.4 – 2.8	16.1 – 21.7	0.0	1.0	0.0
WFBH04	0.0	0.2 – 2.3	17.2 – 22.1	0.0	1.0 – 2.0	-0.1 – 0.2
WFBH05	0.0	0.6 – 0.8	20.9 – 21.5	0.0	0.0 - 1.0	0.0 – 0.1
WFBH06	0.0	2.0 – 2.2	13.1 – 14.3	0.0	0.0 - 1.0	0.1 – 0.2
WFBH07	0.0	0.0 – 0.1	19.0 -22.0	0.0	0.0 – 1.0	-5.4 – 0.1
WFBH08	0.0	2.0 – 4.8	8.0 – 15.9	0.0	0.0 – 1.0	0.0 - 0.2
WFBH09	0.0	0.1 – 0.2	20.7 - 22.0	0.0	0.0 – 1.0	-0.2 – 0.2
WFBH11	0.0	0.1 – 1.8	18.2 – 21.7	0.0	1.0	0.0 - 0.2
WFBH12	0.0	0.0	12.2 – 14.3	0.0	0.0 – 2.0	0.0 - 0.1
WFBH13	0.0	2.0 – 5.3	14.7 – 19.4	0.0	0.0 – 1.0	0.0 – 0.2
WFBH14	0.0	0.2	0.0 – 16.8	0.0	0.0 - 10.0	-6.3 – 5.3
WFWS21	0.0	0.1 – 1.8	18.7 – 21.1	0.0	0.0 – 1.0	-0.2 - 0.1
Typical Accuracy (GA2000, 0-5% Vol.) CO_2 ±0.5% (vol), CH_4 ±0.5% (vol), O_2 ±1.0% (vol), CO ±10.0% of reading or 15ppm, whichever is greater. Flow pod +/- 0.3l/hr. * Round 1 (09/05/12) only otherwise zero recorded						

Table 4.7b: Summary of Gas Concentrations and Flow Rates

4.8 Permeability Testing

Falling head tests were undertaken in the borehole installations of NGBH01, LEPBH01, MCBH01, WFBH01, WFBH05, WGBH06 and WFBH12. The results of are presented in Appendix B.

5.0 GROUND CONDITIONS ENCOUNTERED

Each exploratory excavation encountered a similar profile of soils considered to be as follows in order of superposition:

Made Ground was encountered in all exploratory holes across the site except LEPBH02, NGTP01, NGTP02 and MCWS02 from ground level to a maximum depth of 2.00mbgl. This typically consisted of brown to orangish brown gravelly clay of flint, brick, hardcore, concrete, asphalt and clinker fragments. Also sandy gravel or sand and gravel with a low to medium cobble content was encountered.

A thin layer of topsoil was present in locations LEPBH02, NGTP01, NGTP02 and MCWS02. Hard standing of mainly asphalt was encountered in LEPBH01, MCBH01, WFBH07, WFBH03, WFBH09, WFBH11, WFBH12, WFBH14, LEPTP02, LEPWS03, LEPWS05, WFWS12 and WFWS21. Exploratory holes WFBH13A and LEPTP06 terminated within these made ground units.

Clays from the Brickearth were encountered in all exploratory holes except those which terminated in the made ground horizons as stated above and LEPWS03 to a maximum depth of 4.40mbgl. This typically consisted of soft to firm orangish brown occasionally mottled grey or brown slightly gravelly silty clay. Occasional black organic staining or speckling was also encountered. Occasional thin layers/bands or pockets of granular material was also noted. Exploratory holes WFWS06 and NGWS02 terminated within in this unit.

Granular material from either fluvial sands and gravels of the brickearth or the Plateau and Terrace Gravels was encountered in all exploratory except those which terminated in the made ground or brickearth clay as stated above and WFTP03 and WFWS06. This material was encountered to a maximum depth of 13.70mbgl. This was typically recovered as orangish brown to yellowish brown sandy gravel, gravelly sand or sand and gravel of flint. Occasional pockets/bands or layers of gravelly sandy clay were also present. Exploratory holes LEPBH02, WFBH04, WFBH07, WFB11, WFBH12, WFBH13, LEPTP01, LEPTP02, LEPTP03, LEPTP04, MCTP02, NGTP01, NGTP02, NGTP03, WFTP01, WFTP01, WFTP03, WFTP04, WFTP05, WFTP06, WFTP07, WFTP09, WFTP10, WFTP11, LEPWS02, LEPWS03, LEPWS04, LEPWS05, MCWS01, WFWS01, WFWS02, WFWS03, WFWS04, WFWS10, WFWS11, WFWS12, WFWS13, WFWS16, WFWS20, WFWS21, WFWS22 terminated within in this unit.

The Bracklesham Group was encountered in LEPBH01, MCBH01, MCBH02, MCBH03, NGBH01, WFBH01, WFBH02, WFBH03, WFBH05, WFBH06, WFBH08, WFBH09, NGTP03 and WFTP08 to a maximum proven depth of 15.00mbgl. This was typically consisted of grey sandy silty clay or clayey silty sands. Exploratory holes LEPBH01, MCBH01, MCBH02, MCBH03, NGBH01, WFBH01, WFBH02, WFBH03, WFBH05, WFBH06, WFBH08, WFBH09, NGTP03 and WFTP08 terminated in this stratum.

6.0 GEOTECHNICAL TESTING

6.1 General

Use of the laboratory and field tests presented below to establish geotechnical parameters should be carried out in accordance with BS EN 1997-2 Eurocode Part 2.

6.2 In-situ Testing

In-situ testing was undertaken for geotechnical purposes and samples were obtained for appropriate laboratory analysis. Site based geotechnical testing is summarised in Table 6.2.

Test Type and Reference	Number	Comments / Limitations
Standard penetration test (BS EN ISO 22476-3:2005)	132	Standard Penetration Tests (SPTs) display a degree of scatter, with some elevated values likely to be due to encountering bricks, gravels and cobbles. This is likely to be the case for a number of SPTs in the Made Ground, and granular deposits as discussed in Section 8 It should be noted we report raw SPT N values rather than corrected $N_{(60)}$ values.

Table 6.2: Summary of Insitu Geotechnical Testing

6.3 Geotechnical Laboratory Testing

Geotechnical laboratory testing was scheduled by Harrison Group on selected soil samples recovered from the exploratory holes was carried out to identify the physical characteristics of the soils encountered. The results of this work are presented in Appendix D and are summarised below (table 6.3).

Test Type and Reference (BS 1377: 1990 unless stated)	No of tests	Results (Range)	Comments / Limitations
Natural moisture content (Part 2:3.2)	56	8.10% – 30%	Moisture content determinations on disturbed samples, including those obtained from window sample holes, may not be wholly representative due to disturbance arising from the sampling process.
Plasticity Limit (Part 2:5)	34	24% - 74%	-
Liquid Limit (Part 2:4:4)	34	31% - 74%	-
Particle size distribution - wet sieving (Part 2:9.2)	29	N/A	The recovery of an adequate mass of coarse grained soils for particle distribution analysis can be difficult in window sample holes. In obtaining such samples from cable tool boreholes it should also be noted that some loss of fine material generally occurs due to the nature of the sampling process.
Particle size distribution - sedimentation by pipette (Part 2:9.4)	12	N/A	-
Single stage 100mm UU triaxial compression test (Part 7:8.0)	19	31KPa – 183KPa	Triaxial tests undertaken on highly fissured samples and disturbance during sampling can result in low values of shear strength

			being recorded and results have been compared to published data and in situ test results. Three UT100 samples from this phase of the investigation were too disturbed to test following extrusion.
One Dimensional Consolidation (Part5:3.0)	3	As Per Sheets	-
Water soluble sulphate content 2:1 aqueous extract (BRE SD1 2005)	16	<0.01 – 0.38 gl^{-1}	-
Soil pH – geotechnical testing (BRE SD1 2005)	16	5.1 – 9.3	-
Organic Matter (Part 3:3:0)	2	<0.05%	-
Initial BRE Special Digest 1 Suite for "Pyrite bearing ground"	5	As Per Sheets	-

Table 6.3: Summary of Geotechnical Laboratory Testing
~ denotes non plastic
NDP – No Determination Possible

7.0 CONTAMINATION TESTING

7.1 Contamination Observations

Samples recovered from the exploratory holes have been examined for potential contamination. Olfactory and visual evidence of potential contamination is summarised in Table 7.1.

Monitoring Point I.D	Depth (mbgl)	Stratum	Comments
LEPBH01	0.00 – 0.10	Made Ground	Asphalt fragments
LEPBH01	0.20 – 0.50	Made Ground	Asphalt fragments
MCBH01	0.00 – 0.10	Made Ground	Asphalt fragments
MCBH01	0.40 – 0.60	Made Ground	Clinker fragments
WFBH03	0.00 – 0.30	Made Ground	Asphalt fragments
WFBH07	0.00 – 0.20	Made Ground	Asphalt fragments
WFBH07	0.00 – 0.10	Made Ground	Asphalt fragments
WFBH09	0.00 – 0.10	Made Ground	Asphalt fragments
WFBH09	0.50 – 0.80	Made Ground	Clinker fragments
WFBH13A	0.00 – 0.50	Made Ground	Clinker fragments
WFBH14	1.60 – 2.00	Made Ground	Asphalt fragments

LEPTP02	0.20 – 0.40	Made Ground	Asphalt fragments
LEPTP03	0.20 -0.90	Made Ground	Clinker fragments
LEPTP06	0.40 – 1.00	Made Ground	Asphalt fragments
MCTP01	0.20 – 0.90	Made Ground	Clinker fragments
MCTP02	0.00 – 0.55	Made Ground	Clinker fragments
WFTP01	0.00 – 0.30	Made Ground	Clinker fragments
WFTP03	0.00 – 0.90	Made Ground	Clinker fragments
WFTP04	0.70 – 0.90	Made Ground	Hydrocarbon odour
WFTP05	0.00 - 0.20	Made Ground	Asphalt fragments
WFTP06	0.20 – 0.25	Made Ground	Asphalt fragments
WFTP07	0.00 – 0.40	Made Ground	Asphalt fragments
WFTP08	0.00 – 0.40	Made Ground	Clinker fragments
WFTP10	0.00 – 0.35	Made Ground	Clinker fragments
WFTP11	0.00 – 0.50	Made Ground	Clinker fragments
LEPTP03	0.00 – 0.17	Made Ground	Asphalt fragments
LEPTP05	0.00 – 0.10	Made Ground	Asphalt fragments
MCWS01	0.00 – 0.50	Made Ground	Asphalt fragments
WFWS02	0.00 – 0.30	Made Ground	Clinker fragments
WFWS12	0.00 – 0.10	Made Ground	Asphalt fragments
WFWS13	0.00 – 0.30	Made Ground	Clinker fragments
WFWS16	0.00 – 0.45	Made Ground	Clinker fragments
WFWS21	0.00 – 0.05	Made Ground	Clinker fragments
WFWS22	0.00 – 0.32	Made Ground	Asphalt fragments

Table 7.1: Summary of Evidence of contamination.

7.2 Laboratory Testing (Environmental)

Table 7.2 summarises the chemical suites that were analysed from both the detailed and preliminary investigations based upon the preliminary conceptual model and observed site conditions, together with the number of tests undertaken on soils and waters.

The results of this work are presented in Appendix D.

Test Type	**Number**
Soil	
S1.1 soils suite (As listed below) (As, Cd, Cr, Ni, Pb, Hg, Se, Cu, Zn, Cyanide (total) pH Unit 0.1% TPH screen (C6-C40) 10mg/kg PAHs USEPA 16	86
S1.2 Soil Suite (As listed below) Phenol (total)	12
S1.3 Soil Suite (As listed below) Asbestos in Soil (screening)	61
S1.7 Soil Suite (As listed below) TPH-CWG (C5-35)	7
S1.12 Soil Leachate Preparation (specific determinants specified as water)	11
S1.13 Soil Suite (As listed below) FOC (for NC/99/11)	6
S1.14 Soil Suite (As listed below) (VOCs target list only (modified US EPA 8260) including BETEX by GC-MS)	19
PCBs (7 congeners)	2
Water	
Water Suite 1.1 - (As listed below) (As, Cd, Cr, Cu, Ni, Zn, Pb, Hg, B, Se, Hex Chromium, Total Cyanide, Free Cyanide, Soluble Sulphate, Sulphide, Free Sulphur, Speciated (16) PAHs, Phenols, Thiocyanate, Total TPH, pH).	28
Water Suite 1.14 - (As listed below) (Speciated USEPA 16 PAHs).	1
w1.5 Water Suite - (As listed below) TPH CWG (C5-35) based on TNRCC method 1006	19
w1.10 - Water Suite - (As listed below) (VOCs target list modified USEPA 8260)	38
w1.14 - Water Suite - (As listed below) (inorganics including ammoniacal nitrogen, BOD, chloride, nitrate nitrite)	0
Phenols	27
Salinity	19
Gas	
g1.3 – VOCs inc BTEX	7

Table 7.2: Summary of Environmental Testing

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REFERENCES

BSI British Standard, BS5930:1999+A2:2010 "Code of Practice for Site Investigations".

BSI British Standard. 1990. BS1377:1990, "Methods of Test for Soils for Civil Engineering Purposes".

BS EN 1997-1 Eurocode 7 Part 1 "General Rules"

BS EN 1997-2 Eurocode 7 Part 2 "Ground Investigation and Testing"

BS EN ISO 22475-1:2006 & 22475-2/3:2011 Geotechnical investigation and testing. Sampling methods and groundwater measurements.

BS EN ISO 22476:2005+A1:2011 Geotechnical investigation and testing. Various.

BS EN ISO 14688-2:2004 Geotechnical investigation and testing. Identification and classification of soil. Principles for a classification.

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APPENDIX A: DRAWINGS

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Exploratory Hole Location Plan (GL18065 – DR 002)

APPENDIX B: EXPLORATORY HOLE RECORDS

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Window Sample Borehole Records Sheets

Trial Pit Record Sheets

Trial Pit Plates

Soakaway Test Records

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California Bearing ratio Records

APPENDIX C: GAS & GROUNDWATER MONITORING RECORDS

Groundwater Monitoring Results Sheets

Ground Gas Monitoring Results Sheets

APPENDIX D: LABORATORY TESTING

Geotechnical Laboratory Results

Chemical Laboratory Test Results

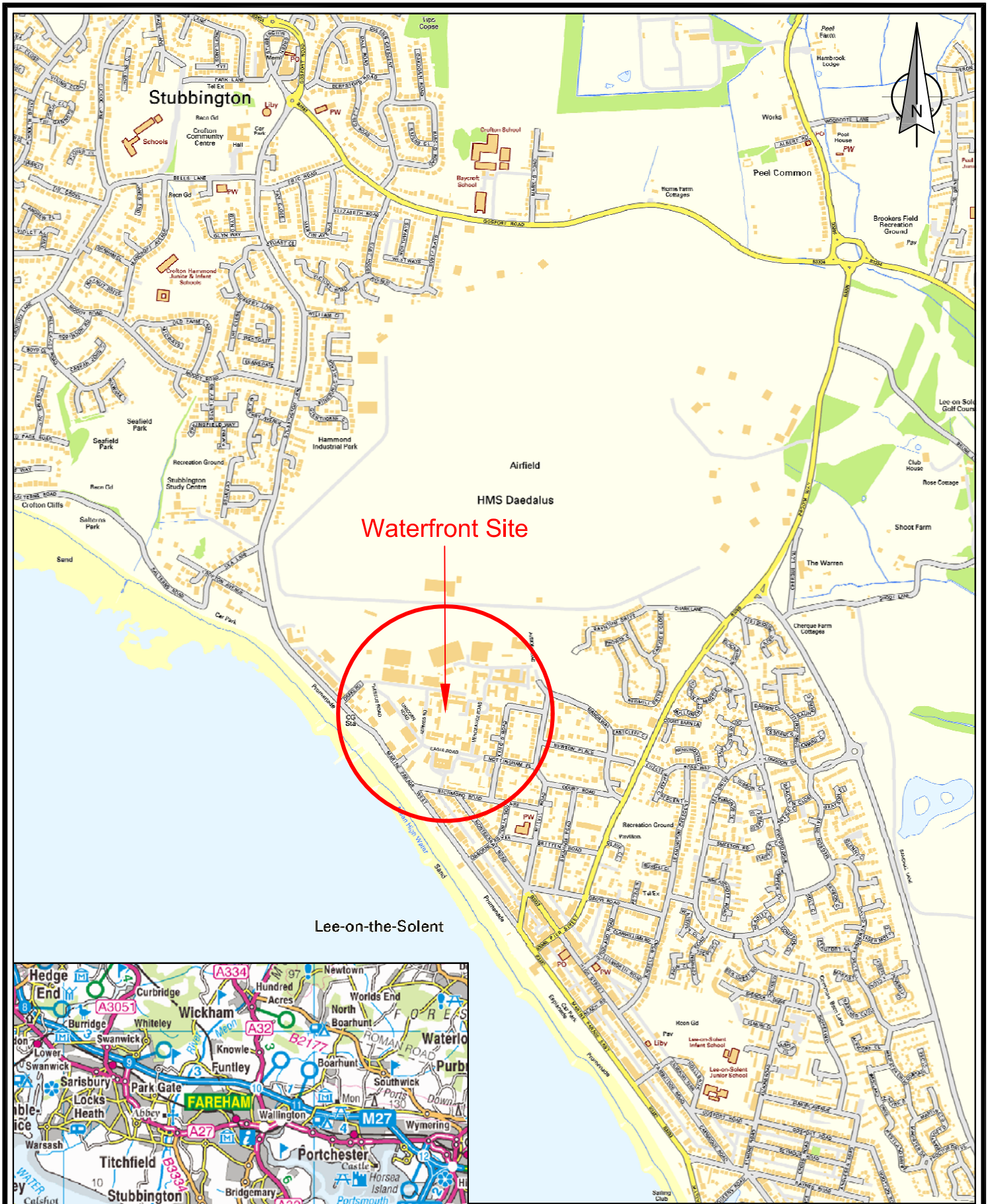
APPENDIX E: CALIBRATION CERTIFICATES

SPT Hammer

APPENDIX A

DRAWINGS

FM-HH-D-103 Rev A



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consulting engineers

Client: Campbell Reith Hill LLP

Project: Daedalus, Lee-on-the-Solent

Job No: GL18065 Date: April 2014

Drawing No: GL18065 -A- DR001

Scale: 1 : 15000 @ A4

Drawn by: YN Checked by: JB

Eastings: 456000 Northings: 101300

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UKAS MANAGEMENT SYSTEMS
UKAS TESTING 4031

Certificate Number 5933
ISO 9001, ISO 14001

FM-HnD-101 Rev A
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WFBH09
WFTP10
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WFBH07
WFWS22
WFTP08
WFTP11
WFBH06
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LEPWS02
LEPTP03
WFWS20
MCBH01
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MCWS01
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LEPBH01
LEPWS05
NGTP01
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NGBH01
NGTP03
NGTP03A
NGWS02
LEPTP04
NGTP02
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LEPCBR04
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LEPBH02
LEPCBR03
MCWS02
MCBH03
LEPCBR06
LEPCBR07
LEPTP06
LEPTP01
LEPCBR08
LEPWS01

Lee-on-the-Solent

Key :

- BH1 — Cable Percussive Borehole
- WS1 — Window Sample Borehole
- TP1 — Machine Excavated Trial Pit
- CBR1 — California Bearing Ratio Test

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consulting engineers

Client : Campbell Reith Hill LLP
Project : DIO Daedalus
Job No : GL18065 Date : April 2014
Drawing Title : Exploratory Hole Locatton Plan Waterfront
Drawing No : GL18065 -A- DR002
Scale : 1 : 3000 @ A3
Drawn by : YN Checked by : JB
Eastings : 456000 Northings : 101300

Revision history

Rev	Date	Revision Data

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APPENDIX B

EXPLORATORY HOLE RECORDS

DATA SHEET : SITE INVESTIGATION METHODS

The following sheet provides basic details of the site investigation methods employed in the direct investigation phase of this report. Detailed method statements may be provided if requested, or further information may be obtained from the relevant British Standard, or Environment Agency publications. Prior to any excavation being undertaken, a surface sweep using a cable detector is undertaken, in order to avoid services. Details of the lithology encountered are generally presented on the relevant field record sheets, which also detail the type and depths of samples taken, the results of any insitu tests, and any groundwater observations noted at the time. Other pertinent information may also be recorded.

CABLE PERCUSSIVE BOREHOLES

The cable percussive borehole drilling rig may be towed by a 4x4 pick up or similar vehicle, and is capable of obtaining disturbed and undisturbed soil samples down to approximately 40m depth. The hole may be formed at a diameter of 200mm or most typically 150mm, with samples obtained direct from the drilling tools. Undisturbed samples (U100) may be obtained, and insitu testing may include Standard or Cone Penetration Tests (SPT/ CPT) to BSEN ISO22476-3, plus permeability testing as per BS5930:1999. Please note we report raw SPT N values rather than corrected $N_{(60)}$ values. We can report in either format if requested by our client.

The equipment requires a minimum 2m access width, and the rig itself is 6m long (11m including tow). A rough 3m x 5m base area is required for drilling, but each site should be considered on specifics.

The technique can penetrate dense made ground, rubble and concrete or weathered rock/thin bands of rock using a chisel. However, in some cases these materials can form obstructions.

Standpipes can be installed, otherwise the borehole would be backfilled with spoil, or where instructed bentonite, concrete or sand may be used. Excess spoil is either removed from site or left in a tidy heap nearby.

In wet drilling conditions, the spoil can spread over a wide area through splashing and flow of the spoil from the tools, unless precautions are taken to prevent this. Conversely, the system can be very clean for instance when drilling through dry clay soil.

WINDOW SAMPLER BOREHOLES

The window sampler system comprises a series of varying diameter (max 80mm) steel tubes of either 1m or 2m length having a slot or window cut along the side. The tubes are driven into the ground using a light percussive hammer attached to solid rods, and withdrawn by use of a jack. The hammer may be machine mounted, or for restricted access work, hand held. The soil sample is forced up into the tube during the driving, samples being obtained directly through the slot or window. The sampler generally achieves depths of around 3-5m in favourable soils. Use of a super heavy tracked rig allows samples to be retrieved in liners. Greater diameter boreholes are also achievable (<115mm).

STANDPIPE INSTALLATIONS

Window sampler boreholes may be fitted with gas/ water monitoring standpipes, which generally comprise a 38mm diameter upvc slotted and plain casing to the required depths as appropriate, and may be fitted with a gas tap bung or end cap, and lockable cover. Full details of the standpipe installations and associated backfill are given on the relevant borehole records. Other diameters and types of standpipe are available if required.

GROUNDWATER MONITORING

Groundwater monitoring is undertaken using an electronic dip meter, which records the depth to water in a standpipe. Alternatively, an interface meter may be used, which detects the thickness of a non-aqueous phase liquid (e.g. floating hydrocarbon layer). In order to measure tidal variations, or to undertake soakaway testing, a down hole pressure transducer may be used.

GROUND GAS MONITORING

Ground gas composition and flow monitoring may be undertaken where semi-permanent standpipes have been installed. Both flow (litres per hour) and composition (%) are measured using our GA2000 infra-red monitor, calibrated for methane, carbon dioxide & oxygen. Records are also taken of atmospheric pressure, and relative pressure. The results are presented in the appendix of the report on the relevant sheets.

MACHINE DUG TRIAL HOLES

Machine dug trial pits are undertaken using a back-hoe or 360 excavator. The hole is progressed, with the supervising Geotechnical Engineer taking samples and/ or in-situ testing as appropriate. No access may be made in to unstable/ contaminated pits, or into pits greater than 1.20m deep. The trial holes are backfilled in compacted layers, with spoil heaped up in order to allow for future settlement. Pits may be taken to a maximum of 4.50m depth in favourable conditions.

Machine dug trial pits require a relatively large clear area to avoid risk to adjacent structures etc.

HAND DUG TRIAL PITS

Hand dug pits may be undertaken for a variety of reasons, which include service observation pits, obtaining near surface samples, and examining foundations of existing buildings. Pits are excavated using a shovel, postholers and other suitable equipment. Detailed records of hand dug pits are only normally recorded where foundation depths and information is required.

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Key to Site Investigation Records

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited

In-situ Testing & Observations

S or C	Standard Penetration Test as per BS1377:1990 'Methods of test for soils for civil engineering purposes'. Uncorrected test result shown on the log at the relevant depth. S - split spoon or C - solid cone.
✳	n100 - dynamic penetration test graphical presentation of the blows taken to drive 100mm.
+	Equivalent SPT 'N' value. Based on standard empirical calculation after Card & Roche for sandy soils unless specificed in the text.
IV	In-situ (down hole) vane shear strength peak - p or remoulded - r
HV	In-situ hand vane test, shear strength reported in kPa peak - p or remoulded - r
PP	Pocket penetrometer test, shear strength reported in kPa
K	In-situ permeability test result, expressed in m/s
PID	In-situ screening by photo-Ionisation detector, expressed as ppm Head space testing undertaken as per contract documents.

TCR	Total Core Recovery, %	As defined in BS5930:1999. Details of flush returns etc. are given on the relevant log sheet.
SCR	Solid Core Recovery, %	
RQD	Rock Quality Designation, %	
If	Fracture spacing, mm	

▽	Groundwater strike	▼	Level to which groundwater has risen after the specified time. (Nominal 20 mins)

Sampling

D / GD	Small / geotechnical disturbed sample, around 1kg
B / GB	Bulk / geotechnical disturbed sample, around 5Kg
LB	Large bulk disturbed sample, around 20Kg for earthworks testing
W	Water sample
ES	Environmental soil sample, in more than one container if appropriate
EW	Environmental water sample, in more than one container if appropriate
U / UT	Undisturbed / Ultra Thin undisturbed driven tube sample. Nominal 100mm diameter, 450mm length in CP boreholes, 38mm diameter, 100mm length in WS borehole. Dimension of trial pit cores to be specfied on the individual records. The number of blows taken to drive the sample tube the full length is reported on the log sheet at the appropriate depth. 'NR' indicates no recovery achieved.
P	Pushed piston sampler, nominal 100mm diameter
LS / C	Liner sample, e.g. from windowless sampler / Core sample, e.g. from rotary core drilling
CBR	California Bearing Ratio (CBR) test - either mould sample taken or in situ testing. See individual record sheet for further information

General comments

1. Samples have been described in accordance with BS5930:1999 'Code of practice for site investigation' unless an alternative material specific weathering classification is considered more appropriate. This will be recorded in the report text.
2. Electronic data provided in relation to this project has been produced using the Association of Geotechnical & Geoenvironmental Specalists (AGS) data transfer format, with specific reference the their publication

Electronic Transfer of Geotechnical and Geoenvironmental Data Edition 3.1, 2004 including addendum May 2005'. All legend and backfill codes are as per this document.

Site specific comments

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Percussion Borehole Record

LEPBH01

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 456131.0E 101314.4N

Ground Level: 8.46mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. ASPHALT.	0.10	8.36				
	0.20	8.26	ES1	0.20		PID-<0.1ppm
MADE GROUND. Orangish brown sandy GRAVEL. Gravel is angular to subangular fine to coarse hardcore.	0.50	7.96	D1	0.40		
			B1	0.50-0.80		PID-<0.1ppm
			ES2	0.50		
MADE GROUND. Soft to firm orangish brown mottled greyish brown gravelly silty CLAY. Gravel is angular to subangular fine and medium flint. Occasional asphalt and brick.			D2	1.00		PID-<0.1ppm
			ES3	1.00		
			UT1	1.50-1.95		17 blows: 90% recovery
			D3	1.95-2.05		
Soft to firm becoming firm orangish brown mottled greyish brown occasionally slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint.	2.20	6.26	B2	2.20-2.40		PID-<0.1ppm
			ES4	2.20		
	2.60	5.86	C	2.50	2.50	N=25 (2,5,4,4,8,9)
	2.80	5.66	B3	2.50-2.95		
Orangish brown locally light yellowish grey fine to coarse SAND and GRAVEL. Gravel is very angular to subrounded fine to coarse flint.			ES5	3.00		PID-<0.1ppm
			C	3.50	(2.80)	N=42 (4,7,8,10,11,13)
			B4	3.50-3.95	3.50	
Soft to firm orangish brown mottled brown and blueish grey gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.	4.00	4.46				
			C	4.50	(3.20)	N=31 (3,6,6,7,8,10)
Dense orangish brown and brown slightly clayey fine to coarse SAND and GRAVEL. Gravel is very angular to subrounded fine and medium occasionally coarse flint. From 4.50m: Pockets of orange and brown sandy clay.			B5	4.50-4.95	4.50	
	5.70	2.76	ES6	5.70		PID-<0.1ppm
Dense orangish brown slightly clayey gravelly medium and coarse SAND. Gravel is angular to subangular fine to coarse flint.			B6	5.80-6.20		
			S	6.50	(5.90)	N=21 (2,3,4,4,6,7)
Medium dense brown and greenish orange speckled black fine and medium SAND.	6.80	1.66	D4	6.50-6.95	6.50	
			ES7	7.00		PID-<0.1ppm
Firm becoming firm to stiff thinly laminated very dark grey and occasionally grey CLAY. Occasional partings of light grey silt and fine sand.			UT2	7.50-7.95		52 blows: 100% recovery
			D5	7.95-8.05		
			S	8.50	(7.40)	N=47 (6,8,10,11,12,14)
	8.70	-0.24	D6	8.50-8.95	8.50	
Dense dark grey locally grey slightly clayey silty fine SAND.	9.00	-0.54	ES8	9.00		PID-<0.1ppm
Borehole Complete at 9.00 m						

Installations: 0.20, 1.00, 9.00

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.50 9.00	6.00 7.50				26/02/14	3.50	20	2.80	3.40	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 26/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 3.50mbgl.
3. Water added from 2.20mbgl to 4.00mbgl (130ltrs).
4. Installation details: 50mm diameter HDPE standpipe installed from 9.00mbgl to GL. Slotted from 9.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL.
5. Finished with gas tap/bung, end cap and flush fitting cover.
6. Backfill details: Gravel filter packs from 9.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
7. SPT HAMMER I D EQU756

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Percussion Borehole Record

LEPBH02

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455808.6E 101455.0N

Ground Level: 7.96mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
Grass over dark brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine and medium flint.	0.20	7.76	ES1	0.15		PID-<0.1ppm
			B1	0.50		PID-<0.1ppm
			D1	0.50		
			ES2	0.50		
Soft to firm orangish brown gravelly sandy CLAY. Gravel is very angular to subangular fine and medium flint.	1.00	6.96	D2	1.00		PID-<0.1ppm
			ES3	1.00		
Soft to firm orangish brown mottled grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.			D3	2.00		
	2.70	5.26	ES4	2.80		PID-<0.1ppm
Greenish grey and orangish brown slightly slightly silty slightly gravelly fine and medium clayey SAND. Gravel is very angular to subangular fine flint.	3.00	4.96	D4	3.00		
Grey slightly sandy to sandy GRAVEL. Gravel is angular to subrounded fine to coarse flint.			B2	4.00		PID-<0.1ppm
			D5	4.00		
			ES5	4.00		
			D6	5.00		PID-<0.1ppm
	5.70	2.26				
Brown slightly gravelly silty fine and medium SAND. Gravel is angular to subangular fine and medium flint.	6.00	1.96	B3	6.00		
			ES6	6.00		
Borehole Complete at 6.00 m						

Installations: 0.20, 1.00, 6.00

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
150	6.00	6.00				18/02/14	5.20	20	2.80	5.20	

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Dates: 18/02/2014
Plant: Dando 2000 Cable Percussive Rig
Drilled By: D. Bowman
Logged By: G. Pursey
Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Water added to assist drilling to 6.00mbgl (80ltrs).
3. Installation details: 50mm diameter HDPE standpipe installed from 6.00mbgl to GL. Slotted from 6.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
4. Backfill details: Gravel filter packs from 6.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
5. SPT HAMMER I D EQU756.

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Percussion Borehole Record

MCBH01

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455939.6E 101344.9N

Ground Level: 8.22mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. ASPHALT.	0.10	8.12	D1	0.20		PID-<0.1ppm
			ES1	0.20		PID-<0.1ppm
MADE GROUND. CONCRETE	0.40	7.82	ES2	0.40		
MADE GROUND. Orangish brown mottled grey and dark grey slightly sandy slightly gravelly CLAY with a low cobble content. Gravel is angular to subrounded fine to coarse flint and brick with occasional concrete, clinker and charcoal. Cobbles are of brick and flint.	0.60	7.62	B1	0.50-1.00		
			D2	0.50		
			D3	1.00		PID-<0.1ppm
			ES3	1.00		
	1.30	6.92				
			U1	1.50-1.95		PID-4.5ppm
			D4	1.50		22 blows: 100% recovery
	1.80	6.42	ES4	1.50		
MADE GROUND. Orangish brown mottled brown slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint and brick with rare tile and charcoal. Occasional pockets of dark brown sandy clay.			D5	2.00		
			ES5	2.20		PID-<0.1ppm
			S	2.50	2.40	N=22 (4,4,5,5,6,6)
			B2	2.50-3.00		
			ES6	3.00		PID-4.7ppm
Soft to firm orangish brown mottled brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.	3.20	5.02				
			S	3.50	3.40	N=31 (5,5,6,7,9,9)
			B3	3.50-4.00		
			D6	4.00		PID-<0.1ppm
			ES7	4.00		
Medium dense orangish brown slightly gravelly clayey fine and medium SAND. Gravel is angular to subrounded fine and medium occasionally coarse flint.	4.50	3.72	S	4.50	4.40	N=35 (6,6,7,8,10,10)
			B4	4.50-5.00		
			D7	5.00		
Dense orangish and yellowish brown gravelly to very gravelly fine and medium SAND. Gravel is very angular to subrounded fine and medium occasionally coarse flint.	5.50	2.72	S	5.50	5.95	N=35 (6,6,8,8,9,10)
			B5	5.50-6.00		
			D8	6.00		PID-<0.1ppm
			ES8	6.00		
Dense grey silty sandy GRAVEL. Gravel is angular to subrounded fine to coarse flint.			S	6.50	6.40	N=30 (6,7,8,9,7,6)
	6.70	1.52	B6	6.50-7.00		
Dense orangish brown and yellow brown sandy GRAVEL. Gravel is very angular to subrounded fine and medium flint.			D9	7.00		PID-<0.1ppm
			ES9	7.00		
Dense orangish brown and yellowish grey gravelly fine to coarse SAND. Gravel is angular to subangular fine and medium occasionally coarse flint.	7.50	0.72	S	7.50	7.40	N=19 (3,3,4,4,5,6)
			D10	7.50-7.95		
Medium dense orangish brown slightly gravelly silty fine to coarse SAND. Gravel is angular to subangular fine and medium occasionally coarse flint.	8.50	-0.28	S	8.50	8.40	N=20 (3,4,4,5,5,6)
			D11	8.50-8.95		
			ES10	9.00		PID-<0.1ppm
Stiff grey locally dark greenish grey sandy silty CLAY.	9.50	-1.28	S	9.50	9.50	PID-<0.1ppm
			ES11	9.50		N=52 (6,6,8,12,20,12)
			D12	9.50-9.95		
Stiff fissured dark grey slightly sandy silty CLAY with rare sand sized selenite crystals. Fissures are randomly orientated matt, smooth and rough. Occasional partings of light grey	10.00	-1.78				

Installations: 0.20, 1.00, 10.00

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 10.00					06/02/14	6.00	20	2.80	8.50	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 06/02/2014-07/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: G. Pursey

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered 6.00mbgl.
3. Installation details: 50mm diameter HDPE standpipe installed from 10.00mbgl to GL. Slotted from 10.00mbgl to 1.00mbgl, plain from1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
4. Backfill details: Gravel filter packs from 10.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
5. SPT HAMMER I D EQU756.

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Percussion Borehole Record

MCBH01

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455939.6E 101344.9N

Ground Level: 8.22mAOD

Sheet 1+ of 1

Description	Legend	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results	Installations
silt. Rare shell fragments. Rare claystone.								
Borehole Complete at 10.00 m								

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 10.00					06/02/14	6.00	20	2.80	8.50	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 06/02/2014-07/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: G. Pursey

Remarks:

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Percussion Borehole Record

MCBH02

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

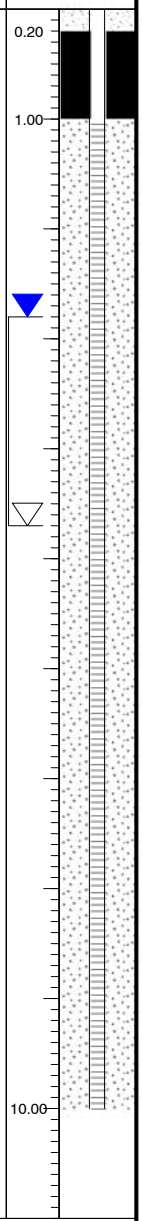
Project ID.: GL18065

Coordinates: 456020.3E 101332.5N

Ground Level: 8.94mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. Grass over brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint and occasional brick and concrete. Occasional roots and rootlets.			ES1	0.15		PID- <0.1 ppm
			D1	0.50-1.00		PID- <0.1 ppm
			ES2	0.50		
MADE GROUND. CONCRETE with reinforcing bars.	1.00	7.94				
	1.80	7.14				
Dense orangish brown mottled light greenish grey and brown slightly gravelly sandy silty CLAY. Gravel is angular to subrounded fine and medium occasionally coarse flint. Thin bands of orange silty fine sand.	2.00	6.94	ES3	1.90	2.00	PID- <0.1 ppm
			S	2.00		N=26 (4,5,6,6,7,7)
			B1	2.00-2.50		
			D2	2.00		
Dense orangish brown sandy GRAVEL. Gravel is very angular to subrounded fine to coarse flint.			S	3.00	3.00	N=27 (5,5,6,6,7,8)
			B2	3.00-3.50		
			S	4.00	4.00	N=33 (5,5,7,7,9,10)
	5.00	3.94	S	5.00	(4.20)	N=38 (7,7,8,9,10,11)
Dense orangish brown fine to coarse SAND and GRAVEL. Gravel is very angular to subrounded fine and medium occasionally coarse flint.			B3	5.00-5.50	5.00	
	6.00	2.94	S	6.00	(4.70)	N=41 (7,7,9,10,10,12)
Dense orangish brown slightly silty very sandy GRAVEL. Gravel is very angular to subrounded fine to coarse flint.			B4	6.00-6.50	6.00	
			B5	6.00-6.50		
			S	7.00	(6.10)	N=40 (7,7,9,9,10,12)
			B6	7.00-7.50	7.00	
	7.80	1.14				
Soft to firm grey locally dark grey slightly sandy silty CLAY. Occasional partings of grey silty fine sand. Rare claystone.			S	8.00	(7.10)	N=15 (1,1,2,3,5,5)
					8.00	
			S	9.00	(8.10)	N=23 (2,2,4,5,7,7)
			D3	9.00	9.00	
	9.70	-0.76				
Firm to stiff fissured dark grey silty CLAY. Fissures are randomly orientated matt and smooth and rough. Occasional partings of light grey silt. Rare shell fragments.	10.00	-1.06	S	10.00	(6.10)	N=50 (6,6,10,10,15,15)
			D4	10.00-10.50	10.00	
Borehole Complete at 10.50 m						



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Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 10.00					10/02/14	4.70	20	2.80	4.50	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 07/02/2014-10/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: G. Pursey

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered 4.70mbgl.
3. Installation details: 50mm diameter HDPE standpipe installed from 10.00mbgl to GL. Slotted from 10.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
4. Backfill details: Gravel filter packs from 10.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
5. SPT HAMMER I D EQU756.

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Percussion Borehole Record

MCBH03

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 456060.4E 101446.4N

Ground Level: 8.07mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. Grass over dark greyish brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse flint, brick, glass and charcoal.	0.20	7.87	D1 ES1	0.15 0.15		PID-<0.1ppm
MADE GROUND. Soft to firm brown slightly gravelly slightly sandy CLAY. Gravel is angular to subangular fine and medium flint and rare brick fragments.	0.60	7.47	B1 D2 ES2 ES3 D3	0.50 0.50 0.50 0.70 1.00		PID-<0.1ppm PID-<0.1ppm
Soft to firm orangish brown mottled brown slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint.	1.70	6.37	S D4	1.50 1.50-1.95	1.50	N=39 (1,2,3,10,12,14)
Dense orangish brown and locally yellowish grey fine to coarse SAND and GRAVEL. Gravel is angular to subangular fine to coarse flint. Occasional pockets of silty gravelly clay.			ES4 C B2	2.00 2.50 2.50-2.95	2.50	PID-<0.1ppm N=26 (4,6,6,7,6,7)
Firm orangish brown mottled orange and brown coarse sandy gravelly to very gravelly CLAY. Gravel is angular to subrounded fine and medium occasionally coarse flint.	3.60	4.47	C B3	3.50 3.50-3.95	(2.91) 3.50	N=14 (2,3,3,3,4,4)
Firm to stiff dark grey locally light grey slightly sandy silty CLAY. Rare brown staining. Frequent bands of light grey fine sand and silt.	4.40	3.67	ES5 ES6 D5 UT1 D6	4.00 4.30 4.40 4.50-4.95 4.95-5.05		PID-<0.1ppm PID-<0.1ppm 26 blows: 100% recovery
From 6.50m to 9.00m: becomes gravelly. Gravel is of flint.			S D7 ES7 UT2 D8	5.50 5.50-5.95 6.40 6.50-6.95 6.95-7.05	(5.30) 5.00	N=20 (2,3,4,4,6,6) PID-<0.1ppm 37 blows: 100% recovery
			S D9 ES8 UT3	7.50 7.50-7.95 8.40 8.50-8.95	(7.00) 7.50	N=21 (2,3,3,5,6,7) PID-<0.1ppm 51 blows: 100% recovery
Borehole Complete at 9.00 m	9.00	-0.93	D10	8.95-9.05		

Installations: 0.20, 1.00, 9.00

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	4.50 9.00	4.30 8.50				24/02/14	3.40	20	2.90	3.20	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 24/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: K. Gorbould

Logged By: R. Caplin

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 3.40mbgl.
3. Water added to assist drilling from 1.70mbgl to 3.60mbgl (110ltrs).
4. Installation details: 50mm diameter HDPE standpipe installed from 9.00mbgl to GL. Slotted from 9.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
5. Backfill details: Gravel filter packs from 9.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
6. SPT HAMMER I D EQU023.

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Percussion Borehole Record

NGBH01

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455968.9E 101521.0N

Ground Level: 8.01mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. Grass over brown slightly sandy slightly gravelly SILT. Gravel is angular to subangular fine to coarse flint.	0.30	7.71	D1 ES1	0.15 0.15		PID-<0.1ppm
			B1 D2 ES2	0.50 0.50 0.50		PID-<0.1ppm
Soft to firm orangish brown mottled brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.			D3 ES3	1.00 1.00		PID-<0.1ppm
			UT1	1.50-1.95		29 blows: 90% recovery
	1.90	6.11	D4	1.95-2.05		
Orangish brown mottled light grey clayey silty slightly gravelly fine and medium SAND. Gravel is angular to subangular fine and medium flint.	2.10	5.91	ES4	2.10		PID-<0.1ppm
			C B2	2.50 2.50-2.95	2.50	N=32 (3,5,6,8,8,10)
Medium dense to dense orangish brown and light yellowish grey gravelly to very gravelly medium and coarse SAND. Gravel is angular to subangular fine to coarse flint.			C B3	3.50 3.50-3.95	3.50	N=27 (3,4,6,6,7,8)
	4.10	3.91	ES5 D5	4.10 4.20		PID-<0.1ppm
Firm to stiff orangish brown mottled orange and yellowish orange sandy silty CLAY. Pockets of orange and brown clayey fine sand.			UT2	4.50-4.95		52 blows: 100% recovery
			D6	4.95-5.05		
	5.40	2.61	ES6 S D7	5.40 5.50 5.50-5.95	(4.20) 5.50	PID-<0.1ppm 50/245mm (4,8,13,15,16,6)
Dense to very dense dark grey and locally grey very silty fine and medium SAND.			S D8	6.50 6.50-6.95	(4.20) 6.50	50/170mm (6,10,17,25,8)
			ES7 S D9	7.40 7.50 7.50-7.95	(4.20) 7.50	PID-<0.1ppm 50/200mm (4,7,14,16,20)
			S D10	8.50 8.50-8.95	8.50	47/200mm - Abandoned
	9.00	-0.99	ES8	9.00		PID-<0.1ppm
Borehole Complete at 9.00 m						

Installations: 0.20, 1.00, 9.00

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	5.00 9.00	4.50 9.00				25/02/14	5.40	20	4.70	5.30	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 25/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 5.40mbgl.
3. Water added from 1.90mbgl to 4.10mbgl (180ltrs).
4. Installation details: 50mm diameter HDPE standpipe installed from 9.00mbgl to GL. Slotted from 9.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
5. Backfill details: Gravel filter packs from 9.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
6. SPT HAMMER I D EQU756.

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Percussion Borehole Record

WFBH01

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

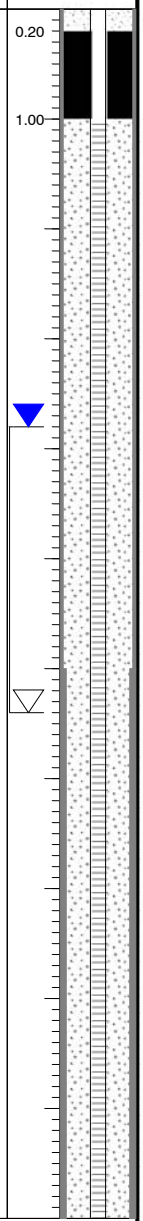
Coordinates: 455635.1E 101363.3N

Ground Level: 8.17mAOD

Sheet 1 of 2

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. Grass over brown slightly gravelly sandy CLAY. Gravel is angular to subangular fine to coarse brick, charcoal and flint.	0.30	7.87	D1 ES1	0.15 0.15		PID-<0.1ppm
Soft to firm orangish brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.	0.80	7.37	B1 D2 ES2 D3	0.50 0.50 0.50 1.00		PID-<0.1ppm
Soft to firm orangish brown mottled brown slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint.			U1	1.50-1.95		50 blows: 50% recovery
Dense orangish brown and locally yellowish grey slightly clayey fine to coarse SAND and GRAVEL. Gravel is angular to subangular fine to coarse flint.	2.20	5.97	ES3 C B2 C B3 ES4 C B4 C B5	2.20 2.50 2.50-3.00 3.50 3.50-4.00 4.20 4.50 4.50-5.00 5.50 5.50-6.00	2.50 3.50 4.50 5.50	PID-<0.1ppm N=31 (6,6,7,7,8,9) N=38 (3,7,9,9,10,10) PID-<0.1ppm N=41 (7,7,9,10,10,12) N=41 (7,7,10,9,10,12)
Medium dense to dense orangish brown and greenish orange speckled black silty fine SAND.	6.30	1.87	ES5 S D4 S D5 ES6 S D6 S D7 ES7 S D8	6.30 6.50 6.50-7.00 7.50 7.50-8.00 8.30 8.50 8.50-9.00 9.50 9.50-10.00 10.30 10.50 10.50-11.00	(3.80) 6.50 (6.20) 7.50 (7.10) 8.50 (5.10) 9.50 (8.40) 10.50	PID-<0.1ppm N=24 (4,4,5,6,6,7) N=26 (4,5,6,6,7,7) PID-<0.1ppm N=24 (5,5,6,6,6,6) N=29 (5,6,7,7,7,8) PID-<0.1ppm N=32 (5,6,7,8,8,9)

Installations



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Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 15.00	6.00 14.50				24/02/14	6.40	20	3.80	6.50	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 24/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered 6.40mbgl.
3. Water added to assist drilling to 15.00mbgl (250ltrs).
4. Installation details: 50mm diameter HDPE standpipe installed from 15.00mbgl to GL. Slotted from 15.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
5. Backfill details: Gravel filter packs from 15.00mbgl to1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
6. SPT HAMMER I D EQU756.

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Percussion Borehole Record

WFBH01

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455635.1E 101363.3N

Ground Level: 8.17mAOD

Sheet 2 of 2

Description	Legend	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results	Installations
Medium dense to dense orangish brown and greenish orange speckled black silty fine SAND.				S D9	11.50 11.50-12.00	(9.10) 11.50	N=33 (5,6,8,8,8,9)	
		12.30	-4.13	ES8	12.30		PID-<0.1ppm	
Stiff laminated very dark grey silty CLAY. Occasional partings of light grey silt.				S D10	12.50 12.50-13.00	(6.20) 12.50	N=35 (6,6,7,8,10,10)	
				S D11	13.50 13.50-14.00	(8.70) 13.50	N=39 (7,7,9,9,10,11)	
				S D12 ES9	14.50 14.50-15.00 14.60	(9.40) 14.50	N=36 (7,6,8,9,9,10) PID-<0.1ppm	
		15.00	-6.83					15.00
Borehole Complete at 15.00 m								

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 15.00	6.00 14.50				24/02/14	6.40	20	3.80	6.50	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 24/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: J. Keay

Remarks:

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Percussion Borehole Record

WFBH02

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455694.8E 101429.8N

Ground Level: 7.95mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
Grass over dark brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse flint, brick and charcoal.	0.30	7.65	D1 ES1	0.15 0.15		PID-<0.1ppm
	0.50	7.45	D2	0.50		PID-<0.1ppm
MADE GROUND. Brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse flint. Rare brick and charcoal. Rare roots.	0.70	7.25	ES2 B1	0.50 0.70		PID-<0.1ppm
	1.00	6.95	D3	0.70		PID-<0.1ppm
	1.20	6.75	ES3 ES3 D4 ES4 U1	0.70 1.00 1.00 1.00 1.50-1.95		25 blows: 75% recovery recovery
Soft to firm dark grey mottled reddish brown occasionally slightly sandy slightly gravelly silty CLAY. Gravel is very angular to subangular fine and medium flint.			D5	2.00		
	2.20	5.75	ES5	2.20		PID-<0.1ppm
Brown gravelly to very gravelly CLAY. Gravel is angular to subrounded fine to coarse flint.			C B2	2.50 2.50-3.00	2.50	N=20 (3,4,4,5,5,6)
Soft to firm orangish brown slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint.			C B3	3.50 3.50-4.00	3.50	N=26 (4,5,6,6,7,7)
Soft to firm orangish brown mottled brown slightly gravelly silty CLAY. Gravel is very angular to subrounded fine and medium flint.			ES6	4.20		PID-<0.1ppm
			C B4	4.50 4.50-5.00	4.50	N=29 (5,5,6,7,7,9)
Medium desne to dense grey and yellow grey slightly sandy to sandy GRAVEL. Gravel is angular to subrounded fine to coarse flint.			C B5	5.50 5.50-6.00	(2.80) 5.50	N=30 (5,5,6,6,9,9) 0 blows: recovery
			ES7	6.00		PID-<0.1ppm
			C B6	6.50 6.50-7.00	(3.10) 6.50	N=34 (6,6,7,8,9,10)
			C B7	7.50 7.50-8.00	(4.70) 7.50	N=33 (7,6,7,8,8,10)
	8.10	-0.15	ES8	8.10		PID-<0.1ppm
Very dense orangish brown slightly gravelly silty SAND. Gravel is angular to subangular fine flint.	8.40	-0.45	ES9 S D6	8.40 8.50 8.50-8.95	8.50	PID-<0.1ppm N=40 (7,8,10,10,10,10)
Very dense dark grey slightly gravelly silty SAND. Gravel is angular to subangular fine flint.	9.00	-1.05				
Borehole Complete at 9.00 m						

Installations: 0.20, 1.00, 9.00

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 9.00	6.00 9.00				19/02/14 20/02/14	5.20 6.40	20 20	2.80 3.10	5.00 6.30	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 19/02/2014-20/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: G. Pursey

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 5.20mbgl and 6.40mbgl.
3. Installation details: 50mm diameter HDPE standpipe installed from 9.00mbgl to GL. Slotted from 9.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
4. Backfill details: Gravel filter packs from 9.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
5. SPT HAMMER I D EQU756.

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Percussion Borehole Record

WFBH03

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455738.7E 101317.0N

Ground Level: 8.52mAOD

Sheet 1 of 2

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. ASPHALT.	0.30	8.22				
MADE GROUND. CONCRETE.	0.50	8.02				
MADE GROUND. Grey medium and coarse SAND and GRAVEL with high cobble content. Gravel is very angular to angular fine to coarse concrete and asphalt fragments.	0.80	7.72	ES1	0.80		PID-<0.1ppm
	1.00	7.52	D1	0.90		PID-<0.1ppm
			B1	1.00		PID-<0.1ppm
			ES2	1.00		
			ES3	1.20		
			UT1	1.50-1.95		25 blows: 100% recovery
MADE GROUND. Dark grey clayey gravelly medium and coarse SAND. Gravel is angular to subangular fine to coarse flint and occasional concrete fragments. From 0.80m to 1.00m: Pockets of dark grey clayey coarse sand.			D11	2.00		
	2.20	6.32	ES4	2.20		PID-<0.1ppm
			C	2.50	2.50	N=40 (6,9,10,10,10,10)
			B2	2.50-3.00		
Firm orangish brown mottled brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint.						
			C	3.50	3.50	N=36 (7,7,8,9,9,10)
			B3	3.50-4.00		
Dense orangish brown locally yellowish grey medium and coarse SAND and GRAVEL. Gravel is angular to subrounded fine to coarse flint.			ES5	4.00		PID-<0.1ppm
			C	4.50	4.50	N=33 (7,8,9,9,7,8)
			B4	4.50-5.00		
From 5.50m: Gravel becomes medium and coarse.			C	5.50	(2.20)	N=38 (7,8,8,10,10,10)
			B5	5.50-6.00	5.50	
	6.20	2.32				
Medium dense brown and greenish orange speckled black slightly clayey slightly gravelly fine and medium SAND. Gravel is angular to subangular fine flint. Occasional bands of orange and brown silty sand.			S	6.50	(6.00)	N=18 (3,3,4,4,4,6)
			D2	6.50-7.00	6.50	PID-<0.1ppm
			ES6	6.60		
From 7.50m: Locally pockets of slightly sandy very silty CLAY.			UT2	7.50-7.95		60 blows: 100% recovery
			D3	8.00		PID-<0.1ppm
			ES7	8.00		
			D4	8.50-9.00		
			S	8.80	(7.90) 8.80	N=14 (2,2,3,3,4,4)
			S	9.50	(8.20)	N=20 (2,3,4,6,5,5)
			D5	9.50-10.00	9.50	
			ES8	10.00		PID-<0.1ppm
			S	10.50	(8.10)	N=16 (2,3,3,4,4,5)
			D6	10.50-11.00	10.50	

Installations: 0.20, 1.00, 9.00

Continued next sheet

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 15.00	6.00				21/02/14	5.60	20	2.20	5.50	

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Dates: 21/02/2014
Plant: Dando 2000 Cable Percussive Rig
Drilled By: D. Bowman
Logged By: R. Caplin
Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 5.60mbgl.
3. Water added to assist drilling to 5.00mbgl (120ltrs).
4. Installation details: 50mm diameter HDPE standpipe installed from 9.00mbgl to GL. Slotted from 9.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
5. Backfill details: Arisings from 15.00mbgl to 9.00mbgl, gravel filter packs from 9.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
6. SPT HAMMER I D EQU756.

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Percussion Borehole Record

WFBH03

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455738.7E 101317.0N

Ground Level: 8.52mAOD

Sheet 2 of 2

Description	Legend	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results	Installations
Medium dense brown and greenish orange speckled black slightly clayey slightly gravelly fine and medium SAND. Gravel is angular to subangular fine flint. Occasional bands of orange and brown silty sand.				S D7 ES9 S D8 S D9 ES10	11.50 11.50-12.00 12.00 12.50 12.50-13.00 13.50 13.50-14.00 13.70	(9.90) 11.50 (10.90) 12.50 (11.70) 13.00	N=18 (3,2,3,4,5,6) PID-<0.1ppm N=21 (4,4,4,5,6,6) 21/91mm - Abandoned PID-<0.1ppm	
Dense dark grey locally grey silty fine SAND.		13.70	-5.18	S D10	14.50 14.50-15.00	(12.10) 13.00	N=31 (6,6,7,7,8,9)	
Borehole Complete at 15.00 m		15.00	-6.48					15.00

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 15.00	6.00				21/02/14	5.60	20	2.20	5.50	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 21/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: J. Keay

Remarks:

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Percussion Borehole Record

WFBH04

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455772.0E 101386.2N

Ground Level: 8.24mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. Grass over dark brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse flint, brick and charcoal.			D1	0.15		PID-<0.1ppm
			ES1	0.15		
			B1	0.50		PID-<0.1ppm
	0.70	7.54	D2	0.50		
			ES2	0.50		
Soft to firm dark brown slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.	1.00	7.24	D3	1.00		PID-<0.1ppm
			ES3	1.00		
			U1	1.50-1.95		30 blows: 65% recovery
Soft to firm orangish brown mottled brown and brownish grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint.			D4	2.00		
	2.20	6.04	ES4	2.20		PID-<0.1ppm
			C	2.50	2.50	N=26 (3,4,6,6,7,7)
Medium dense to dense drown and yellowish grey slightly sandy to sandy GRAVEL. Gravel is very angular to subrounded fine to coarse flint.			B2	2.50		
			C	3.50	3.50	N=25 (4,5,5,6,7,7)
			B3	3.50		
			ES5	4.20		PID-<0.1ppm
			C	4.50	4.50	N=30 (5,6,7,7,8,8)
			B4	4.50		
			ES6	5.00		PID-<0.1ppm
			C	5.50	5.50	N=31 (6,6,7,7,8,9)
			B5	5.50		
	6.20	2.04	ES7	6.20		PID-<0.1ppm
Medium dense orangish brown slightly gravelly silty fine to coarse SAND. Gravel is angular to subrounded fine and medium flint.			S	6.50	(3.20)	PID-<0.1ppm
			D5	6.50-7.00	6.50	N=17 (3,3,4,4,4,5)
			ES8	6.50		
			S	7.50	(4.70)	N=21 (4,4,4,5,6,6)
			D6	7.50-8.00	7.50	
			S	8.50	(5.10)	N=29 (6,6,7,7,7,8)
			D7	8.50-9.00	8.50	
	9.00	-0.76				
Borehole Complete at 9.00 m						

Installations: 0.20, 1.00, 9.00

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 9.00	6.00 9.00				19/02/14	6.20	10	3.20	6.00	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 19/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: G. Pursey

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 6.20mbgl.
3. Installation details: 50mm diameter HDPE standpipe installed from 9.00mbgl to GL. Slotted from 9.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
4. Backfill details: Gravel filter packs from 9.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
5. SPT HAMMER I D EQU756.

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Percussion Borehole Record

WFBH05

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455892.6E 101039.0N

Ground Level: 8.39mAOD

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. Grass over dark brown slightly gravelly slightly sandy CLAY. Gravel is angular to subangular fine to coarse flint and rare brick fragments.	0.40	7.99	D1 ES1	0.15 0.15		PID-<0.1ppm
			B1 D2 ES2	0.50 0.50 0.50		PID-<0.1ppm
Initially soft becoming firm to stiff orangish brown mottled brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint.			D3 ES3	1.00 1.00		PID-<0.1ppm
			UT1	1.50-1.95		35 blows: 85% recovery
			D4	2.00		
Soft orangish brown mottled brown gravelly to very gravelly sandy CLAY. Gravel is angular to subangular fine and medium occasionally coarse flint.	2.20	6.19				
			C B2	2.50 2.50-3.00	2.50	N=28 (6,6,6,7,7,8)
	3.00	5.39	ES4	3.00		PID-<0.1ppm
Dense orangish brown locally yellowish grey medium and coarse SAND and GRAVEL. Gravel is angular to subrounded fine to coarse flint.			C B3	3.50 3.50-4.00	3.50	N=33 (7,7,8,8,8,9)
			C B4	4.50 4.50-5.00	4.50	N=35 (7,8,8,8,9,10)
			ES5	5.00		PID-<0.1ppm
			C B5	5.50 5.50-6.00	5.50	N=42 (8,9,10,10,10,12)
			C B6	6.50 6.50-7.00	6.50	N=41 (9,9,9,10,11,11)
			ES6	7.00		PID-<0.1ppm
	7.20	1.19				
Firm dark grey locally blueish grey gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.	7.30	1.09	UT2	7.50-7.95		65 blows: 85% recovery
Initally firm to stiff becoming stiff dark grey and dark greenish grey sandy silty CLAY.			D5	8.00		
			S D6	8.50 8.50-9.00	(6.10) 8.00	N=21 (4,4,5,5,5,6)
			ES7	9.00		PID-<0.1ppm
			S D7	9.50 9.50-10.00	(5.20) 9.00	N=24 (4,4,5,6,6,7)
			S D8	10.50 10.50-11.00	9.50	N=26 (4,4,6,6,7,7)

Installations: 0.20, 1.00, 9.00

Continued next sheet

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 15.00	11.00				14/02/14	8.60	20	5.20	8.40	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 13/02/2014-14/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 8.60mbgl.
3. Water added to assist drilling to 9.50mbgl (120ltrs).
4. Installation details: 50mm diameter HDPE standpipe installed from 9.00mbgl to GL. Slotted from 9.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
5. Backfill details: Arisings from 15.00mbgl to 9.00mbgl, gravel filter packs from 9.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
6. SPT HAMMER I D EQU756.

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Percussion Borehole Record

WFBH05

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455892.6E 101039.0N

Ground Level: 8.39mAOD

Sheet 2 of 2

Description	Legend	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results	Installations
Initally firm to stiff becoming stiff dark grey and dark greenish grey sandy silty CLAY.				ES8	11.00		PID-<0.1ppm	
				UT3	11.50-11.95		55 blows: 85% recovery	
At 11.50m: Locally soft. From 11.50m: Occasional laminations of light grey and dark orangish brown silt and shell fragments.				D9	12.00			
				S D10	12.50 12.50-13.00	12.00	N=29 (6,6,7,7,7,8)	
				ES9	13.00		PID-<0.1ppm	
				UT4	13.50-13.95		65 blows: 85% recovery	
From 14.00m: Becomes very silty.				D11	14.00			
				S D12	14.50 14.50-15.00	(5.10) 14.50	N=30 (5,6,6,7,8,9)	
		15.00	-6.61	ES10	15.00		PID-<0.1ppm	15.00
Borehole Complete at 15.00 m								

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 15.00	11.00				14/02/14	8.60	20	5.20	8.40	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 13/02/2014-14/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: J. Keay

Remarks:

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Percussion Borehole Record

WFBH06

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

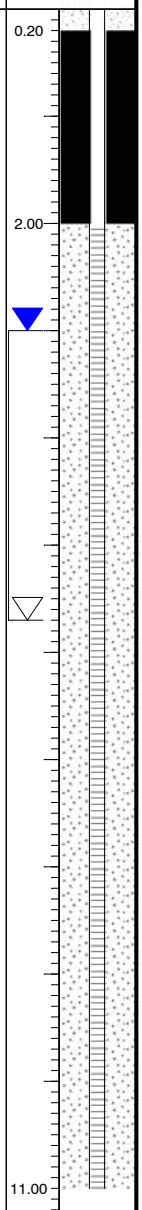
Coordinates: 455941.5E 101239.3N

Ground Level: 8.42mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MAGE GROUND. Grass over slightly sandy slightly gravelly SILT. Gravel is angular to subrounded fine and medium flint with occasional brick, glass, tile and charcoal fragments. Occasional roots and rootlets.	0.10	8.32	D1	0.15		PID- <0.1 ppm
			ES1	0.15		
	0.40	8.02	B1	0.50		PID- <0.1 ppm
			D2	0.50		
	0.80	7.62	ES2	0.50		
MADE GROUND. Dark brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse brick, charcoal and flint.	1.00	7.42	D3	1.00		
			ES3	1.00		
			U1	1.50-1.95		100 blows: 50% recovery
MADE GROUND. Brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint and rare brick,	2.00	6.42	D4	2.00		
	2.20	6.22				
			S	2.50		N=31 (5,6,6,7,9,9)
			B2	2.50		
Initially soft to firm becoming firm to stiff orangish brown mottled greyish brown and brown slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.			D5	2.50		
	3.00	5.42				
			S	3.50		N=33 (6,6,7,8,9,9)
			B3	3.50-4.00		
Soft to firm orangish brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint. Occasional black organic staining.	4.00	4.42	D6	4.00		
			ES4	4.10		PID- <0.1 ppm
	4.50	3.92	U2	4.50-4.95		50 blows: 100% recovery
Soft to firm orangish brown mottled orange occasionally slightly sandy gravelly silty CLAY. Gravel is very angular to subangular fine to coarse flint.			D7	5.00		
	5.20	3.22	ES5	5.20		PID- <0.1 ppm
			S	5.50		N=34 (3,3,6,8,10,10)
			D8	5.50-5.95		
Dense brown and yellow brown very gravelly fine and coarse SAND. Gravel is very angular to subangular fine to coarse flint.						
			S	6.50		N=47 (7,9,10,10,12,15)
Dense orangish brown sandy GRAVEL. Gravel is very angular to subangular fine to coarse flint.			D9	6.50		
Firm to stiff orangish brown mottled grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine flint.						
			S	7.50		N=48 (6,6,8,10,15,15)
			D10	7.50-8.00		
Dense orangish brown locally yellowish brown clayey fine SAND with black specks. Occasional bands of sandy clay.						
			S	8.50		N=42 (5,6,7,10,10,15)
			D11	8.50-8.95		
Dense to very dense greenish grey and light grey slightly clayey fine and coarse SAND.						
			S	9.50		N=21 (4,5,5,5,5,6)
			D12	9.50-10.00		
Borehole Complete at 11.00 m	11.00	-2.58				

Installations



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Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 11.00					12/02/14	5.70	20	3.00	-	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 11/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: G. Pursey

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered 5.70mbgl.
3. Installation details: 50mm diameter HDPE standpipe installed from 11.00mbgl to GL. Slotted from 11.00mbgl to 2.00mbgl, plain from 2.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
4. Backfill details: Gravel filter packs from 11.00mbgl to 2.00mbgl, bentonite pellets from 2.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
5. SPT HAMMER I D EQU756.

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Percussion Borehole Record

WFBH07

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 456002.7E 101130.9N

Ground Level: 8.38mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. ASPHALT.	0.20	8.18				
MADE GROUND. CONCRETE.	0.60	7.78				
MADE GROUND. Grey sandy GRAVEL. Gravel is very angular to subrounded fine to coarse ballast.	0.90	7.48	B1	0.90		PID-<0.1ppm
			D1	0.90		PID-<0.1ppm
			ES1	0.90		
Soft to firm orangish brown mottled brown slightly sandy slightly gravelly silty CLAY. Gravel is very angular to subangular fine and medium flint.			ES2	1.00		
			U1	1.50-1.95		PID-<0.1ppm
			ES3	1.50		25 blows: 75% recovery
			D2	2.00		
Medium dense to dense grey and yellow brown slightly sandy to sandy GRAVEL. Gravel is very angular to subrounded fine to coarse flint. Occasional pockets of brown clay.	2.20	6.18	ES4	2.30		PID-<0.1ppm
			C	2.50	2.50	N=23 (4,5,5,6,6,6)
			B2	2.50-3.00		
			C	3.50	3.50	N=26 (5,6,6,6,7,7)
			B3	3.50-4.00		
			ES5	4.30		PID-<0.1ppm
			C	4.50	4.50	N=34 (7,6,8,8,9,9)
			B4	4.50-5.00		
			C	5.50	5.50	N=33 (7,7,8,8,8,9)
			B5	5.50-6.00		
			ES6	6.00		PID-<0.1ppm
Firm orangish brown slightly gravelly silty CLAY. Gravel is very angular to subangular fine and medium flint.	6.10	2.28				
	6.30	2.08	ES7	6.30		PID-<0.1ppm
			U2	6.50-6.95		33 blows: 75% recovery
Stiff greenish grey occasionally slightly sandy CLAY.			D3	7.00		
			S	7.50	3.00	N=21 (3,4,4,5,5,7)
			D4	7.50-8.00		
Medium dense yellowish brown slightly clayey silty SAND.	8.50	-0.12	S	8.50	(2.20) 8.50	N=25 (4,4,5,5,6,9)
			D5	8.50-9.00		
Borehole Complete at 9.00 m	9.00	-0.62				

Installations: 0.20, 1.00, 9.00

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.10 9.00	6.10 9.00				18/02/14	8.50	20	2.20	8.50	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 18/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: G. Pursey

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 8.50mbgl.
3. Installation details: 50mm diameter HDPE standpipe installed from 9.00mbgl to GL. Slotted from 9.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
4. Backfill details: Gravel filter packs from 9.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
5. SPT HAMMER I D EQU756.

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Percussion Borehole Record

WFBH08

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 456008.5E 101240.7N

Ground Level: 8.40mAOD

Sheet 1 of 2

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. Grass over brown slightly gravelly sandy CLAY. Gravel is angular to subangular fine to coarse flint, rare charcoal. From 0.30m to 0.35m: Band of charcoal.			D1	0.15		PID- <0.1 ppm
			ES1	0.15		PID- <0.1 ppm
	0.35	8.05	ES2	0.30		PID- <0.1 ppm
Soft to firm brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine and medium flint.	0.55	7.85	B1	0.50		
			D2	0.50		
			ES3	0.50		
			D3	1.00		
			B9	1.00		
			U1	1.50-1.95		14 blows: 100% recovery
			B2	1.50-2.00		PID- <0.1 ppm
Soft to firm orangish brown mottled brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse flint.			D4	1.50		
	2.00	6.40	ES4	1.50		
Orangish brown fine to coarse SAND and GRAVEL. Gravel is very angular to subrounded fine to coarse flint. Occasional pockets of sandy clay.	2.50	5.90	C	2.50	2.50	N=32 (5,6,7,7,9,9)
			B3	2.50-3.00		PID- <0.1 ppm
			ES5	2.50		
			D5	3.00		
Dense orangish brown sandy GRAVEL. Gravel is very angular to subangular fine to coarse flint.	3.50	4.90	C	3.50	(1.00)	N=35 (6,7,7,9,9,10)
			B4	3.50-4.00	3.50	
Dense orangish brown gravelly to very gravelly fine to coarse SAND. Gravel is very angular to subrounded fine to coarse flint.			D6	4.00		PID- <0.1 ppm
			ES6	4.00		
Dense orangish brown very sandy GRAVEL. Gravel is very angular to subangular fine to coarse flint.	4.50	3.90	C	4.50	(2.70)	N=35 (7,7,8,9,9,9)
			B5	4.50-5.00	4.50	
			D8	5.00		
			C	5.50	(3.20)	N=35 (6,7,8,8,9,10)
			B6	5.50-6.00	5.50	
			ES7	6.00		PID- <0.1 ppm
Dense orangish brown slightly clayey slightly gravelly silty fine to coarse SAND with occasional black specks. Gravel is angular to subrounded fine and medium flint.	6.50	1.90	C	6.50	(5.10)	N=37 (5,7,7,9,9,12)
			B7	6.50-7.00	6.40	
			D7	6.50		
			ES8	7.00		PID- <0.1 ppm
			S	7.50	(6.20)	N=28 (3,4,6,6,7,9)
			D9	7.50-8.00	7.50	
			ES9	8.00		PID- <0.1 ppm
			S	8.50	(6.20)	N=29 (5,6,7,7,7,8)
			D10	8.50-9.00	8.50	
			B8	9.00-10.00		
			S	9.50	(7.40)	N=30 (6,6,8,7,7,8)
			D11	9.50-10.00	9.50	
			ES10	10.00		PID- <0.1 ppm
			S	10.50	(6.10)	N=12 (1,3,4,4,2,2)
			D12	10.50-11.00	10.50	

Installations: 0.20, 1.00, 10.00

Continued next sheet

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 13.50					11/02/14	3.90	20	1.00	3.50	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 11/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: G. Pursey

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 3.90mbgl.
3. Installation details: 50mm diameter HDPE standpipe installed from 10.00mbgl to GL. Slotted from 10.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
4. Backfill details: Arisings from 13.50mbgl to 10.00 mbgl, gravel filter packs from 10.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
5. SPT HAMMER I D EQU756.

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Percussion Borehole Record

WFBH08

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 456008.5E 101240.7N

Ground Level: 8.40mAOD

Sheet 2 of 2

Description	Legend	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results	Installations
Dense orangish brown slightly clayey slightly gravelly silty fine to coarse SAND with occasional black specks. Gravel is angular to subrounded fine and medium flint.								
		12.00	-3.60	D13 B9	12.00 12.00-13.00			
Dense grey and occasionally orangish brown slightly clayey silty fine to coarse SAND.				ES11 D14	13.00 13.00		PID- <0.1 ppm	
		13.50	-5.10					13.50
Borehole Complete at 13.50 m								

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 13.50					11/02/14	3.90	20	1.00	3.50	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 11/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: G. Pursey

Checked By: J. Keay

Remarks:

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Percussion Borehole Record

WFBH09

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

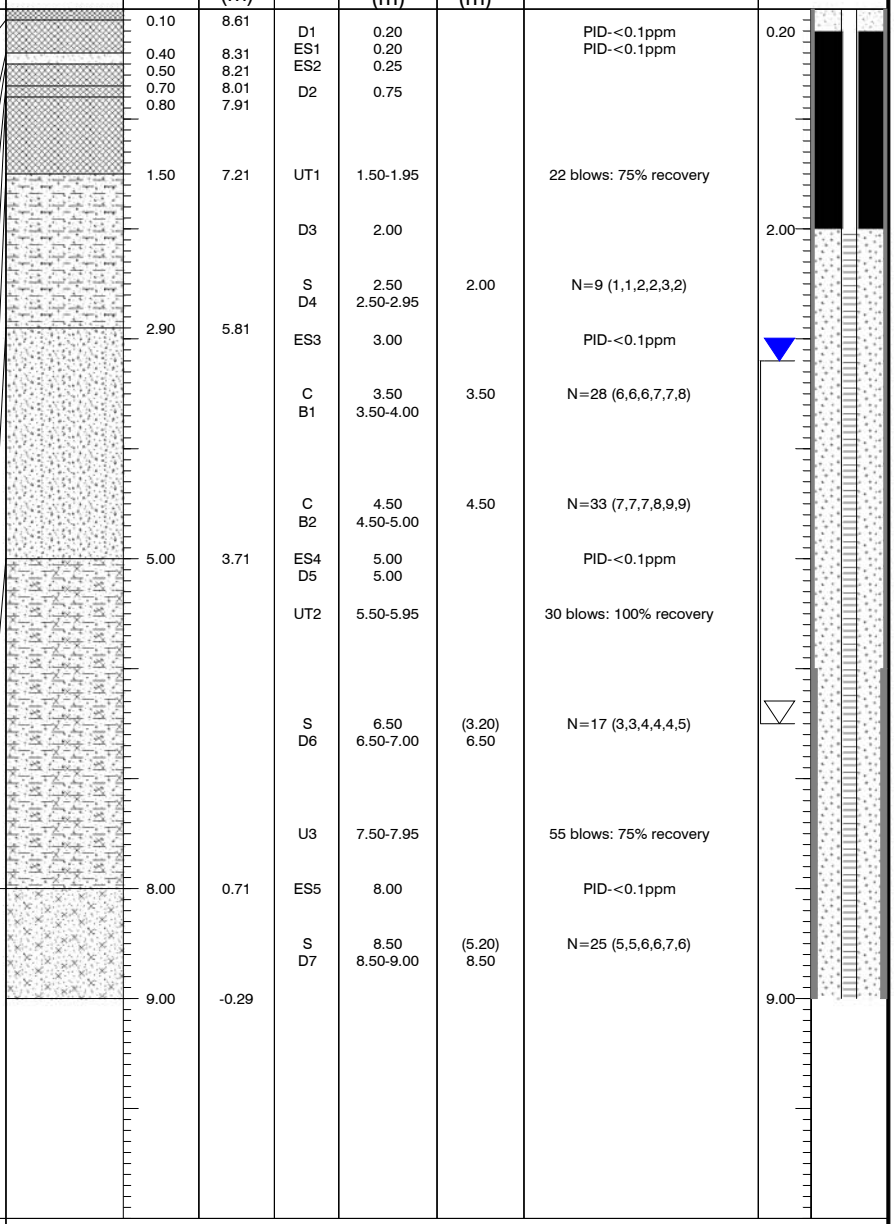
Project ID.: GL18065

Coordinates: 456054.4E 101035.2N

Ground Level: 8.71mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. ASPHALT.	0.10	8.61	D1	0.20		PID-<0.1ppm
			ES1	0.20		PID-<0.1ppm
MADE GROUND. Orangish brown sandy GRAVEL. Gravel is very angular to subrounded fine to coarse ballast.	0.40	8.31				
	0.50	8.21	ES2	0.25		
	0.70	8.01	D2	0.75		
MADE GROUND. CONCRETE.	0.80	7.91				
MADE GROUND. Orangish brown sandy GRAVEL. Gravel is very angular to subrounded fine to coarse ballast.	1.50	7.21	UT1	1.50-1.95		22 blows: 75% recovery
			D3	2.00		
MADE GROUND. Dark grey and brown slightly clayey gravelly to very gravelly fine to coarse SAND with low cobble content. Gravel is very angular to subrounded fine to coarse flint, limestone, brick, concrete, asphalt and charcoal. Cobbles are brick.			S	2.50	2.00	N=9 (1,1,2,2,3,2)
			D4	2.50-2.95		
	2.90	5.81	ES3	3.00		PID-<0.1ppm
MADE GROUND (Brickwall). Recovered as red slightly sandy GRAVEL with a medium cobble content. Gravel is very angular to subangular fine to coarse brick and concrete. Cobbles are of brick.			C	3.50	3.50	N=28 (6,6,6,7,7,8)
			B1	3.50-4.00		
			C	4.50	4.50	N=33 (7,7,7,8,9,9)
			B2	4.50-5.00		
Soft to firm orange brown mottled grey slightly gravelly slightly sandy CLAY. Gravel is angular to subangular fine and medium flint.	5.00	3.71	ES4	5.00		PID-<0.1ppm
			D5	5.00		
			UT2	5.50-5.95		30 blows: 100% recovery
Dense orangish brown locally grey slightly clayey SAND and GRAVEL. Gravel is angular to subrounded fine to coarse flint. From 4.50m to 5.00m: becomes a very gravelly SAND.			S	6.50	(3.20)	N=17 (3,3,4,4,4,5)
			D6	6.50-7.00	6.50	
Initially firm becoming firm to stiff orangish brown occasionally slightly gravelly slightly sandy silty CLAY. Gravel is angular to subrounded fine to coarse flint.			U3	7.50-7.95		55 blows: 75% recovery
	8.00	0.71	ES5	8.00		PID-<0.1ppm
Medium dense dark greenish grey very silty clayey fine SAND.			S	8.50	(5.20)	N=25 (5,5,6,6,7,6)
			D7	8.50-9.00	8.50	
Borehole Complete at 9.00 m	9.00	-0.29				



Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	6.00 9.00	6.00 9.00				17/02/14	6.50	20	3.20	5.00	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 17/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: G. Pursey

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater encountered at 6.50mbgl.
3. Installation details: 50mm diameter HDPE standpipe installed from 9.00mbgl to GL. Slotted from 9.00mbgl to 2.00mbgl, plain from 2.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
4. Backfill details: Gravel filter packs from 9.00mbgl to 2.00mbgl, bentonite pellets from 2.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
5. SPT HAMMER I D EQU756.

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Percussion Borehole Record

WFBH11

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455813.9E 101272.6N

Ground Level: 8.52mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. CONCRETE.	0.30	8.22				
MADE GROUND. ASPHALT and CONCRETE.	0.80	7.72				
MADE GROUND. CONCRETE.	1.00	7.52	B1	1.00		PID-<0.1ppm
Firm brown slightly gravelly slightly sandy silty CLAY. Gravel is angular to subangular fine to coarse flint.	1.20	7.32	D1	1.00		PID-<0.1ppm
	1.40	7.12	ES1	1.00		
			ES2	1.20		PID-<0.1ppm
			ES3	1.50		
Firm orangish brown mottled brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint.	1.90	6.62	D2	2.00		PID-<0.1ppm
			ES4	2.00		
Firm orangish brown mottled grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint. Occasional pockets of sandy silt.			B2	3.00		
Grey locally light yellowish grey medium and coarse sandy GRAVEL. Gravel is angular to subangular fine to coarse flint. From 4.00m: Gravel becomes fine and medium.			B3	4.00		PID-<0.1ppm
			ES5	4.00		
Orangish brown and greenish orange speckled black slightly gravelly silty fine and medium SAND. Gravel is angular to subangular fine flint.	4.60	3.92	B4	4.60		PID-<0.1ppm
			ES6	4.60		
			B5	5.00		
Borehole Complete at 6.00 m	6.00	2.52	B6	6.00		PID-<0.1ppm
			ES7	6.00		

Installations: 0.20, 1.00, 6.00

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
150	6.00	6.00				20/02/14	3.40	20	2.10	-	

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Dates: 20/02/2014
Plant: Dando 2000 Cable Percussive Rig
Drilled By: D. Bowman
Logged By: G. Pursey
Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 3.40mbgl.
3. Water added to assist drilling to 4.60mbgl (80ltrs).
4. Installation details: 50mm diameter HDPE standpipe installed from 6.00mbgl to GL. Slotted from 6.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
5. Backfill details: Gravel filter packs from 6.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.

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Percussion Borehole Record

WFBH12

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455864.6E 101361.5N

Ground Level: 8.06mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. CONCRETE (reinforced).	0.07	7.99				
MADE GROUND. Soft to firm orangish brown mottled greyish brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine to coarse flint. Occasional concrete and asphalt.			D1	0.70		PID-<0.1ppm
			ES1	0.70		
	1.00	7.06	B1	1.00		PID-<0.1ppm
			ES2	1.00		
Soft to firm orangish brown mottled brown slightly gravelly sandy silty CLAY. Gravel is angular to subangular fine and medium flint.			ES3	1.50		PID-<0.1ppm
			D2	2.00		
	2.70	5.36	ES4	2.70		PID-<0.1ppm
Firm orangish brown slightly sandy gravelly to very gravelly CLAY. Gravel is angular to subrounded fine to coarse flint.	3.00	5.06	B2	3.00		
Orangish brown locally light yellowish grey clayey fine to coarse SAND and GRAVEL. Gravel is angular to subrounded fine to coarse flint. Occasional pockets of orangish brown and grey sandy clay.			B3	4.00		
	4.90	3.16	ES5	4.90		PID-<0.1ppm
Brown and greenish orange speckled dark grey fine and medium SAND.			B4	5.00		
	6.00	2.06	B5	6.00		PID-<0.1ppm
Borehole Complete at 6.00 m			ES6	6.00		

Installations: 0.20, 1.00, 6.00

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
150	6.00	6.00				26/02/14	4.90	20	3.10	4.80	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 26/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered 4.9mbgl.
3. Installation details: 50mm diameter HDPE standpipe installed from 6.00mbgl to GL. Slotted from 6.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL.
4. Finished with gas tap/bung, end cap and flush fitting cover.
5. Backfill details: Gravel filter packs from 6.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.

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Percussion Borehole Record

WFBH13

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455914.0E 101193.9N

Ground Level: 8.72mAOD

Sheet 1 of 1

Description	Legend	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results	Installations
MADE GROUND. Grass over dark brown slightly gravelly clayey SAND with low cobble content. Gravel is very angular to subangular fine and medium flint, brick with occasional and charcoal (between 0.40m to 0.50m). Cobbles are of brick, limestone and paving slabs.		0.50	8.22	D1	0.15		PID- <0.1 ppm	0.20
				ES1	0.15			
				B1	0.20-0.40			
				D2	0.30		PID- <0.1 ppm	
		0.80	7.92	B2	0.60-0.80			
				ES2	0.60			
				D3	0.70		PID- <0.1 ppm	1.00
				ES3	1.00			
				D4	1.10			
MADE GROUND. Orange brown gravelly silty CLAY. Gravel is angular to subangular fine and medium occasionally coarse flint, brick, clinker and charcoal.				B3	1.50-1.80		PID- 5.3 ppm	
				ES4	1.50		PID- 5.5 ppm	
		1.80	6.92	D5	1.50		PID- 29.6 ppm	
				ES5	1.60		PID- 80.1 ppm	
				B4	1.90-2.00			
				D6	1.90		PID- 158 ppm	
Soft to firm orange brown slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.		2.50	6.22	ES6	1.90			
				B5	2.00-2.20			
				D7	2.10			
				ES7	2.10		PID- 100 ppm	
Orangish brown clayey silty sandy GRAVEL. Gravel is very angular to subangular fine to coarse flint.				B6	2.20-2.50			
				D8	2.20			
				ES8	2.40			
				B7	3.00-3.50			
				D9	3.00			
				ES9	3.00			
Firm orangish brown mottled brown becoming grey slightly sandy occaisonally slightly gravelly CLAY. Gravel is angular to subangular fine to coarse flint.				D10	4.00		PID- 20.0 ppm	
				ES10	4.00			
				B8	4.50-5.00			
				ES11	4.80		PID- 19.8 ppm	
				D11	5.00			
				ES12	5.50		PID- 50.6 ppm	
				B9	5.50-6.00			
		6.00	2.72	D12	6.00		PID- 180 ppm	6.00
				ES13	6.00			
Borehole Complete at 6.00 m								

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	5.00 6.00	5.00 6.00				13/02/14	5.20	20	2.80	3.00	

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 13/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: G. Pursey

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered 5.20mbgl.
3. Installation details: 50mm diameter HDPE standpipe installed from 6.00mbgl to GL. Slotted from 6.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
4. Backfill details: Gravel filter packs from 6.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.

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Percussion Borehole Record

WFBH13A

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455916.4E 101196.0N

Ground Level: 8.71mAOD

Sheet 1 of 1

Description	Legend	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results	Installations
MADE GROUND. Grass over dark brown slightly gravelly clayey sandy TOPSOIL. Gravel is very angular to subangular fine and medium flint and brick. Occasional clinker and charcoal. Frequent roots and rootlets		0.20	8.51	D1 ES1	0.15 0.15		PID- <0.1 ppm	
MADE GROUND. Dark brown clayey gravelly to very gravelly fine and coarse SAND with a low cobble content. Gravel is angular to subangular fine and medium occasionally coarse flint, brick, clinker and charcoal. Cobbles are of brick. Frequent roots and rootlets		0.50	8.21	D2 ES2	0.40 0.40		PID- 117 ppm	0.50
Borehole Complete at 0.50 m								

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 12/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: G. Pursey

Remarks:

1. Inspection pit excavated from GL to 0.50mbgl.
2. Groundwater was not encountered.
3. Borehole terminated at 0.50mbgl due to concrete obstruction.
4. Arisings details: Arisings from 0.50mbgl to GL.

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Percussion Borehole Record

WFBH14

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID.: GL18065

Coordinates: 455790.1E 101162.5N

Ground Level: 8.07mAOD

Sheet 1 of 1

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
MADE GROUND. CONCRETE.	0.10	7.97				
	0.25	7.82				
MADE GROUND. Grey fine to coarse SAND and GRAVEL. Gravel is very angular to subangular fine to coarse concrete.	0.50	7.57	D1	0.50		PID-<0.1ppm
			ES1	0.50		
			B1	1.00		PID-<0.1ppm
MADE GROUND. Brown and greyish brown sandy gravelly CLAY. Gravel is angular to subangular fine to coarse concrete and brick.			ES2	1.00		
			D2	1.40		
	1.60	6.47	ES3	1.60		PID-<0.1ppm
MADE GROUND. Soft orangish brown mottled brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine flint.	2.00	6.07	B2	2.00		PID-<0.1ppm
			ES4	2.00		
			D3	2.50		PID-<0.1ppm
	2.60	5.47	ES5	2.50		PID-<0.1ppm
MADE GROUND. Dark grey clayey gravelly to very gravelly medium and coarse SAND. Gravel is angular to subrounded fine and medium flint and asphalt.	2.80	5.27	ES6	2.70		
			B3	3.00		PID-<0.1ppm
			ES7	3.00		
Firm orangish brown mottled blueish grey slightly gravelly silty CLAY. Gravel is angular to subrounded fine flint.			B4	4.00		
	4.50	3.57				
Brown and orangish brown slightly clayey slightly gravelly fine and medium SAND. Gravel is angular to subangular fine flint.			ES8	4.70		PID-<0.1ppm
			D4	5.00		
Orangish brown clayey gravelly to very gravelly medium to coarse SAND. Gravel is angular to subangular fine to coarse flint. Occasional bands of soft orangish brown clay.						
	6.00	2.07	D5	6.00		
Dark grey occasionally grey silty fine SAND.						
Borehole Complete at 6.00 m						

Installations: 0.20, 1.00, 6.00

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
150	6.00	5.00									

Client: Homes and Communities Agency

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 25/02/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: R. Caplin

Checked By: G. Pursey

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Water added to assist drilling to 6.00mbgl (65ltrs).
4. Installation details: 50mm diameter HDPE standpipe installed from 6.00mbgl to GL. Slotted from 6.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
5. Backfill details: Gravel filter packs from 6.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.

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Window Sample Record

LEPWS02
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 456115.6E 101227.7N

Ground Level: 8.23mAOD

Description	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results
MADE GROUND. Brown slightly gravelly silty TOPSOIL. Gravel is very angular to subrounded fine and medium occasionally coarse brick, tile, slate and flint.	0.20	8.03	D1 ES1 ES2	0.15 0.15 0.25	 PID 10.6ppm PID 8.8ppm
MADE GROUND. Orangish brown mottled brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint. Occasional roots and rootlets.	0.80	7.43	B1 D2 ES3	0.50 0.50 0.50	 PID 9.0ppm
Soft to firm orangish brown mottled brown slightly gravelly silty CLAY with occasional organic matter. Gravel is angular to subrounded fine and medium flint. Occasional organic matter and dark brown/black staining. Rare roots.			S D3 D4	1.00 1.00 1.50	N=5 (1,1,1,1,1,2)
Orangish brown and locally yellowish brown slightly gravelly clayey fine and medium SAND. Gravel is very angular to subangular fine to coarse flint.	1.70	6.53	D5 ES4	1.90 2.00	 PID 9.0ppm
Medium dense yellowish brown slightly gravelly slightly clayey fine and medium SAND. Gravel is very angular to subangular fine to coarse flint.	2.10	6.13	S ES5 D6	2.10 2.50 2.50	N=24 (1,2,3,5,8,8) PID- <0.1 ppm
Orangish brown slightly gravelly fine and medium SAND. Gravel is very angular to subangular fine to coarse flint.	2.60 2.80	5.63 5.43	ES6 D7	2.80 2.80	PID- <0.1 ppm
Window Sample Complete at 2.80 m					

Installations: 2.80

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87 77	1.00 1.80	2.10 2.90	90 100

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
07/02/14	0.60	-	0.60	-	

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 07/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tatersall
Logged By: R. Caplin
Checked By: G. Pursey

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered within starter pit.
3. Window sample terminated at 2.80m due to the density of the strata.
4. Backfill details: Arisings from 2.80mbgl to GL.
5. SPT HAMMER I D HGE01.

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Window Sample Record

LEPWS03
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 456160.4E 101407.6N

Ground Level: 7.93mAOD

Description	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. Orangish brown and red sandy gravelly CLAY with a high cobble content. Gravel is very angular to subrounded fine to coarse brick, concrete, tile and flint with occasional clay pipe and asphalt fragments. Cobbles are of brick and concrete.	0.20	7.73	D1 ES1 D2 ES2	0.15 0.15 0.25 0.25	PID 1.8ppm PID 2.1ppm	
MADE GROUND. Orangish brown mottled brown slightly gravelly silty CLAY with a low cobble content. Gravel is angular to subrounded fine and medium flint and occasional brick and bone fragments. Cobbles are of brick and concrete.	0.60	7.33	D3 ES3 B1	0.50 0.50 0.60-0.80	PID 1.8ppm	
	0.80	7.13	S	0.80	N=62 (7,11,13,15,16,18)	
MADE GROUND. Orangish brown very gravelly silty CLAY. Gravel is very angular to subangular fine and medium flint and occasional charcoal and rare brick.	1.20	6.73	D4 ES4 B2 D5	1.00 1.00 1.20-1.70 1.50	PID 2.4ppm	
Dense orangish brown clayey gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse flint.	1.75 1.80	6.18 6.13	ES5 D6	1.80 1.80	PID 0.5ppm	1.80
Orangish brown gravelly silty fine SAND. Gravel is angular to subrounded fine to coarse flint.						
Orangish brown mottled greenish grey silty fine SAND.						
Window Sample Complete at 1.80 m						

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	0.80	1.80	90

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 06/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: R. Caplin
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Window sample terminated at 1.80m due to the density of the strata.
4. Backfill details: Arisings from 1.80mbgl to GL.
5. SPT HAMMER I D HGE01.

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Window Sample Record

LEPWS04
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 456196.7E 101357.7N

Ground Level: 8.36mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. ASPHALT.		0.17	8.19				
MADE GROUND. Brown red and dark grey sandy GRAVEL with a low cobble content. Gravel is very angular to subangular fine to coarse brick and asphalt. Cobbles are of brick.		0.30	8.06	D1 ES1 D2 ES2 B1	0.25 0.25 0.40 0.40 0.50-1.00	PID 2.5ppm PID 2.7ppm	
MADE GROUND. Dark brown mottled dark grey slightly sandy gravelly CLAY with medium cobble conent. Gravel is subangular to subrounded fine to coarse brick, aspahlt and flint. Occasional plastic and mortar. Cobbles are brick.		0.50	7.86	ES3 D3	0.80 1.00	PID 2.5ppm	
Soft to firm orangish brown mottled brown slightly sandy silty slightly gravelly CLAY. Gravel is angular to subangular fine to coarse flint. Rare black staining.		1.20	7.16	B2 D4	1.30-1.50 1.50		
Soft to firm orangish brown sandy gravelly CLAY. Gravel is angular to subangular fine to coarse flint.		1.60	6.76	ES4 D5	1.50 1.60	PID 2.4ppm	
Orangish brown and yellow brown fine to coarse SAND and GRAVEL. Gravel is very angular to subangular fine to coarse flint.		1.70	6.66	ES5	1.70	PID 2.1ppm	1.70
Window Sample Complete at 1.70 m							

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
77	1.00	1.70	80

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 06/01/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tatersall
Logged By: R. Caplin
Checked By: G. Pursey

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Window sample terminated at 1.70m due to the density of strata.
4. Backfill details: Arisings from 1.70mbgl to GL.

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Window Sample Record

LEPWS05
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 456207.4E 101290.5N

Ground Level: 8.28mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. ASPHALT.		0.10	8.18	D1	0.15		
MADE GROUND. Red mottled brown slightly clayey sandy GRAVEL with a high cobble content. Gravel is very angular to subangular fine to coarse brick and asphalt. Cobbles are of brick and masonry.		0.30	7.98	D1 ES1	0.25 0.25	PID 3.5ppm	
		0.40	7.88	D2 D2 ES2 B1 D3 ES3 B1	0.25 0.35 0.35 0.50-1.00 0.50 0.50 0.60-0.80	PID 4.8ppm PID 1.2ppm	
MADE GROUND. Firm brown mottled orangish brown sandy gravelly CLAY with a medium cobble content. Gravel is angular to subangular fine to coarse brick, concrete and occasional flint. Cobbles are of brick.				D4 ES4 S	1.00 1.00 1.10	PID 2.9ppm N=15 (1,1,3,3,4,5)	
Soft to firm orangish brown mottled grey slightly gravelly slightly sandy silty CLAY. Gravel is very angular to subangular fine and medium flint.		1.20 1.30	7.08 6.98	B2 D5 ES5	1.20-1.70 1.25 1.25	PID 2.7ppm	
Soft to firm orangish brown gravelly sandy CLAY. Gravel is very angular to subangular fine and medium flint.		1.60	6.68	D5	1.50		
Medium dense yellowish brown and orangish brown slightly clayey very gravelly fine to coarse SAND. Gravel is very angular to subangular fine and medium occasionally coarse flint.		2.00	6.28	D6 D6 ES6 S	1.80 2.00 2.00 2.10	N=18 (1,2,2,3,3,10)	
Yellowish brown and orangish brown slightly clayey very gravelly fine to coarse SAND. Gravel is very angular to subangular fine to coarse flint.				D7 ES7	2.50 2.50		
Medium dense yellowish brown, orangish brown and grey slightly clayey silty very gravelly fine to coarse SAND. Gravel is very angular to rounded fine to coarse flint.		2.60	5.68				2.60
Window Sample Complete at 2.60 m							

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	0.40	1.10	50
77	1.10	2.10	85
67	2.10	2.60	35

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 06/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: R. Caplin
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Window sample terminated at 2.60m due to the density of the strata.
4. Backfill details: Arisings from 2.60mbgl to GL.
5. SPT HAMMER I D HGE01.

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Window Sample Record

MCWS01
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 455926.2E 101388.6N

Ground Level: 8.24mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. ASPHALT.		0.06	8.18				
MADE GROUND. CONCRETE.		0.25	7.99				
MADE GROUND. Brownish red GRAVEL with a low cobble content. Gravel is very angular to subangular fine to coarse brick. Cobbles are of brick.		0.30	7.94	B1 ES1 D1	0.40-1.00 0.40 0.50	PID- <0.1 ppm	
MADE GROUND. Orangish brown sandy very gravelly silty CLAY. Gravel is subangular to subrounded fine and medium concrete, brick, asphalt and charcoal.		0.50	7.74				
Soft to firm orangish brown sandy occasionally gravelly silty CLAY. Gravel is subangular to rounded fine and medium flint.				D2 ES2 B2	1.00 1.00 1.20-1.60	PID- <0.1 ppm	
Firm to stiff orangish brown sandy very gravelly silty CLAY. Gravel is subangular to rounded fine to coarse flint.		1.60	6.64	D3 ES3	1.50 1.50	PID- <0.1 ppm	
Yellowish grey gravelly to very gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse flint.		1.75	6.49				
Window Sample Complete at 1.85 m		1.85	6.39	D4 ES4	1.80 1.80	PID 2.6ppm	1.85

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	0.40	1.10	40
77	1.10	1.85	90

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 06/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: G. Pursey
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Window sample terminated at 1.85m due to an unidentified obstruction.
4. Backfill details: Arisings from 1.85mbgl to GL.
5. SPT HAMMER I D HGE01.

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Window Sample Record

MCWS02
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 455957.2E 101446.3N

Ground Level: 8.04mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
Grass over dark brown lightly gravelly sandy TOPSOIL. Gravel is angular to subrounded fine to coarse flint.				D1 ES1	0.15 0.15	PID- <0.1 ppm	
		0.40	7.64				
Soft to firm orangish brown slightly gravelly slightly sandy silty CLAY. Gravel is angular to subangular fine to coarse flint.				D2 ES2	0.50 0.50	PID 3.2ppm	
				D3	1.00		
		1.50	6.54				
Yellowish brown slightly clayey gravelly fine and medium SAND. Gravel is angular to subangular fine to coarse flint.				ES3	1.60	PID 3.6ppm	
				D4	2.00		2.00
		2.10	5.94				
Window Sample Complete at 2.10 m							

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	1.00	2.10	100

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 06/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: G. Pursey
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Window sample terminated at 2.10m due to the density of strata.
4. Backfill details: Arisings from 2.10mbgl to GL.

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Window Sample Record

NGWS01
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 455881.1E 101522.3N

Ground Level: 7.87mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. Grass over dark brown slightly sandy slightly gravelly SILT. Gravel is angular to subangular fine to coarse flint and brick.		0.20	7.67	ES1 D5	0.15 0.15	PID-<0.1ppm	
Soft to firm orangish brown mottled brown slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint. Rare black organic staining.				B1 D1 ES2	0.50 0.50 0.50	PID-<0.1ppm	
				S D2	1.00 1.00	N=5 (1,1,1,1,1,2)	
				D3 ES3	1.50 1.50	PID-<0.1ppm	
Soft to firm brown mottled grey slightly gravelly CLAY. Gravel is angular to subangular fine to coarse flint.		1.60 1.70	6.27 6.17				
Yellowish grey and yellowish brown slightly silty sandy GRAVEL. Gravel is angular to subangular fine to coarse flint. From 1.80 to 1.90m: Gravel is absent.		2.00	5.87	C D4 ES4	2.00 2.00 2.00	PID-<0.1ppm N=96 (11,20,23,26,24,23)	2.00
Window Sample Complete at 2.00 m							

Water Level Observations

Drive Records				Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	From (m)	To (m)	Recovery (%)						
87	1.00	2.00	100						

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 04/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: G. Pursey
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Window sample terminated at 2.00m due to an unidentified obstruction.
4. Backfill details: Arisings from 2.00mbgl to GL.
5. SPT HAMMER I D HGE01.

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Window Sample Record

NGWS02
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 456028.6E 101518.0N

Ground Level: 7.89mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. Grass over dark brown slightly sandy slightly gravelly SILT. Gravel is angular to subangular fine to coarse flint and brick.				D1 ES1	0.15 0.15	PID-5.2ppm	
		0.40	7.49				
Soft to firm becoming firm grey slightly sandy very gravelly CLAY. Gravel is angular to subangular fine to coarse flint.				B1 D2 ES2	0.50 0.50 0.50	PID-5.0ppm	
				S D3 ES3	1.00 1.00 1.00	PID-3.8ppm N=27 (1,1,1,1,8,17)	
		1.30	6.59				
Firm slightly sandy very gravelly CLAY. Gravel is subangular to subrounded fine to coarse flint.							
		1.50	6.39	D4 ES4	1.50 1.50	PID-2.0ppm	1.50
Window Sample Complete at 1.50 m							

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	1.00	1.50	100

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 04/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: G. Pursey
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Window sample terminated at 1.50m due to an unidentified obstruction.
4. Backfill details: Arisings from 1.50mbgl to GL.
5. SPT HAMMER I D HGE01.

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Window Sample Record

WFWS01
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 455597.9E 101399.8N

Ground Level: 8.04mAOD

Description	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results
Grass over dark brown sandy TOPSOIL.			D1 ES1	0.15 0.15	PID-4.5ppm
MADE GROUND. Soft to firm brown slightly gravelly CLAY. Gravel is angular to subangular fine and medium flint and rare brick.	0.30	7.74	B1 D2 ES2	0.50 0.50 0.50	PID-4.5ppm
Soft to firm orangish brown slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint.	0.70	7.34	D3	1.00	
Firm grey mottled brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint. From 2.10m to 2.30m: Gravel becomes fine to coarse.	1.60	6.44	ES3 D4	1.60 1.60	PID-3.0ppm
Orangish brown mottled grey gravelly fine to coarse SAND. Gravel is very angular to subangular fine and medium flint.	2.30	5.74	D5	2.50	
Orangish brown slightly gravelly fine to coarse SAND. Gravel is angular to subangular fine and medium flint.	2.60 2.70	5.44 5.34	ES4	2.70	PID-3.2ppm
Thickly laminated greenish grey mottled orangish brown slightly silty fine to coarse SAND.			D6	3.00	
Orangish brown sandy GRAVEL. Gravel is angular to subangular fine to coarse flint.	3.30	4.74			
Grey slightly gravelly fine to coarse SAND. Gravel is very angular to subangular fine and medium flint. From 4.00m to 5.00m: Becomes gravelly.	3.60	4.44	ES5 D7	4.00 4.00	PID-5.0ppm

Window Sample Complete at 5.00 m

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87 77 67 57	1.10 2.00 3.00 3.50	2.10 3.10 4.10 5.10	100 90 100 70

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
04/02/14	3.20	-	-	-	

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 04/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: G. Pursey
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 3.20mbgl.
3. Window sample borehole terminated at 5.00m due to the borehole collapsing back from 5.00m to 3.40m.
4. Backfill details: Arisings from 5.00mbgl to GL.

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Window Sample Record

WFWS02
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 455617.2E 101495.4N

Ground Level: 7.89mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. Grass over dark brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint, brick and clinker.				D1 ES1	0.15 0.15	PID-4.2ppm	
		0.30	7.59				
Initially soft to firm becoming firm to stiff orangish brown mottled grey and brown slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint.				D2 ES2	0.50 0.50	PID-3.2ppm	
				S D3	1.00 1.00	N=16 (1,1,1,1,4,10)	
		1.50	6.39	ES3	1.50	PID-3.5ppm	
Brown slightly clayey gravelly fine to coarse SAND. Gravel is angular to subrounded fine and medium flint.		1.60	6.29	D4	1.60		
		1.80	6.09				
Grey and orangish brown slightly gravelly silty fine to coarse SAND. Gravel is angular to subangular fine to coarse flint.		1.90	5.99	S	1.90	N=104 (17,25,28,23,26,27)	1.90
Very dense grey gravelly fine to coarse SAND. Gravel is angular to subangular fine to coarse flint.							
Window Sample Complete at 1.90 m							

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	1.00	1.90	100

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 05/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: G. Pursey
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Window sample terminated at 1.90m due to the density of the ground.
4. Backfill details: Arisings from 1.90mbgl to GL.
5. SPT HAMMER I D HGE01.

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Window Sample Record

WFWS03
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 455717.2E 101363.9N

Ground Level: 7.97mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. Grass over dark brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse flint with rare brick and charcoal.				D1 ES1	0.15 0.15	PID-4.5ppm	
		0.40	7.57				
Soft to firm orangish brown mottled grey and brown slightly gravelly CLAY. Gravel is angular to subangular fine and medium flint. Rare black specks. From 0.40m to 0.70m: Rare rootlets.				D2 ES2	0.50 0.50	PID-5.0ppm	
				D3	1.00		
From 1.30m to 1.50m: Becomes mottled grey.							
		1.50	6.47	ES3	1.50	PID-4.5ppm	
Firm to stiff grey mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine and medium flint. Rare black specks.				D4	1.60		
		1.90	6.07				
Yellowish grey gravelly fine to coarse SAND. Gravel is angular to subangular fine to coarse flint.		2.10	5.87				2.10
Window Sample Complete at 2.10 m							

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	1.10	2.10	90

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 05/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: G. Pursey
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Window sample terminated at 2.10m due to density of strata.
4. Backfill details: Arisings from 2.10mbgl to GL.

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Window Sample Record

WFWS04
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. Grass over dark brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint and brick.				D1 ES1	0.15 0.15	PID-4.1ppm	
		0.30					
Soft to firm orangish brown mottled brown slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint.				D2 ES2	0.50 0.50	PID-1.6ppm	
				D3	1.00		
		1.40					
Soft to firm orangish brown mottled brown slightly gravelly sandy CLAY. Gravel is angular to subangular fine flint.		1.50					
		1.70		ES3	1.70	PID-2.5ppm	
Yellowish grey gravelly fine to coarse SAND. Gravel is angular to subangular fine and medium flint.		1.90		D4	1.90		1.90
Brown and grey slightly clayey slightly sandy GRAVEL. Gravel is angular to subrounded fine to coarse flint.							
Window Sample Complete at 1.90 m							

Water Level Observations

Drive Records				Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	From (m)	To (m)	Recovery (%)						
77	1.10	1.90	100						

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 05/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: G. Pursey
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Window sample terminated at 1.90m due to the density of the ground.
4. Backfill details: Arisings from 1.90mbgl to GL.

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Window Sample Record

WFWS06
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 455731.2E 101214.5N

Ground Level: 8.68mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. Brown slightly sandy slightly gravelly silty TCLAY. Gravel is angular to subangular fine and medium flint occasional brick, tile and coal. Occasional rootlets.		0.20	8.48	D1 ES1	0.15 0.15	PID- <0.1 ppm	
MADE GROUND. Orangish brown mottled brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine and medium flint with rare brick. Occasional black organic staining.		0.80	7.88	B1 D2 ES2	0.50 0.50 0.50	PID- <0.1 ppm	
Orangish brown slightly gravelly sandy CLAY. Gravel is angular to subangular fine and medium flint.				D3 ES3	1.00 1.00	PID- <0.1 ppm	
Orangish brown slightly gravelly to gravelly silty CLAY. Gravel is angular to subangular fine and medium occasional coarse flint.		1.50	7.18	D4 ES4	1.50 1.50	PID- <0.1 ppm	
Window Sample Complete at 1.85 m		1.85	6.83	D4 ES5	1.80 1.80	PID- <0.1 ppm	▽ 1.85

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	1.00	2.00	100

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
11/02/14	1.85	-	-	-	

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 11/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: G. Pursey
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 1.85mbgl.
3. Window sample terminated at 1.85m due to the density of strara.
4. Backfill details: Arisings from 1.85mbgl to GL.

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Window Sample Record

WFWS10
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 455793.6E 101328.3N

Ground Level: 8.45mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. Grass over dark brown slightly sandy gravelly CLAY. Gravel is angular to subangular fine to coarse flint, concrete and brick.				D1 ES1	0.15 0.15	PID-3.5ppm	
		0.40	8.05				
Soft to firm dark brown mottled brown slightly gravelly silty CLAY. Gravel is angular to subrounded fine to coarse flint.				B1 D2 ES2	0.50 0.50 0.50	PID-2.5ppm	
		0.70	7.75				
Soft to firm orangish brown mottled brown slightly gravelly silty CLAY. Gravel is angular to subangular fine to coarse flint.				D3 ES3	1.00 1.00	PID-2.0ppm	
		1.70	6.75	D4 ES4 D5	1.70 1.70 1.80	PID-3.0ppm	
Firm brown and grey mottled yellowish grey slightly gravelly silty CLAY. Gravel is angular to subangular fine to coarse flint.							
		2.00	6.45				
Orangish brown and grey gravelly fine to coarse SAND. Gravel is angular to subangular fine to coarse flint.							
		2.80	5.65	ES5 D6	2.80 2.80	PID-5.5ppm	2.80
Window Sample Complete at 2.80 m							

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87 77	1.00 2.10	2.10 2.80	100 100

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 05/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: G. Pursey
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Window sample terminated at 2.80m due to the density of the ground.
4. Backfill details: Arisings from 2.80mbgl to GL.

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Window Sample Record

WFWS12
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 455820.7E 101175.3N

Ground Level: 8.26mAOD

Description	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results
MADE GROUND. ASPHALT	0.10	8.16	D1	0.15	
MADE GROUND. Yellowish grey gravelly SAND. Gravel is subangular to subrounded fine to coarse flint.	0.30	7.96	ES1	0.15	PID- <0.1 ppm
Soft to firm dark grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine to coarse flint.	0.70	7.56	B1 D2 ES2	0.50 0.50 0.50	PID- <0.1 ppm
Soft brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine to coarse flint.	1.30	6.96	D3 ES3	1.00 1.00	PID- <0.1 ppm
Soft to firm orangish brown mottled grey slightly gravelly silty CLAY. Gravel is very angular to subangular fine and medium flint.	1.70	6.56	D4	1.70	
Firm to stiff orangish brown mottled grey slightly gravelly silty CLAY. Gravel is very angular to subangular fine and medium flint.	2.00	6.26			
Firm to stiff orangish brown mottled grey slightly gravelly silty CLAY. Gravel is very angular to subangular fine to coarse flint.	2.20	6.06			
Yellowish grey slightly clayey gravelly fine to coarse SAND. Gravel is angular to subangular fine to coarse flint.			ES4	2.50	PID- <0.1 ppm
Window Sample Complete at 3.00 m	3.00	5.26	D5	3.00	

Installations: 3.00

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	1.00	2.10	100
77	2.10	3.00	70

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
10/02/14	2.00	-	-	-	

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 10/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: G. Pursey
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 2.00mbgl.
3. Window sample terminated at 3.00m due to the borehole collapsing back from 3.00m to 2.30m.
4. Backfill details: Arisings from 3.00mbgl to GL.

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Window Sample Record

WFWS13
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 455845.9E 101322.7N

Ground Level: 8.35mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. Grass over dark brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse flint and brick. Rare cobble of clinker.				D1 ES1	0.15 0.15	PID-3.7ppm	
		0.30	8.05				
Soft to firm dark brown mottled brown slightly gravelly CLAY. Gravel is angular to subangular fine to coarse flint.				D2 ES2	0.50 0.50	PID-2.0ppm	
		0.90	7.45				
Soft to firm orangish brown slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint.				D3 ES3	1.00 1.00	PID-2.5ppm	
		2.05	6.30	D4 ES4 D5	2.00 2.00 2.10	PID-3.0ppm	
Greenish grey and yellowish grey slightly silty fine to coarse SAND.							
		2.30	6.05				
Orangish brown and grey gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse flint.				ES5	2.50	PID-3.0ppm	
				D6	2.70		
		2.90	5.45				2.90
Window Sample Complete at 2.90 m							

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	1.00	2.10	100
77	2.10	2.90	90

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 05/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: G. Pursey
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Window sample terminated at 2.90m due to the density of the ground.
4. Backfill details: Arisings from 2.90mbgl to GL.

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Window Sample Record

WFWS16
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates:

Ground Level:

Description	Depth (m)	Type	Depth (m)	Remarks and Test Results	Installations
MADE GROUND. Brown slightly sandy slightly gravelly SILT. Gravel is angular to subangular fine and medium occasional coarse flint and occasional brick, tile, breeze block, clinker and charcoal.		D1	0.15		
		ES1	0.15	PID 3.8ppm	
		B1	0.20-0.40		
		ES2	0.25	PID 6.1ppm	
	0.45				
MADE GROUND. Orangish brown mottled grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint. Rare brick and tile.	0.55	B2	0.50-0.80		
		D2	0.50		
		ES3	0.50	PID 5.4ppm	
Soft to firm orangish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine and medium occasional coarse flint.		D3	1.00		
		ES4	1.00	PID 6.3ppm	
		B3	1.50-2.00		
		D4	1.50		
		ES5	1.50	PID 5.4ppm	
	1.80				
Soft to firm orangish brown mottled grey slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint. Occasional sand pockets.	2.00	D5	2.00		
		ES6	2.00	PID 3.8ppm	
	2.20				
Firm yellowish brown and orangish brown sandy gravelly CLAY. Gravel is angular to subangular fine flint.		ES7	2.30	PID 5.8ppm	
		D6	2.40		
		B4	2.50-2.90		▽
Light yellowish brown gravelly fine and medium SAND. Gravel is very angular to subrounded fine to coarse flint.					
	2.90	D7	2.90		2.90
Window Sample Complete at 2.90 m		ES8	2.90	PID 6.4ppm	

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	1.00	2.10	100
77	2.10	2.90	100

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
07/02/14	2.60	-	-	-	

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 11/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tattersall
Logged By: G. Pursey
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 2.60mbgl.
3. Window sample terminated at 2.90m due to borehole collapsed to 2.60m.
4. Backfill details: Arisings from 2.90mbgl to GL.

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Window Sample Record

WFWS20
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 455954.1E 101308.7N

Ground Level: 8.44mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. Dark brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse flint and brick with rare clay pipe and metal fragments.				D1 ES1 ES2 B1 D2	0.15 0.15 0.25 0.50 0.50	PID- <0.1 ppm PID 1.6ppm	
Soft to firm brown slightly gravelly sandy CLAY. Gravel is subangular to subrounded fine and medium flint.		1.00	7.44	D3	1.00		
Firm orangish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine and medium flint.		1.50	6.94	ES3 D4	1.50 1.50	PID- <0.1 ppm	
				ES4	2.00	PID- <0.1 ppm	
Yellow brown and grey slightly clayey sandy GRAVEL. Gravel is very angular to subangular fine to coarse flint. Pockets of silty sand.		2.10	6.34				
		2.55	5.89	D5 ES5	2.50 2.50	PID- <0.1 ppm	2.55
Window Sample Complete at 2.55 m							

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	1.00	2.10	80
77	2.10	2.55	100

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 06/01/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tatersall
Logged By: R. Caplin
Checked By: G. Pursey

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Window sample terminated at 2.55m due to an unidentified obstruction.
4. Backfill details: Arisings from 2.55mbgl to GL.

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Window Sample Record

WFWS21
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 455989.9E 101032.3N

Ground Level: 8.37mAOD

Description	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results
MADE GROUND. ASPHALT.	0.05	8.32			
MADE GROUND. Brownish red GRAVEL. Gravel is very angular to subangular fine to coarse brick, mortar.	0.20	8.17			
Very soft brown mottled grey slightly gravelly CLAY. Gravel is subangular to subrounded fine and medium flint.			D1 ES1	0.50 0.50	PID- <0.1 ppm
Firm brown mottled grey occasionally slightly gravelly CLAY. Gravel is angular to subrounded fine and medium flint.	1.00	7.37	ES2 D2	1.00 1.20	PID- <0.1 ppm
Orangish brown and yellow brown slightly gravelly fine and coarse silty SAND. Gravel is very angular to subangular fine to coarse flint.	1.80	6.57	ES3 D3	1.90 2.00	PID- <0.1 ppm
Yellow brown slightly clayey slightly gravelly to gravelly fine and coarse silty SAND. Gravel is very angular to subangular fine to coarse flint.	2.10	6.27	D4 ES4	2.50 2.50	PID- <0.1 ppm
			ES5	3.50	PID- <0.1 ppm
			D5	4.00	
Window Sample Complete at 4.10 m	4.10	4.27			

Installations: 0.20, 1.00, 3.00, 4.10

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	1.00	1.70	100
77	1.70	2.70	100
67	2.70	4.10	80

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
10/02/14	0.50	-	-	-	

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 10/02/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tatersall
Logged By: R. Caplin
Checked By: G. Pursey

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered 0.5mbgl.
3. Window sample terminated at 4.10m due to the borehole collapsing back from 4.10m to 3.00m.
4. Installation details: 50mm diameter HDPE standpipe installed from 3.00mbgl to GL. Slotted from 3.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover.
5. Backfill details: Arisings pellets from 4.10mbgl to 3.00mbgl, gravel filter packs from 3.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.

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Window Sample Record

WFWS22
Sheet 1 of 1

Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Coordinates: 456060.2E 101146.9N

Ground Level: 8.33mAOD

Description	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results
MADE GROUND. Dark grey sandy GRAVEL. Gravel is very angular to subangular fine to coarse asphalt.	0.23	8.10	B1	0.20-0.25	
			ES1	0.20	PID 7.8ppm
MADE GROUND. Dark brown mottled red silty sandy GRAVEL with a low cobble content. Gravel is very angular to angular fine to coarse brick, concrete, asphalt, road chippings, tile and flint. Occasional pockets of clay.	0.32	8.01	D1	0.25	
	0.45	7.88	ES2	0.25	PID 2.5ppm
			D2	0.40	
			ES3	0.40	PID- <0.1 ppm
			B2	0.50-0.70	
			D3	0.50	
			ES4	0.50	PID- <0.1 ppm
MADE GROUND. Dark grey mottled orangish brown gravelly SILT. Gravel is angular to subrounded fine to coarse flint and occasional brick and tile fragments. Occasional black organic staining.	1.00	7.33	D4	1.00	
			ES5	1.00	PID- <0.1 ppm
MADE GROUND. Orangish brown and orangish grey sandy gravelly silty CLAY. Gravel is angular to subangular fine and medium flint and coal.			D5	1.30	
			ES6	1.50	PID- <0.1 ppm
Orangish brown and orangish grey occaisonally sandy gravelly CLAY. Gravel is angular to subangular fine and medium flint.	1.80	6.53			
Orangish brown mottled yellowish brown slightly clayey slightly gravelly medium and coarse SAND. Gravel is angular to subrounded fine to coarse flint. Occasional small pockets of firm orange brown clay.			B3	2.00-2.50	
			D6	2.00	
			ES7	2.20	PID- <0.1 ppm
Orangish brown mottled slightly clayey gravelly medium and coarse SAND. Gravel is angular to subrounded fine to coarse flint. Occaional thin bands of dark yellow and orange clayey fine sand.	2.50	5.83	B4	2.50-2.80	
			D7	2.60	
	2.80	5.53	ES8	2.80	PID- <0.1 ppm
Window Sample Complete at 2.80 m					

Installations: 2.80

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
87	1.00	2.10	100
77	2.10	2.80	80

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
07/02/14	2.80	-	-	-	

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 07/01/2014
Plant: Premier Window Sampling Rig
Drilled By: K. Tatersall
Logged By: R. Caplin
Checked By: G. Pursey

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was encountered at 2.80mbgl.
3. Window sample terminated at 2.80m due to density of strara.
4. Backfill details: Arisings from 2.80mbgl to GL.

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Trial Pit Record

LEPTP01
Sheet 1 of 1

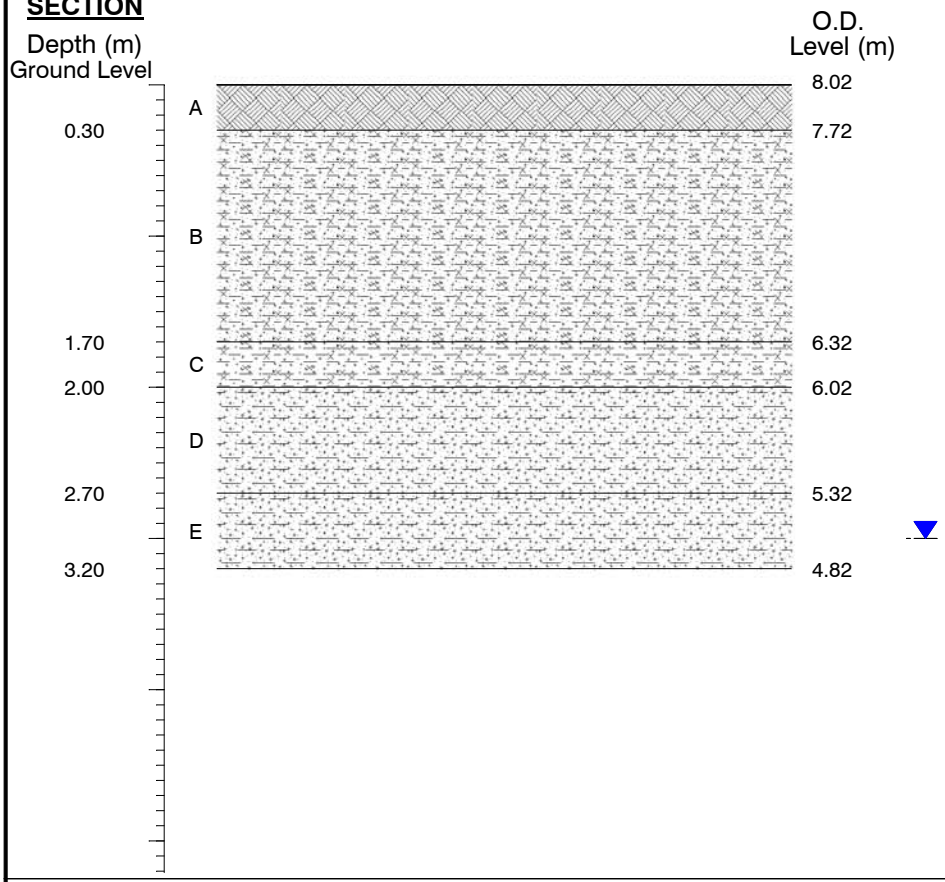
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.00m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 455919.2E
101486.2N
Ground Level: 8.02mAOD

SECTION



Sample / Test Type	Depth(m)	Remarks and Test Results
D1	0.15	PID-<0.1ppm
ES1	0.15	
B1	0.50	PID-<0.1ppm
HV1	0.50	48 kPa
D2	0.50	
ES2	0.50	
HV2	1.00	PID-<0.1ppm
D3	1.00	50 kPa
ES3	1.00	
HV3	1.50	61 kPa
D4	1.70	
B2	2.00-2.20	
ES4	2.20	PID-<0.1ppm
B3	3.00-3.20	
ES5	3.20	PID-<0.1ppm

LITHOLOGY

A Grass over brown slightly sandy silty TOPSOIL.

B Soft to firm orangish brown mottled orange and brown occasionally slightly sandy occasionally slightly gravelly silty CLAY. Gravel is angular to subangular fine flint. Occasional rootlets.

C Soft to firm orangish brown mottled orange and light grey slightly gravelly slightly sandy silty CLAY. Gravel is angular to subangular fine flint. Bands of orange sandy clay and occasional bands of grey gravelly sand and silt.

D Yellowish orange and yellowish grey medium and coarse SAND and GRAVEL. Gravel is angular to subrounded fine to coarse flint Occasional bands of orangish brown very sandy gravelly clay.

E Orangish brown locally yellowish grey slightly clayey sandy GRAVEL with a medium cobble content. Gravel is angular to subrounded fine to coarse flint. Cobbles are of subrounded flint.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 19/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
19/02/2014	3.00	5	3.00

Remarks:
1. Trial pit excavated from GL to 3.20mbgl.
2. Groundwater was encountered at 3.00mbgl.
3. Trial pit terminated at 3.20mbgl due to total instability.
4. Backfill details: Arisings 3.20mbgl to GL.

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Trial Pit Record

LEPTP02
Sheet 1 of 1

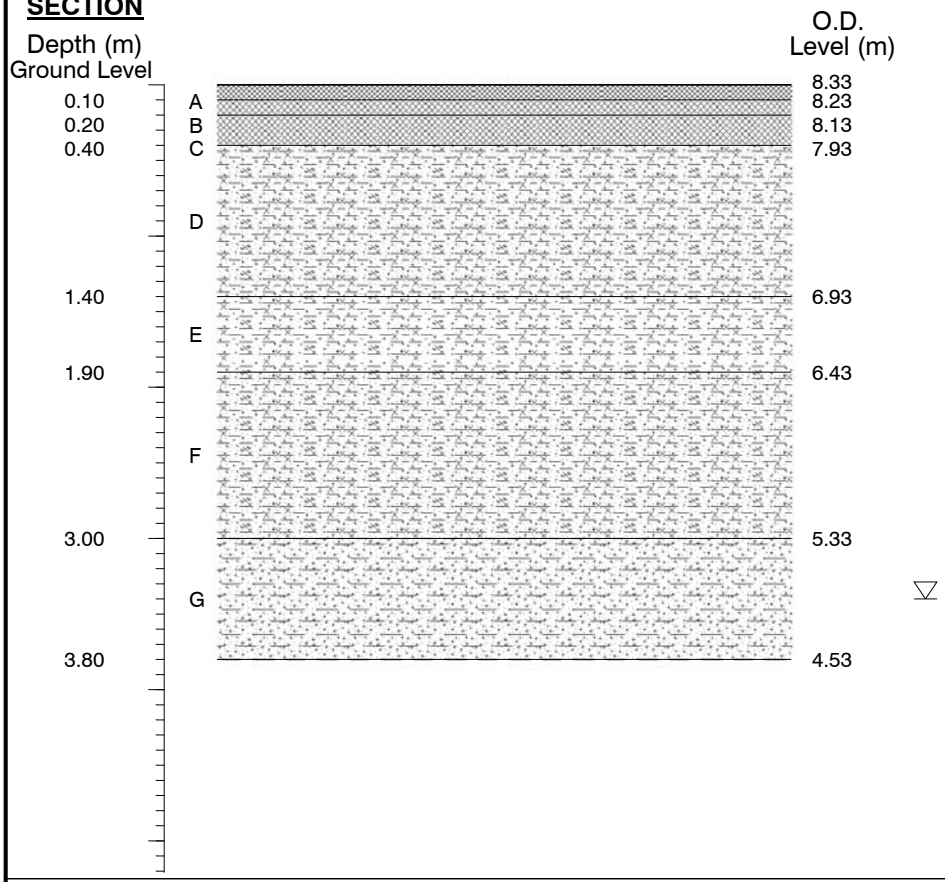
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 2.20m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 456038.1E
101276.6N
Ground Level: 8.33mAOD

SECTION



Sample / Test Type	Depth(m)	Remarks and Test Results
D1	0.15	PID- <0.1 ppm
ES1	0.15	PID- <0.1 ppm
D2	0.30	
ES2	0.30	60 kPa
B1	0.50	PID- <0.1 ppm
HV1	0.50	
D3	0.50	
ES3	0.50	
B2	1.00-1.30	50 kPa
HV2	1.00	PID- <0.1 ppm
D4	1.00	
ES4	1.20	
HV3	2.00	60 kPa
D5	2.00	PID- <0.1 ppm
ES5	2.00	
B3	2.50	65 kPa
HV4	2.50	
D6	3.00	
B4	3.50-3.80	PID- <0.1 ppm
ES6	3.50	
D7	3.50	
ES7	3.80	PID- <0.1 ppm

LITHOLOGY

A MADE GROUND. ASPHALT.

B MADE GROUND. Dark grey mottled orangish grey slightly sandy gravelly to very gravelly CLAY. Gravel is angular to subangular fine and medium occasionally coarse brick, asphalt and flint.

C MADE GROUND. Dark greenish grey slightly gravelly CLAY with a low cobble content. Gravel is angular to subrounded fine to coarse flint and occasional brick. Cobbles are of brick.

D Soft to firm orangish brown mottled brown occasionally slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint and occasional coal fragments.

E Soft to firm orangish brown mottled yellowish orange slightly gravelly silty CLAY. Gravel is angular to subangular fine flint. From 1.60m to 1.90m pockets of yellowish brown clayey sand.

F Soft to firm orangish brown mottled light grey occasionally slightly gravelly slightly sandy silty CLAY. Gravel is angular to subangular fine flint.

G Orangish brown mottled light grey clayey occasionally silty fine to coarse sandy GRAVEL. Gravel is angular to subrounded fine to coarse flint. Frequent bands of orangish brown sandy gravelly clay. Pockets of very gravelly sand.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 18/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
18/02/2014	3.40	-	-

Remarks:
1. Trial pit excavated from GL to 3.80mbgl.
2. Groundwater was encountered 3.40mbgl.
3. Trial pit terminated at 3.80mbgl due to total instability.
4. Backfill details: Arisings 3.80mbgl to GL.

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Trial Pit Record

LEPTP03
Sheet 1 of 1

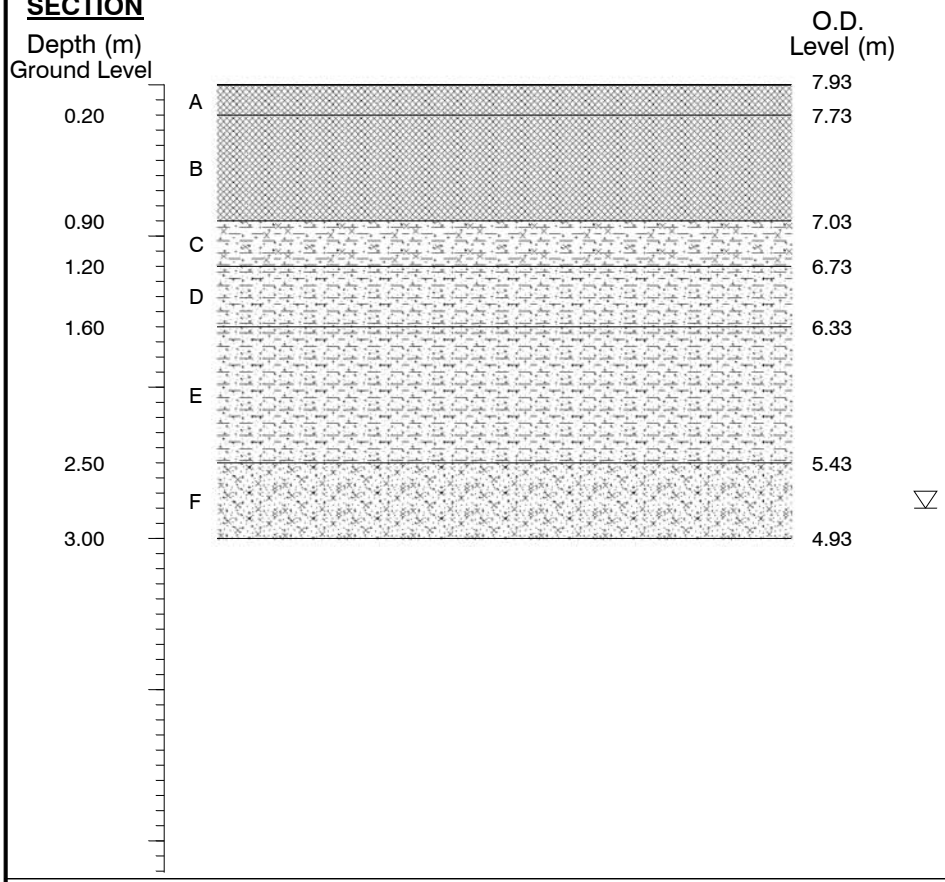
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.00m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 456055.4E
101509.1N
Ground Level: 7.93mAOD

SECTION



Sample / Test Type	Depth(m)	Remarks and Test Results
D1	0.15	PID-<0.1ppm
ES1	0.15	
D2	0.30	
B1	0.50-0.90	PID-<0.1ppm
HV1	0.50	40 kPa
ES2	0.50	
HV2	1.00	40 kPa
D3	1.00	
D4	1.10	
D5	1.60	
ES3	1.70	PID-<0.1ppm
B2	2.00-2.20	64 kPa
HV3	2.00	
D6	2.00	
B3	2.50-2.80	
ES4	3.00	PID-<0.1ppm
D7	3.00	

LITHOLOGY

A MADE GROUND Grass over brown slightly sandy SILT.

B MADE GROUND. Soft brown slightly sandy slightly gravelly silty CLAY. Gravel is very angular to subangular fine and medium flint, brick and clinker.

C Soft brown mottled yellowish brown slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.

D Soft brown occasionally mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine and medium flint.

E Firm yellowish brown occasionally mottled orangish brown and orange slightly sandy slightly gravelly to gravelly silty CLAY. Gravel is very angular to subangular fine and medium flint.

F Orangish brown and yellowish orange slightly silty fine to coarse gravelly SAND. Gravel is angular to subrounded fine to coarse flint. Occasional bands of bluish grey sandy silt.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 19/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
19/02/2014	2.80	-	-

Remarks:
1. Trial pit excavated from GL to 3.00mbgl.
2. Groundwater was encountered 2.80mbgl.
3. Trial pit terminated at 3.00mbgl due to total instability.
4. Backfill details: Arisings 3.00mbgl to GL.

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Trial Pit Record

LEPTP04
Sheet 1 of 1

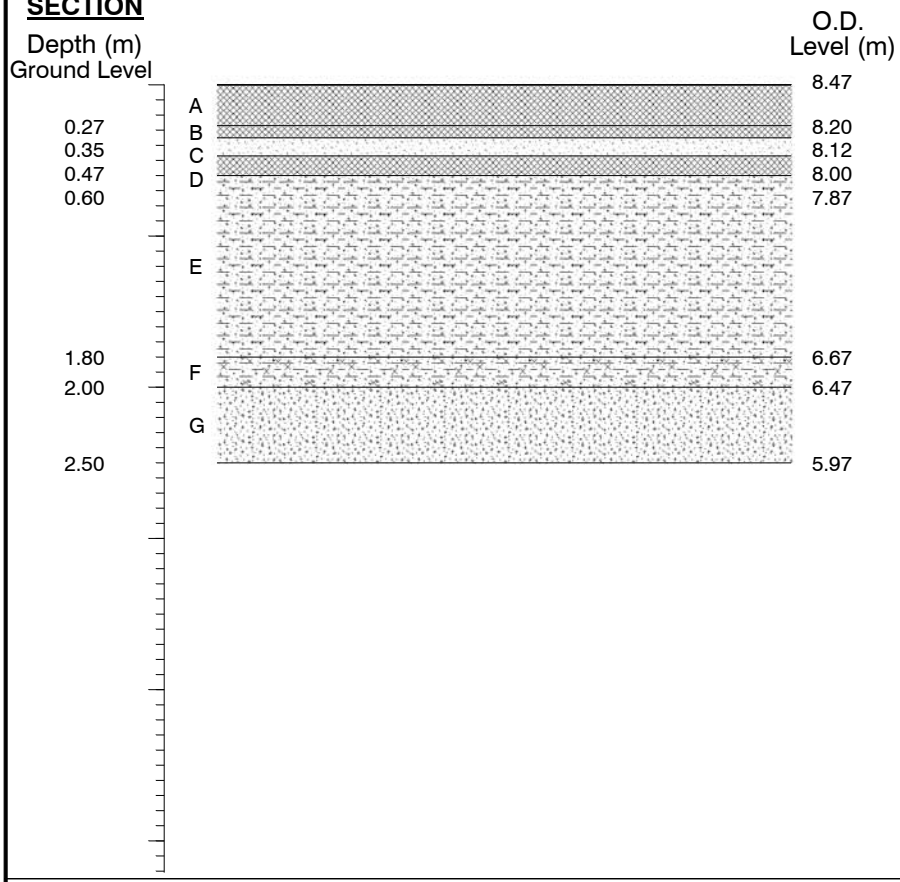
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 2.90m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 456196.6E
101322.6N
Ground Level: 8.47mAOD

SECTION



Sample / Test Type	Depth(m)	Remarks and Test Results
D1	0.15	PID-<0.1ppm
ES1	0.15	PID-<0.1ppm
D2	0.25	
ES2	0.25	PID-<0.1ppm
B1	0.50	35 kPa
HV1	0.50	
ES3	0.50	
D3	0.60	
HV2	1.00	PID-<0.1ppm
D4	1.00	35 kPa
ES4	1.00	
HV3	1.50	41 kPa
D5	1.60	
D6	1.90	
HV4	2.00	51 kPa
ES5	2.10	PID-<0.1ppm
D7	2.10	
B2	2.30-2.50	
B3	2.50	PID-<0.1ppm
ES6	2.50	

LITHOLOGY

A MADE GROUND. Grass over brown slightly sandy slightly gravelly SILT. Gravel is subangular to subrounded fine and medium flint and occasional brick. Frequent rootlets.

B MADE GROUND. Light yellowish grey mottled light grey gravelly fine and medium SAND with a high cobble content. Gravel is very angular to subangular fine to coarse flint and occasional brick. Cobbles are of brick. Occasional rootlets.

C MADE GROUND. CONCRETE.

D MADE GROUND. Soft brown slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint and occasional brick fragments. Occasional rootlets.

E Soft orangish brown mottled brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine flint. Occasional rootlets.

F Soft to firm orangish brown slightly sandy gravelly to very gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.

G Orangish brown locally yellowish grey clayey medium and coarse SAND and GRAVEL. Gravel is angular to subrounded fine to coarse flint. Pockets of orangish brown silty clay. Pockets of light greyish brown sandy clay.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 20/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks:
1. Trial pit excavated from GL to 2.50mbgl.
2. Groundwater was encountered at 2.50mbgl.
3. Trial pit terminated at 2.50mbgl for soakaway testing.
4. Backfill details: Arisings 2.50mbgl to GL.

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Trial Pit Record

LEPTP05

Sheet 1 of 1

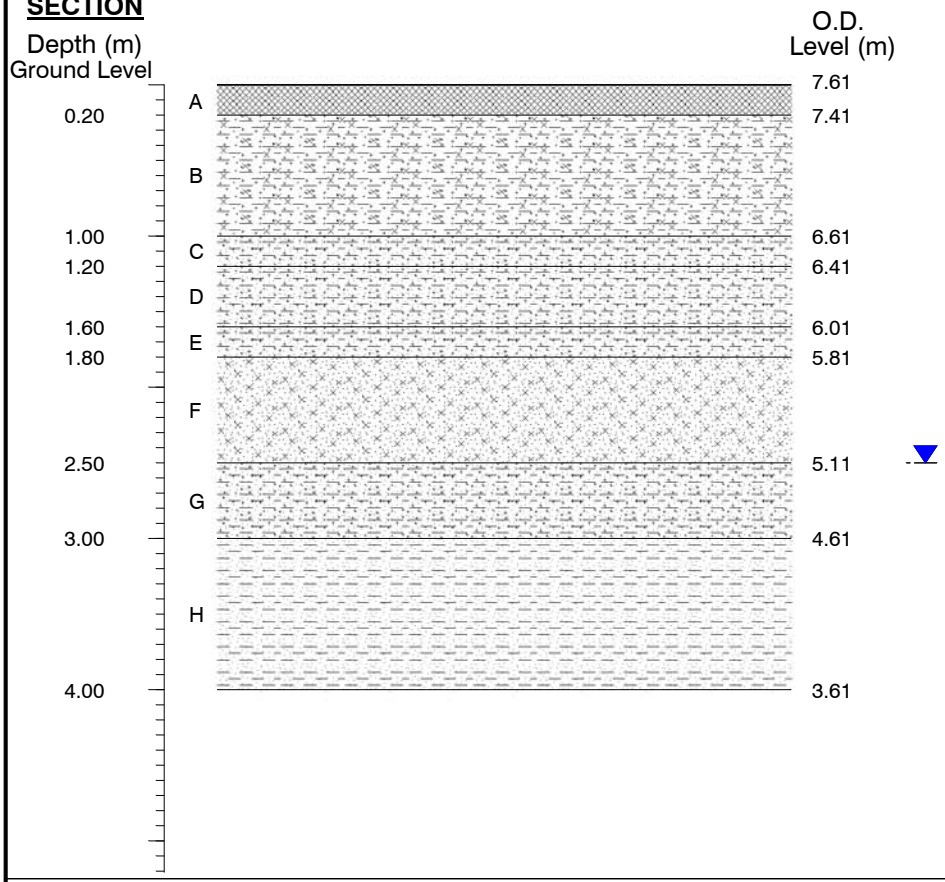
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.00m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 456300.1E
101539.5N
Ground Level: 7.61mAOD

SECTION



Sample / Test		Remarks and Test Results
Type	Depth(m)	
D1	0.10	PID-<0.1ppm
ES1	0.10	
B1	0.50	PID-<0.1ppm
HV1	0.50	5 kPa
D2	0.50	
ES2	0.50	
HV2	1.00	PID-<0.1ppm
D3	1.00	60 kPa
ES3	1.00	PID-<0.1ppm
B2	1.20	
ES4	1.20	
D4	1.30	
D5	1.70	
B3	2.00	PID-<0.1ppm
ES5	2.00	
D6	2.50	
ES6	2.80	PID-<0.1ppm
D7	2.80	
D8	3.00	
D9	3.50	
D10	4.00	
B4	4.00	

LITHOLOGY

A Grass over brown mottled orangish brown slightly gravelly silty CLAY. Gravel is angular to subrounded fine flint and brick. Frequent root and rootlets.

B Very soft to firm orangish brown locally light grey and brown occasionally slightly gravelly silty CLAY. Gravel is angular to subrounded fine occasionally medium flint.

C Soft to firm orangish brown mottled orange and grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine flint and coal.

D Firm light grey occasionally orangish brown slightly sandy gravelly to very gravelly silty CLAY. Gravel is subangular to rounded fine to coarse flint. Frequent bands of orange and orangish brown sandy clay.

E Firm dark orangish brown mottled light grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine flint. Frequent brownish red staining.

F Dark orangish brown gravelly to very gravelly medium and coarse SAND Gravel is angular to subrounded fine and medium occasionally coarse flint.

G Firm thinly laminated light greyish blue slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine flint. Frequent lenses of dark orangish brown silty clay in alternating fine bands with light blue grey silt and fine sand.

H Firm to stiff thinly laminated dark grey slightly sandy CLAY. Occasional partings of light grey silt and fine sand. Occasional root relics infilled with brown silt.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 21/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
21/02/2014	2.50	-	2.50

Remarks: 1. Trial pit excavated from GL to 4.00mbgl.
2. Groundwater was encountered 2.50mbgl.
3. Backfill details: Arisings 4.00mbgl to GL.

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Trial Pit Record

LEPTP06
Sheet 1 of 1

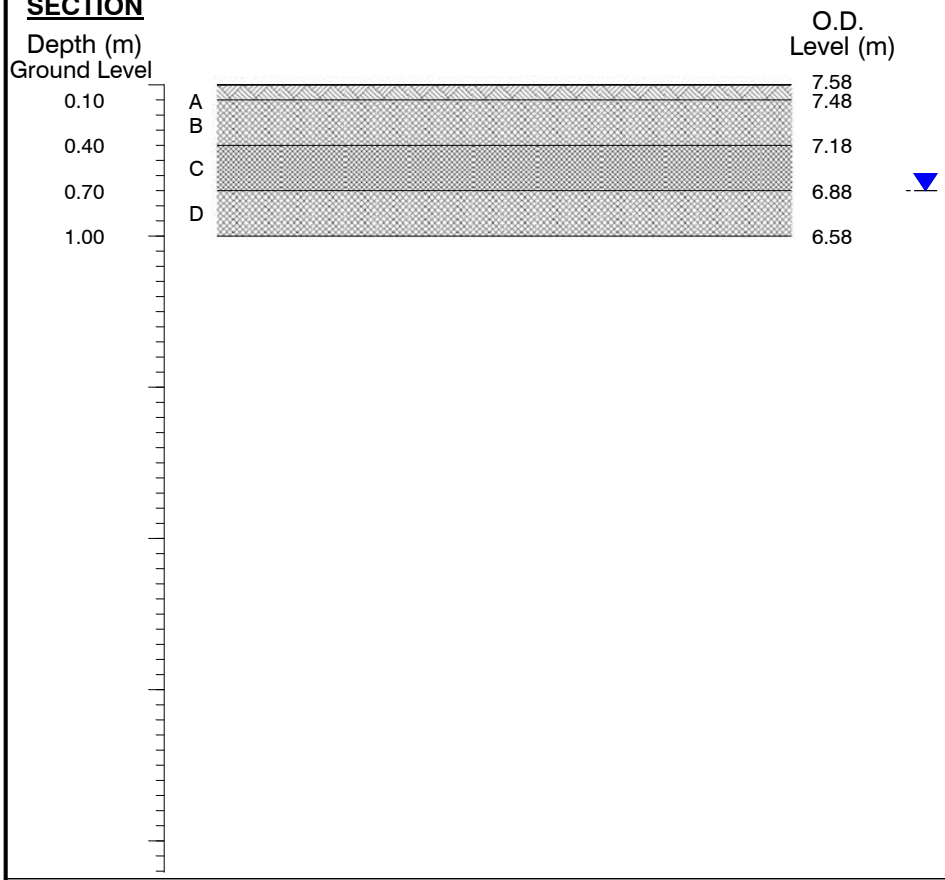
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.20m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 456459.6E
101546.0N
Ground Level: 7.58mAOD

SECTION



Sample / Test		Remarks and Test Results
Type	Depth(m)	
D1	0.10	PID-<0.1ppm
ES1	0.10	
D2	0.30	PID-<0.1ppm
ES2	0.30	
B1	0.70-1.00	
D3	1.00	PID-<0.1ppm
ES3	1.00	

LITHOLOGY

A MADE GROUND. Grass over brown slightly sandy silty clay TOPSOIL. Frequent root and rootlets.

B MADE GROUND. Soft to firm greyish brown and brown slightly sandy gravelly CLAY with a medium cobble content. Gravel is angular to subangular fine to coarse brick and flint. Cobbles are of brick.

C MADE GROUND. ASPHALT.

D MADE GROUND. Brown gravelly CLAY with a very high cobble content. Gravel is very angular to subangular medium and coarse brick with occasional asphalt and flint. Cobbles are of brick.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 21/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
20/02/2014	0.70	-	0.70

Remarks:
1. Trial pit excavated from GL to 1.00mbgl.
2. Groundwater was encountered 0.70mbgl.
3. Trial pit terminated at 0.70mbgl due to fast inflow of groundwater.
4. Backfill details: Arisings 0.70mbgl to GL.

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Trial Pit Record

MCTP01
Sheet 1 of 1

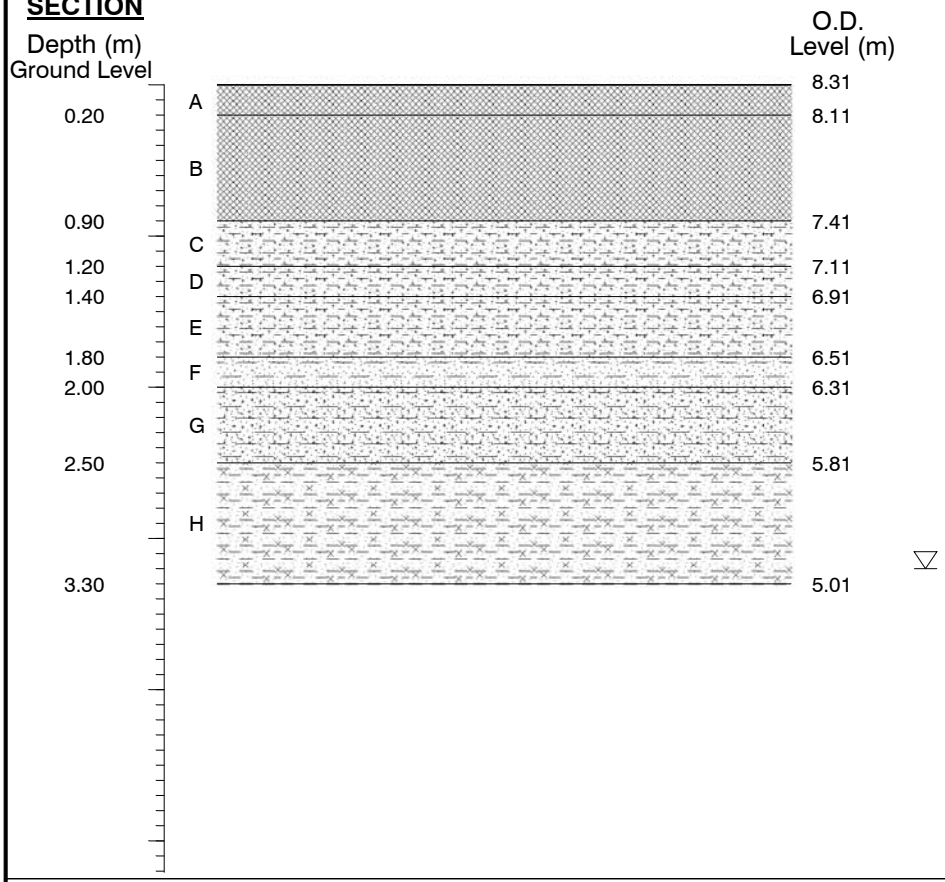
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.00m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 455990.3E
101320.6N
Ground Level: 8.31mAOD

SECTION



Sample / Test		Remarks and Test Results
Type	Depth(m)	
D1	0.15	PID- <0.1 ppm
ES1	0.15	
B1	0.50	50 kPa
HV1	0.50	PID- <0.1 ppm
D2	0.50	
ES2	0.50	
D3	1.00	PID- <0.1 ppm
ES3	1.00	
HV2	1.30	150 kPa
D4	1.30	
ES4	1.60	PID- <0.1 ppm
D5	1.60	
B2	1.80-2.00	
D6	1.80	
B3	2.00-2.10	
D7	2.50-3.30	
B4	2.80-3.00	
ES5	3.20	PID- <0.1 ppm

LITHOLOGY

A MADE GROUND. Grass over brown slightly sandy slightly gravelly SILT. Gravel is angular to subrounded fine and medium occasionally coarse flint. Occasional root and rootlets.

B MADE GROUND. Dark brown mottled brown slightly sandy slightly gravelly silty CLAY with a medium cobble content. Gravel is very angular to subrounded fine to coarse brick, concrete, clinker, charcoal and flint. Cobbles are of brick and concrete.

C Soft to firm orangish brown mottled brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine flint. Rare rootlets.

D Stiff orangish brown mottled orange sandy gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.

E Firm orangish brown mottled light grey slightly sandy occasionally slightly gravelly silty CLAY. Gravel is subangular to subrounded fine and medium flint.

F Orangish brown silty fine and medium SAND.

G Orangish brown locally yellowish orange and orange clayey fine to coarse gravelly SAND. Gravel is angular to subrounded fine to coarse flint. Frequent pockets of sandy gravelly clay.

H Firm orange locally light grey sandy silty CLAY.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 19/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
19/02/2014	3.20	-	-

Remarks: 1. Trial pit excavated from GL to 3.30mbgl.
2. Groundwater was encountered 3.20mbgl.
3. Trial pit terminated at 3.30mbgl due to instability.
4. Backfill details: Arisings 3.30mbgl to GL.

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Trial Pit Record

MCTP02

Sheet 1 of 1

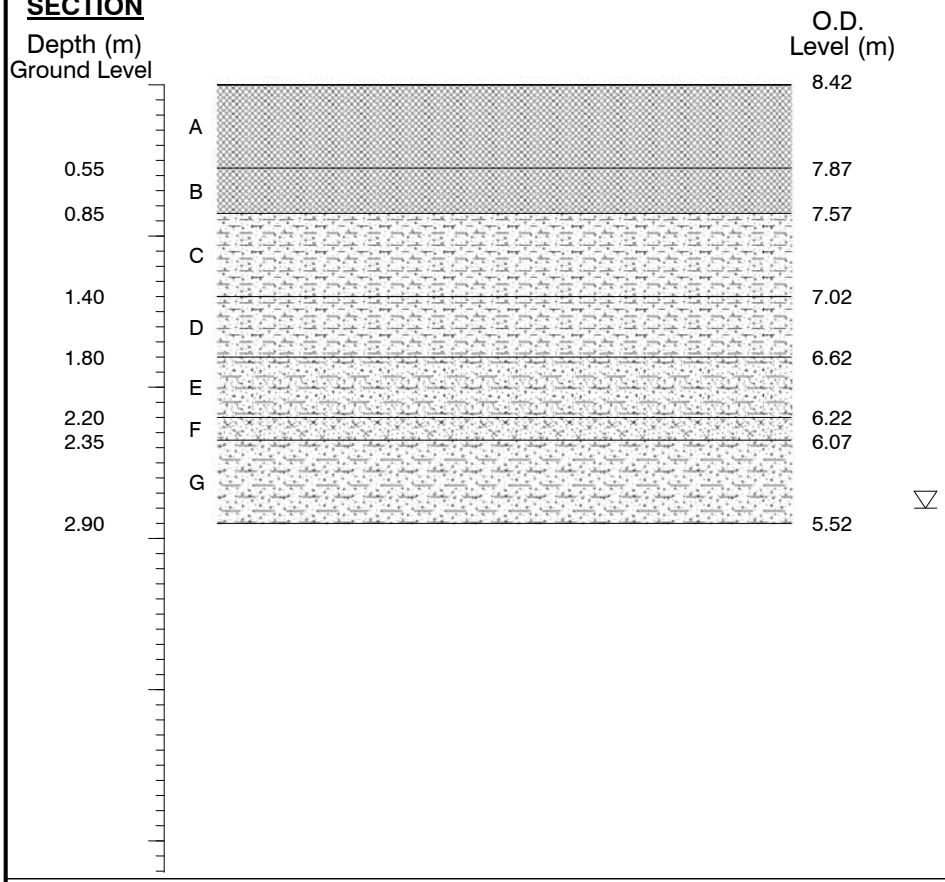
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 2.90m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 456033.5E
101377.1N
Ground Level: 8.42mAOD

SECTION



Sample / Test Type	Depth(m)	Remarks and Test Results
D1	0.15	PID-<0.1ppm
ES1	0.15	
B1	0.50	PID-<0.1ppm
HV1	0.50	40 kPa
D2	0.50	
ES2	0.50	
HV2	1.00	35 kPa
D3	1.00	
ES3	1.40	PID-<0.1ppm
D4	1.40	80 kPa
B2	1.50-1.70	
HV3	1.50	
D5	1.80	
B3	1.90-2.40	PID-<0.1ppm
ES4	2.00	
D6	2.20	
ES5	2.30	PID-<0.1ppm
B4	2.50-2.80	
ES6	2.90	PID-<0.1ppm
D7	2.90	

LITHOLOGY

A MADE GROUND. Grass over dark brown slightly sandy slightly gravelly SILT. Gravel is angular to subrounded fine and medium flint and clinker. Occasional root and rootlets.

B MADE GROUND. Soft to firm brown slightly gravelly silty CLAY. Gravel is very angular to subrounded fine and medium flint and occasional brick and wood fragments.

C Soft to firm orangish brown mottled grey occasionally slightly sandy slightly gravelly silty CLAY. Gravel is very angular to subangular fine and medium flint and coal. Occasional pockets of brown clay.

D Firm orangish brown mottled brownish grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint. Occasional bands of greyish brown clay.

E Orangish brown clayey gravelly to very gravelly fine to coarse SAND. Gravel is very angular to subangular fine flint. Cobbles are of flint Occasional bands of greyish brown clay.

F Yellowish brown gravelly silty fine to coarse SAND. Gravel is very angular to subrounded fine and medium flint Occasional bands of clayey sand. From 2.30m to 2.35m very soft light grey silty clay.

G Orangish brown and orange slightly clayey fine to coarse very sandy GRAVEL with a low cobble content. Gravel is angular to subrounded fine to coarse flint. Cobbles are of flint. .

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 19/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
19/02/2014	2.80	-	-

Remarks:
1. Trial pit excavated from GL to 2.90mbgl.
2. Groundwater was encountered 2.80mbgl.
3. Trial pit terminated at 2.90mbgl due to instability.
4. Backfill details: Arisings 2.90mbgl to GL.

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Trial Pit Record

NGTP01
Sheet 1 of 1

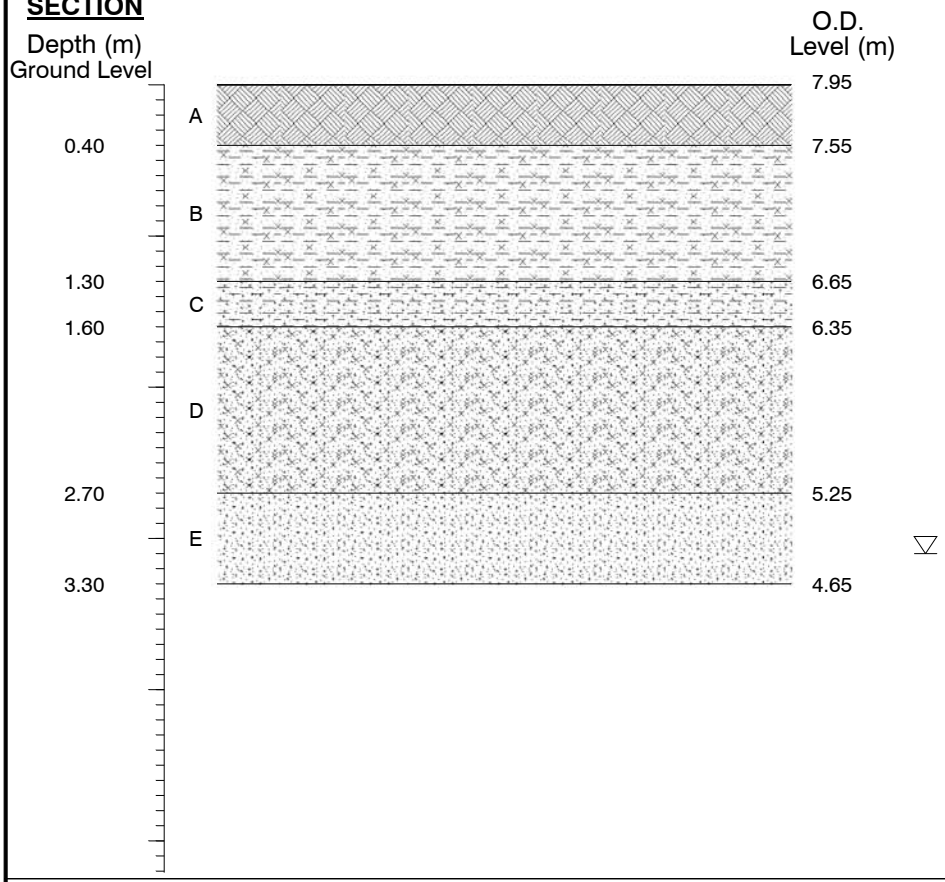
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.30m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 455812.7E
101528.8N
Ground Level: 7.95mAOD

SECTION



Sample / Test Type	Depth(m)	Remarks and Test Results
D1	0.15	PID- <0.1 ppm
ES1	0.15	
B1	0.50	55 kPa
HV1	0.50	PID- <0.1 ppm
D2	0.50	PID- <0.1 ppm
ES2	0.50	
ES3	0.70	
HV2	1.00	70 kPa
D3	1.00	
D4	1.50	
B2	1.90-2.00	
ES4	2.00	PID- <0.1 ppm
D5	2.00	
B3	3.00-3.20	
D6	3.00	
ES5	3.20	PID- <0.1 ppm

LITHOLOGY

A Grass over brown slightly sandy slightly gravelly silty TOPSOIL. Gravel is angular to subangular fine and medium flint.

B Soft to firm brown mottled grey occasionally slightly gravelly slightly sandy silty CLAY. Rare coal fragments. Gravel is angular to subangular fine and medium flint.

C Firm light grey mottled orange slightly gravelly to gravelly sandy CLAY. Gravel is angular to subrounded fine to coarse flint.

D Yellowish orange slightly silty gravelly to very gravelly fine to coarse SAND with a low cobble content. Gravel is angular to subrounded fine to coarse flint. Pockets of very sandy gravel. Cobbles are of flint.

E Orangish brown slightly gravelly fine to coarse SAND with a low cobble content. Gravel is angular to subrounded fine to coarse flint. Cobbles are of flint.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 18/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
18/02/2014	3.10	-	-

Remarks:
1. Trial pit excavated from GL to 3.30mbgl.
2. Groundwater was encountered 3.10mbgl.
3. Trial pit terminated at 3.30mbgl due to total instability.
4. Backfill details: Arisings 3.30mbgl to GL.

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Trial Pit Record

NGTP02
Sheet 1 of 1

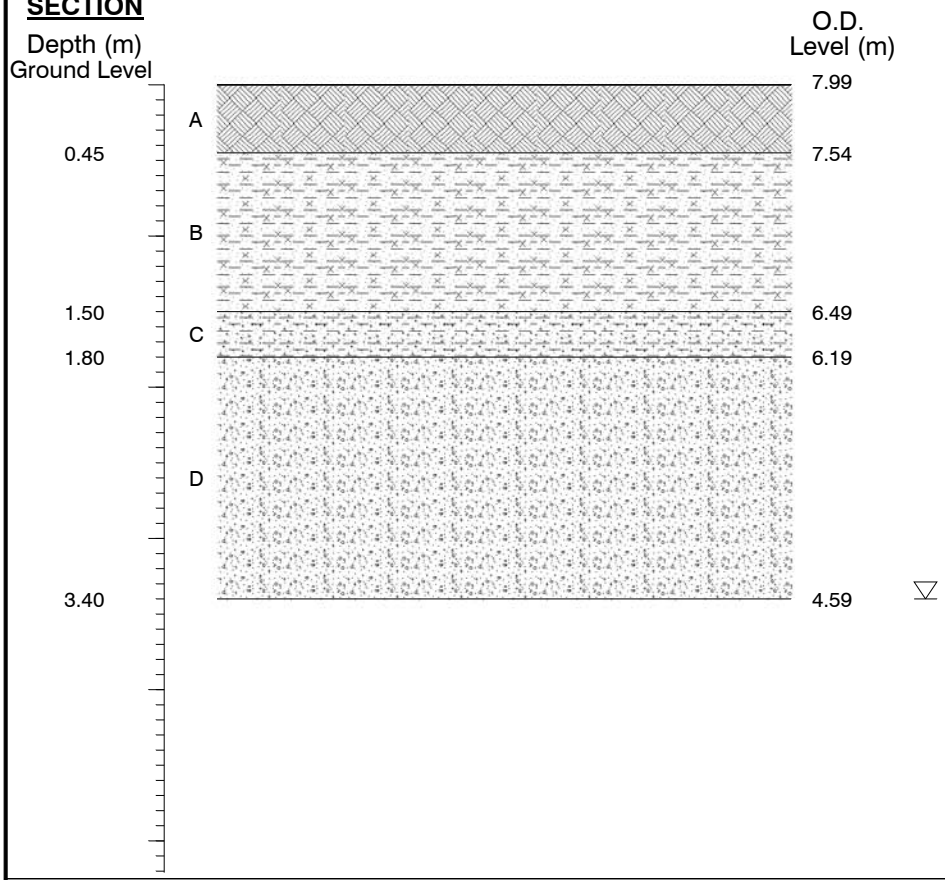
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.50m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 455839.1E
101496.9N
Ground Level: 7.99mAOD

SECTION



Sample / Test Type	Depth(m)	Remarks and Test Results
D1	0.15	PID- <0.1 ppm
ES1	0.15	
B1	0.50	50 kPa
HV1	0.50	PID- <0.1 ppm
D2	0.50	
ES2	0.50	
HV2	1.00	50 kPa
D3	1.00	
B2	1.50-1.60	45 kPa
HV3	1.50	
D4	1.50	
ES3	1.80	PID- <0.1 ppm
D5	1.80	
D6	2.00	
B3	2.10-2.30	
D7	3.00	
ES4	3.30	PID- <0.1 ppm
D8	3.30	

LITHOLOGY

A Grass over brown slightly sandy slightly gravelly silty TOPSOIL. Gravel is angular to subrounded fine and medium flint. Occasional rootlets.

B Soft to firm orangish brown mottled brown and grey slightly sandy silty CLAY. Rare coal fragments

C Soft to firm light grey mottled orange slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.

D Yellowish brown and occasionally yellowish grey gravelly fine to coarse SAND with a low cobble content. Gravel is angular to subangular fine and medium occasionally coarse flint. Cobbles are of flint. At 2.00m: band of light grey mottled orange sandy gravelly clay. At 3.30m: band of yellowish grey sand.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 18/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
18/02/2014	3.40	-	-

Remarks:
1. Trial pit excavated from GL to 3.40mbgl.
2. Groundwater was encountered 3.40mbgl.
3. Trial pit terminated at 3.40mbgl due to total instability.
4. Backfill details: Arisings 3.40mbgl to GL.

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Trial Pit Record

NGTP03
Sheet 1 of 1

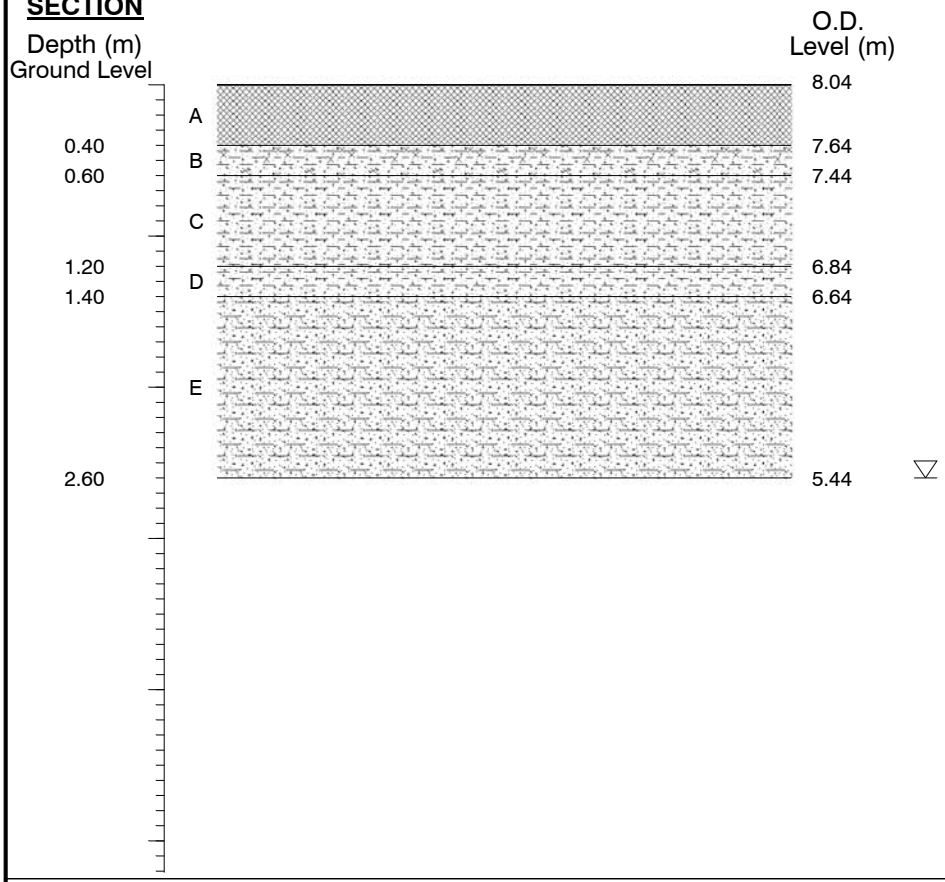
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.00m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 456019.2E
101536.5N
Ground Level: 8.04mAOD

SECTION



Sample / Test Type	Depth(m)	Remarks and Test Results
D1	0.15	PID- <0.1 ppm
ES1	0.15	
B1	0.50	PID- <0.1 ppm
D2	0.50	
ES2	0.50	
HV1	1.00	55 kPa
D3	1.00	PID- <0.1 ppm
ES3	1.00	
D4	1.30	
B2	1.50	PID- <0.1 ppm
ES4	1.50	
B3	2.50	

LITHOLOGY

A MADE GROUND. Dark grey slightly sandy occasionally slightly gravelly CLAY with a low cobble content. Gravel is angular to subangular fine to coarse brick, concrete and flint. Cobbles are of brick.

B Soft to firm brown occasionally slightly gravelly occaisonally slightly sandy silty CLAY. Gravel is angular to subangular fine and medium flint.

C Soft to firm orangish brown mottled brown and light grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint.

D Soft to firm orangish brown mottled light grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine to coarse flint.

E Grey and yellowish grey slightly clayey gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse flint. Rare thin bands of grey silty clay.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 19/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
19/02/2014	2.60	-	-

Remarks:
1. Trial pit excavated from GL to 3.00mbgl.
2. Groundwater was not encountered.
3. Soakaway undertaken at 2.60mbgl.
4. Backfill details: Arisings 3.00mbgl to GL.

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Trial Pit Record

WFTP01
Sheet 1 of 1

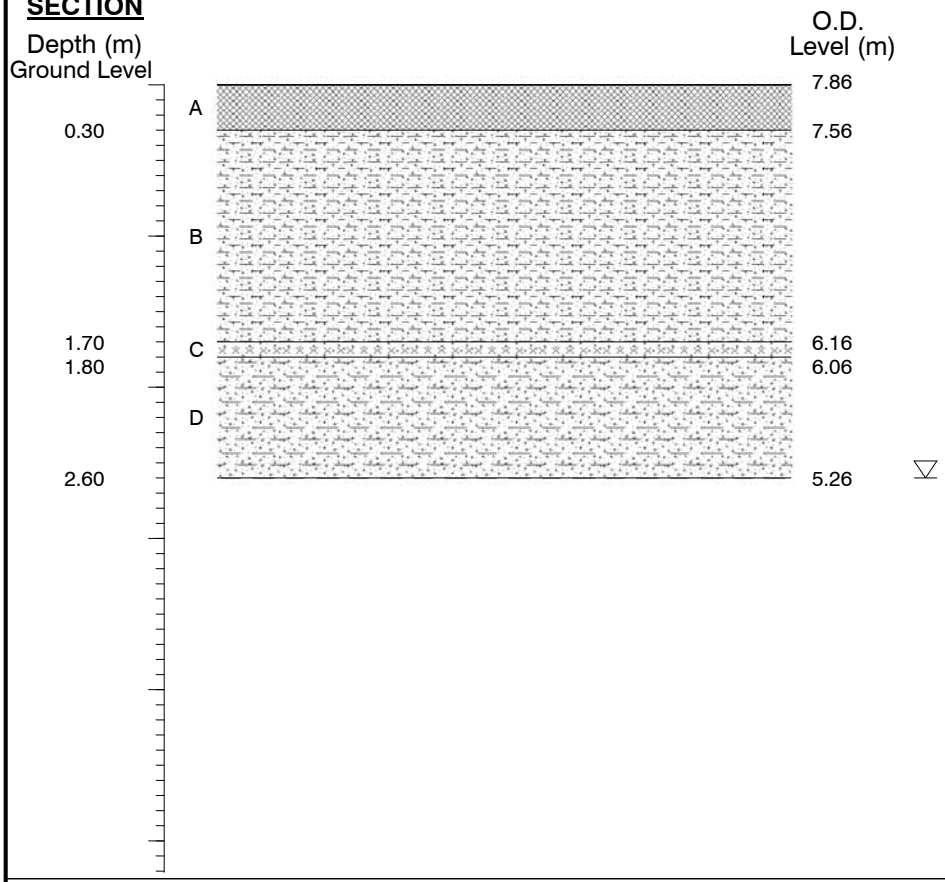
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.00m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 455622.5E
101458.2N
Ground Level: 7.86mAOD

SECTION



Sample / Test		Remarks and Test Results
Type	Depth(m)	
D1	0.15	PID-<0.1ppm
ES1	0.20	
B1	0.50	PID-<0.1ppm
HV1	0.50	45 kPa
D2	0.50	
ES2	0.50	
HV2	1.00	PID-<0.1ppm
D3	1.00	45 kPa
ES3	1.00	
D4	1.20	
ES4	1.25	
HV3	1.50	47 kPa
		PID-<0.1ppm
HV4	2.00	PID-<0.1ppm
ES5	2.00	48 kPa
D5	2.50	

LITHOLOGY

A MADE GROUND. Grass over brown and occasionally orangish brown slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium brick, coal, clinker and flint. At 0.20m thin band of clinker/slag

B Soft to firm orangish brown mottled orange slightly sandy occasionally slightly gravelly silty CLAY. Gravel is angular to subangular fine flint. Occasional bands of orange sandy clay. Occasional bands of light grey sandy silt.

C Soft to firm light grey and bluish grey mottled orangish brown slightly sandy slightly gravelly clayey SILT. Gravel is angular to subangular fine and medium flint.

D Yellowish orange and yellowish grey slightly clayey to clayey fine to coarse SAND and GRAVEL. Gravel is angular to subrounded fine to coarse flint. From 2.30m to 2.50m: Occasional clayey pockets.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 19/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
19/02/2014	2.60	-	-

Remarks:
1. Trial pit excavated from GL to 3.00mbgl.
2. Groundwater was encountered 2.60mbgl.
3. Trial pit terminated at 2.60mbgl due to total instability.
4. Backfill details: Arisings 2.60mbgl to GL.

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Trial Pit Record

WFTP02

Sheet 1 of 1

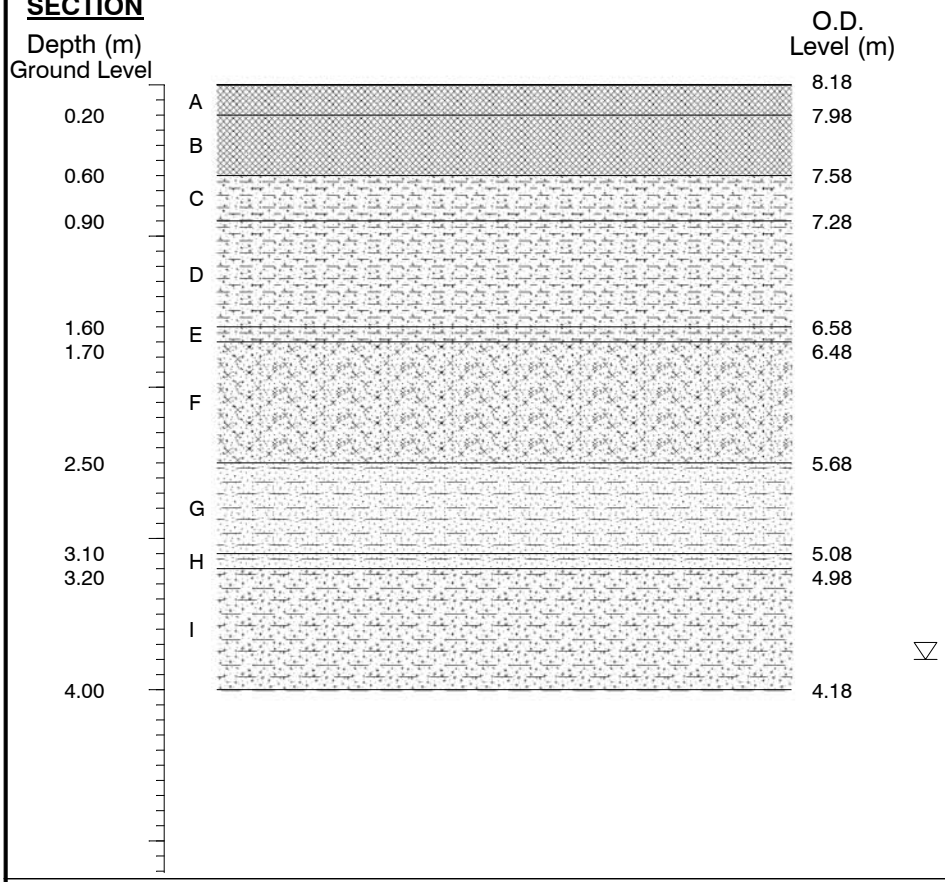
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.40m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 455645.50E
101425.60N
Ground Level: 8.18maOD

SECTION



Sample / Test		Remarks and Test Results
Type	Depth(m)	
D1	0.15	PID- <0.1 ppm
ES1	0.15	
B1	0.50	45 kPa
HV1	0.50	PID- <0.1 ppm
D2	0.50	
ES2	0.50	
D3	0.80	
HV2	1.00	60 kPa
ES3	1.00	PID- <0.1 ppm
D4	1.00	
HV3	1.50	65 kPa
D5	1.60	
B2	1.70	
ES4	2.00	PID- <0.1 ppm
D6	2.00	
D7	2.30	
D8	3.20	
B3	3.50	PID- <0.1 ppm
ES5	3.50	
D9	3.80	

LITHOLOGY

A MADE GROUND. Grass over brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine and medium flint and occasional brick.

B MADE GROUND. Brown slightly gravelly sandy clayey SILT with low cobble content. Gravel is angular to subrounded fine to coarse brick and occasional flint. Rare brick. Cobbles are of brick and intact masonry. Occasional roots and rootlets with fibrous organic matter.

C Soft to firm brown mottled brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint. Occasional roots and rootlets.

D Soft to firm orangish brown mottled reddish brown occasionally slightly sandy slightly gravelly silty CLAY with occasional dark grey/black staining. Gravel is angular to subangular fine and medium flint. Occasional bands of light grey clay.

E Firm light grey mottled orange slightly gravelly sandy to very sandy silty CLAY. Gravel is angular to subangular fine and medium flint.

F Orangish brown and yellowish orange silty very gravelly fine to coarse SAND. Gravel is angular to subrounded fine and medium occasionally coarse flint.

G Light grey mottled orange slightly clayey silty fine SAND.

H Light grey mottled orange slightly clayey gravelly to very gravelly silty fine SAND. Gravel is angular to subrounded fine to coarse flint.

I Light grey and yellowish orange occasionally slightly silty slightly clayey fine to coarse very sandy GRAVEL. Gravel is angular to subrounded fine and medium occasionally coarse flint.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 18/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
18/02/2014	3.80	-	-

Remarks:
1. Trial pit excavated from GL to 4.00mbgl.
2. Groundwater was encountered 3.80mbgl.
3. Trial pit terminated at 4.00mbgl due to instability.
4. Backfill details: Arisings 4.00mbgl to GL.

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Trial Pit Record

WFTP03
Sheet 1 of 1

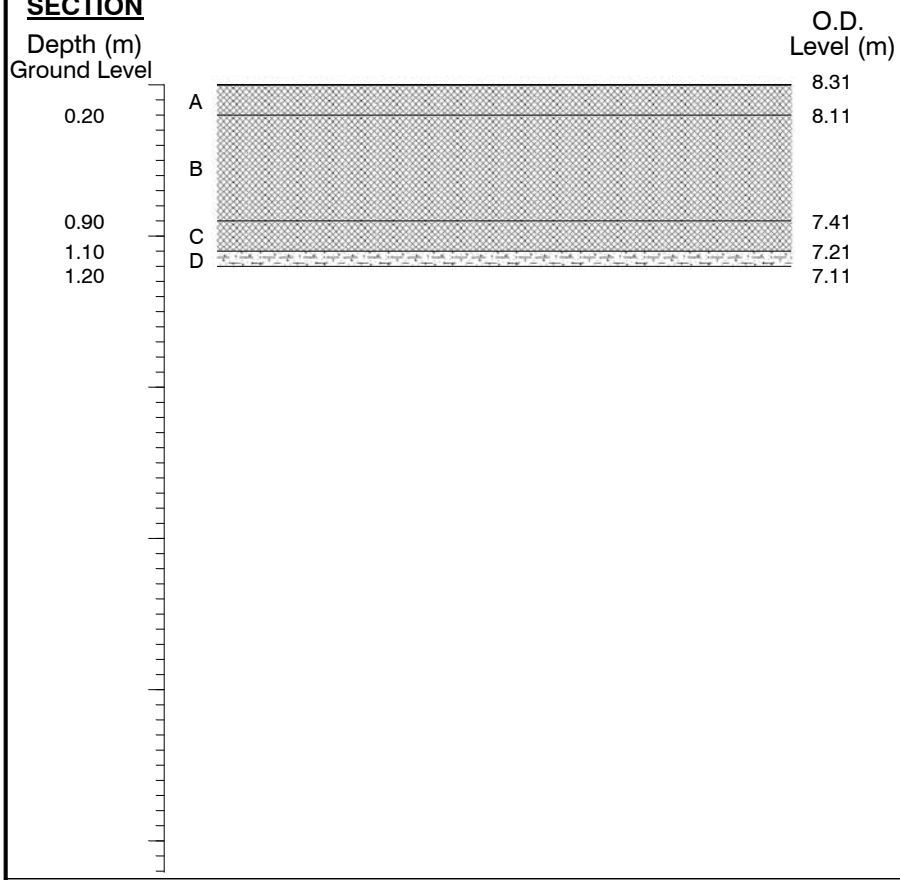
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 0.50m
Trial Pit Width: 0.40m
Trial Pit Orientation:

Coordinates: 455772.1E
101280.4N
Ground Level: 8.31mAOD

SECTION



Sample / Test		Remarks and Test Results
Type	Depth(m)	
D1	0.15	PID-<0.1ppm
ES1	0.15-1.00	
D2	0.50	PID-<0.1ppm
ES2	0.50-1.20	
D3	1.00	PID-<0.1ppm
ES3	1.00-2.50	16 kPa
HV1	1.10	
D4	1.20	

LITHOLOGY

A MADE GROUND. Grass over brown gravelly SILT with a low cobble content. Gravel is very angular to subrounded fine to coarse flint, brick and glass fragments with occasional clinker and coal. Cobbles are of brick. At 0.10m: Thin ash band.

B MADE GROUND. Brown slightly sandy gravelly CLAY. Gravel is very angular to subrounded fine to coarse flint with occasional brick, clinker and glass fragments. Rare chalk. Occasional pockets of orangish brown mottled brown silty clay.

C MADE GROUND. Soft to firm orangish brown mottled brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to medium occasionally coarse flint with rare brick and chalk.

D Soft to firm orangish brown mottled brown slightly gravelly silty CLAY. Gravel is angular to subangular fine flint.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 21/02/2014
Plant: Hand Excavated Trial Pit
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. WFTP03 excavated by hand to 1.20m upon clients request.
2. Groundwater was not encountered.
3. Backfill details: Arisings 1.20mbgl to GL.

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Trial Pit Record

WFTP04

Sheet 1 of 1

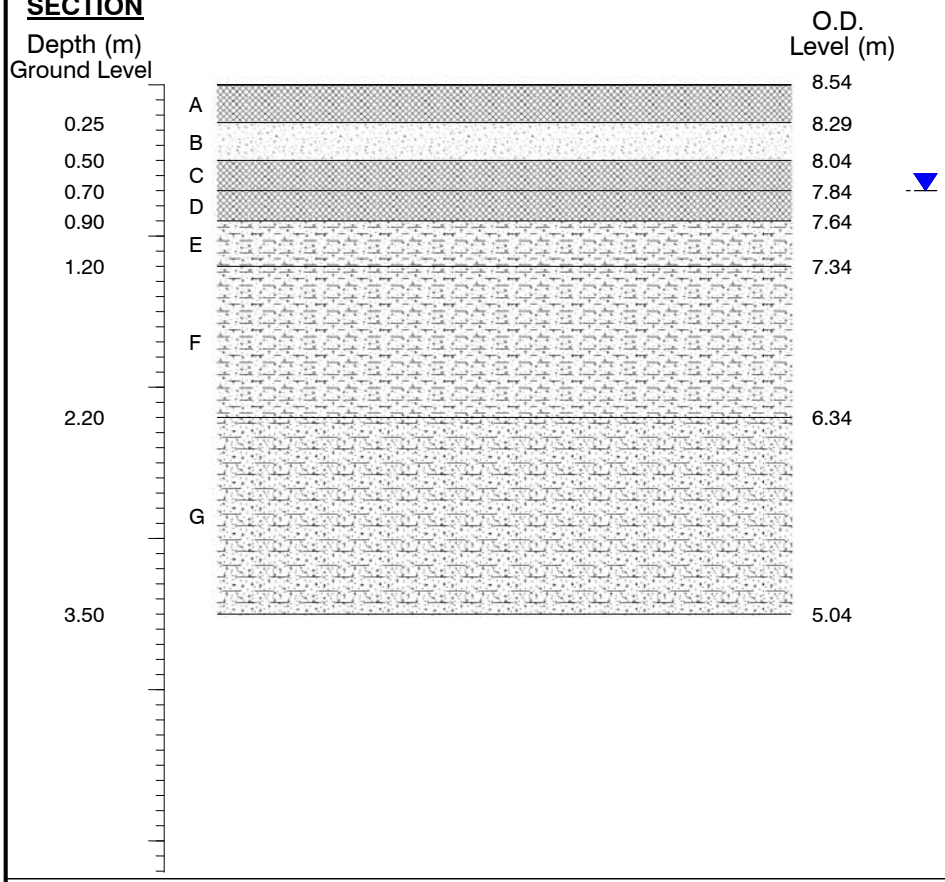
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.00m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 455784.3E
101304.3N
Ground Level: 8.54mAOD

SECTION



Sample / Test		Remarks and Test Results
Type	Depth(m)	
D1	0.15	PID-<0.1ppm
ES1	0.15	
B1	0.50	PID-<0.1ppm
HV1	0.50	20 kPa
D2	0.50	PID-<0.1ppm
ES2	0.50	
D3	0.70	23 kPa
ES3	0.80	
D4	0.90	PID-<0.1ppm
HV2	1.00	
ES4	1.20	
D5	1.20	
D6	1.70	
HV3	2.00	60 kPa
B2	2.20	
ES5	2.50	PID-<0.1ppm
D7	3.00	
B3	3.20	
ES6	3.50	PID-<0.1ppm

LITHOLOGY

A MADE GROUND. Firm brown mottled red clayey very sandy GRAVEL with a very high cobble content. Gravel is very angular to subangular fine to coarse brick, concrete, glass and metal fragments. Cobbles are of brick and concrete.

B MADE GROUND. CONCRETE.

C MADE GROUND. Soft reddish brown locally dark greenish grey slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint, brick, concrete and occasional glass fragments. Frequent black tar/oil staining.

D MADE GROUND. Dark greenish grey mottled dark brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine to coarse flint. From 0.70m to 0.90m: Strong hydrocarbon odour and oily water seepage.

E Soft to firm brown and occasionally orangish brown slightly gravelly silty CLAY. Gravel is angular to subangular fine flint.

F Soft to firm orangish brown mottled light grey slightly sandy slightly gravelly silty CLAY. Gravel is subangular to subangular fine flint. From 2.00m: Becomes gravelly.

G Orangish brown clayey gravelly to very gravelly medium and coarse SAND. Gravel is angular to well rounded fine to coarse flint. Occasional bands of soft orangish brown silty clay.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 20/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
20/02/2014	0.70	-	0.70

Remarks:
1. Trial pit excavated from GL to 3.50mbgl.
2. Groundwater was encountered 0.70mbgl with a strong hydrocarbon odour and very oily.
3. Trial pit terminated at 3.50mbgl due to total instability.
4. Backfill details: Arisings 3.50mbgl to GL.

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Trial Pit Record

WFTP05
Sheet 1 of 1

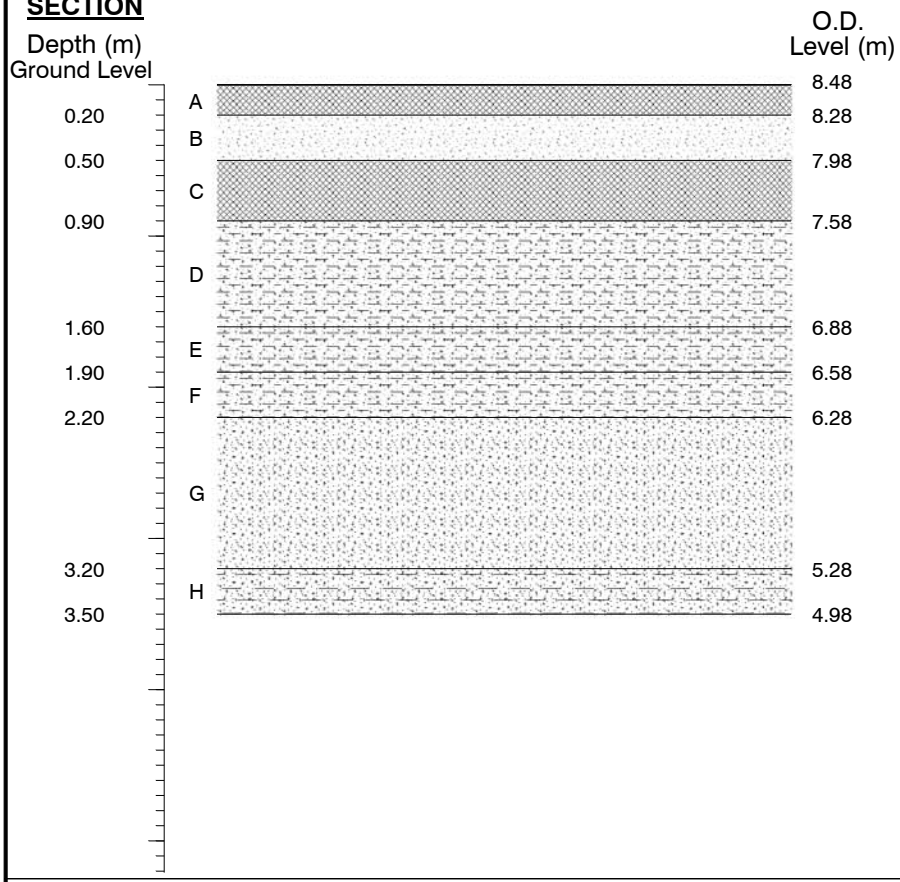
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.00m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 455814.2E
101280.0N
Ground Level: 8.48mAOD

SECTION



Sample / Test		Remarks and Test Results
Type	Depth(m)	
D1	0.10	PID-<0.1ppm
ES1	0.10	
B1	0.50	
D2	0.60	PID-<0.1ppm
ES2	0.60	
HV1	1.00	38 kPa
ES3	1.60	PID-<0.1ppm
ES4	1.90	PID-<0.1ppm
HV2	2.00	42 kPa
B2	2.20-2.30	PID-<0.1ppm
ES5	2.20	
B3	3.20-3.50	

LITHOLOGY

A MADE GROUND. Brown and red slightly clayey gravelly fine to coarse SAND with a high cobble content. Gravel is angular to subangular fine to coarse brick, concrete, asphalt and flint Cobbles are of brick and concrete.

B MADE GROUND. CONCRETE.

C MADE GROUND. Soft to firm dark greenish grey mottled dark brown slightly gravelly slightly sandy silty CLAY. Gravel is angular to subrounded fine to coarse flint and occasional brick.

D Soft to firm brown and occasionally orangish brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine flint.

E Soft to firm orangish brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine flint.

F Soft to firm orangish brown mottled grey sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.

G Orangish brown and locally yellowish grey gravelly to very gravelly medium and coarse SAND. Gravel is angular to subrounded fine to coarse flint. Pockets of orangish brown silty clay.

H Orangish brown slightly clayey gravelly medium and coarse SAND. Gravel is angular to subrounded fine to coarse flint.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 20/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks:
1. Trial pit excavated from GL to 3.50mbgl.
2. Groundwater was not encountered.
3. Trial pit terminated at 3.50mbgl due to instability.
4. Backfill details: Arisings 3.50mbgl to GL.

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Trial Pit Record

WFTP06
Sheet 1 of 1

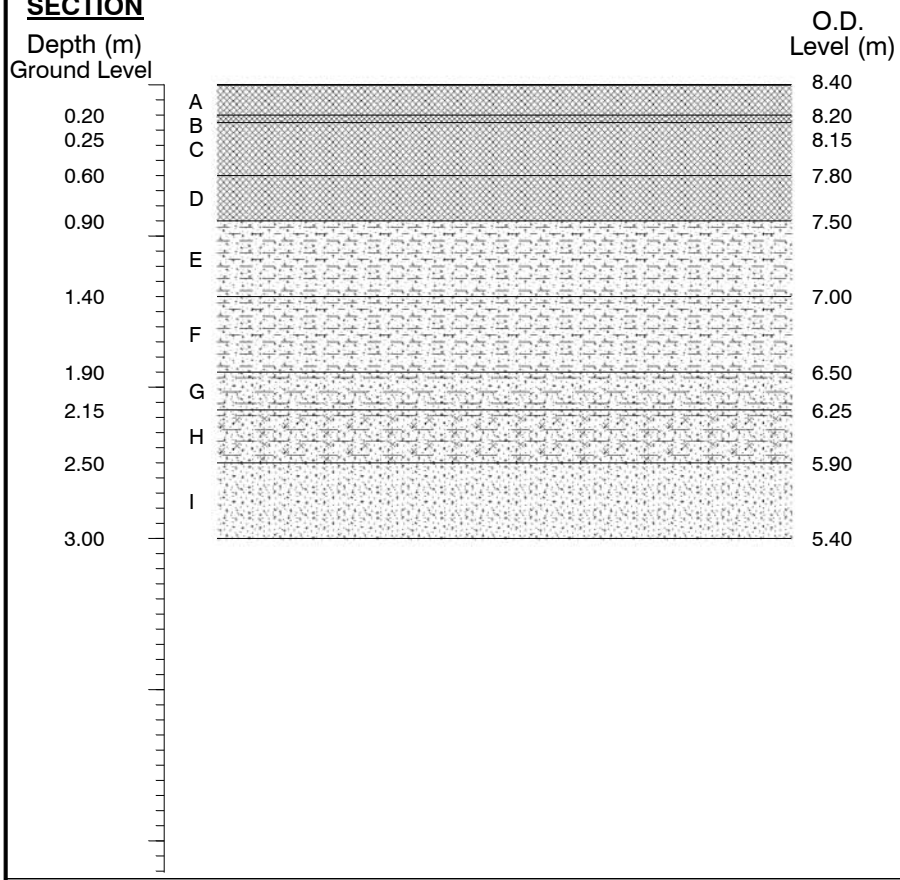
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.00m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 455816.4E
101301.7N
Ground Level: 8.40mAOD

SECTION



Sample / Test		Remarks and Test Results
Type	Depth(m)	
D1	0.15	PID-<0.1ppm
ES1	0.15	
B1	0.50	
D2	0.70	PID-<0.1ppm
ES2	0.70	
HV1	1.00	PID-<0.1ppm
D3	1.00	38 kPa
ES3	1.00	
HV2	1.50	30 kPa
D4	1.50	
HV3	2.00	53 kPa
D5	2.00	
B2	2.25-2.50	PID-<0.1ppm
ES4	2.25	
D6	2.25	
B3	2.50-3.00	
ES5	3.00	PID-<0.1ppm

LITHOLOGY

A MADE GROUND. Brown and reddish brown clayey gravelly fine to coarse SAND. Gravel is angular to subangular fine to coarse brick, concrete, asphalt and flint. Rare rootlets.

B MADE GROUND. ASPHALT.

C MADE GROUND. Orangish brown slightly clayey occasioanlly silty gravelly fine to coarse SAND. Gravel is subangular to subangular fine and medium flint. Pockets of sandy gravel.

D MADE GROUND. Soft to firm dark grey mottled brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint and clinker. Slight hydrocarbon odour.

E Soft to firm brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.

F Soft to firm greyish brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint.

G Soft to firm orangish brown and grey slightly gravelly slightly sandy silty CLAY. Gravel is angular to subangular fine and medium flint.

H Yellowish grey slightly clayey silty gravelly fine to coarse SAND. Gravel is angular to subangular fine to coarse flint. Occasional pockets of orangish brown and grey silty clay. Pockets of sandy gravel.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 19/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks:
1. Trial pit excavated from GL to 3.00mbgl.
2. Groundwater was not encountered.
3. Trial pit terminated at 3.00mbgl due to total instability.
4. Backfill details: Arisings 3.00mbgl to GL.

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Trial Pit Record

WFTP07
Sheet 1 of 1

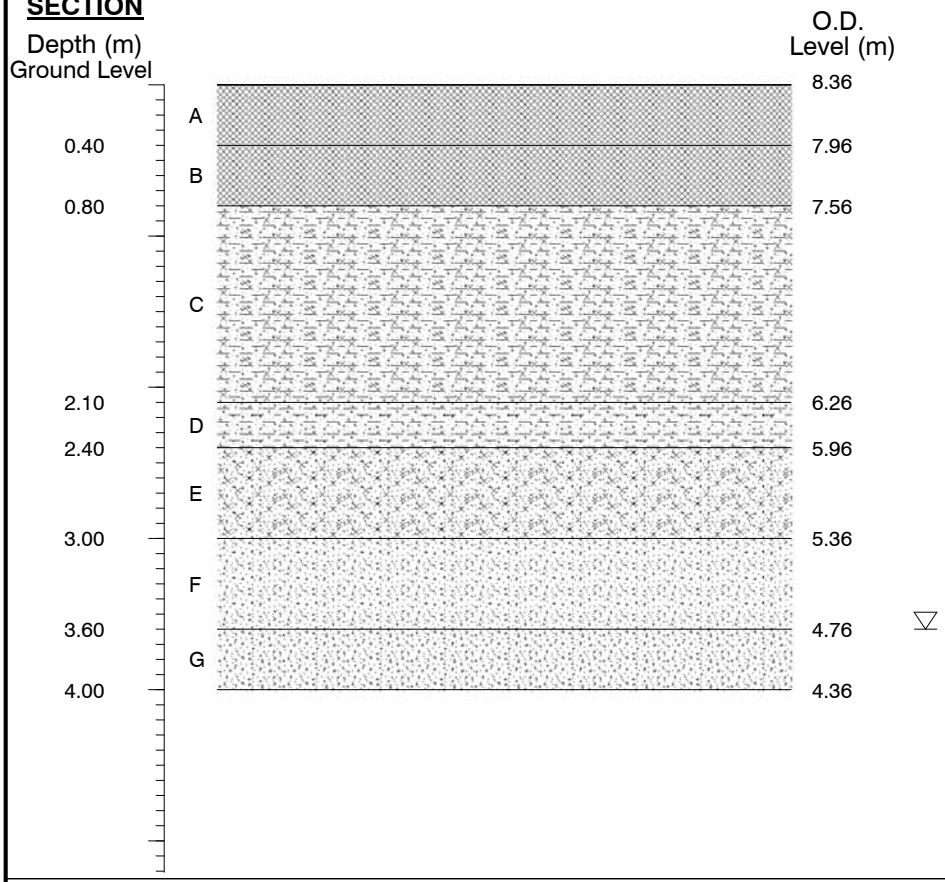
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 6.00m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 455848.4E
101080.7N
Ground Level: 8.36mAOD

SECTION



Sample / Test Type	Depth(m)	Remarks and Test Results
D1	0.15	PID-<0.1ppm
ES1	0.15	
B1	0.20-0.40	PID-<0.1ppm
D2	0.30	PID-<0.1ppm
ES2	0.35	50 kPa
HV1	0.50	
B2	0.50-0.70	
D3	0.50	
ES3	0.50	PID-<0.1ppm
HV2	1.00	50 kPa
B3	1.00-1.50	
D4	1.00	
ES4	1.00	43 kPa
HV3	1.50	
HV4	2.00	47 kPa
D5	2.00	
B4	2.20-2.40	PID-<0.1ppm
ES5	2.20	
D6	2.30	PID-<0.1ppm
B5	2.50-2.80	
ES6	2.50	
D7	2.50	
ES7	3.00	PID-<0.1ppm
D8	3.00	
B6	3.20-3.50	
D9	3.50	
D10	3.70	
B7	3.70-3.80	
B8	3.80-4.00	
D11	4.00	PID-<0.1ppm
ES8	4.00	

LITHOLOGY

A MADE GROUND. Grass over brown slightly sandy slightly gravelly SILT. Gravel is angular to subrounded fine and medium occasionally coarse flint and brick. Occasional concrete and clinker. Pockets of purple and dark grey coarse ashy sand. Frequent roots and rootlets.

B MADE GROUND. Soft to firm orangish brown slightly gravelly slightly sandy silty CLAY. Gravel is angular to subangular fine and medium flint occasional brick, charcoal, glass, clinker and bitumen fragments. Occasional roots.

C Soft to firm orangish brown mottled brown and grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine to coarse flint. Occasional pockets of brown clay and orange sandy clay.

D Soft to firm orangish brown mottled light grey sandy gravelly to very gravelly CLAY. Gravel is very angular to subrounded fine to coarse flint. Occasional pockets of brown clay and orange silty fine sand.

E Orange mottled yellowish orange slightly gravelly silty fine and medium SAND. Gravel is angular to subrounded fine to coarse flint.

F Orangish brown locally yellowish orange gravelly to very gravelly medium and coarse SAND. Gravel is angular to subangular fine and medium occasionally coarse flint. Occasional pockets of orangish brown and orange clayey sand.

G Orangish brown slightly clayey medium and coarse SAND and GRAVEL with low cobble content. Gravel is angular to well rounded fine to coarse flint. Cobbles are of flint.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 17/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
17/02/2014	3.60	-	-

Remarks:
1. Trial pit excavated from GL to 4.00mbgl.
2. Groundwater was encountered at 3.60mbgl.
3. Concrete foundation encountered at 0.40mbgl, trial pit extended.
4. Trial pit terminated at 4.00mbgl due to instability.
5. Backfill details: Arisings 4.00mbgl to GL.

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Trial Pit Record

WFTP08

Sheet 1 of 1

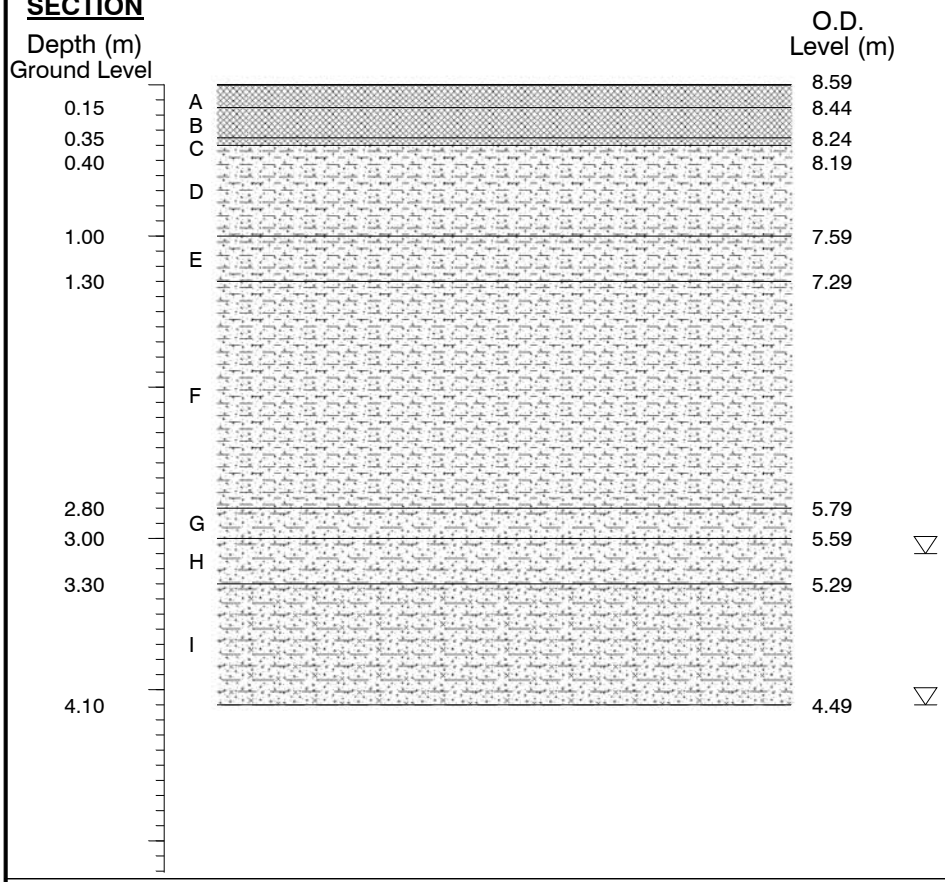
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 4.10m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 455977.0E
101184.8N
Ground Level: 8.59mAOD

SECTION



Sample / Test		Remarks and Test Results
Type	Depth(m)	
D1	0.15	PID- <0.1 ppm
ES1	0.15	
D2	0.35	PID- <0.1 ppm
ES2	0.35	45 kPa
B1	0.50-0.90	PID- <0.1 ppm
HV1	0.50	
D3	0.50	
ES3	0.50	
HV2	1.00	55 kPa
D4	1.00	PID- <0.1 ppm
ES4	1.00	
B2	1.20-1.30	
HV3	1.50	50 kPa
D5	1.50	
B3	2.00-2.30	70 kPa
HV4	2.00	PID- <0.1 ppm
ES5	2.00	
HV5	2.50	70 kPa
B4	3.00-3.10	
D6	3.00	PID- <0.1 ppm
ES6	3.10	
D7	3.10	
B5	3.50-4.00	PID- <0.1 ppm
ES7	3.50	
ES8	4.10	PID- <0.1 ppm

LITHOLOGY

A MADE GROUND. Grass over brown slightly sandy gravelly SILT. Gravel is angular to subangular fine and medium flint , brick, mortar and clinker. Occasional coal and charcoal.

B MADE GROUND. Soft to firm orangish brown slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint. Frequent roots and rootlets with fibrous organic matter.

C MADE GROUND. Dark grey and purplish grey gravelly ashy fine to coarse SAND. Gravel is angular to subangular fine to coarse coal, clinker, charcoal, flint and glass fragments.

D Soft to firm orangish brown mottled brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium flint. Occasional rootlets.

E Soft to firm orangish brown mottled yellowish orange slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine flint and coal. Occasional bands of brown clay with fibrous organic matter.

F Firm orangish brown mottled yellowish orange slightly gravelly sandy silty CLAY. Gravel is angular to subangular fine and medium flint. Frequent bands of brown sand.

G Light brown very clayey sandy GRAVEL. Gravel is very angular to subrounded fine and medium flint and coal.

H Dark grey and orangish brown very clayey sandy GRAVEL. Gravel is very angular to angular fine and medium coal and flint.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 18/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
18/02/2014	3.10	-	-
18/02/2014	4.10	-	-

Remarks:
1. Trial pit excavated from GL to 4.10mbgl.
2. Groundwater was encountered 3.10mbgl and 4.10mbgl.
3. Trial pit terminated at 4.10mbgl due to instability.
4. Backfill details: Arisings 4.10mbgl to GL.

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Trial Pit Record

WFTP09

Sheet 1 of 1

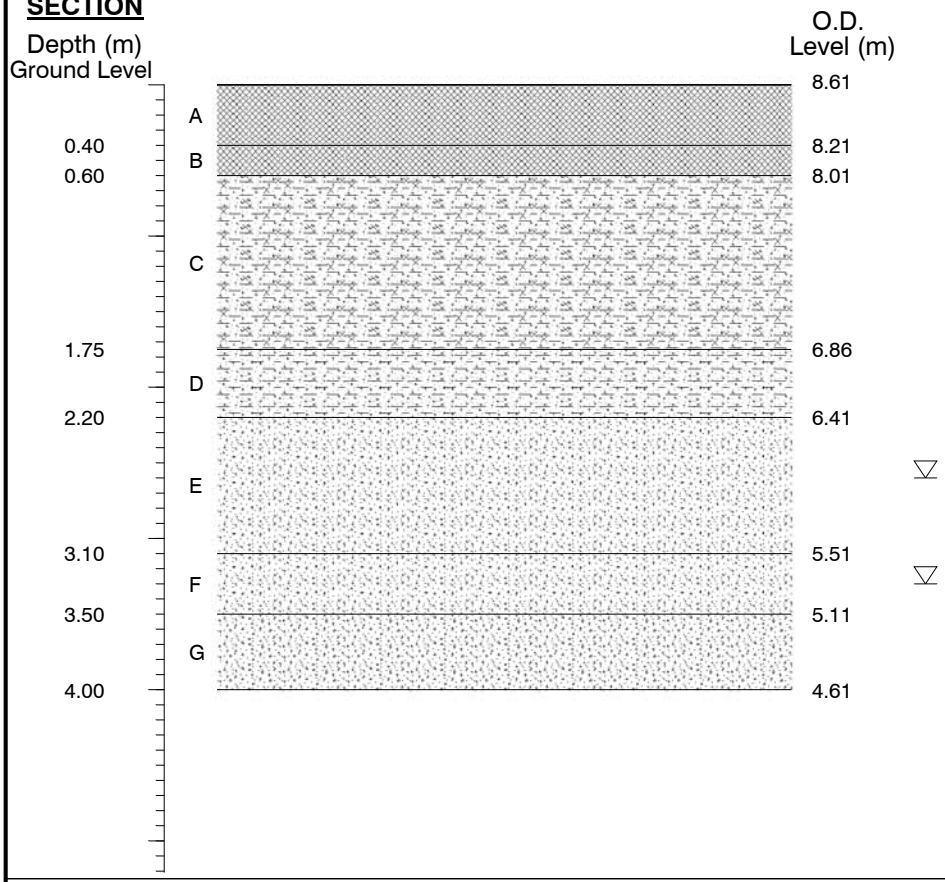
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.50m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 455966.9E
101131.0N
Ground Level: 8.61mAOD

SECTION



Sample / Test Type	Depth(m)	Remarks and Test Results
D1	0.15	PID-<0.1ppm
ES1	0.15	
B1	0.50-1.00	PID-<0.1ppm
HV1	0.50	49 kPa
D2	0.50	
ES2	0.50	
HV2	1.00	PID-<0.1ppm
D3	1.00	53 kPa
ES3	1.00	
B2	1.50-1.70	97 kPa
HV3	1.50	
D4	1.80	
B3	2.00-2.20	PID-<0.1ppm
ES4	2.00	78 kPa
HV4	2.00	
D5	2.00	
B4	2.30-2.50	PID-<0.1ppm
ES5	2.50	
D6	2.50	
B5	3.20-3.50	PID-<0.1ppm
ES6	3.20	
D7	3.20	
B6	3.50-3.70	PID-<0.1ppm
ES7	3.60	
D8	3.60	
B7	3.80-4.00	PID-<0.1ppm
D9	3.80	
D10	4.00	
ES8	4.00	

LITHOLOGY

A MADE GROUND. Rough grass over brown slightly sandy slightly gravelly SILT. Gravel is angular to subrounded fine and medium flint occasional brick and rare concrete fragments. Frequent roots and rootlets.

B MADE GROUND. Soft to firm orangish brown mottled brown slightly gravelly slightly sandy silty CLAY. Gravel is angular to subangular fine and medium flint and rare brick fragments. Occasional roots and rootlets.

C Soft to firm orangish brown mottled brown slightly gravelly slightly sandy silty CLAY. Gravel is angular to subangular fine and medium flint. Occasional large roots.

D Firm to stiff orangish brown locally yellowish orange slightly sandy gravelly to very gravelly CLAY. Gravel is angular to rounded fine and medium occasionally coarse flint. Occasional black staining. Occasional large roots.

E Orangish locally yellowish orange slightly gravelly medium and coarse SAND. Gravel is subangular to rounded fine and medium flint. Rare pockets of firm orangish brown clay.

F Orangish brown locally dark orangish red gravelly medium and coarse SAND. Gravel is angular to subrounded fine and medium flint.

G Orangish brown slightly clayey medium and coarse SAND and GRAVEL with low cobble content. Gravel is angular to well rounded fine to coarse flint. Cobbles are of flint.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 17/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
17/02/2014	2.60	-	-
17/02/2014	3.30	-	-

Remarks:
1. Trial pit excavated from GL to 4.00mbgl.
2. Groundwater was encountered at 3.60mbgl.
3. Trial pit terminated at 4.00mbgl due to instability.
4. Backfill details: Arisings 4.00mbgl to GL.

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Trial Pit Record

WFTP10
Sheet 1 of 1

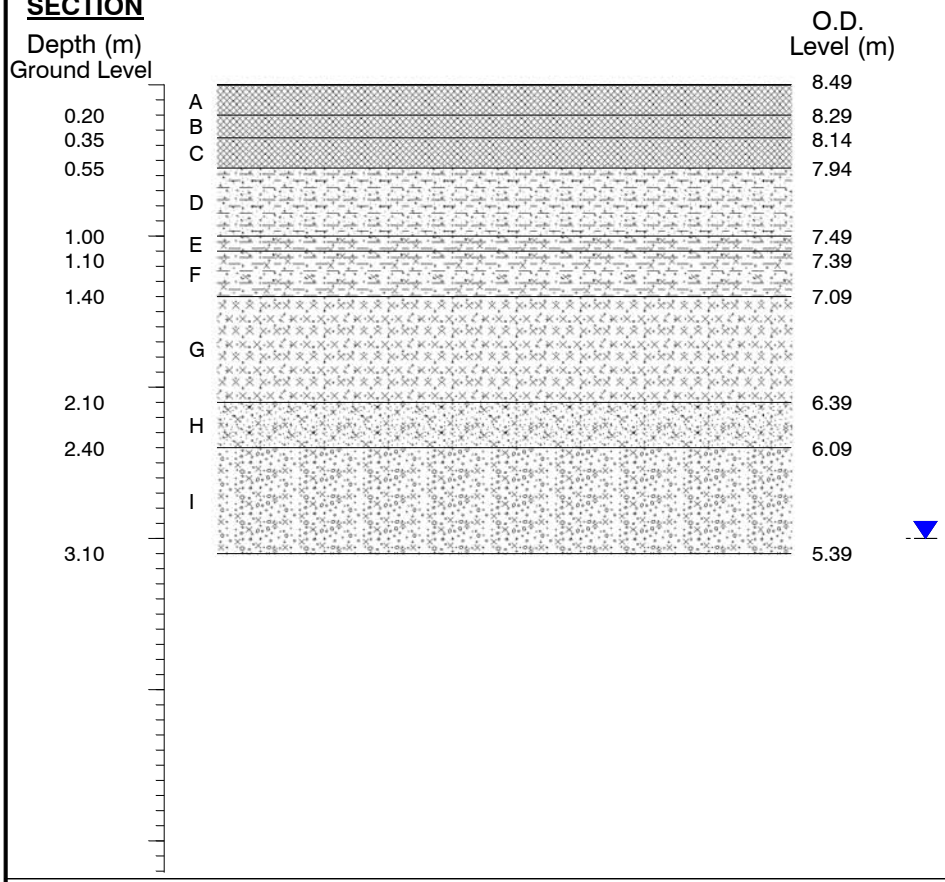
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 2.90m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 456028.7E
10168.5N
Ground Level: 8.49mAOD

SECTION



Sample / Test		Remarks and Test Results
Type	Depth(m)	
D1	0.15	PID-<0.1ppm
ES1	0.15	PID-<0.1ppm
B1	0.30	
D2	0.30	32 kPa
ES2	0.30	PID-<0.1ppm
D3	0.40	
HV1	0.50	
B2	0.60	
ES3	0.60	PID-<0.1ppm
HV2	1.00	33 kPa
ES4	1.00	140 kPa
D5	1.00	
B3	1.20-1.40	50 kPa
HV3	1.20	
D6	1.20	
HV4	1.50	
D7	1.80	
B4	2.00-2.10	PID-<0.1ppm
ES5	2.00	70 kPa
HV5	2.00	
D8	2.10	
B5	2.20-2.30	
D9	2.40	
B6	2.80-3.00	
D10	3.00	PID-<0.1ppm
ES6	3.00	

LITHOLOGY

A MADE GROUND. Grass over brown slightly sandy gravelly SILT. Gravel is subangular to subrounded fine and medium flint, charcoal, clinker, decomposed wood and metal fragments. Frequent root and rootlets.

B MADE GROUND. Soft orangish brown locally yellowish grey slightly sandy gravelly to very gravelly silty CLAY. Gravel is angular to subrounded fine and medium brick, flint, charcoal, clinker, decomposed wood and metal fragments. Occasional roots.

C MADE GROUND. Soft orangish brown slightly gravelly silty CLAY. Gravel is angular to subrounded fine and medium flint with occasional brick and charcoal.

D Soft to firm orangish brown mottled orange and brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine flint. Occasional thin bands of orange and orangish brown silty clay.

E Firm dark orangish brown mottled reddish brown gravelly to very gravelly silty CLAY. Gravel is subangular to well rounded fine to coarse flint. Occasional black staining.

F Stiff light blueish grey mottled dark orange very slightly gravelly silty CLAY. Gravel is subangular to rounded fine and medium flint.

G Soft to firm orange mottled light blueish grey slightly gravelly clayey SILT. Gravel is angular to well rounded medium and coarse flint. Occasional lenses of orange silt and fine sand.

H Light orange and yellowish orange slightly gravelly very silty fine SAND. Gravel is subangular to well rounded medium and coarse flint.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 20/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
20/02/2014	3.00	-	3.00

Remarks:
1. Trial pit excavated from GL to 3.10mbgl.
2. Groundwater was encountered 3.00mbgl.
3. Trial pit terminated at 3.10m. Soakaway undertaken.
4. Backfill details: Arisings 3.10mbgl to GL.

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Trial Pit Record

WFTP11
Sheet 1 of 1

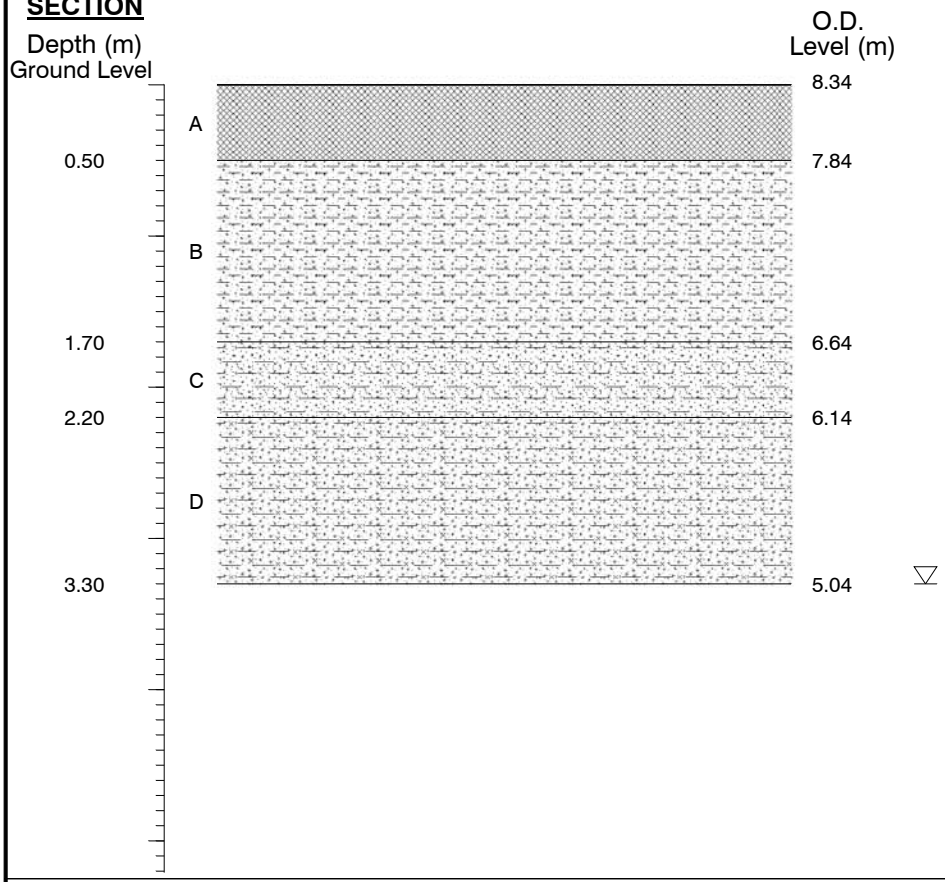
Project: Daedalus, Lee-on-the-Solent - Waterfront and Hangars West

Project ID: GL18065

Trial Pit Length: 3.30m
Trial Pit Width: 0.60m
Trial Pit Orientation:

Coordinates: 456050.3E
101206.5N
Ground Level: 8.34mAOD

SECTION



Sample / Test Type	Depth(m)	Remarks and Test Results
D1	0.15	PID-<0.1ppm
ES1	0.15	75 kPa
HV1	0.30	
B1	0.50	PID-<0.1ppm
D2	0.50	
ES2	0.50	
HV2	1.00	45 kPa
D3	1.00	
B2	1.50-1.90	PID-<0.1ppm
ES3	1.50	55 kPa
HV3	1.50	PID-<0.1ppm
D4	1.60	
ES4	1.70	
D5	2.50	
B3	3.00-3.30	PID-<0.1ppm
ES5	3.00	

LITHOLOGY

A MADE GROUND. Grass over brown and occasionally orangish brown and grey slightly sandy silty gravelly CLAY with a medium cobble content. Gravel is very angular to subrounded fine to coarse brick, coal, tile, mortar, concrete, clinker, charcoal and flint. Cobbles are of brick and intact masonry. At 0.20m boulder of concrete and brick masonry.

B Soft to firm orangish brown mottled orange slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine flint. Occasional bands of orange sandy clay. At 1.50m: becomes sandy.

C Orangish brown very clayey slightly gravelly fine to coarse SAND. Gravel is angular to subangular fine and medium flint.

D Orangish brown occasionally slightly silty clayey fine to coarse very sandy GRAVEL with a medium cobble content. Gravel is angular to rounded fine to coarse flint. Cobbles are of flint. Occasional orangish brown sandy clay.

Client: Homes and Communities Agency
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 19/02/2014
Plant: JCB 3CX
Logged By: R. Caplin
Checked By: J. Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)
19/02/2014	3.30	0	-

Remarks:
1. Trial pit excavated from GL to 3.50mbgl.
2. Groundwater was encountered 3.30mbgl.
3. Trial pit terminated at 3.50mbgl due to total instability.
4. Backfill details: Arisings from 3.50mbgl to GL.

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPTP01	19/02/2014



LEPTP01 - GL - 3.2m



LEPTP01 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPTP02	18/02/2014



LEPTP02 - GL - 3.8m



LEPTP02 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPTP03	19/02/2014



LEPTP03 - GL - 2.3m



LEPTP03 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

Harrison Group Environmental Ltd.
Kimberley Street, Norwich, NR2 2RJ

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPTP04	19/02/2014



LEPTP04 - GL - 2.5m



LEPTP04 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPTP05	21/02/2014



LEPTP05 - GL - 4.0m



LEPTP05 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPTP06	21/02/2014



LEPTP06 - GL - 1.0m



LEPTP06 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. MCTP01	19/02/2014



MCTP01 - GL - 3.3m



MCTP01 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. MCTP02	19/02/2014



MCPTP02 - GL - 2.9m



MCTP02 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup

Trial Pit Photograph Record Sheet

Project:	Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. NGTP01	18/02/2014



NGTP01 - GL - 3.2m



NGTP01 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. NGTP02	18/02/2014



NGTP02 - GL - 3.4m



NGTP02 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. NGTP03	19/02/2014



NGPTP03 - GL - 2.9m



NGTP03 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. WFTP01	19/02/2014



WFTP01 - GL - 2.6m



WFTP01 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

Harrison Group Environmental Ltd.
Kimberley Street, Norwich, NR2 2RJ

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. WFTP04	20/02/2014



WFTP04 - GL - 3.5m



WFTP04 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. WFTP05	21/02/2014



WFTP05 - GL - 3.5m



WFTP05 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. WFTP07	17/02/2014



WFTP507 - GL to 4.50m



WFTP507 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. WFTP08	18/02/2014



WFTP508 - GL - 4.1m



WFTP508 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. WFTP09	17/02/2014



FTP509 - GL to 4.0m



WFTP509 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. WFTP10	20/02/2014



WFTP10 - GL - 3.1m



WFTP10 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup	**Trial Pit Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. WFTP11	19/02/2014



WFTP11 - GL - 3.3m



WFTP11 - Spoil

Remarks	Engineer: J. Burch	Checked By: J.Keay

harrisongroup ENVIRONMENTAL

SOIL INFILTRATION RATE TEST

In accordance with BRE Digest 365 (1991 with amendments in 2003 and 2007)

Engineer:	GP	Job Number:	GL18065
Client: Homes & Communities Agency	Test Pit No.:	LEPTP04	Date: 20/02/2014
Job Location: HMS Daedalus - Waterfront	Time to fill pit: (minutes)	01:00	Time at start of test: 11:52
Trial pit filled with gravel to prevent instability in pit walls?:	NO		

Pit Dimensions (m)	
Length	3.00
Width	0.60
Depth	2.20
Height of pipe above ground level (if applicable)	0.00

Start % for calculations:	n/a
End % for calculations:	n/a

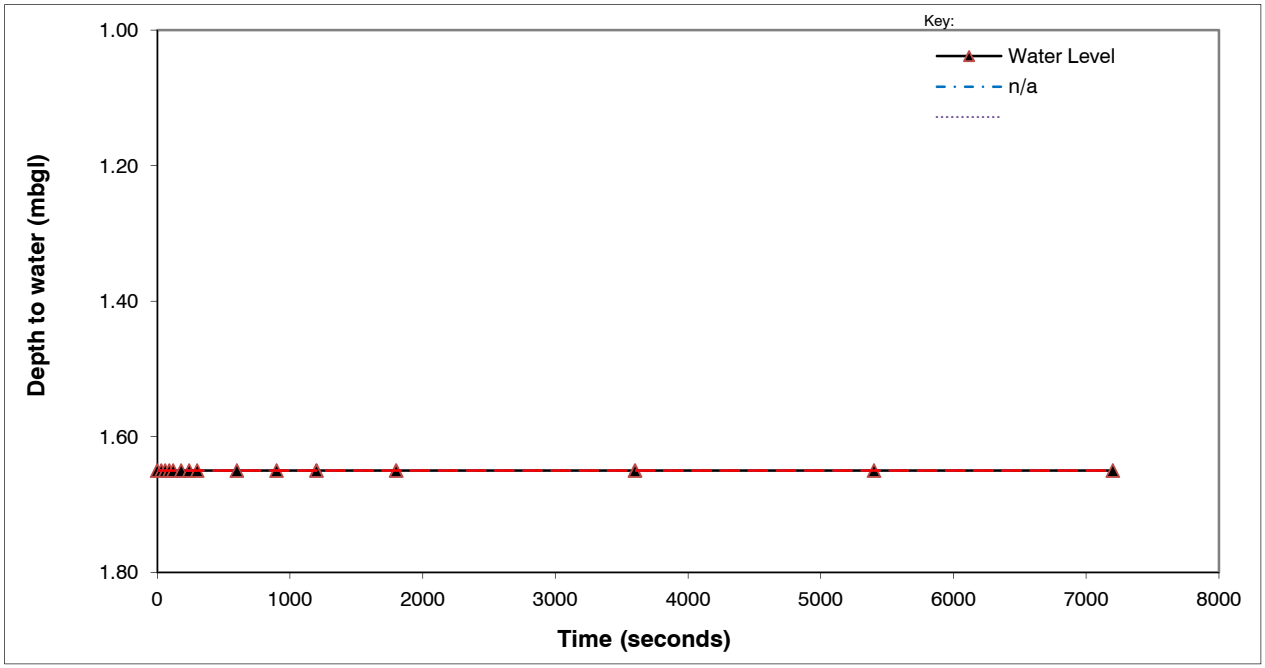
Infilling 1

Soil Infiltration Rate (f)

See Remarks

Note: Estimated rate based on the effective 75% full to 25% full depth maximum recorded depth as test not completed to 25% full.

Elapsed Time		Depth recorded on dip meter	Water level
Minutes	Seconds	(m)	(mbgl)
0.00	0	1.650	1.650
0.50	30	1.650	1.650
1.00	60	1.650	1.650
1.50	90	1.650	1.650
2.00	120	1.650	1.650
3.00	180	1.650	1.650
4.00	240	1.650	1.650
5.00	300	1.650	1.650
10.00	600	1.650	1.650
15.00	900	1.650	1.650
20.00	1200	1.650	1.650
30.00	1800	1.650	1.650
60.00	3600	1.650	1.650
90.00	5400	1.650	1.650
120.00	7200	1.650	1.650



Remarks: Water level remained constant throughout duration of test, effecitively impermeable

harrisongroup ENVIRONMENTAL

SOIL INFILTRATION RATE TEST

In accordance with BRE Digest 365 (1991 with amendments in 2003 and 2007)

Engineer:	RC	Job Number:	GL18065
Client: Homes & Communities Agency	Test Pit No.:	MCTP02	Date: 20/02/2014
Job Location: HMS Daedalus - Waterfront	Time to fill pit: (minutes)	01:00	Time at start of test: 10:47
Trial pit filled with gravel to prevent instability in pit walls?:	NO		

Pit Dimensions (m)	
Length	2.90
Width	0.60
Depth	2.80
Height of pipe above ground level (if applicable)	0.00

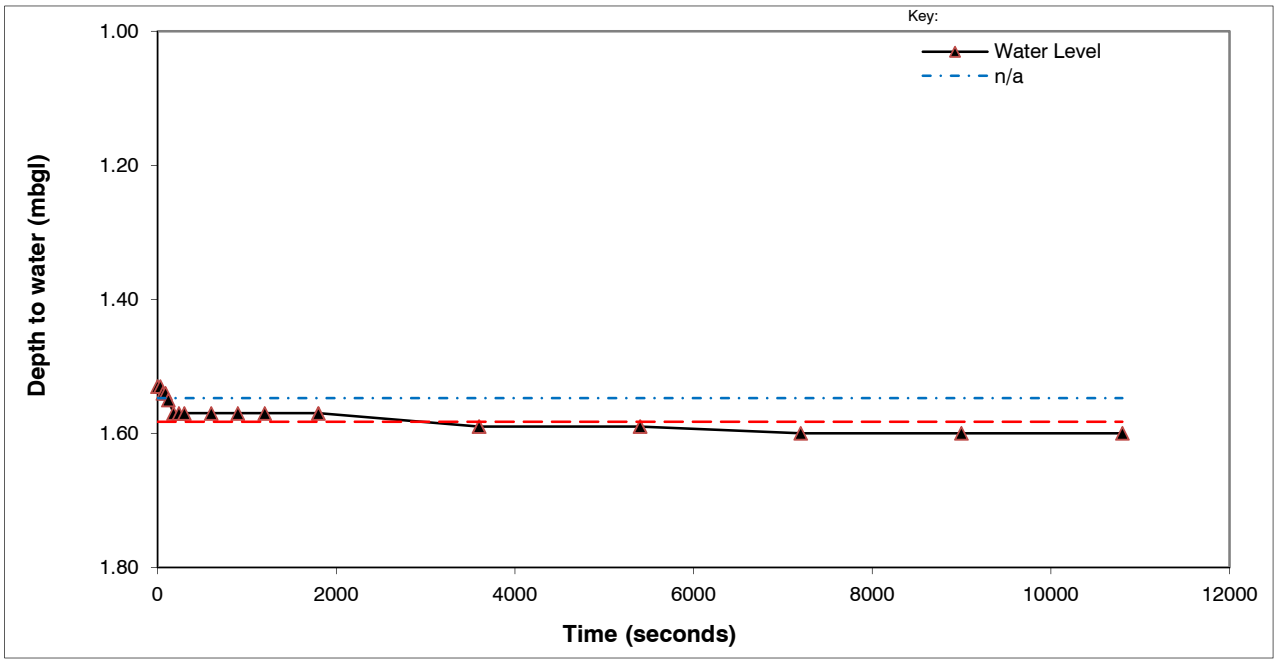
Start % for calculations:	n/a
End % for calculations:	n/a

Infilling 1

Soil Infiltration Rate (f)

See Remarks

Elapsed Time		Depth recorded on dip meter	Water level
Minutes	Seconds	(m)	(mbgl)
0.00	0	1.530	1.530
0.50	30	1.530	1.530
1.00	60	1.540	1.540
1.50	90	1.540	1.540
2.00	120	1.550	1.550
3.00	180	1.570	1.570
4.00	240	1.570	1.570
5.00	300	1.570	1.570
10.00	600	1.570	1.570
15.00	900	1.570	1.570
20.00	1200	1.570	1.570
30.00	1800	1.570	1.570
60.00	3600	1.590	1.590
90.00	5400	1.590	1.590
120.00	7200	1.600	1.600
150.00	9000	1.600	1.600
180.00	10800	1.600	1.600



Remarks: Test failed to meet the minumum criteria to satisfy the BRE calculation model

harrisongroup ENVIRONMENTAL

SOIL INFILTRATION RATE TEST

In accordance with BRE Digest 365 (1991 with amendments in 2003 and 2007)

Engineer:	RC	Job Number:	GL18065
Client: Homes & Communities Agency	Test Pit No.:	NGTP03	Date: 20/02/2014
Job Location: HMS Daedalus - Waterfront	Time to fill pit: (minutes)	01:00	Time at start of test: 10:02
Trial pit filled with gravel to prevent instability in pit walls?:	NO		

Pit Dimensions (m)	
Length	3.00
Width	0.60
Depth	2.30
Height of pipe above ground level (if applicable)	0.00

Start % for calculations:	75% full
End % for calculations:	51.92% full

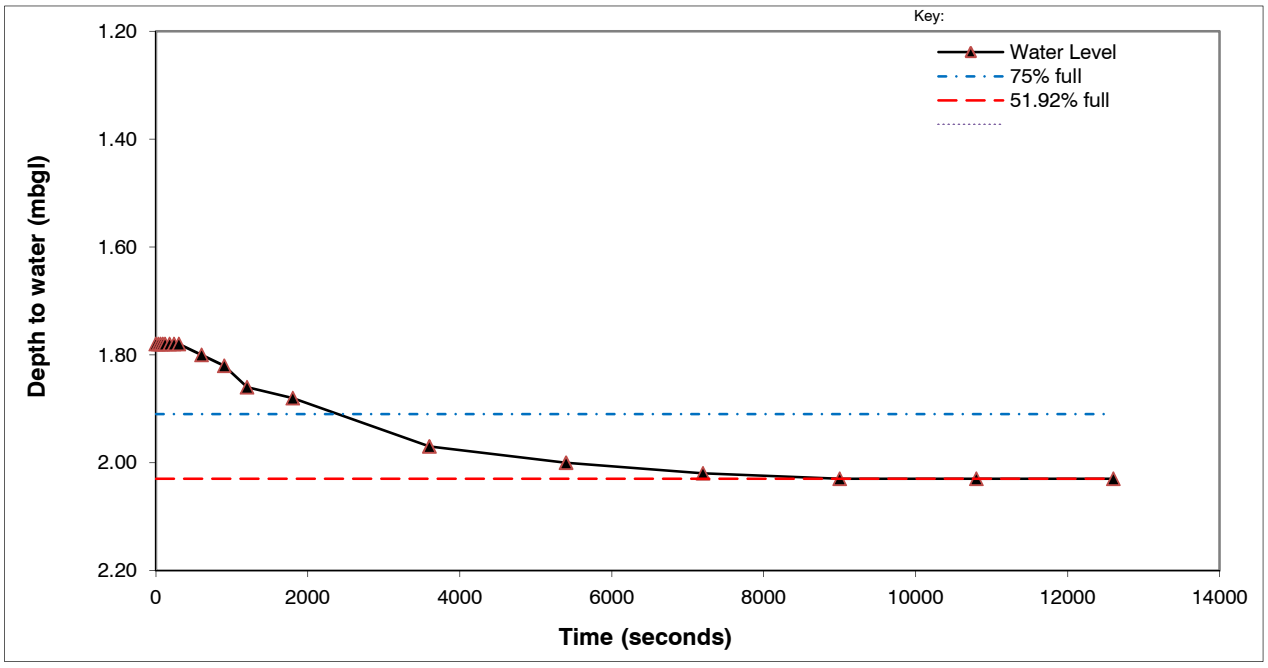
Infilling 1

Soil Infiltration Rate (f)

5.07E-06 m/s

Note: Estimated rate based on 75% Full to 51.92% full as test not completed to 25% full.

Elapsed Time		Depth recorded on dip meter	Water level
Minutes	Seconds	(m)	(mbgl)
0.00	0	1.780	1.780
0.50	30	1.780	1.780
1.00	60	1.780	1.780
1.50	90	1.780	1.780
2.00	120	1.780	1.780
3.00	180	1.780	1.780
4.00	240	1.780	1.780
5.00	300	1.780	1.780
10.00	600	1.800	1.800
15.00	900	1.820	1.820
20.00	1200	1.860	1.860
30.00	1800	1.880	1.880
60.00	3600	1.970	1.970
90.00	5400	2.000	2.000
120.00	7200	2.020	2.020
150.00	9000	2.030	2.030
180.00	10800	2.030	2.030
210.00	12600	2.030	2.030



Remarks:

harrisongroup ENVIRONMENTAL

SOIL INFILTRATION RATE TEST

In accordance with BRE Digest 365 (1991 with amendments in 2003 and 2007)

Engineer:	RC	Job Number:	GL18065
Client: Homes & Communities Agency	Test Pit No.:	WFTP01	Date: 20/02/2014
Job Location: HMS Daedalus - Waterfront	Time to fill pit: (minutes)	01:30	Time at start of test: 09:08
Trial pit filled with gravel to prevent instability in pit walls?:	NO		

Pit Dimensions (m)	
Length	3.00
Width	0.60
Depth	2.60
Height of pipe above ground level (if applicable)	0.00

Start % for calculations:	75% full
End % for calculations:	25% full

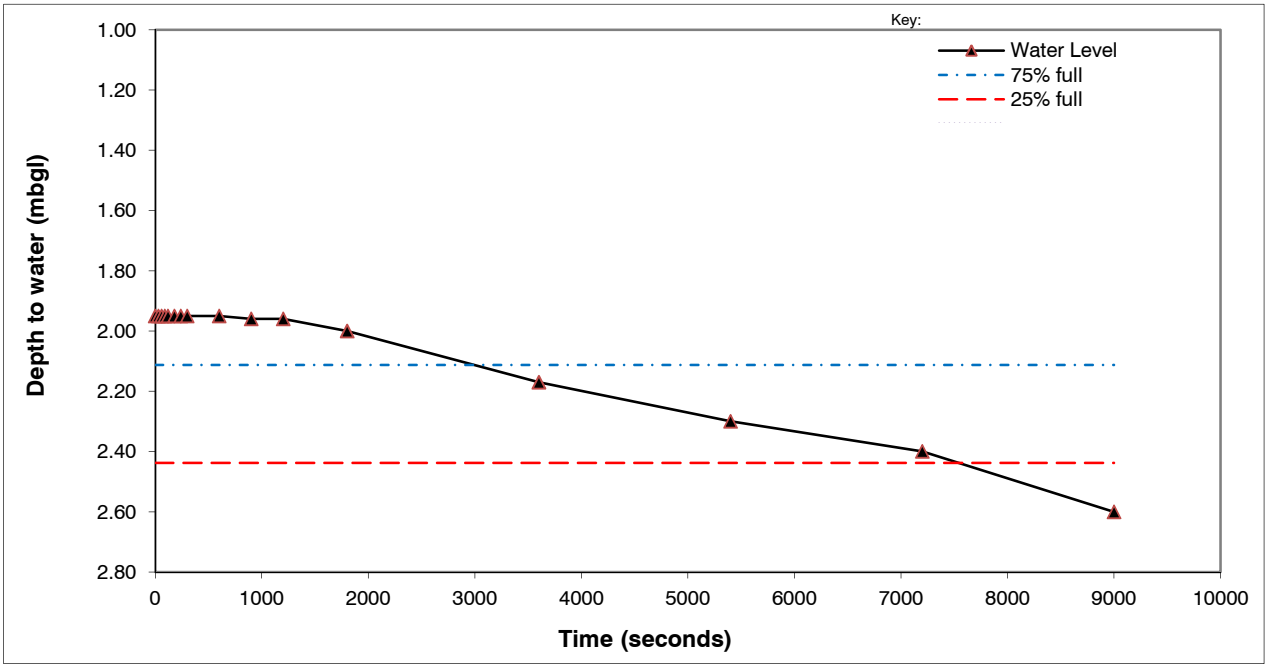
Infilling 1

Soil Infiltration Rate (f)

3.11E-05 m/s

Note: Test completed between 75% full and 25% full in accordance with BRE Digest 365

Elapsed Time		Depth recorded on dip meter	Water level
Minutes	Seconds	(m)	(mbgl)
0.00	0	1.950	1.950
0.50	30	1.950	1.950
1.00	60	1.950	1.950
1.50	90	1.950	1.950
2.00	120	1.950	1.950
3.00	180	1.950	1.950
4.00	240	1.950	1.950
5.00	300	1.950	1.950
10.00	600	1.950	1.950
15.00	900	1.960	1.960
20.00	1200	1.960	1.960
30.00	1800	2.000	2.000
60.00	3600	2.170	2.170
90.00	5400	2.300	2.300
120.00	7200	2.400	2.400
150.00	9000	2.600	2.600



Remarks:

harrisongroup ENVIRONMENTAL

SOIL INFILTRATION RATE TEST

In accordance with BRE Digest 365 (1991 with amendments in 2003 and 2007)

Engineer:	RC	Job Number:	GL18065
Client: Homes & Communities Agency		Test Pit No.: WFTP01	Date: 20/02/2014
Job Location: HMS Daedalus - Waterfront		Time to fill pit: (minutes) 02:30	Time at start of test: 13:39
Trial pit filled with gravel to prevent instability in pit walls?:	NO		

Pit Dimensions (m)	
Length	3.00
Width	0.60
Depth	2.48
Height of pipe above ground level (if applicable)	0.00

Start % for calculations:	75% full
End % for calculations:	Extrapolated 25% full

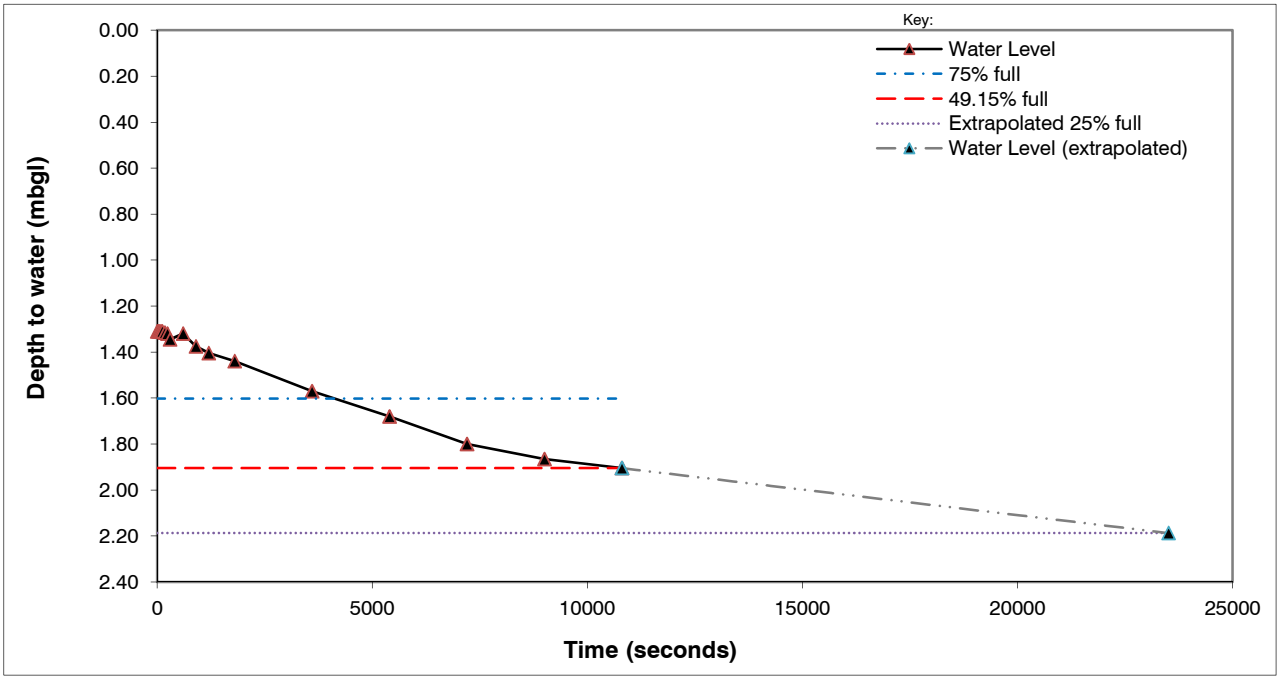
Infilling 1

Soil Infiltration Rate (f)

9.04E-06 m/s

Note: Estimated rate based on 75% full to extrapolated 25% full as test not completed to 25% full.

Elapsed Time		Depth recorded on dip meter	Water level
Minutes	Seconds	(m)	(mbgl)
0.00	0	1.310	1.310
0.50	30	1.310	1.310
1.00	60	1.310	1.310
1.50	90	1.310	1.310
2.00	120	1.310	1.310
3.00	180	1.315	1.315
4.00	240	1.320	1.320
5.00	300	1.345	1.345
10.00	600	1.320	1.320
15.00	900	1.375	1.375
20.00	1200	1.405	1.405
30.00	1800	1.440	1.440
60.00	3600	1.570	1.570
90.00	5400	1.680	1.680
120.00	7200	1.800	1.800
150.00	9000	1.865	1.865
180.00	10800	1.905	1.905



Remarks:

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SOIL INFILTRATION RATE TEST

In accordance with BRE Digest 365 (1991 with amendments in 2003 and 2007)

Engineer:	RC	Job Number:	GL18065
Client: Homes & Communities Agency	Test Pit No.:	WFTP10	Date: 20/02/2014
Job Location: HMS Daedalus - Waterfront	Time to fill pit: (minutes)	02:32	Time at start of test: 12:45
Trial pit filled with gravel to prevent instability in pit walls?:	NO		

Pit Dimensions (m)	
Length	2.90
Width	0.60
Depth	3.10
Height of pipe above ground level (if applicable)	0.00

Start % for calculations:	75% full
End % for calculations:	Extrapolated 25% full

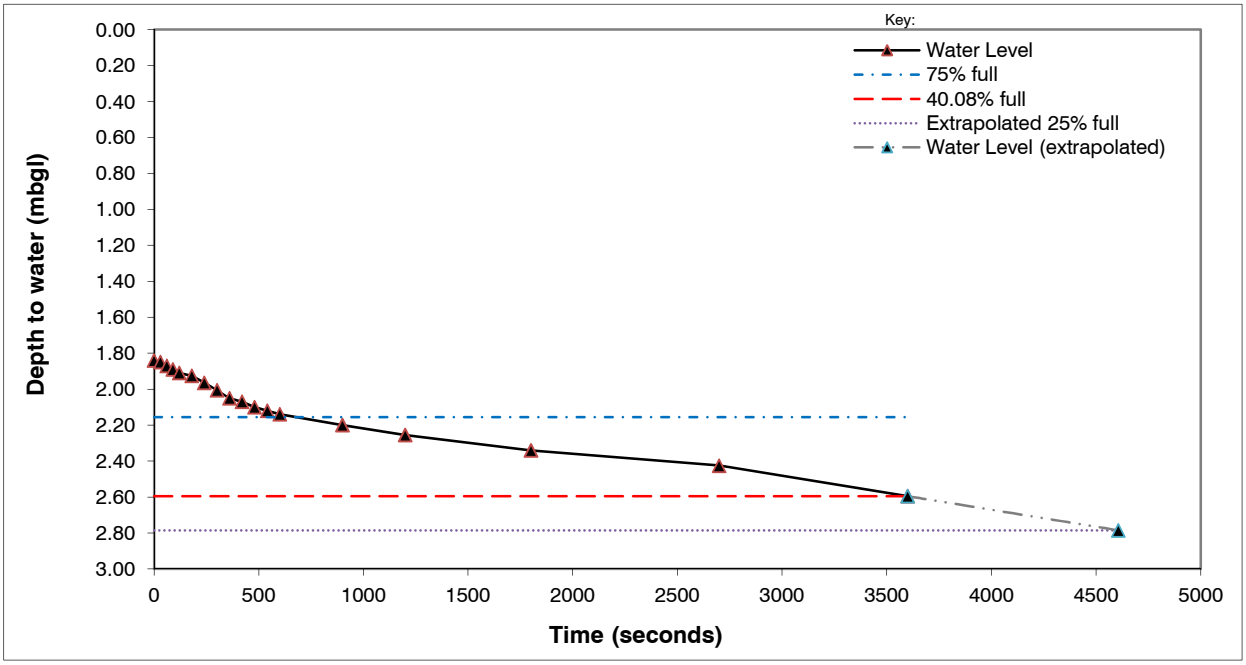
Infilling 1

Soil Infiltration Rate (f)

4.53E-05 m/s

Note: Estimated rate based on 75% full to extrapolated 25% full as test not completed to 25% full.

Elapsed Time		Depth recorded on dip meter	Water level
Minutes	Seconds	(m)	(mbgl)
0.00	0	1.840	1.840
0.50	30	1.850	1.850
1.00	60	1.870	1.870
1.50	90	1.890	1.890
2.00	120	1.910	1.910
3.00	180	1.925	1.925
4.00	240	1.965	1.965
5.00	300	2.005	2.005
6.00	360	2.050	2.050
7.00	420	2.070	2.070
8.00	480	2.100	2.100
9.00	540	2.120	2.120
10.00	600	2.140	2.140
15.00	900	2.200	2.200
20.00	1200	2.255	2.255
30.00	1800	2.340	2.340
45.00	2700	2.425	2.425
60.00	3600	2.595	2.595



Remarks:

harrisongroup ENVIRONMENTAL

Falling Head Permeability Test

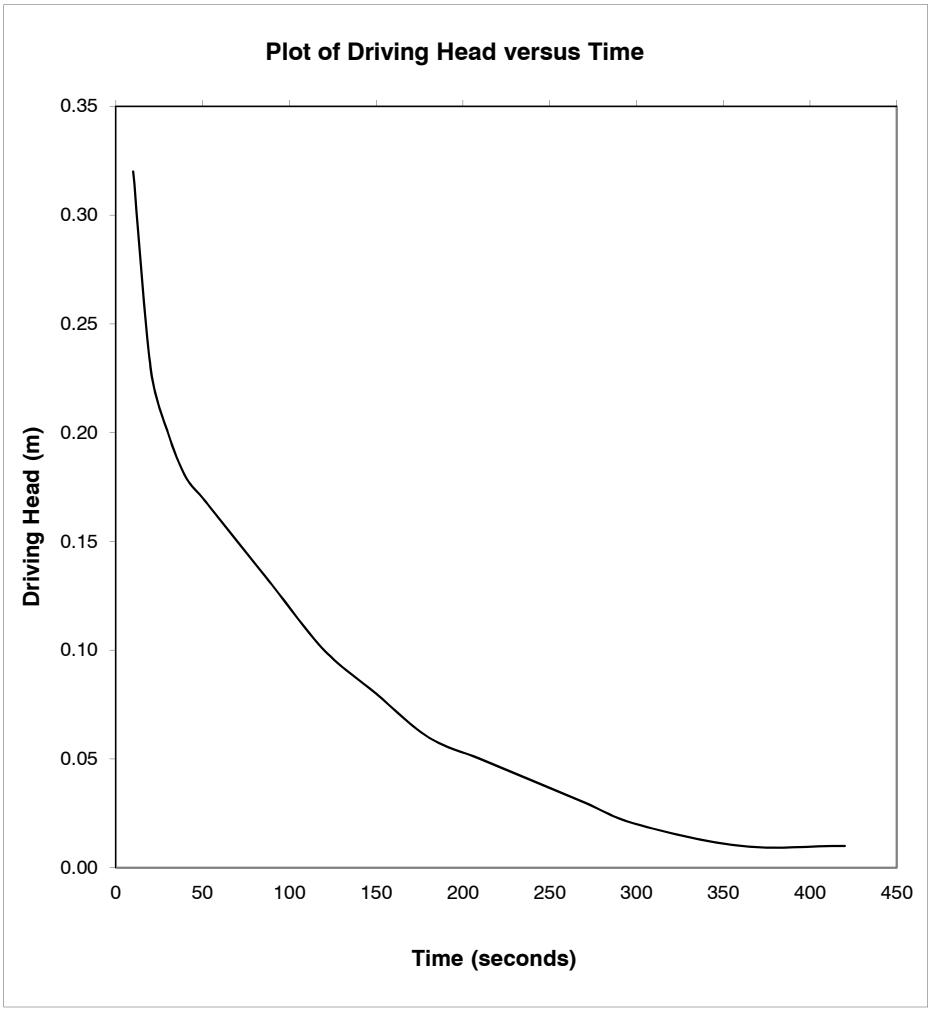
In accordance with BS5930 Section 4 (25.4)

		Job Location: Daedalus Waterfront	Job Number: GL18065
Client: Campbell Reith		Borehole No.: LEPBH01	Date: 15/05/2014
Engineer: J. Burch		Time to fill BH: 50 SECS	Time at start of test: 09:28

Stratum Interbedded clay with clayey and clean sand and gravel.

Test Date	
Borehole Depth (mbgl)	8.66
Borehole Diameter (m)	0.15
Groundwater level before test (mbgl)	2.84
Depth of Casing mbgl	1.00
Initial Driving Head (m)	0.32
Top of Test Zone (mbgl)	1.00
Bottom of Test (mbgl)	8.66
Initial Water Level (mbgl)	2.52

Results	
Permeability	
1.44E-05	m/s
After	Hvorslef[57]
Using	Case d General Approach



Remarks: Test carried out within borehole installation post completion of fieldworks. Not corrected for installation / backfill details.

Falling Head Permeability Test

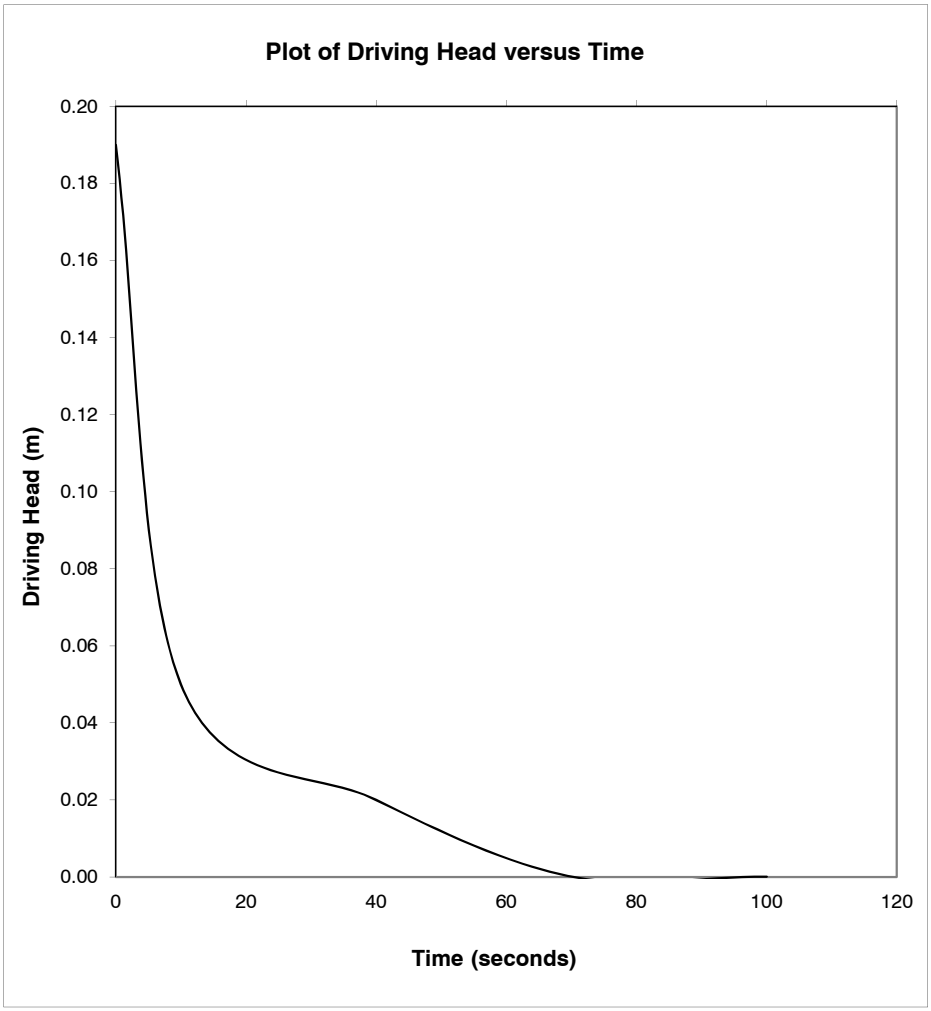
In accordance with BS5930 Section 4 (25.4)

Job Location:	Daedalus Waterfront	Job Number:	GL18065
Client: Campbell Reith	Borehole No.: MCBH01 SA1	Date:	20/05/2014
Engineer: J. Burch	Time to fill BH: 60 Secs	Time at start of test:	11:29

Stratum Interbedded clayey sand and gravel

Test Date	
Borehole Depth (mbgl)	5.88
Borehole Diameter (m)	0.15
Groundwater level before test (mbgl)	3.25
Depth of Casing mbgl	0.00
Initial Driving Head (m)	0.19
Top of Test Zone (mbgl)	1.00
Bottom of Test (mbgl)	5.88
Initial Water Level (mbgl)	3.06

Results	
Permeability	
1.82E-04	m/s
After	Hvorslef[57]
Using	Case d General Approach



Remarks: Test carried out within borehole installation post completion of fieldworks. Not corrected for installation / backfill details.

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Falling Head Permeability Test

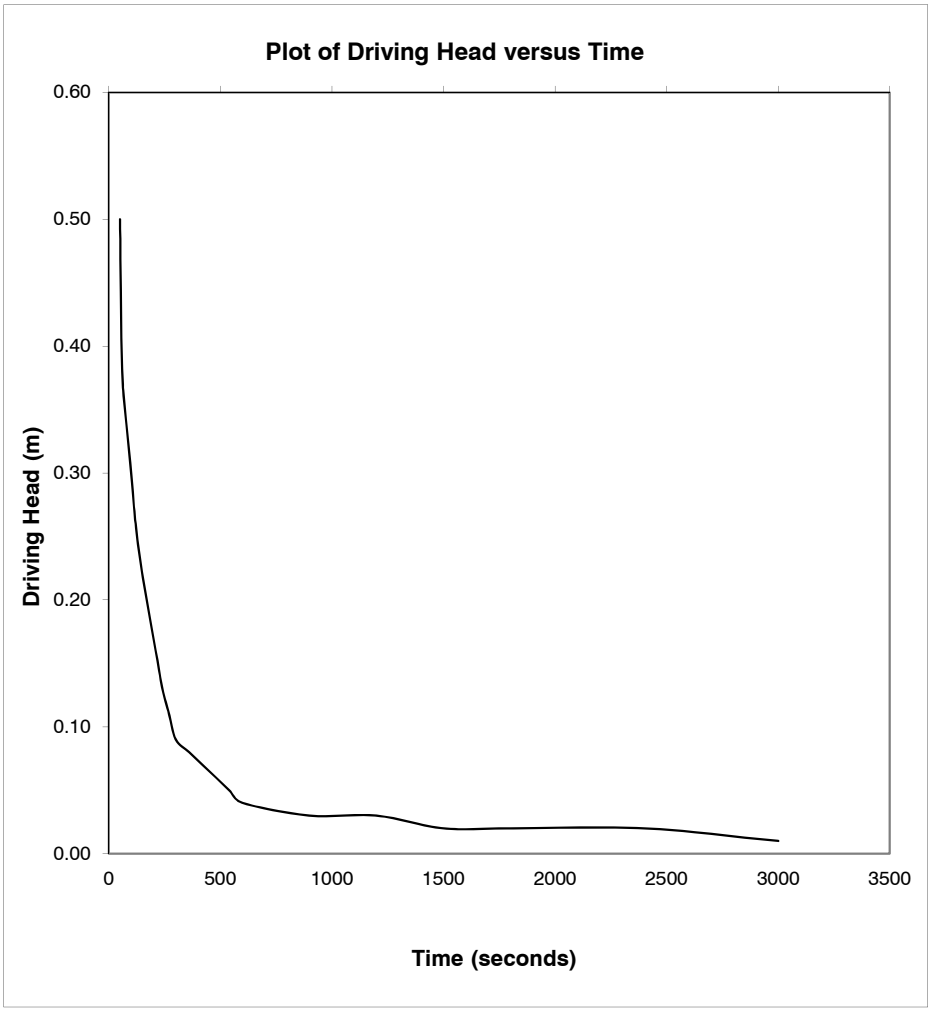
In accordance with BS5930 Section 4 (25.4)

	Job Location: Daedalus Waterfront	Job Number:	GL18065
Client: Campbell Reith	Borehole No.: NGBH01 SA1	Date:	19/05/2014
Engineer: J. Burch	Time to fill BH: 60 SECS	Time at start of test:	13:30

Stratum Interbedded sandy gravelly clay with sand and gravel

Test Date	
Borehole Depth (mbgl)	8.79
Borehole Diameter (m)	0.15
Groundwater level before test (mbgl)	3.38
Depth of Casing mbgl	1.00
Initial Driving Head (m)	0.50
Top of Test Zone (mbgl)	1.00
Bottom of Test (mbgl)	8.79
Initial Water Level (mbgl)	2.88

Results	
Permeability	
2.22E-06	m/s
After	Hvorslef[57]
Using	Case d General Approach



Remarks: Test carried out within borehole installation post completion of fieldworks. Not corrected for installation / backfill details.

Falling Head Permeability Test

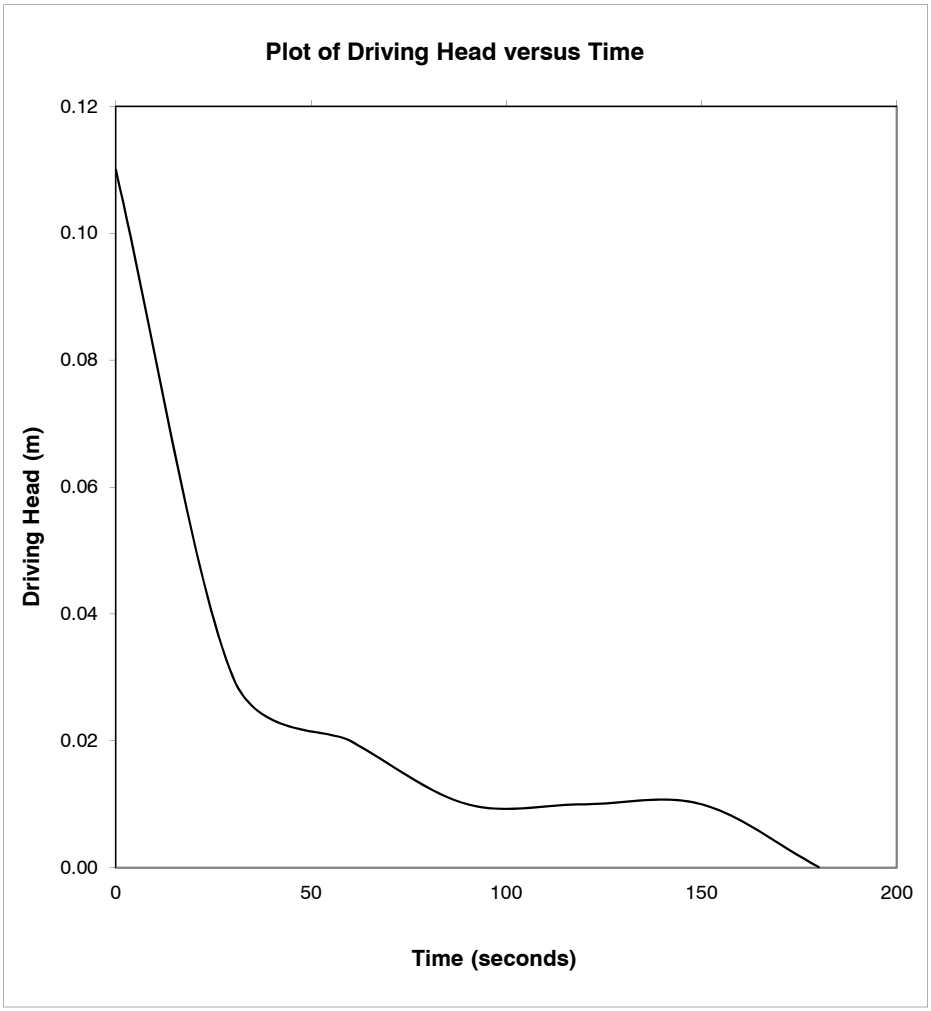
In accordance with BS5930 Section 4 (25.4)

Job Location:	Daedalus Waterfront	Job Number:	GL18065
Client: Campbell Reith	Borehole No.: WFBH01 SA1	Date:	19/05/2014
Engineer: J. Burch	Time to fill BH: 60 Secs	Time at start of test:	10:28

Stratum Clayey sand and gravel

Test Date	
Borehole Depth (mbgl)	9.89
Borehole Diameter (m)	0.15
Groundwater level before test (mbgl)	4.45
Depth of Casing mbgl	1.00
Initial Driving Head (m)	0.11
Top of Test Zone (mbgl)	1.00
Bottom of Test (mbgl)	9.89
Initial Water Level (mbgl)	4.34

Results	
Permeability	
5.88E-05	m/s
After	Hvorslef[57]
Using	Case d General Approach



Remarks: Test carried out within borehole installation post completion of fieldworks. Not corrected for installation / backfill details.

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Falling Head Permeability Test

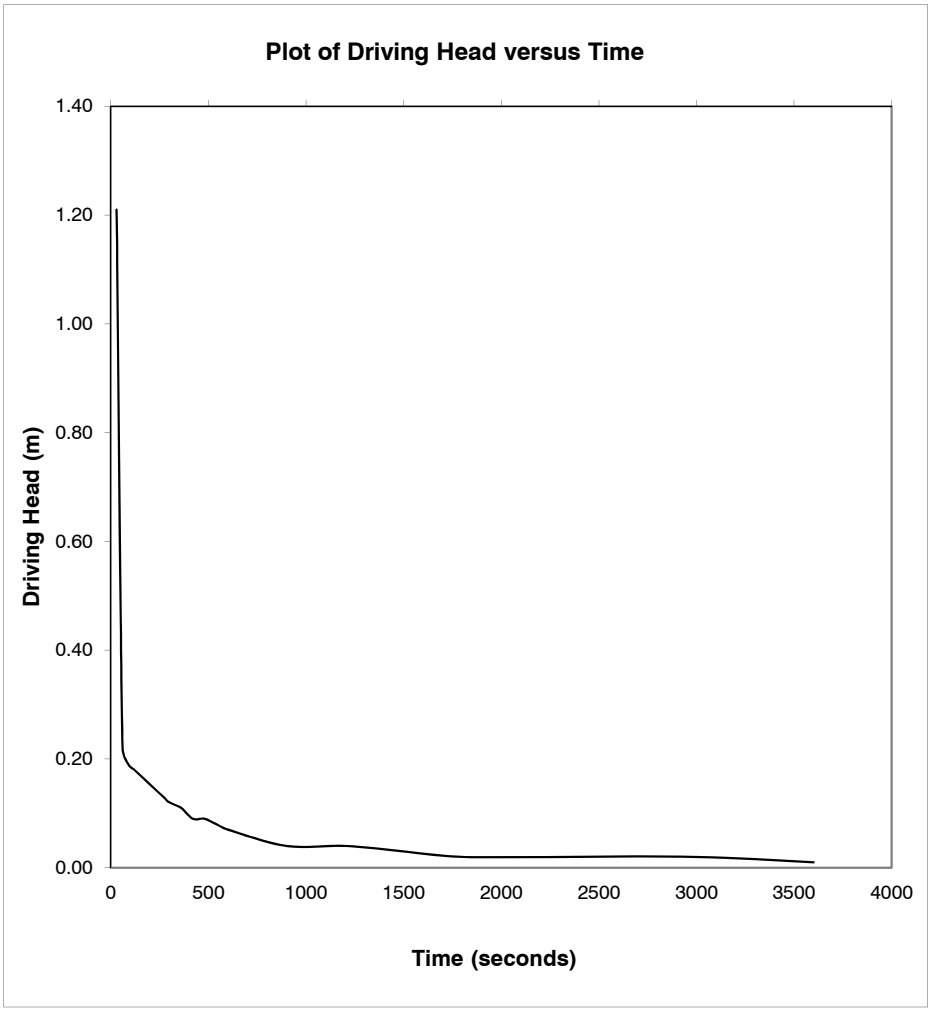
In accordance with BS5930 Section 4 (25.4)

	Job Location: Daedalus Waterfront	Job Number:	GL18065
Client: Campbell Reith	Borehole No.: WFBH05 SA1	Date:	19/05/2014
Engineer: J. Burch	Time to fill BH: 60 SECS	Time at start of test:	14:30

Stratum: Interbedded sandy gravelly clay, clayey sand and with sand and gravel

Test Date	
Borehole Depth (mbgl)	7.71
Borehole Diameter (m)	0.15
Groundwater level before test (mbgl)	5.32
Depth of Casing mbgl	1.00
Initial Driving Head (m)	1.21
Top of Test Zone (mbgl)	1.00
Bottom of Test (mbgl)	7.71
Initial Water Level (mbgl)	4.11

Results	
Permeability	
2.53E-06	m/s
After	Hvorslef[57]
Using	Case d General Approach



Remarks: Test carried out within borehole installation post completion of fieldworks. Not corrected for installation / backfill details.

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Falling Head Permeability Test

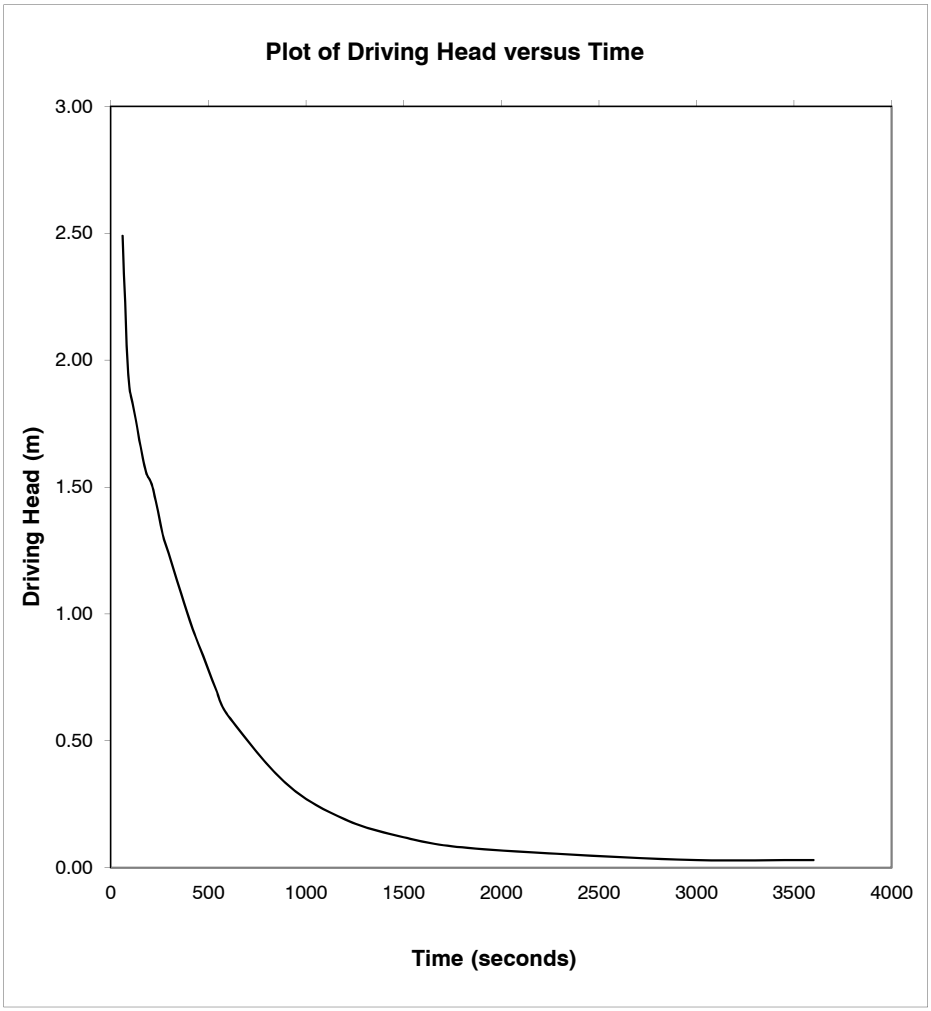
In accordance with BS5930 Section 4 (25.4)

Job Location:	Daedalus Waterfront	Job Number:	GL18065
Client: Campbell Reith	Borehole No.: WFBH06 SA1	Date:	19/05/2014
Engineer: J. Burch	Time to fill BH: 60 SECS	Time at start of test:	14:30

Stratum Interbedded sandy gravelly clay, clayey sand, sand and gravel

Test Date	
Borehole Depth (mbgl)	9.79
Borehole Diameter (m)	0.15
Groundwater level before test (mbgl)	3.69
Depth of Casing mbgl	1.00
Initial Driving Head (m)	2.49
Top of Test Zone (mbgl)	2.00
Bottom of Test (mbgl)	9.79
Initial Water Level (mbgl)	1.20

Results	
Permeability	
2.09E-06	m/s
After	Hvorslef[57]
Using	Case d General Approach



Remarks: Test carried out within borehole installation post completion of fieldworks. Not corrected for installation / backfill details.

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Falling Head Permeability Test

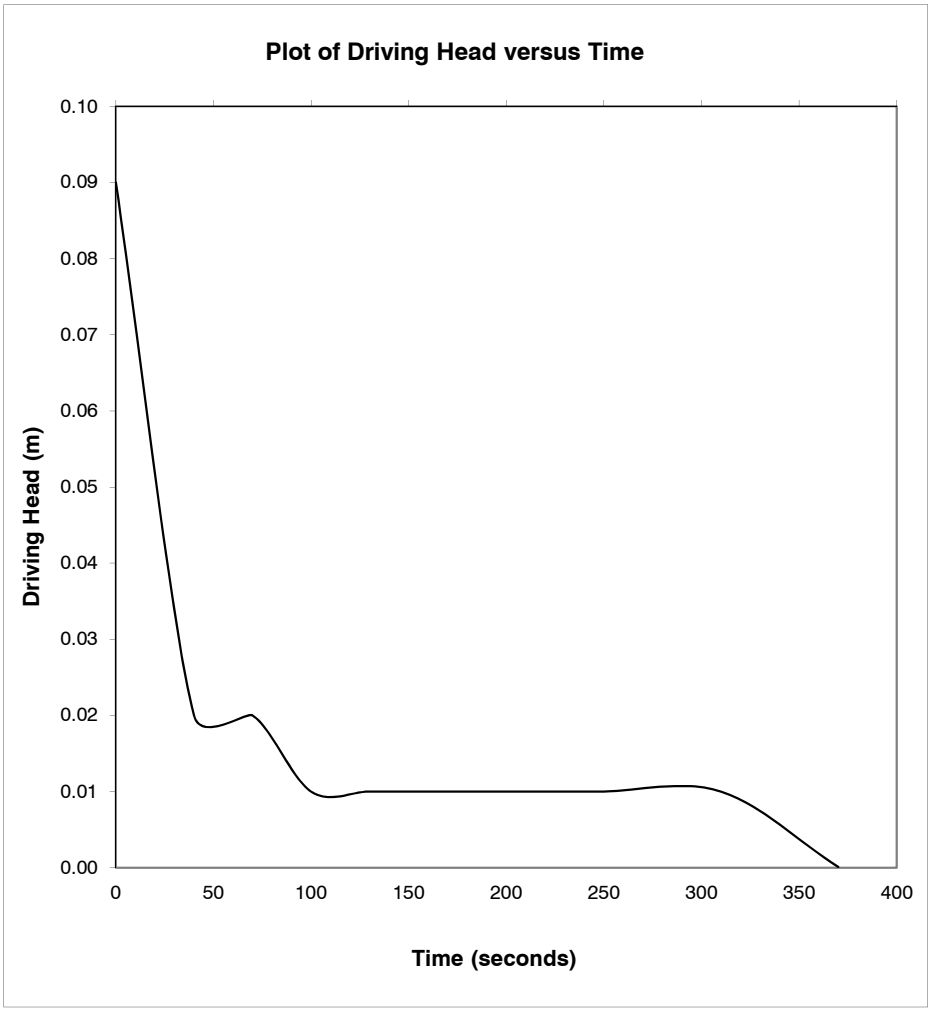
In accordance with BS5930 Section 4 (25.4)

Job Location:	Daedalus Waterfront	Job Number:	GL18065
Client: Campbell Reith	Borehole No.: WFBH12 SA1	Date:	15/05/2014
Engineer: J. Burch	Time to fill BH: 60 SECS	Time at start of test:	12:29

Stratum Interbedded sandy, gravelly clay with sand and gravel

Test Date	
Borehole Depth (mbgl)	5.91
Borehole Diameter (m)	0.15
Groundwater level before test (mbgl)	3.57
Depth of Casing mbgl	1.00
Initial Driving Head (m)	0.09
Top of Test Zone (mbgl)	1.00
Bottom of Test (mbgl)	5.91
Initial Water Level (mbgl)	3.48

Results	
Permeability	
4.40E-05	m/s
After	Hvorslef[57]
Using	Case d General Approach



Remarks: Test carried out within borehole installation post completion of fieldworks. Not corrected for installation / backfill details.

harrisongroup ENVIRONMENTAL

Results of Dynamic Cone Penetrometer

				m
Project ID:	GL18178	**Samples**	D1	0.15
Project Name:	HMS Daedalus (Waterfront)		D2	0.50
Client:	Homes and Communities Agency			
Engineer:	Campbell Reith Hill LLP			

Probe Number: LEPCBR01 TEST 1 **Test carried out at:** 0.30 mbgl

Test Date: 04/04/2014

Remarks: Carried out on grass adjacent to runway / airfiled perimiter road.

Number of Blows	Total Number of Blows	Reading (mm)	Penetration (mm)	Depth (mbgl)
0	0	85	0	0.300
1	1	240	155	0.455
1	2	350	110	0.565
1	3	430	80	0.645
1	4	490	60	0.705
2	6	610	120	0.825
2	8	748	138	0.963
2	10	960	212	1.175

Notes: Test carried out using a CNS Farnell DCP Model: A2465

DCP Value (mm/blow)	Depth (mBGL)	B = 1.057 x Log_{10}(mm/blow)	Log_{10}(CBR) = 2.48 - B	CBR Value
155.0	0.455	2.315180605	0.164819395	1.46
110.0	0.565	2.157752068	0.322247932	2.10
80.0	0.645	2.011566116	0.468433884	2.94
60.0	0.705	1.879505872	0.600494128	3.99
60.0	0.825	1.879505872	0.600494128	3.99
69.0	0.963	1.943663489	0.536336511	3.44
106.0	1.175	2.1407483	0.3392517	2.18

Log:

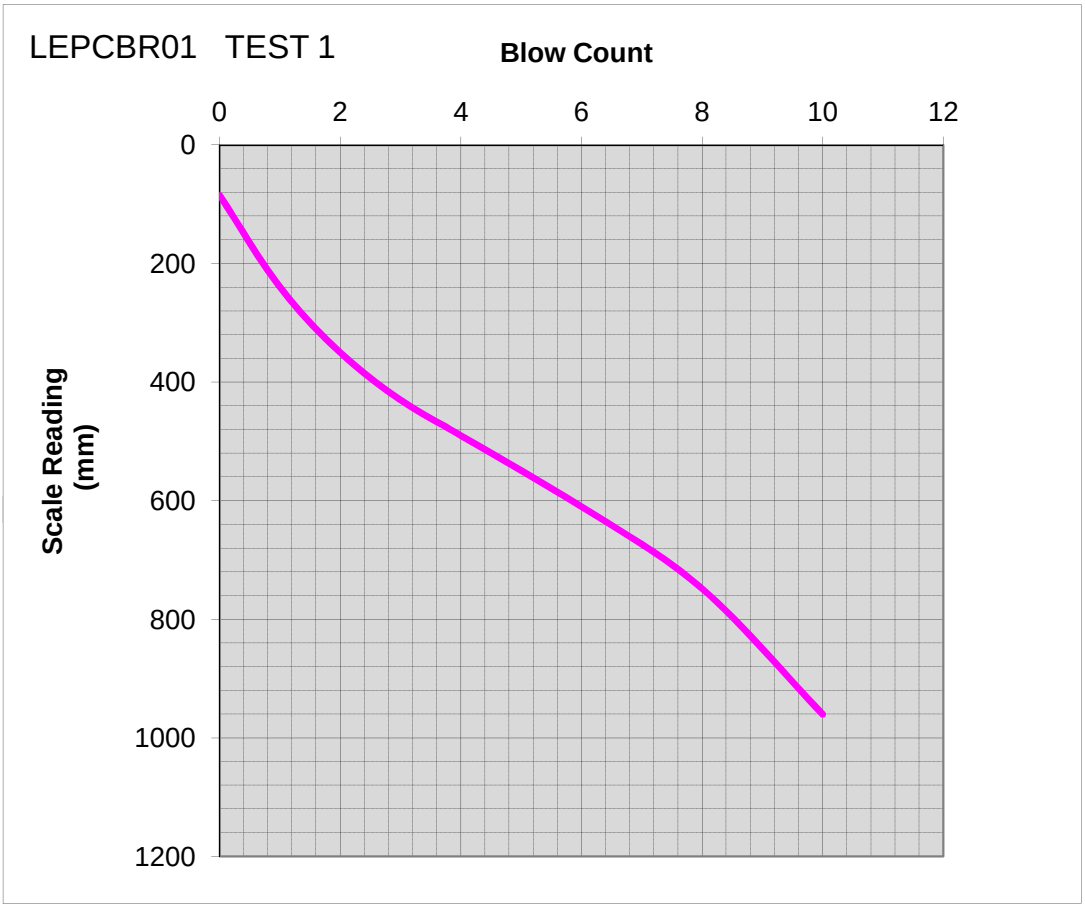
Strata Depth		Description/Comment
From (m)	To (m)	
0.00	0.30	MADE GROUND. Grass over brown slightly gravelly silty clayey TOPSOIL. Gravel is angular to subangular fine and medium flint. Frequent rootlets.
0.30	1.20	Orangish brown mottled greyish brown and orange slightly gravelly silty CLAY. Gravel is angular to subangular fine flint.

Test No.
LEPCBR01 TEST 1
Sheet 1 of 1

harrisongroup ENVIRONMENTAL

Client:	Homes and Communities Agency	Project ID:	GL18178
Engineer:	Campbell Reith Hill LLP	Project Name:	HMS Daedalus (Waterfront)

Test Date:	04/04/2014
Hole Type:	CBR
Equipment:	CNS Farnell DCP Model: A2465



Hammer Type/Mass:	8kg	Cone Type / Diameter:	60°/ 20mm	Cone Left Behind:	No
Standard Drop:	575mm	Rod Type / Diameter:	15mm	Hole Backfilled:	04/04/2014
Damper:	None	Type:	None		
Top of test:	0.30 mbgl		Remarks:		
Operator:	R. Caplin	Checked by:	J. Keay	Approved by:	J. Keay

harrisongroup	**CBR Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPCBR02	04/04/2014



LEPCBR02 - GL to 0.025m



LEPCBR02 - Pit

Remarks	Engineer: R. Caplin	Checked By: J.Keay

Harrison Group Environmental Ltd.
Kimberley Street, Norwich, NR2 2RJ

harrisongroup ENVIRONMENTAL

Results of Dynamic Cone Penetrometer

				m
Project ID:	GL18178	**Samples**	D1	0.15
Project Name:	HMS Daedalus (Waterfront)		D2	0.25
Client:	Homes and Communities Agency		D3	0.50
Engineer:	Campbell Reith Hill LLP		ES1	0.25
			B1	0.30
Probe Number:	LEPCBR02 TEST 1		CORE1	GL-0.03
Test Date:	04/04/2014			
Remarks:		**Test carried out at:**	0.03	mbgl

Number of Blows	Total Number of Blows	Reading (mm)	Penetration (mm)	Depth (mbgl)
0	0	176	0	0.030
2	2	190	14	0.044
3	5	220	30	0.074
5	10	270	50	0.124
5	15	405	135	0.259
5	20	551	146	0.405
10	30	748	197	0.602
10	40	935	187	0.789

Notes: Test carried out using a CNS Farnell DCP Model: A2465

DCP Value (mm/blow)	Depth (mBGL)	B = 1.057 x Log_{10}(mm/blow)	Log_{10}(CBR) = 2.48 - B	CBR Value
7.0	0.044	0.893268628	1.586731372	38.61
10.0	0.074	1.057	1.423	26.49
10.0	0.124	1.057	1.423	26.49
27.0	0.259	1.512951499	0.967048501	9.27
29.2	0.405	1.548909674	0.931090326	8.53
19.7	0.602	1.368250801	1.111749199	12.93
18.7	0.789	1.344336578	1.135663422	13.67

Log:

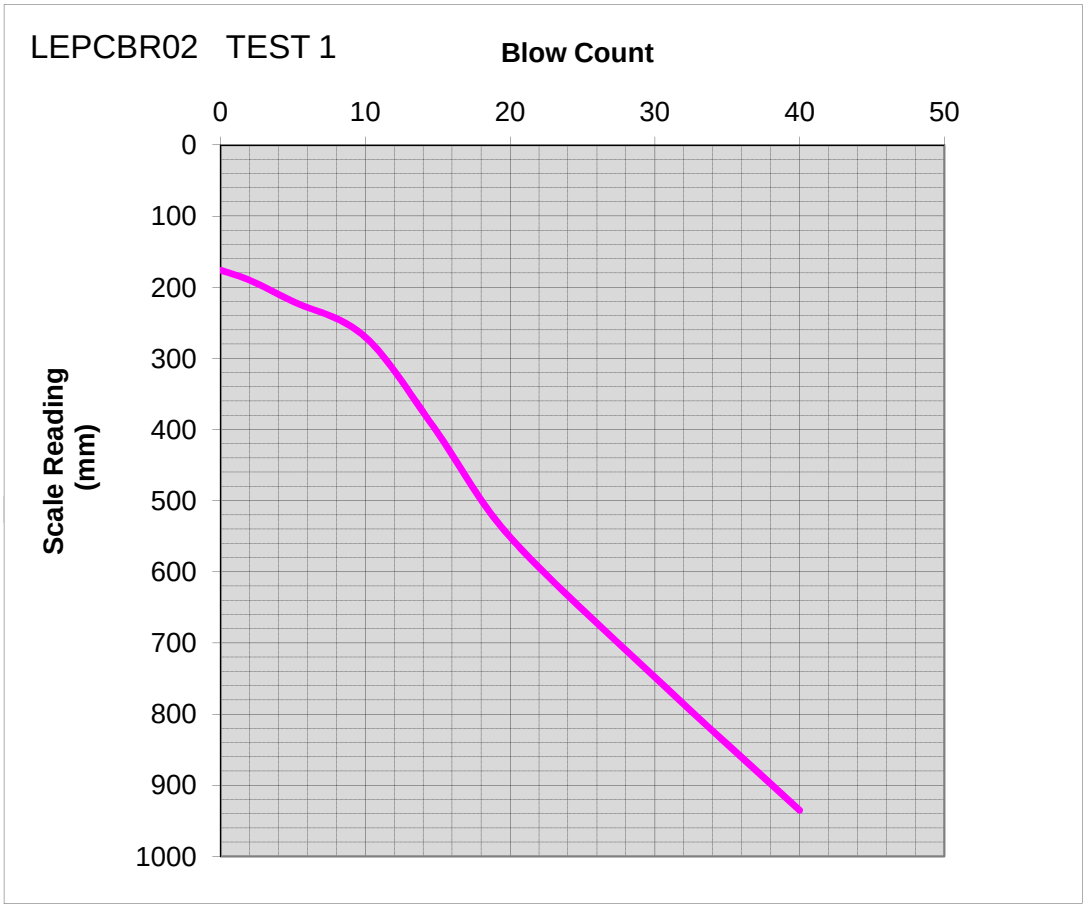
Strata Depth		Description/Comment
From (m)	To (m)	
0.000	0.025	MADE GROUND. ASPHALT.
0.025	0.030	MADE GROUND. Black GRAVEL. Gravel is very angular to subangular medium and coarse asphalt.
0.030	0.180	MADE GROUND. Black very garvelly ashy medium and coarse SAND. Gravel is very angular to subangular fine and medium asphalt, stone and clinker.
0.180	0.360	MADE GROUND. Structureless CHALK composed of silty subangular medium and coarse GRAVEL. Gravel is weak low denisty blue white and light grey with frequent grey staining. Matrix is very darkgreysih brown silt. Occasional cobbles of flint, fragments of brick and tile.
0.360	0.400	MADE GROUND. Dark greenish grey locally orangish brown slightly gravelly CLAY. Gravel is very angular to subangular fine and medium flint, brick and rare tile fragments.
0.400	1.000	Orangish brown mottled greyish brown and orange slightly gravelly silty CLAY. Gravel is angular to subangular fine flint.

Test No.
LEPCBR02 TEST 1
Sheet 1 of 1

harrisongroup ENVIRONMENTAL

Client:	Homes and Communities Agency	Project ID:	GL18178
Engineer:	Campbell Reith Hill LLP	Project Name:	HMS Daedalus (Waterfront)

Test Date:	04/04/2014
Hole Type:	CBR
Equipment:	CNS Farnell DCP Model: A2465



Hammer Type/Mass:	8kg	Cone Type / Diameter:	60°/ 20mm	Cone Left Behind:	No
Standard Drop:	575mm	Rod Type / Diameter:	15mm	Hole Backfilled:	04/04/2014
Damper:	None	Type:	None		
Top of test:	0.03 mbgl		Remarks:		
Operator:	R. Caplin	Checked by:	J. Keay	Approved by:	J. Keay

harrisongroup

CBR Photograph Record Sheet

Project:	Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPCBR03	04/04/2014



LEPCBR03 - GL to 0.25m



LEPCBR03 - Pit

Remarks	Engineer: R. Caplin	Checked By: J.Keay

Harrison Group Environmental Ltd.
Kimberley Street, Norwich, NR2 2RJ

harrisongroup ENVIRONMENTAL

Results of Dynamic Cone Penetrometer

				m
Project ID:	GL18178	**Samples**	D1	0.30
Project Name:	HMS Daedalus (Waterfront)		D2	0.50
Client:	Homes and Communities Agency		B1	0.30
Engineer:	Campbell Reith Hill LLP		B2	0.50
			CORE1	GL-0.25

Probe Number: LEPCBR03 TEST 1

Test Date: 04/04/2014

Remarks: **Test carried out at:** 0.32 mbgl

Number of Blows	Total Number of Blows	Reading (mm)	Penetration (mm)	Depth (mbgl)
0	0	75	0	0.320
2	2	345	270	0.590
2	4	450	105	0.695
2	6	538	88	0.783
2	8	618	80	0.863
2	10	688	70	0.933
5	15	868	180	1.113
3	18	970	102	1.215

Notes: Test carried out using a CNS Farnell DCP Model: A2465

DCP Value (mm/blow)	Depth (mBGL)	B = 1.057 x Log_{10}(mm/blow)	Log_{10}(CBR) = 2.48 - B	CBR Value
135.0	0.590	2.251762793	0.228237207	1.69
52.5	0.695	1.818208384	0.661791616	4.59
44.0	0.783	1.737129479	0.742870521	5.53
40.0	0.863	1.693377411	0.786622589	6.12
35.0	0.933	1.632079923	0.847920077	7.05
36.0	1.113	1.645011743	0.834988257	6.84
34.0	1.215	1.618773215	0.861226785	7.26

Log:

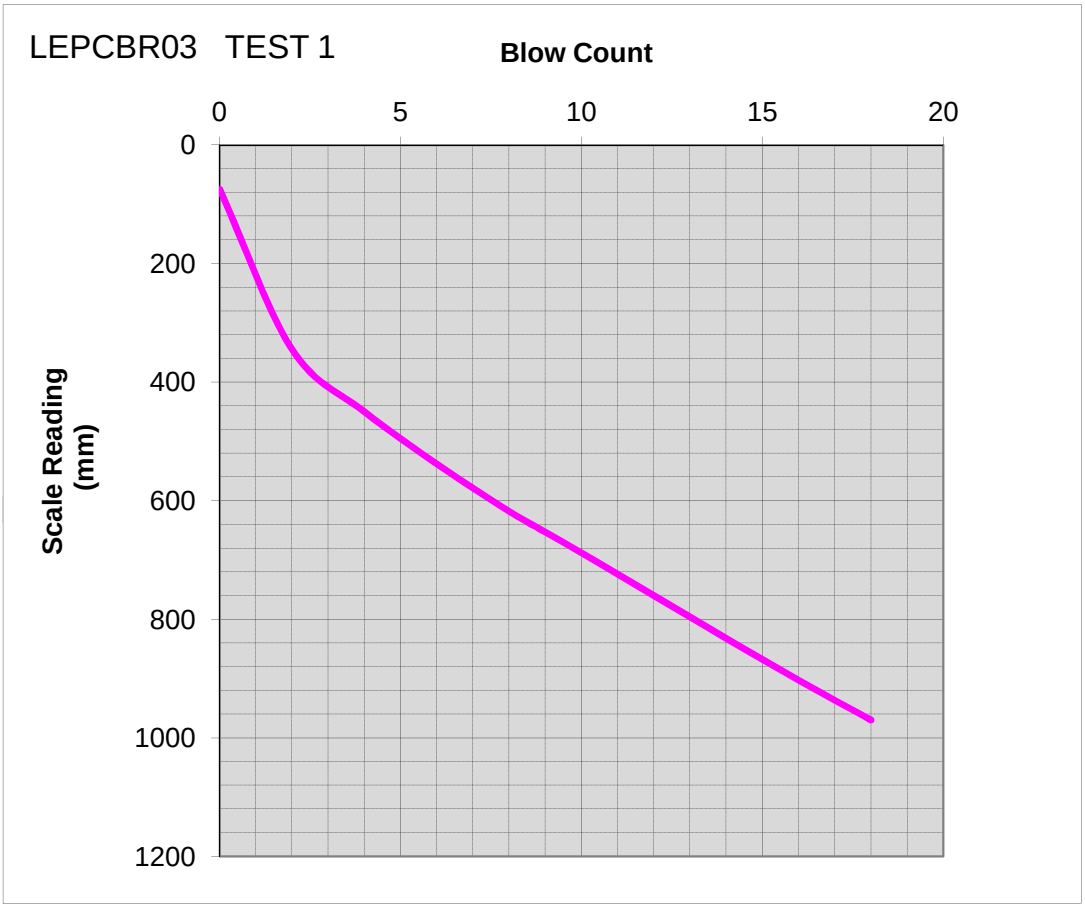
Strata Depth		Description/Comment
From (m)	To (m)	
0.00	0.09	MADE GROUND. ASPHALT.
0.09	0.25	MADE GROUND. CONCRETE.
0.25	0.32	MADE GROUND. Grey SAND and GRAVEL. Gravel is very angular to subangular fine to coarse concrete and occasional brick.
0.32	1.20	Orangish brown mottled pinkish grey and greyish brown slightly gravelly silty CLAY. Gravel is angular to subangular fine flint and occasional coal.

Test No.
LEPCBR03 TEST 1
Sheet 1 of 1

harrisongroup ENVIRONMENTAL

Client:	Homes and Communities Agency	Project ID:	GL18178
Engineer:	Campbell Reith Hill LLP	Project Name:	HMS Daedalus (Waterfront)

Test Date:	04/04/2014
Hole Type:	CBR
Equipment:	CNS Farnell DCP Model: A2465



Hammer Type/Mass:	8kg	Cone Type / Diameter:	60°/ 20mm	Cone Left Behind:	No
Standard Drop:	575mm	Rod Type / Diameter:	15mm	Hole Backfilled:	04/04/2014
Damper:	None	Type:	None		
Top of test:	0.32 mbgl		Remarks:		
Operator:	R. Caplin	Checked by:	J. Keay	Approved by:	J. Keay

harrisongroup	**CBR Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPCBR04	04/04/2014



LEPCBR04 - GL to 0.16m

Remarks	Engineer: R. Caplin	Checked By: J.Keay

Harrison Group Environmental Ltd.
Kimberley Street, Norwich, NR2 2RJ

harrisongroup	**CBR Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPCBR05	04/04/2014



LEPCBR05 - Pit

Remarks	Engineer: R. Caplin	Checked By: J.Keay

Harrison Group Environmental Ltd.
Kimberley Street, Norwich, NR2 2RJ

harrisongroup ENVIRONMENTAL

Results of Dynamic Cone Penetrometer

				m
Project ID:	GL18178	**Samples**	D1	0.12
Project Name:	HMS Daedalus (Waterfront)		D2	0.30
Client:	Homes and Communities Agency		D3	0.50
Engineer:	Campbell Reith Hill LLP		B1	0.50
			CORE1	GL-0.12
Probe Number:	LEPCBR05 TEST 1			
Test Date:	04/04/2014			
Remarks:		**Test carried out at:**	0.25	mbgl

Number of Blows	Total Number of Blows	Reading (mm)	Penetration (mm)	Depth (mbgl)
0	0	100	0	0.250
2	2	123	23	0.273
3	5	210	87	0.360
5	10	435	225	0.585
5	15	610	175	0.760
5	20	730	120	0.880
5	25	865	135	1.015
5	30	968	103	1.118

Notes: Test carried out using a CNS Farnell DCP Model: A2465

DCP Value (mm/blow)	Depth (mBGL)	B = 1.057 x Log_{10}(mm/blow)	Log_{10}(CBR) = 2.48 - B	CBR Value
11.5	0.273	1.121157617	1.358842383	22.85
29.0	0.360	1.545754684	0.934245316	8.59
45.0	0.585	1.747445627	0.732554373	5.40
35.0	0.760	1.632079923	0.847920077	7.05
24.0	0.880	1.458883282	1.021116718	10.50
27.0	1.015	1.512951499	0.967048501	9.27
20.6	1.118	1.388757652	1.091242348	12.34

Log:

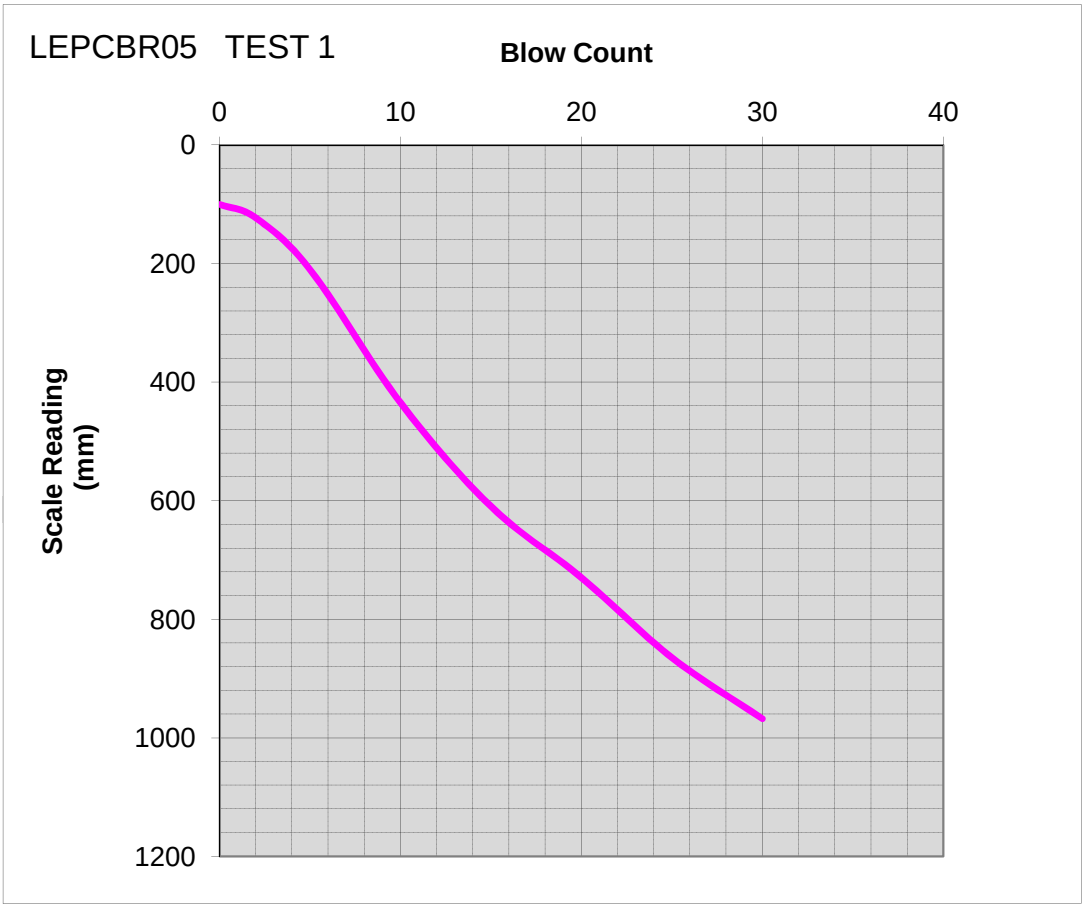
Strata Depth		Description/Comment
From (m)	To (m)	
0.00	0.10	MADE GROUND. ASPHALT.
0.10	0.15	MADE GROUND. Black very garvelly ashy medium and coarse SAND. Gravel is very angular to subangular fine and medium asphalt, stone and clinker.
0.15	0.30	MADE GROUND. Structureless CHALK composed of silty subangular medium and coarse GRAVEL. Gravel is weak low denisty blue white and light grey with frequent black specks and blue grey and reddish brown staining. Matrix is very darkgreysih brown silt. Occasional fragments of brick and tile.
0.30	1.20	Orangish brown mottled greyish brown slightly gravelly silty CLAY. Gravel is angular to subangular fine flint.

Test No.
LEPCBR05 TEST 1
Sheet 1 of 1

harrisongroup ENVIRONMENTAL

Client:	Homes and Communities Agency	Project ID:	GL18178
Engineer:	Campbell Reith Hill LLP	Project Name:	HMS Daedalus (Waterfront)

Test Date:	04/04/2014
Hole Type:	CBR
Equipment:	CNS Farnell DCP Model: A2465



Hammer Type/Mass:	8kg	Cone Type / Diameter:	60°/ 20mm	Cone Left Behind:	No
Standard Drop:	575mm	Rod Type / Diameter:	15mm	Hole Backfilled:	04/04/2014
Damper:	None	Type:	None		
Top of test:	0.25 mbgl		Remarks:		
Operator:	R. Caplin	Checked by:	J. Keay	Approved by:	J. Keay

harrisongroup

CBR Photograph Record Sheet

Project:	Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPCBR06	04/04/2014



LEPCBR06 - GL to 0.10m



LEPCBR06 - Pit

Remarks	Engineer: R. Caplin	Checked By: J.Keay

Harrison Group Environmental Ltd.
Kimberley Street, Norwich, NR2 2RJ

harrisongroup ENVIRONMENTAL

Results of Dynamic Cone Penetrometer

				m
Project ID:	GL18178	**Samples**	D1	0.20
Project Name:	HMS Daedalus (Waterfront)		D2	0.50
Client:	Homes and Communities Agency		B1	0.20
Engineer:	Campbell Reith Hill LLP		B2	0.50
			CORE1	GL-0.20
Probe Number:	LEPCBR06 TEST 1			
Test Date:	04/04/2014			
Remarks:		**Test carried out at:**	0.38	mbgl

Number of Blows	Total Number of Blows	Reading (mm)	Penetration (mm)	Depth (mbgl)
0	0	500	0	0.380
1	1	585	85	0.465
1	2	657	72	0.537
1	3	720	63	0.600
1	4	790	70	0.670
1	5	842	52	0.722
1	6	899	57	0.779
2	8	955	56	0.835

Notes: Test carried out using a CNS Farnell DCP Model: A2465

DCP Value (mm/blow)	Depth (mBGL)	B = 1.057 x Log_{10}(mm/blow)	Log_{10}(CBR) = 2.48 - B	CBR Value
85.0	0.465	2.039395804	0.440604196	2.76
72.0	0.537	1.963200449	0.516799551	3.29
63.0	0.600	1.901902961	0.578097039	3.79
70.0	0.670	1.950268628	0.529731372	3.39
52.0	0.722	1.813815534	0.666184466	4.64
57.0	0.779	1.855959722	0.624040278	4.21
28.0	0.835	1.529646039	0.950353961	8.92

Log:

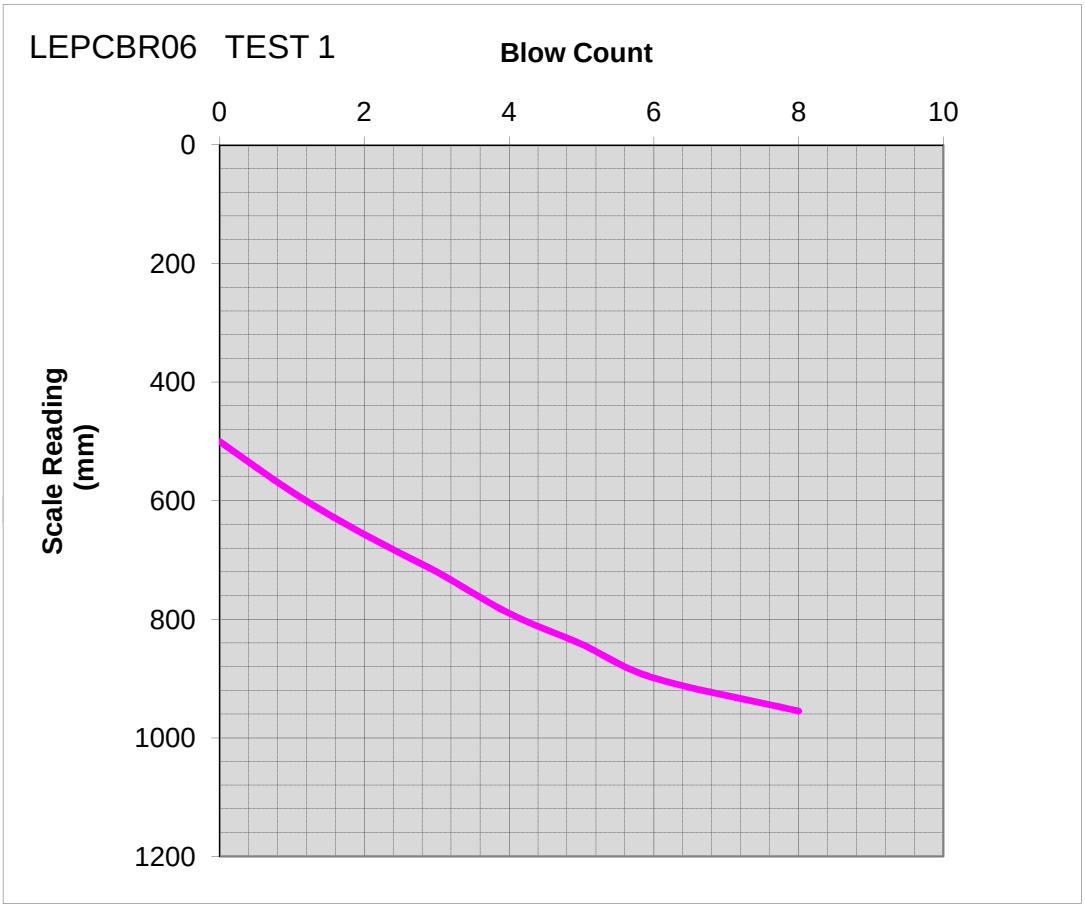
Strata Depth		Description/Comment
From (m)	To (m)	
0.00	0.10	MADE GROUND. ASPHALT.
0.10	0.20	MADE GROUND. Grey SAND and GRAVEL with high cobble content. Gravel is very angular to subangular fine to coarse concrete, asphalt and flint. Cobbles of concrete and asphalt.
0.20	0.37	MADE GROUND. Red sandy GRAVEL with high cobble content. Gravel is very angular to subangular fine to coarse hardcore. Cobbles of concrete and brick.
0.37	0.38	MADE GROUND. Black ashy sandy GRAVEL. Gravel is very angular to subangular fine to coarse clinker.
0.38	1.20	Orangish brown mottled greyish brown slightly gravelly silty CLAY. Gravel is angular to subangular fine flint.

Test No.
LEPCBR06 TEST 1
Sheet 1 of 1

harrisongroup ENVIRONMENTAL

Client:	Homes and Communities Agency	Project ID:	GL18178
Engineer:	Campbell Reith Hill LLP	Project Name:	HMS Daedalus (Waterfront)

Test Date:	04/04/2014
Hole Type:	CBR
Equipment:	CNS Farnell DCP Model: A2465



Hammer Type/Mass:	8kg	Cone Type / Diameter:	60°/ 20mm	Cone Left Behind:	No
Standard Drop:	575mm	Rod Type / Diameter:	15mm	Hole Backfilled:	04/04/2014
Damper:	None	Type:	None		
Top of test:	0.38 mbgl		Remarks:		
Operator:	R. Caplin	Checked by:	J. Keay	Approved by:	J. Keay

harrisongroup	**CBR Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPCBR07	04/04/2014



LEPCBR07 - GL to 0.13m



LEPCBR07 - Pit

Remarks	Engineer: R. Caplin	Checked By: J.Keay

Harrison Group Environmental Ltd.
Kimberley Street, Norwich, NR2 2RJ

harrisongroup ENVIRONMENTAL

Results of Dynamic Cone Penetrometer

				m
Project ID:	GL18178	**Samples**	D1	0.15
Project Name:	HMS Daedalus (Waterfront)		D2	0.35
Client:	Homes and Communities Agency		D3	0.50
Engineer:	Campbell Reith Hill LLP		CORE1	GL-0.13

Probe Number: LEPCBR07 TEST 1

Test Date: 04/04/2014

Remarks: **Test carried out at:** 0.70 mbgl

Number of Blows	Total Number of Blows	Reading (mm)	Penetration (mm)	Depth (mbgl)
0	0	400	0	0.700
3	3	570	170	0.870
3	6	695	125	0.995
3	9	787	92	1.087
3	12	830	43	1.130
3	15	890	60	1.190
3	18	947	57	1.247
3	21	1000	53	1.300

Notes: Test carried out using a CNS Farnell DCP Model: A2465

DCP Value (mm/blow)	Depth (mBGL)	B = 1.057 x Log_{10}(mm/blow)	Log_{10}(CBR) = 2.48 - B	CBR Value
56.7	0.870	1.853267344	0.626732656	4.23
41.7	0.995	1.712116718	0.767883282	5.86
30.7	1.087	1.571406567	0.908593433	8.10
14.3	1.130	1.222258991	1.257741009	18.10
20.0	1.190	1.375188705	1.104811295	12.73
19.0	1.247	1.351642556	1.128357444	13.44
17.7	1.300	1.318242428	1.161757572	14.51

Log:

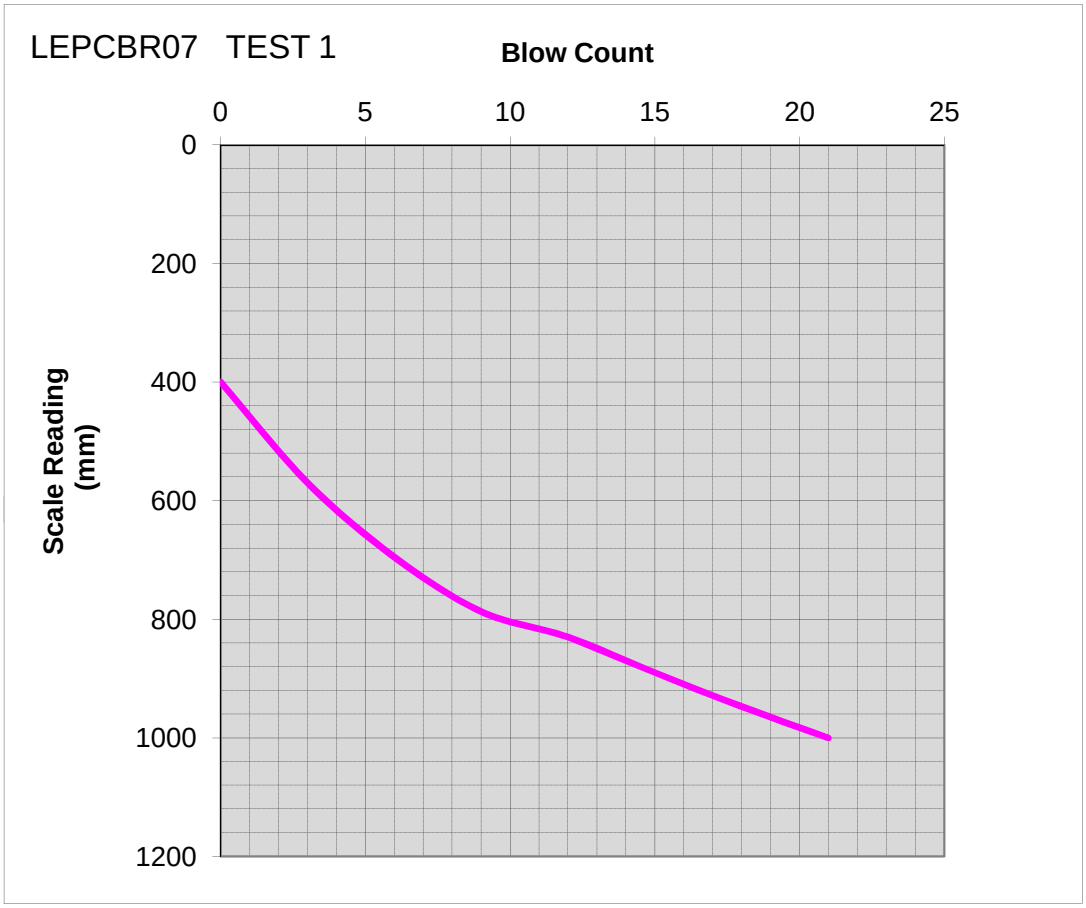
Strata Depth		Description/Comment
From (m)	To (m)	
0.00	0.13	MADE GROUND. ASPHALT.
0.13	0.20	MADE GROUND. Black GRAVEL. Gravel is very angular to subangular fine to coarse asphalt.
0.20	0.65	MADE GROUND. CONCRETE.
0.65	0.70	MADE GROUND. Grey SAND and GRAVEL. Gravel is very angular to subangular fine to coarse concrete.
0.70	1.20	Light grey and orangish brown slightly gravelly silty CLAY. Gravel is angular to subangular fine flint.

Test No.
LEPCBR07 TEST 1
Sheet 1 of 1

harrisongroup ENVIRONMENTAL

Client:	Homes and Communities Agency	Project ID:	GL18178
Engineer:	Campbell Reith Hill LLP	Project Name:	HMS Daedalus (Waterfront)

Test Date:	04/04/2014
Hole Type:	CBR
Equipment:	CNS Farnell DCP Model: A2465



Hammer Type/Mass:	8kg	Cone Type / Diameter:	60°/ 20mm	Cone Left Behind:	No
Standard Drop:	575mm	Rod Type / Diameter:	15mm	Hole Backfilled:	04/04/2014
Damper:	None	Type:	None		
Top of test:	0.70 mbgl		Remarks:		
Operator:	R. Caplin	Checked by:	J. Keay	Approved by:	J. Keay

harrisongroup	**CBR Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPCBR08	04/04/2014



LEPCBR08 - GL to 0.13m



LEPCBR08 - Pit

Remarks	Engineer: R. Caplin	Checked By: J.Keay

Harrison Group Environmental Ltd.
Kimberley Street, Norwich, NR2 2RJ

harrisongroup ENVIRONMENTAL

Results of Dynamic Cone Penetrometer

				m
Project ID:	GL18178	**Samples**	D1	0.50
Project Name:	HMS Daedalus (Waterfront)		B1	0.50
Client:	Homes and Communities Agency		CORE1	GL-0.11
Engineer:	Campbell Reith Hill LLP			

Probe Number: LEPCBR08 TEST 1

Test Date: 04/04/2014

Remarks: Asphalt road surface at 0.60mbgl. No test conducted, moved to LEPCBR08A.

Number of Blows	Total Number of Blows	Reading (mm)	Penetration (mm)	Depth (mbgl)

Notes: Test carried out using a CNS Farnell DCP Model: A2465

DCP Value (mm/blow)	Depth (mBGL)	B = 1.057 x Log_{10}(mm/blow)	Log_{10}(CBR) = 2.48 - B	CBR Value

Log:

Strata Depth		Description/Comment
From (m)	To (m)	
0.00	0.12	MADE GROUND. ASPHALT.
0.12	0.18	MADE GROUND. CONCRETE.
0.18	0.60	MADE GROUND. BRICK.
0.60	0.60	MADE GROUND. ASPHALT.

harrisongroup	**CBR Photograph Record Sheet**
	Project: Daedalus, Lee-on-the-Solent- Waterfront and Hangers West
Client: Homes and Communities Agency	Project ID: GL18065
Exploratory Hole Reference. LEPCBR08A	04/04/2014



LEPCBR08A - GL to 0.13m

Remarks	Engineer: R. Caplin	Checked By: J.Keay

Harrison Group Environmental Ltd.
Kimberley Street, Norwich, NR2 2RJ

harrisongroup ENVIRONMENTAL

Results of Dynamic Cone Penetrometer

				m
Project ID:	GL18178	**Samples**	D1	0.30
Project Name:	HMS Daedalus (Waterfront)		CORE1	GL-0.23
Client:	Homes and Communities Agency			
Engineer:	Campbell Reith Hill LLP			

Probe Number: LEPCBR08A TEST 1

Test Date: 04/04/2014

Remarks: Groundwater at 0.23mbgl. **Test carried out at:** 0.30 mbgl

Number of Blows	Total Number of Blows	Reading (mm)	Penetration (mm)	Depth (mbgl)
CH33 0	CH27 0	360	0	0.300
1	1	470	110	0.410
1	2	652	182	0.592
1	3	760	108	0.700
1	4	832	72	0.772
1	5	910	78	0.850
1	6	1000	90	0.940

Notes: Test carried out using a CNS Farnell DCP Model: A2465

DCP Value (mm/blow)	Depth (mBGL)	B = 1.057 x Log_{10}(mm/blow)	Log_{10}(CBR) = 2.48 - B	CBR Value
110.0	0.410	2.157752068	0.322247932	2.10
182.0	0.592	2.388895457	0.091104543	1.23
108.0	0.700	2.14932891	0.33067109	2.14
72.0	0.772	1.963200449	0.516799551	3.29
78.0	0.850	1.999943995	0.480056005	3.02
90.0	0.940	2.065634332	0.414365668	2.60

Log:

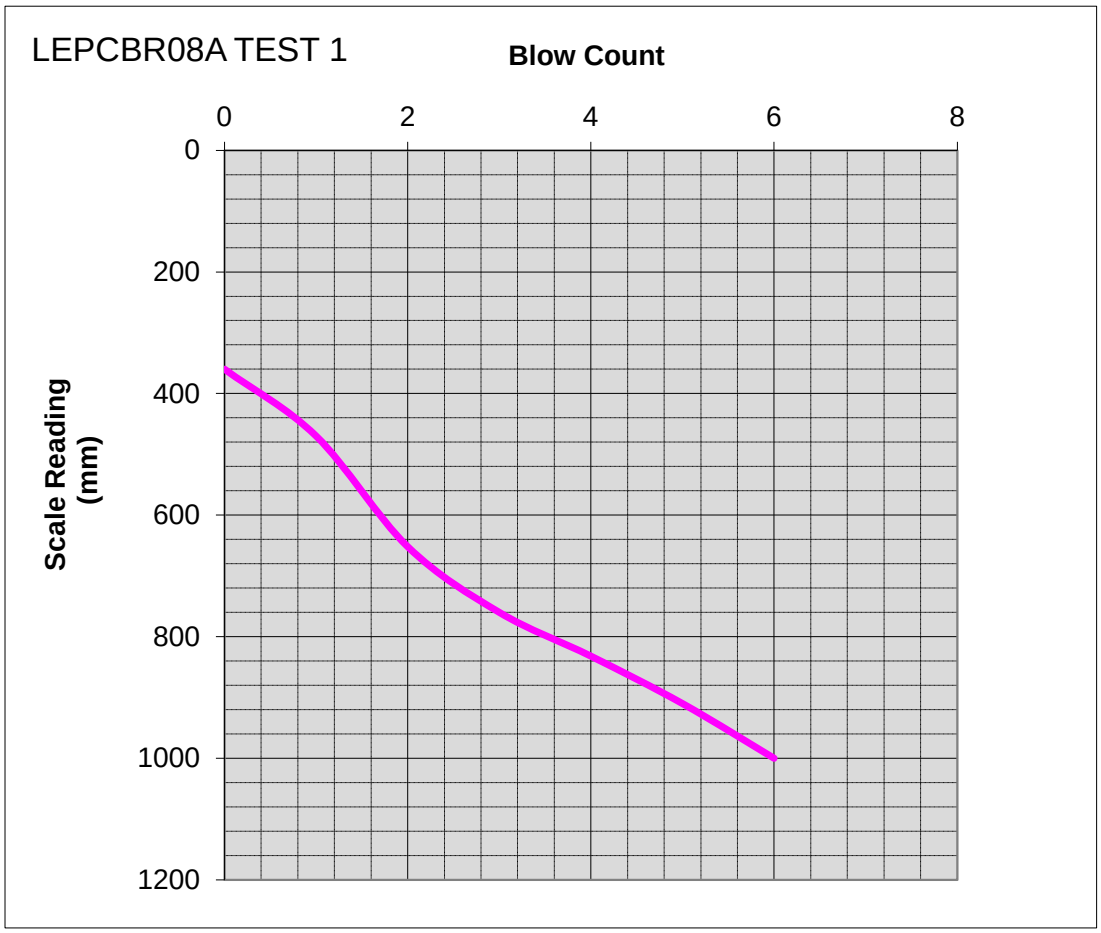
Strata Depth		Description/Comment
From (m)	To (m)	
0.00	0.12	MADE GROUND. ASPHALT.
0.12	0.23	MADE GROUND. CONCRETE.
0.23	0.30	MADE GROUND. Black GRAVEL. Gravel is very angular to subangular fine to coarse asphalt.
0.30	1.00	Dark brown and orangish brown silty CLAY.

Test No.
LEPCBR08A TEST 1
Sheet 1 of 1

harrisongroup ENVIRONMENTAL

Client:	Homes and Communities Agency	Project ID:	GL18178
Engineer:	Campbell Reith Hill LLP	Project Name:	HMS Daedalus (Waterfront)

Test Date:	04/04/2014
Hole Type:	CBR
Equipment:	CNS Farnell DCP Model: A2465



Hammer Type/Mass:	8kg	Cone Type / Diameter:	60°/ 20mm	Cone Left Behind:	No
Standard Drop:	575mm	Rod Type / Diameter:	15mm	Hole Backfilled:	04/04/2014
Damper:	None	Type:	None		
Top of test:	0.30 mbgl		Remarks:		
Operator:	R. Caplin	Checked by:	J. Keay	Approved by:	J. Keay

APPENDIX C

GAS & GROUNDWATER MONITORING RECORDS

harrisongroup ENVIRONMENTAL

Gas Monitoring Field Record

Site Name: Daedalus, Lee-on-Solent-Waterfornt and Hangers West

Job No: GL18065

Client: Homes and Communities Agency

Equipment	Model	Serial Number	Manufacturer's Calibration Date
Land Gas Analyser	GA2000	GA05814	01/11/2012
PID	PHOCHECK+	06-01410	03/05/2012

Weather Conditions 24hrs Prior to Monitoring: Cloudy, 14c, 1012mBar

Weather Conditions During Monitoring: Sunny, 20c, 1012mBar

Location I.D	Date	Time (hhmmss)	Temperature (°C)	Atmospheric Pressure 72hrs Prior to Sampling (hPa)	Atmospheric Pressure 48hrs Prior to Sampling (hPa)	Atmospheric Pressure 24hrs Prior to Sampling (hPa)	Atmospheric Pressure When Sampled (hPa)	Relative Pressure (hPa)	PID -Peak (ppm)	PID - Stabilised (ppm)	CH4 (%)	Peak CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	H2S (ppm)	CO (ppm)	Flow Pod (l/Hr)
WFBH01	01/04/2014	10:25:00	16	1012	1012	1012	1012	-0.21	0.4	0.4	0.0	0.0	0.0	2.0	14.3	0	2	0.0
WFBH02	01/04/2014	10:21:00	16	1012	1012	1012	1012	0.15	0.2	0.2	0.0	0.0	0.0	3.3	14.6	0	0	0.2
WFBH03	01/04/2014	10:35:00	16	1012	1012	1012	1012	-0.02	0.6	0.6	0.0	0.0	0.0	2.3	17.2	0	1	0.0
WFBH04	01/04/2014	10:40:00	16	1012	1012	1012	1012	0.02	1.1	0.3	0.0	0.0	0.0	0.4	21.7	0	1	0.2
WFBH05	01/04/2014	11:58:00	18	1012	1012	1012	1012	1.15	4.2	2.0	0.0	0.0	0.0	0.6	21.1	0	0	0.0
WFBH06	01/04/2014	10:00:00	16	1012	1012	1012	1011	0.09	0.4	0.3	0.0	0.0	0.0	2.1	19.4	0	0	0.2
WFBH07	01/04/2014	12:30:00	19	1012	1012	1012	1011	-0.05	1.7	1.7	0.0	0.0	0.0	19.1	19.1	0	1	-5.4
WFBH08	01/04/2014	12:42:00	19	1012	1012	1012	1011	0.07	1.2	1.3	0.0	0.0	0.0	4.3	9.1	0	1	0.0
WFBH09	01/04/2014	12:09:00	19	1012	1012	1012	1011	-0.09	2.5	1.8	0.0	0.0	0.0	0.2	20.7	0	0	0.2
WFBH11	01/04/2014	11:30:00	17	1012	1012	1012	1012	-0.02	0.3	0.2	0.0	0.0	0.0	1.8	18.2	0	0	0.0
WFBH12	01/04/2014	11:49:00	18	1012	1012	1012	1012	0.46	4.9	3.7	0.0	0.0	0.0	0.0	13.0	0	0	0.0
WFBH13	01/04/2014	09:55:00	16	1012	1012	1012	1011	0.00	0.5	0.5	0.0	0.0	0.0	2.0	19.4	0	0	0.1
WFBH14	01/04/2014	11:38:00	17	1012	1012	1012	1012	0.07	14.6	14.6	0.0	0.0	0.0	0.2	0.0	0	10	5.3
MCBH01	01/04/2014	11:14:00	17	1012	1012	1012	1011	-3.89	1.5	1.2	0.0	0.0	0.0	1.5	16.4	0	1	0.2
MCBH02	01/04/2014	14:25:00	21	1012	1012	1012	1011	0.05	1.2	0.6	0.0	0.0	0.0	3.0	5.8	0	0*	0.1
MCBH03	01/04/2014	13:09:00	20	1012	1012	1012	1011	0.04	1.4	0.8	0.0	0.0	0.0	0.5	19.8	0	1	0.2
LEPBH01	01/04/2014	12:57:00	18	1012	1012	1012	1011	0.22	1.7	1.4	0.0	0.0	0.0	3.6	13.7	0	1	0.1
LEPBH02	01/04/2014	10:17:00	16	1012	1012	1012	1012	0.03	0.0	0.0	0.0	0.0	0.0	0.5	20.7	0	0	0.3
NGBH01	01/04/2014	10:10:00	16	1012	1012	1012	1011	0.39	0.4	0.4	0.0	0.0	0.0	3.2	10.1	0	0	0.0
WFWS21	01/04/2014	12:14:00	18	1012	1012	1012	1009	0.00	0.9	0.7	0.0	0.0	0.0	0.1	21.1	0	0	0.0

Field Engineer: G. Pursey

Pump Running Time (sampling): (Standard 120 sec)

Pump Running Time (purge): (Standard 30 sec)

Flow Details (e.g. 5 sec average for 1 min.):

Other Remarks:

* Noted upto 110ppm before returning to 0.

PID : Photo-Ionisation Detector

"<" indicates that reading is **under** the limit range,

">" indicates that reading is **over** the limit range,

"*" Level to be determined

Harrison Group Environmental Ltd.
Poplar Business Park, Unit A11, 10 Prestons Road, E14 9RL

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Groundwater Monitoring Record

Site Name: Daedalus, Lee-on-Solent-Waterfornt and Hangers West | Job No.: GL18065

Client: Homes and Communities Agency

Weather (include Temperature & Pressure): Sunny, 20c, 1012mBar | State of Ground: Dry

Location ID	Date	Time	Surface Elevation (mAOD)	LNAPL Depth[1] (mbgl)	LNAPL Depth (mAOD)	Water Level[1] (mbgl)	Water Level (mAOD)	DNAPL Depth[1] (mbgl)	DNAPL Depth (mAOD)	Depth to base[1] (mbgl)	Depth to base (mAOD)	Stabilized Readings					Sample Method[2] (I, S, B, P)	Water Column (m)	Purged Volume[3] (L)	Comments: (e.g. problems encountered, standpipe conditions, unusual odours, colour, tubidity, sheens)
												Temp (°C)	pH	Electrical Conductivity (µS/cm)	DO (%)	Redox Potential (mV)				
WFBH01	01/04/2014	10:25:00		-	-	4.08		-	-	9.31		14.1	7.77	432	31.7	-302.7	P	5.23	50	
WFBH02	01/04/2014	10:21:00		-	-	3.79		-	-	8.06		15.18	7.77	418	76.2	-267.5	P	4.27	60	
WFBH03	01/04/2014	10:35:00		-	-	4.16		-	-	9.00		16.01	7.53	390	47.5	-239.4	P	4.84	15	
WFBH04	01/04/2014	10:40:00		-	-	3.85		-	-	7.84		15.72	7.8	505	17.8	-315.0	P	3.99	15	
WFBH05	01/04/2014	11:58:00		-	-	5.14		-	-	7.39		15.61	7.8	504	4.9	-284.3	P	2.25	20	
WFBH06	01/04/2014	10:00:00		-	-	3.28		-	-	8.22		15.14	7.82	570	89.6	-307.2	P	4.94	35	
WFBH07	01/04/2014	12:30:00		-	-	3.44		-	-	7.08		14.94	7.75	404	91.3	-317	P	3.64	30	
WFBH08	01/04/2014	12:42:00		-	-	2.89		-	-	9.39		14.84	7.79	602	58.4	-301.20	P	6.50	30	
WFBH09	01/04/2014	12:09:00		-	-	3.80		-	-	6.21		14.94	7.56	437	70.6	-327.50	P	2.41	15	
WFBH11	01/04/2014	11:30:00		-	-	4.21		-	-	5.66		15.16	7.76	523	31.4	-310.7	P	1.45	2	
WFBH12	01/04/2014	11:49:00		-	-	3.41		-	-	5.73		15.54	7.89	354	26.9	-323.7	P	2.32	15	
WFBH13	01/04/2014	09:55:00		-	-	3.12		-	-	5.74		14.34	7.27	472	0.3	-305.8	P	2.62	20	
WFBH14	01/04/2014	11:38:00		-	-	2.78		-	-	4.12		15.55	7.39	543	14.6	-286.50	P	1.34	4	
MCBH01	01/04/2014	11:14:00		-	-	3.11		-	-	6.31		14.61	7.94	376	82.4	-298.40	P	3.20	25	
MCBH02	01/04/2014	14:25:00		-	-	3.51		-	-	3.96		14.19	7.77	386	21.7	-324.50	P	0.45	15	
MCBH03	01/04/2014	13:09:00		-	-	2.39		-	-	9.13		13.39	8.31	397	12.6	-290.40	P	6.74	50	
LEPBH01	01/04/2014	12:57:00		-	-	2.68		-	-	5.51		15.70	7.72	499	40.3	-303.10	P	2.83	35	
LEPBH02	01/04/2014	10:17:00		-	-	3.67		-	-	5.93		15.03	7.53	445	79.2	-301.60	P	2.26	30	
NGBH01	01/04/2014	10:10:00		-	-	3.12		-	-	8.98		13.90	7.50	432	2.6	-305.00	P	5.86	60	
WFWS21	01/04/2014	12:14:00		-	-	Dry		-	-	2.70		-	-	-	-	-	-	-	-	

Field Engineer: G. Pursey

1 - All (mbgl) depth measurements are recorded as meters from the top of installation cover.

2 - I = inertial, S = Submersible, B = Bailer, P = Peristalic Pump.

3 - Purge volume standardization: 50mm standpipe = 6 times water column, 35mm = 3.5 times water column, 19mm = 1 times water column

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Gas Monitoring Field Record

Site Name: Daedalus, Lee-on-Solent-Waterfornt and Hangers West

Job No: GL18065

Client: Homes and Communities Agency

Equipment	Model	Serial Number	Manufacturer's Calibration Date
Land Gas Analyser	GA5000	G501752	17/12/2013
PID	Tiger Detector	T-108173	01/03/2014

Weather Conditions 24hrs Prior to Monitoring: Dry, overcast, breezy

Weather Conditions During Monitoring: Dry, overcast, breezy

Location I.D	Date	Time (hhmmss)	Temperature (°C)	Atmospheric Pressure 72hrs Prior to Sampling (hPa)	Atmospheric Pressure 48hrs Prior to Sampling (hPa)	Atmospheric Pressure 24hrs Prior to Sampling (hPa)	Atmospheric Pressure When Sampled (hPa)	Relative Pressure (hPa)	PID -Peak (ppm)	PID - Stabilised (ppm)	CH4 (%)	Peak CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	H2S (ppm)	CO (ppm)	Flow Pod (l/Hr)
WFBH01	11/04/2014	09:24:00	12	1020	1028	1026	1022	0.03	0.9	0.8	0.0	0.0	0.0	2.0	19.5	0	1	0.1
WFBH02	11/04/2014	09:17:00	12	1020	1028	1026	1022	0.10	0.8	0.7	0.0	0.0	0.0	0.7	20.2	0	0	0.3
WFBH03	11/04/2014	08:53:00	12	1020	1028	1026	1022	-	-	-	-	-	-	-	-	-	-	-
WFBH04	11/04/2014	08:59:00	12	1020	1028	1026	1022	0.10	2.3	1.4	0.0	0.0	0.0	0.2	22.1	0	2	-0.1
WFBH05	11/04/2014	09:59:00	12	1020	1028	1026	1022	0.19	1.9	1.2	0.0	0.0	0.0	0.8	21.5	0	1	0.1
WFBH06	11/04/2014	09:54:00	12	1020	1028	1026	1022	1.17	3.0	2.2	0.0	0.0	0.0	2.0	14.3	0	1	0.2
WFBH07	11/04/2014	10:16:00	12	1020	1028	1026	1022	-0.02	0.1	0.1	0.0	0.0	0.0	0.1	22.0	0	1	0.1
WFBH08	11/04/2014	10:24:00	12	1020	1028	1026	1022	-0.05	1.0	0.9	0.0	0.0	0.0	2.0	15.9	0	1	0.0
WFBH09	11/04/2014	10:10:00	12	1020	1028	1026	1022	-0.26	1.4	0.9	0.0	0.0	0.0	0.1	22.0	0	1	0.1
WFBH11	11/04/2014	08:51:00	12	1020	1028	1026	1022	0.00	2.6	1.7	0.0	0.0	0.0	0.1	21.7	0	1	0.1
WFBH12	11/04/2014	09:03:00	12	1020	1028	1026	1022	0.24	2.0	1.5	0.0	0.0	0.0	0.0	14.3	0	2	0.1
WFBH13	11/04/2014	09:35:00	12	1020	1028	1026	1022	0.02	6.7	6.7	0.0	0.0	0.0	3.9	15.2	0	1	0.1
WFBH14	11/04/2014	08:37:00	12	1020	1028	1026	1022	-1.69	11.1	11.1	0.0	0.0	0.0	0.2	6.9	0	2	-6.3
MCBH01	11/04/2014	11:06:00	12	1020	1028	1026	1022	-1.79	1.2	0.6	0.0	0.0	0.0	0.3	21.5	0	1	0.3
MCBH02	11/04/2014	10:37:00	12	1020	1028	1026	1022	0.83	1.7	0.8	0.0	0.0	0.0	4.4	4.9	0	0*	0.1
MCBH03	11/04/2014	11:20:00	12	1020	1028	1026	1022	0.64	1.3	0.5	0.0	0.0	0.0	1.4	16.3	0	1	0.0
LEPBH01	11/04/2014	10:30:00	12	1020	1028	1026	1022	0.76	1.3	1.2	0.0	0.0	0.0	3.4	14.3	0	1	0.0
LEPBH02	11/04/2014	09:11:00	12	1020	1028	1026	1022	0.14	1.2	0.8	0.0	0.0	0.0	2.2	17.7	0	0	-0.1
NGBH01	11/04/2014	11:26:00	12	1020	1028	1026	1022	0.03	0.8	0.6	0.0	0.0	0.0	3.4	9.3	0	0	-1.4
WFWS21	11/04/2014	10:05:00	12	1020	1028	1026	1022	0.05	1.7	1.3	0.0	0.0	0.0	1.6	18.8	0	1	0.1
WFBH14	11/04/2014	09:41:00	12	1020	1028	1026	1022	0.12	4.6	4.6	0.0	0.0	0.0	0.1	7.6	0	1	-5.0
MCBH02	11/04/2014	12:00:00	12	1020	1028	1026	1022	-0.24	0.8	0.6	0.0	0.0	0.0	0.2	3.0	0	0	0.0
NGBH01	11/04/2014	12:27:00	12	1020	1028	1026	1022	-0.02	0.8	0.5	0.0	0.0	0.0	0.1	3.5	0	0	0.1

Field Engineer: J Burch

Pump Running Time (sampling): (Standard 120 sec)

Pump Running Time (purge): (Standard 30 sec)

Flow Details (e.g. 5 sec average for 1 min.):

Other Remarks: WFBH03 parked on unable to monitor

* Noted upto 110ppm before returning to 0.

PID : Photo-Ionisation Detector

"<" indicates that reading is **under** the limit range,

">" indicates that reading is **over** the limit range,

"*" Level to be determined

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Groundwater Monitoring Record

Site Name: Daedalus, Lee-on-Solent-Waterfornt and Hangers West | Job No.: GL18065

Client: Homes and Communities Agency

Weather (include Temperature & Pressure): Dry, overcast, breezy | State of Ground: Dry

Location ID	Date	Time	Surface Elevation (mAOD)	LNAPL Depth[1] (mbgl)	LNAPL Depth (mAOD)	Water Level[1] (mbgl)	Water Level (mAOD)	DNAPL Depth[1] (mbgl)	DNAPL Depth (mAOD)	Depth to base[1] (mbgl)	Depth to base (mAOD)	Stabilized Readings					Sample Method[2] (I, S, B, P)	Water Column (m)	Purged Volume[3] (L)	Comments: (e.g. problems encountered, standpipe conditions, unusual odours, colour, tubidity, sheens)
												Temp (°C)	pH	Electrical Conductivity (µS/cm)	DO (%)	Redox Potential (mV)				
WFBH01	11/04/2014	09:24:00				4.25				9.31								5.06		
WFBH02	11/04/2014	09:17:00				3.95				8.06								4.11		
WFBH03	11/04/2014	08:53:00				-				9.00								-		
WFBH04	11/04/2014	08:59:00								7.84								7.84		
WFBH05	11/04/2014	09:59:00				5.29				7.39								2.10		
WFBH06	11/04/2014	09:54:00				3.63				8.22								4.59		
WFBH07	11/04/2014	10:16:00				3.54				7.08								3.54		
WFBH08	11/04/2014	10:24:00				3.05				9.39								6.34		
WFBH09	11/04/2014	10:10:00				3.89				6.21								2.32		
WFBH11	11/04/2014	08:51:00				4.39				5.66								1.27		
WFBH12	11/04/2014	09:03:00				3.50				5.73								2.23		
WFBH13	11/04/2014	09:35:00				3.19				5.74								2.55		
WFBH14	11/04/2014	08:37:00				2.83				4.12								1.29		
MCBH01	11/04/2014	11:06:00				3.22				6.31								3.09		
MCBH02	11/04/2014	10:37:00				3.66				3.96								0.30		
MCBH03	11/04/2014	11:20:00				2.58				9.13								6.55		
LEPBH01	11/04/2014	10:30:00				2.83				5.51								2.68		
LEPBH02	11/04/2014	09:11:00				3.83				5.93								2.10		
NGBH01	11/04/2014	11:26:00				3.24				8.98								5.74		
WFWS21	11/04/2014	10:05:00				Dry				2.70								-		

Field Engineer: J Burch

1 - All (mbgl) depth measurements are recorded as meters from the top of installation cover.

2 - I = inertial, S = Submersible, B = Bailer, P = Peristalic Pump.

3 - Purge volume standardization: 50mm standpipe = 6 times water column, 35mm = 3.5 times water column, 19mm = 1 times water column

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Gas Monitoring Field Record

Site Name: Daedalus, Lee-on-Solent-Waterfornt and Hangers West

Job No: GL18065

Client:	Homes and Communities Agency

Equipment	Model	Serial Number	Manufacturer's Calibration Date
Land Gas Analyser	GA5000	G501752	17/12/2013
PID	Tiger Detector	T-108173	01/03/2014

Weather Conditions 24hrs Prior to Monitoring	Dry, sunny, breezy
Weather Conditions During Monitoring	Dry, sunny, breezy

Location I.D	Date	Time (hhmmss)	Temperature (°C)	Atmospheric Pressure 72hrs Prior to Sampling (hPa)	Atmospheric Pressure 48hrs Prior to Sampling (hPa)	Atmospheric Pressure 24hrs Prior to Sampling (hPa)	Atmospheric Pressure When Sampled (hPa)	Relative Pressure (hPa)	PID -Peak (ppm)	PID - Stabilised (ppm)	CH4 (%)	Peak CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	H2S (ppm)	CO (ppm)	Flow Pod (l/Hr)
WFBH01	17/04/2014	10:33:00	12	1026	1030	1029	1020	0.07	0.8	0.5	0.0	0.0	0.0	2.3	16.4	0	1	-0.2
WFBH02	17/04/2014	10:38:00	12	1026	1030	1029	1020	-0.03	0.4	0.4	0.0	0.0	0.0	8.2	8.9	0	1	-0.1
WFBH03	17/04/2014	10:28:00	12	1026	1030	1029	1020	0.12	0.7	0.7	0.0	0.0	0.0	2.8	16.1	0	1	0.0
WFBH04	17/04/2014	11:13:00	12	1026	1030	1029	1020	0.14	1.1	0.4	0.0	0.0	0.0	0.7	20.4	0	1	0.1
WFBH05	17/04/2014	10:12:00	12	1026	1030	1029	1020	-0.28	0.9	0.5	0.0	0.0	0.0	0.8	20.9	0	0	0.1
WFBH06	17/04/2014	08:52:00	9	1026	1030	1029	1020	-0.28	1.7	0.8	0.0	0.0	0.0	2.2	13.1	0	0	0.1
WFBH07	17/04/2014	09:51:00	9	1026	1030	1029	1020	0.07	0.7	0.6	0.0	0.0	0.0	0.0	19.0	0	0	0.0
WFBH08	17/04/2014	08:58:00	9	1026	1030	1029	1020	1.20	0.8	0.5	0.0	0.0	0.0	4.8	8.0	0	0	0.2
WFBH09	17/04/2014	10:02:00	9	1026	1030	1029	1020	-0.03	0.9	0.4	0.0	0.0	0.0	0.1	22.1	0	0	-0.2
WFBH11	17/04/2014	10:23:00	12	1026	1030	1029	1020	0.09	1.0	0.3	0.0	0.0	0.0	0.3	21.2	0	1	0.2
WFBH12	17/04/2014	09:03:00	12	1026	1030	1029	1020	0.24	2.0	1.5	0.0	0.0	0.0	0.0	14.3	0	2	0.1
WFBH13	17/04/2014	08:48:00	9	1026	1030	1029	1020	-0.02	2.6	2.6	0.0	0.0	0.0	4.2	14.8	0	0	0.2
WFBH14	17/04/2014	08:01:00	9	1026	1030	1029	1020	0.14	2.4	2.4	0.0	0.0	0.0	0.2	16.8	0	0	0.3
MCBH01	17/04/2014	09:30:00	9	1026	1030	1029	1020	1.14	0.5	0.4	0.0	0.0	0.0	3.3	12.8	0	0	0.0
MCBH02	17/04/2014	08:12:00	9	1026	1030	1029	1020	0.80	0.8	0.8	0.0	0.0	0.0	4.7	5.6	0	0	0.3
MCBH03	17/04/2014	09:37:00	12	1026	1030	1029	1020	-0.09	0.5	0.3	0.0	0.0	0.0	1.2	17.5	0	1	0.3
LEPBH01	17/04/2014	12:00:00	12	1005	1009	1018	1019	0.21	0.3	0.3	0.0	0.0	0.0	1.6	17.8	1	0	0.0
LEPBH02	17/04/2014	11:08:00	12	1026	1030	1029	1020	0.00	0.4	0.3	0.0	0.0	0.0	0.1	21.6	0	1	-0.2
NGBH01	17/04/2014	08:33:00	9	1026	1030	1029	1020	0.09	3.0	3.0	0.0	0.0	0.0	3.4	8.1	0	0	0.0
WFWS21	17/04/2014	10:07:00	12	1026	1030	1029	1020	0.07	1.0	0.7	0.0	0.0	0.0	1.8	18.7	0	0	-0.2
MCBH02	17/04/2014	09:19:00	9	1026	1030	1029	1020	0.02	0.4	0.4	0.0	0.0	0.0	0.2	4.1	0	0	0.3
NGBH01	17/04/2014	09:43:00	9	1026	1030	1029	1020	-0.10	0.5	0.3	0.0	0.0	0.0	0.2	8.7	0	0	0.0
WFBH08	17/04/2014	09:56:00	9	1026	1030	1029	1020	-0.02	0.7	0.4	0.0	0.0	0.0	0.2	9.7	0	0	-0.2
WFBH04	17/04/2014	11:13:00	12	1026	1030	1029	1020	0.14	1.1	0.4	0.0	0.0	0.0	0.7	20.4	0	1	0.1
WFBH12	17/04/2014	11:20:00	12	1026	1030	1029	1020	-0.02	0.7	0.6	0.0	0.0	0.0	0.0	16.0	0	2	0.3
WFBH04	17/04/2014	11:51:00	12	1026	1030	1029	1020	0.12	0.6	0.4	0.0	0.0	0.0	0.2	8.9	0	2	0.2

Field Engineer: J Burch

Pump Running Time (sampling): (Standard 120 sec)

Pump Running Time (purge): (Standard 30 sec)

Flow Details (e.g. 5 sec average for 1 min.):

Other Remarks: LEBH02 gas tap left open

* Noted upto 110ppm before returning to 0.

PID : Photo-Ionisation Detector

"<" indicates that reading is **under** the limit range,

">" indicates that reading is **over** the limit range,

"*" Level to be determined

harrisongroup ENVIRONMENTAL

Groundwater Monitoring Record

Site Name: Daedalus, Lee-on-Solent-Waterfornt and Hangers West | Job No.: GL18065

Client: Homes and Communities Agency

Weather (include Temperature & Pressure): Dry, overcast, breezy | State of Ground: Dry

Location ID	Date	Time	Surface Elevation (mAOD)	LNAPL Depth[1] (mbgl)	LNAPL Depth (mAOD)	Water Level[1] (mbgl)	Water Level (mAOD)	DNAPL Depth[1] (mbgl)	DNAPL Depth (mAOD)	Depth to base[1] (mbgl)	Depth to base (mAOD)	Stabilized Readings					Sample Method[2] (I, S, B, P)	Water Column (m)	Purged Volume[3] (L)	Comments: (e.g. problems encountered, standpipe conditions, unusual odours, colour, tubidity, sheens)
												Temp (°C)	pH	Electrical Conductivity (µS/cm)	DO (%)	Redox Potential (mV)				
WFBH01	11/04/2014	09:24:00				4.35				9.31								4.96		
WFBH02	11/04/2014	09:17:00				4.05				8.06								4.01		
WFBH03	11/04/2014	08:53:00				4.40				9.00								4.60		
WFBH04	11/04/2014	08:59:00				4.12				7.84								3.72		
WFBH05	11/04/2014	09:59:00				5.33				7.39								2.06		
WFBH06	11/04/2014	09:54:00				3.75				8.22								4.47		
WFBH07	11/04/2014	10:16:00				3.61				7.08								3.47		
WFBH08	11/04/2014	10:24:00				3.15				9.39								6.24		
WFBH09	11/04/2014	10:10:00				3.94				6.21								2.27		
WFBH11	11/04/2014	08:51:00				4.47				5.66								1.19		
WFBH12	11/04/2014	09:03:00				3.57				5.73								2.16		
WFBH13	11/04/2014	09:35:00				3.30				5.74								2.44		
WFBH14	11/04/2014	08:37:00				3.01				4.12								1.11		
MCBH01	11/04/2014	11:06:00				3.26				6.31								3.05		
MCBH02	11/04/2014	10:37:00				3.74				3.96								0.22		
MCBH03	11/04/2014	11:20:00				2.67				9.13								6.46		
LEPBH01	11/04/2014	10:30:00				4.04				5.97								1.93		
LEPBH02	11/04/2014	09:11:00				3.94				5.93								1.99		
NGBH01	11/04/2014	11:26:00				3.24				8.98								5.74		
WFWS21	11/04/2014	10:05:00				Dry				2.70								-		

Field Engineer: J Burch

1 - All (mbgl) depth measurements are recorded as meters from the top of installation cover.

2 - I = inertial, S = Submersible, B = Bailer, P = Peristalic Pump.

3 - Purge volume standardization: 50mm standpipe = 6 times water column, 35mm = 3.5 times water column, 19mm = 1 times water column

harrisongroup ENVIRONMENTAL

Gas Monitoring Field Record

Site Name: Daedalus, Lee-on-Solent-Waterfornt and Hangers West

Job No: GL18065

Client: Homes and Communities Agency

Equipment	Model	Serial Number	Manufacturer's Calibration Date
Land Gas Analyser	GA5000	GA501752	17/12/2013
PID	PHOCHECK+	T-108275	31/03/2014

Weather Conditions 24hrs Prior to Monitoring:

Weather Conditions During Monitoring: Sunny and dry followed by stormy and wet

Location I.D	Date	Time (hhmmss)	Temperature (°C)	Atmospheric Pressure 72hrs Prior to Sampling (hPa)	Atmospheric Pressure 48hrs Prior to Sampling (hPa)	Atmospheric Pressure 24hrs Prior to Sampling (hPa)	Atmospheric Pressure When Sampled (hPa)	Relative Pressure (hPa)	PID -Peak (ppm)	PID - Stabilised (ppm)	CH4 (%)	Peak CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	H2S (ppm)	CO (ppm)	Flow Pod (l/Hr)
WFBH03	20/05/2014	09:25:00	15	1025	1013	1002	1006	-0.15	1.0	0.6	0.0	0.0	0.0	3.2	16.9	0	1	0.0
WFBH12	20/05/2014	08:25:00	15	1025	1013	1002	1005	-1.36	1.2	0.7	0.0	0.0	0.0	0.0	12.2	0	1	0.0
WFBH13	19/05/2014	18:10:00	15	1025	1013	1002	1009	0.03	9.3	1.7	0.0	0.0	0.0	5.3	14.7	0	1	0.0
MCBH01	20/05/2014	10:20:00	15	1025	1013	1002	1005	-0.19	1.8	1.8	0.0	0.0	0.0	3.9	13.8	0	1	0.1

Field Engineer: G. Pursey

Pump Running Time (sampling): (Standard 120 sec)

Pump Running Time (purge): (Standard 30 sec)

Flow Details (e.g. 5 sec average for 1 min.):

Other Remarks:

* Noted upto 110ppm before returning to 0.

PID : Photo-Ionisation Detector

"<" indicates that reading is **under** the limit range,

">" indicates that reading is **over** the limit range,

"*" Level to be determined

Harrison Group Environmental Ltd.
Poplar Business Park, Unit A11, 10 Prestons Road, E14 9RL

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Groundwater Monitoring Record

Site Name: Daedalus, Lee-on-Solent-Waterfornt and Hangers West | Job No.: GL18065

Client: Homes and Communities Agency

Weather (include Temperature & Pressure): Dry and Sunny | State of Ground: Dry

Location ID	Date	Time	Surface Elevation (mAOD)	LNAPL Depth[1] (mbgl)	LNAPL Depth (mAOD)	Water Level[1] (mbgl)	Water Level (mAOD)	DNAPL Depth[1] (mbgl)	DNAPL Depth (mAOD)	Depth to base[1] (mbgl)	Depth to base (mAOD)	Stabilized Readings					Sample Method[2] (I, S, B, P)	Water Column (m)	Purged Volume[3] (L)	Comments: (e.g. problems encountered, standpipe conditions, unusual odours, colour, tubidity, sheens)
												Temp (°C)	pH	Electrical Conductivity (µS/cm)	DO (%)	Redox Potential (mV)				
WFBH01	15/05/2014	18:04:00		-	-	4.44		-	-	9.31							P	4.87	15	EW2 at 4.46m clear and colourless no odour or sheen
WFBH02	15/05/2014	17:24:00		-	-	4.41		-	-	8.06							P	3.65	15	EW2 at 4.14m clear and colourless no odour or sheen
WFBH03	15/05/2014	16:02:00		-	-	4.35		-	-	9.00							P	4.65	15	EW2 at 4.46m light brown colour no odour or sheen
WFBH04	16/05/2014	07:42:00		-	-	4.18		-	-	7.84							P	3.66	15	EW2 at 5.07 clear and colourless no odour or sheen
WFBH05	15/05/2014	16:10:00		-	-	5.28		-	-	7.39							P	2.11	15	EW2 at 5.31m greyish brown colour no odour or sheen
WFBH06	15/05/2014	09:37:00		-	-	3.71		-	-	8.22							P	4.51	15	EW2 at 4.60m light brown colour no odour or sheen
WFBH07	15/05/2014	12:45:00		-	-	3.57		-	-	7.08							P	3.51	15	EW2 clear and colourless colour no odour or sheen
WFBH08	15/05/2014	16:00:00		-	-	3.08		-	-	9.39							P	6.31	15	EW2 at 3.08m clear and colourless colour no odour or sheen
WFBH09	15/05/2014	12:06:00		-	-	3.90		-	-	6.21							P	2.31	15	EW2 at 4.50m orangish brown colour no odour or sheen
WFBH11	15/05/2014	09:20:00		-	-	4.44		-	-	5.66							P	1.22	3	Borehole purged dry. Ew2 at 4.55m clear and colourless no odour or sheen
WFBH12	16/05/2014	08:13:00		-	-	3.55		-	-	5.73							P	2.18	15	EW2 at 3.56m clear and colourless no odour or sheen
WFBH13	15/05/2014	10:58:00		-	-	nr		-	-	5.74							P		15	EW2 at 4.24m clear and colourless slight h/c odour no sheen
WFBH14	15/05/2014	09:45:00		-	-	2.94		-	-	4.12							P	1.18	12	Borehole purged dry. Ew2 at 3.26m clear and colourless no odour or sheen
MCBH01	15/05/2014	08:54:00		-	-	3.22		-	-	6.31							P	3.09	15	EW2 at 3.22m clear and colourless no odour or sheen
MCBH02	15/05/2014	15:35:00		-	-	3.66		-	-	3.96							P	0.30	15	EW2 at 3.67m light brown colour no odour or sheen
MCBH03	15/05/2014	10:25:00		-	-	2.57		-	-	9.13							P	6.56	15	EW2 at 3.94m clear and colourless no odour or sheen
LEPBH01	15/05/2014	13:40:00		-	-	2.84		-	-	5.51							P	2.67	15	EW2 at 3.87m clear and colourless no odour or sheen
LEPBH02	15/05/2014	08:45:00		-	-	3.99		-	-	5.93							P	1.94	15	EW2 at 4.04m clear and colourless no odour or sheen
NGBH01	15/05/2014	10:57:00		-	-	3.55		-	-	8.98							P	5.43	15	EW2 at 3.40m clear and colourless no odour or sheen
WFWS21	15/05/2014	12:40:00		-	-	dry		-	-	2.70							-	-	-	

Field Engineer: G. Pursey

1 - All (mbgl) depth measurements are recorded as meters from the top of installation cover.

2 - I = inertial, S = Submersible, B = Bailer, P = Peristalic Pump.

3 - Purge volume standardization: 50mm standpipe = 6 times water column, 35mm = 3.5 times water column, 19mm = 1 times water column

APPENDIX D

LABORATORY TESTING

4031

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SERVICES

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Norwich NR6 5DS
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Fax +44 (0) 1603 416443

Client: Harrison Group Environmental
Poplar Business Park
10 Preston Road
London
E14 9RL

For the attention of: John Keay

Date of Issue: 09/04/2014

TEST REPORT TRANSMITTAL

Report Form FMR3000 Rev.C Revision Date 26/11/08

Project	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**Samples Received**	**17/03/2014**
Report No	**GL18065**	**Instruction received**	**05/03/2014**
Your Ref	**GL18065**	**Testing commenced**	**18/03/2014**

SUMMARY OF RESULTS ATTACHED

Test Method and Description	Quantity	UKAS Accredited
BS1377: Part 2: 1990:3.2 Moisture Content	46	Yes
BS1377: Part 2: 1990:4.3/4.5 Liquid & Plastic Limits - Definitive Method	28	Yes
BS1377: Part 2: 1990:9.3 Particle Size Distribution - Wet Sieve Method	28	Yes
BS1377: Part 2: 1990:9.4 Particle Size Distribution - Pipette Sedimentation Method	12	Yes
BS1377: Part 7: 1990:8.0 Unconsolidated Undrained Shear Strength - Single Stage	9	Yes

Remarks:

Issued by: M Willson

Approved Signatories:

M Willson (Laboratory Manager), G Bream (Senior Laboratory Technician)

Unless we are notified to the contrary, samples will be disposed after a period of one month from this date

This report should not be reproduced except in full without the written approval of the laboratory

Only those results indicated in this report are UKAS accredited and any opinion or interpretations expressed are outside the scope of UKAS accreditation

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SERVICES

PROJECT NAME: Daedalus, Lee-on-the- Solent - Waterfront and Hangars West
PROJECT NUMBER: GL18065
CLIENT: Homes and Communities Agency
DATE OF ISSUE: 09/04/2014

SUMMARY OF MOISTURE CONTENT, LIQUID LIMIT (DEFINITIVE METHOD), PLASTIC LIMIT, PLASTICITY INDEX AND LIQUIDITY INDEX TO BS1377 : PART 2 : 1990

BH/TP No	Depth (m)	Sample No.	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index	Liquidity Index	Passing 0.425mm (%)	Soil Class	Sample Description
WFWS02	0.15	D1	24							MADE GROUND (Brown slightly gravelly CLAY. Gravel is of brick and clinker fragments)
WFWS03	0.50	D2	26							Orange brown mottled brown slightly gravelly CLAY. Gravel is of flint
WFWS10	0.15	D1	19							MADE GROUND (Brown very gravelly CLAY. Gravel is of flint, brick and concrete fragments)
WFWS10	1.70	D4	18							Orange brown mottled light grey slightly gravelly slightly sandy CLAY. Gravel is of flint
NGWS01	0.50	D1	21	39	17	23	0.19	100	CI	Orange brown slightly gravelly CLAY. Gravel is of flint
NGWS02	1.50	D4	8.1							Orange brown clayey sandy GRAVEL. Gravel sis of flint
MCBH01	1.00	D2	30	35	22	13	0.59	80	CI	MADE GROUND (Brown slightly gravelly CLAY. Gravel is of brick and clinker fragments)
MCBH01	9.50	D12	21	67	21	46	-0.01	94	CH	Dark grey slightly gravelly slightly sandy CLAY. Gravel is of mudstone
MCBH02	0.50	D1	26							Brown gravelly CLAY. Gravel is of flint
MCBH02	9.00	D8	23	58	19	39	0.11	100	CH	Dark grey slightly gravelly slightly sandy CLAY. Gravel is of mudstone
WFBH02	0.50	D2	23							Brown gravelly CLAY. Gravel is of flint
WFBH06	2.00	D4	14							Orange brown gravelly CLAY. Gravel is of flint

BS1377 : Part 2 : Clause 3.2 : 1990 Determination of Moisture Content
BS1377 : Part 2 : Clause 4.3 : 1990 Determination of Liquid Limit (Definitive Method)
BS1377 : Part 2 : Clause 5 : 1990 Determination of Plastic Limit and Plasticity Index

REMARKS (Including any abnormalities or departures from procedure)

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SERVICES

PROJECT NAME: Daedalus, Lee-on-the- Solent - Waterfront and Hangars West
PROJECT NUMBER: GL18065
CLIENT: Homes and Communities Agency
DATE OF ISSUE: 09/04/2014

SUMMARY OF MOISTURE CONTENT, LIQUID LIMIT (DEFINITIVE METHOD), PLASTIC LIMIT, PLASTICITY INDEX AND LIQUIDITY INDEX TO BS1377 : PART 2 : 1990

BH/TP No	Depth (m)	Sample No.	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index	Liquidity Index	Passing 0.425mm (%)	Soil Class	Sample Description
WFBH13	6.00	D12	21							Dark grey sandy CLAY
LEPTP01	0.50	D2	25	37	18	19	0.36	100	CI	Orange brown slightly sandy CLAY
LEPTP02	0.50	D3	21							Orange brown slightly gravelly CLAY. Gravel is of flint
LEPTP02	3.00	D6	14							Orange brown silty sandy GRAVEL. Gravel is of flint
LEPTP03	0.30	D2	22	31	19	13	0.27	81	CL	MADE GROUND (Dark brown gravelly CLAY. Gravel is of flint, brick and clinker fragments)
LEPTP03	2.00	D6	19							Orange brown and light grey sandy slightly gravelly CLAY. Gravel is of flint
MCTP01	0.50	D2	19							MADE GROUND (Dark brown gravelly CLAY. Gravel is of flint, brick and clinker fragments)
MCTP01	1.60	D5	18	40	14	26	0.15	100	CI	Orange brown and light grey slightly sandy CLAY
MCTP01	2.50	D7	20	41	13	28	0.26	100	CI	Orange brown and light grey slightly sandy CLAY
MCTP02	0.15	D1	29	38	25	12	0.31	81	MI	MADE GROUND (Brown slightly gravelly slightly sandy CLAY. Gravel is of flint and clinker fragments)
MCTP02	1.00	D3	19							Orange brown mottled brown gravelly CLAY. Gravel is of flint

BS1377 : Part 2 : Clause 3.2 : 1990 Determination of Moisture Content
BS1377 : Part 2 : Clause 4.3 : 1990 Determination of Liquid Limit (Definitive Method)
BS1377 : Part 2 : Clause 5 : 1990 Determination of Plastic Limit and Plasticity Index

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SERVICES

PROJECT NAME: Daedalus, Lee-on-the- Solent - Waterfront and Hangars West
PROJECT NUMBER: GL18065
CLIENT: Homes and Communities Agency
DATE OF ISSUE: 09/04/2014

SUMMARY OF MOISTURE CONTENT, LIQUID LIMIT (DEFINITIVE METHOD), PLASTIC LIMIT, PLASTICITY INDEX AND LIQUIDITY INDEX TO BS1377 : PART 2 : 1990

BH/TP No	Depth (m)	Sample No.	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index	Liquidity Index	Passing 0.425mm (%)	Soil Class	Sample Description
NGTP01	1.00	D3	24							Orange brown slightly gravelly CLAY. Gravel is of flint
NGTP02	1.50	D4	21	34	13	20	0.37	82	CL	Orange brown and grey slightly sandy slightly gravelly CLAY. Gravel is of flint
NGTP03	0.15	D1	21	31	19	12	0.17	100	CL	Orange brown slightly sandy CLAY
NGTP03	1.00	D3	22	37	19	18	0.18	89	CI	Orange brown and grey slightly sandy slightly gravelly CLAY. Gravel is of flint
NGTP03	2.50	B3	15	31	14	17	0.05	54	CL	Grey and orange brown slightly gravelly sandy CLAY. Gravel is of flint
WFTP01	1.00	D3	24	41	16	25	0.33	99	CI	Orange brown slightly gravelly CLAY. Gravel is of flint
WFTP02	1.00	D4	25	40	15	25	0.41	97	CI	Orange brown slightly gravelly CLAY. Gravel is of flint
WFTP06	0.70	D2	30							MADE GROUND (Dark brown mottled grey slightly gravelly CLAY. Gavel is of flint and clinker fragments)
WFTP08	0.15	D1	26	35	20	16	0.4	73	CI	MADE GROUND (Dark brown mottled brown very gravelly CLAY. Gravel is of flint, brick, clinker and mortar fragments)
WFTP11	0.15	D1	19							MADE GROUND (Dark brown mottled brown very gravelly CLAY. Gravel is of flint, brick, clinker and mortar fragments)
LEPWS02	1.00	D3	25	30	16	13	0.65	96	CL	Brown slightly gravelly CLAY. Gravel is of flint
LEPWS03	0.25	D2	26	30	16	14	0.71	82	CL	MADE GROUND (Dark brown slightly gravelly silty CLAY. Gravel is of flint, brick, clinker and bone fragments)

BS1377 : Part 2 : Clause 3.2 : 1990 Determination of Moisture Content
BS1377 : Part 2 : Clause 4.3 : 1990 Determination of Liquid Limit (Definitive Method)
BS1377 : Part 2 : Clause 5 : 1990 Determination of Plastic Limit and Plasticity Index

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SERVICES

PROJECT NAME: Daedalus, Lee-on-the- Solent - Waterfront and Hangars West
PROJECT NUMBER: GL18065
CLIENT: Homes and Communities Agency
DATE OF ISSUE: 09/04/2014

SUMMARY OF MOISTURE CONTENT, LIQUID LIMIT (DEFINITIVE METHOD), PLASTIC LIMIT, PLASTICITY INDEX AND LIQUIDITY INDEX TO BS1377 : PART 2 : 1990

BH/TP No	Depth (m)	Sample No.	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index	Liquidity Index	Passing 0.425mm (%)	Soil Class	Sample Description
WFBH02	0.50	D2	16	39	21	18	-0.25	25	CI	Brown clayey sandy GRAVEL. Gravel is of flint
WFBH07	8.50	D5	22	27	Non-plastic	Non-plastic	Non-plastic	83	Non-plastic	Yellow brown slightly clayey silty SAND
WFBH09	6.50	D6	19	36	19	17	0.00	100	CI	Dark grey and orange brown sandy CLAY
MCWS01	1.50	D3	15	38	16	22	-0.02	75	CI	Orange brown slightly sandy CLAY
MCWS02	1.00	D3	25	39	17	21	0.36	98	CI	Orange brown slightly gravelly slightly sandy CLAY. Gravel is of flint
WFWS06	1.00	D3	25	40	15	25	0.39	100	CI	Orange brown sandy CLAY
WFWS16	0.50	D2	21	39	17	22	0.18	78	CI	Orange brown slightly gravelly slightly sandy CLAY. Gravel is of flint
WFWS21	1.20	D2	35	80	21	59	0.24	100	CV	Brown mottled orange brown and grey CLAY
WFWS22	1.00	D4	19							Orange brown slightly gravelly CLAY. Gravel is of flint

BS1377 : Part 2 : Clause 3.2 : 1990 Determination of Moisture Content
BS1377 : Part 2 : Clause 4.3 : 1990 Determination of Liquid Limit (Definitive Method)
BS1377 : Part 2 : Clause 5 : 1990 Determination of Plastic Limit and Plasticity Index

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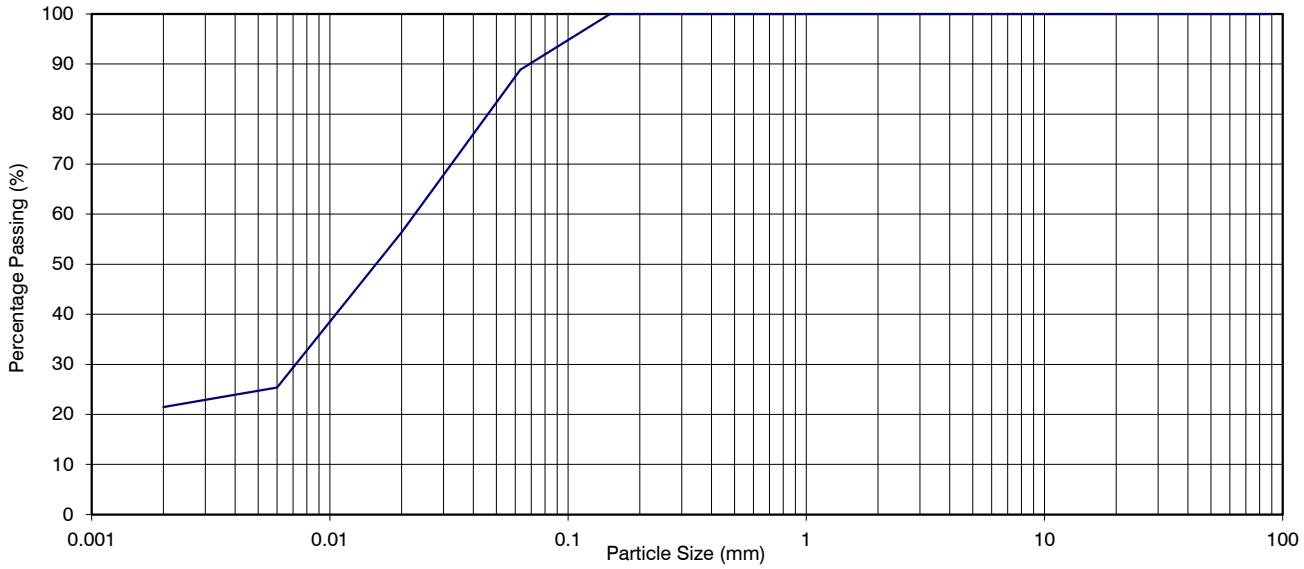
SERVICES

PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**LEPTP01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**0.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B1**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING & BS1377 : PART 2 : 1990 : CLAUSE 9.4 - SEDIMENTATION BY PIPETTE



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	100
20.0	100
14.0	100
10.0	100
6.30	100
5.00	100
3.35	100
2.00	100
1.18	100
0.600	100
0.425	100
0.300	100
0.212	100
0.150	100
0.063	89
0.020	56
0.006	25
0.002	21

Sample Description
Orange brown slightly sandy very silty CLAY

Sample Proportions %	
Cobbles	0.0
Gravel	0.0
Sand	11.1
Silt	67.4
Clay	21.5

Remarks

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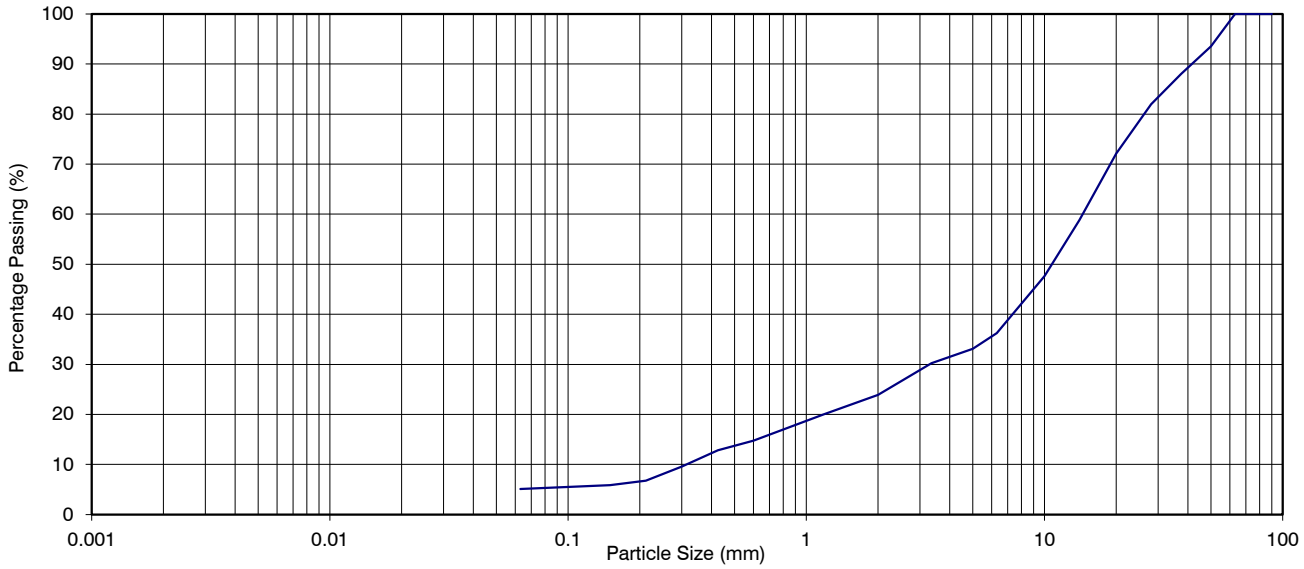
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**LEPTP01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**3.00**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B3**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	94
37.5	88
28.0	82
20.0	72
14.0	59
10.0	48
6.30	36
5.00	33
3.35	30
2.00	24
1.18	20
0.600	15
0.425	13
0.300	10
0.212	7
0.150	6
0.063	5

Sample Description
Grey and orange brown slightly clayey sandy GRAVEL. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	76.1
Sand	18.8
Silt / Clay	5.1

Remarks

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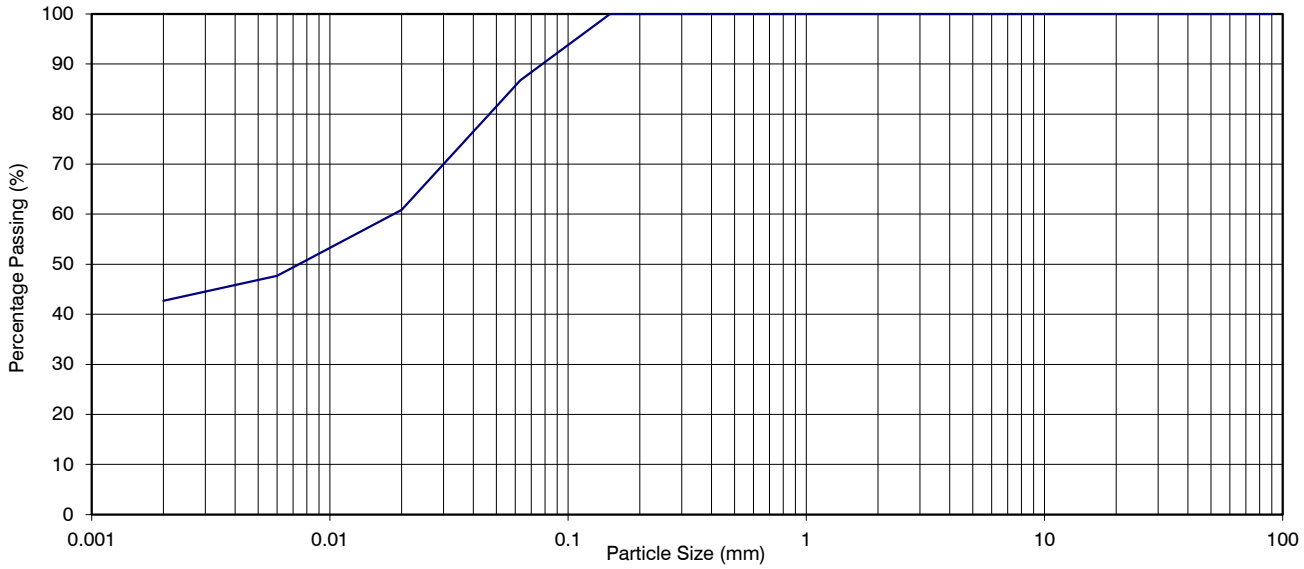
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**LEPTP02**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**2.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B3**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING & BS1377 : PART 2 : 1990 : CLAUSE 9.4 - SEDIMENTATION BY PIPETTE



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	100
20.0	100
14.0	100
10.0	100
6.30	100
5.00	100
3.35	100
2.00	100
1.18	100
0.600	100
0.425	100
0.300	100
0.212	100
0.150	100
0.063	87
0.020	61
0.006	48
0.002	43

Sample Description
Orange brown mottled grey slightly sandy silty CLAY

Sample Proportions %	
Cobbles	0.0
Gravel	0.0
Sand	13.2
Silt	44.1
Clay	42.7

Remarks

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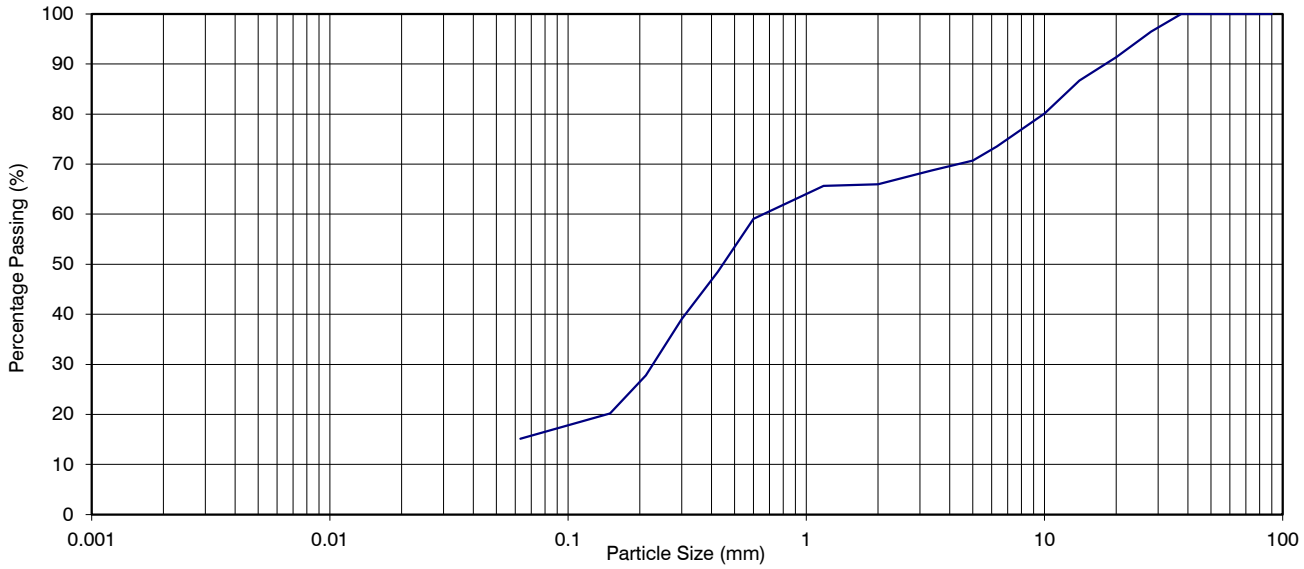
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**LEPTP02**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**3.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B4**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	96
20.0	91
14.0	87
10.0	80
6.30	74
5.00	71
3.35	69
2.00	66
1.18	66
0.600	59
0.425	49
0.300	39
0.212	28
0.150	20
0.063	15

Sample Description
Orange brown clayey very gravelly SAND. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	34.0
Sand	50.8
Silt / Clay	15.2

Remarks

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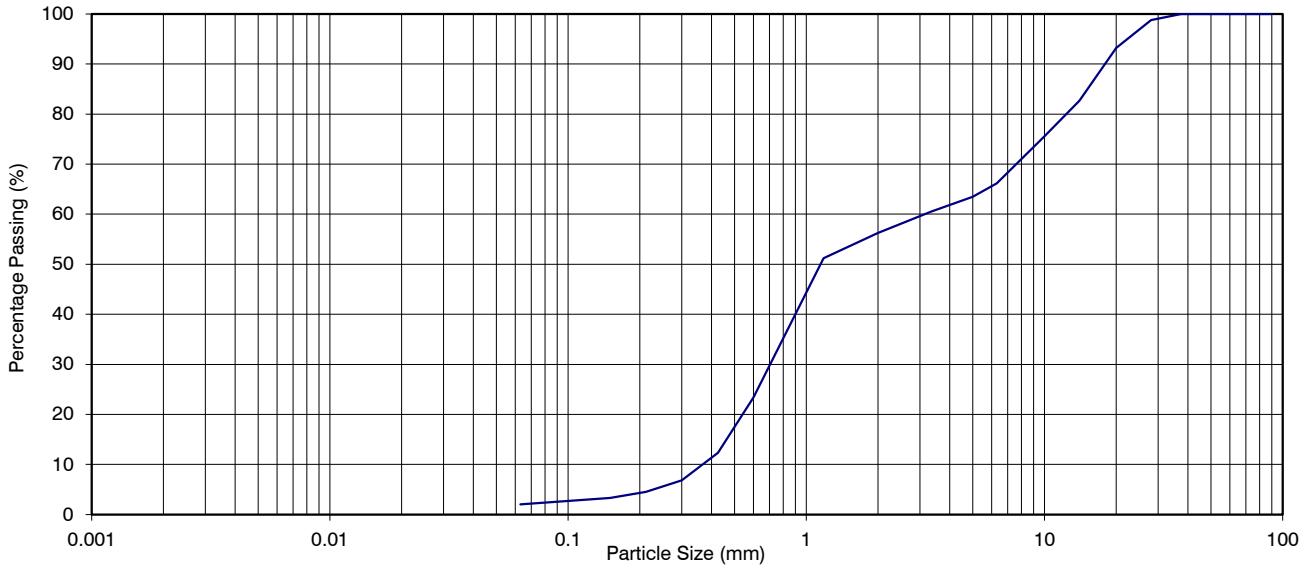
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**LEPTP03**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**2.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B3**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	99
20.0	93
14.0	83
10.0	76
6.30	66
5.00	63
3.35	61
2.00	56
1.18	51
0.600	23
0.425	12
0.300	7
0.212	5
0.150	3
0.063	2

Sample Description
Yellow brown slightly silty very gravelly SAND. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	43.8
Sand	54.2
Silt / Clay	2.1

Remarks

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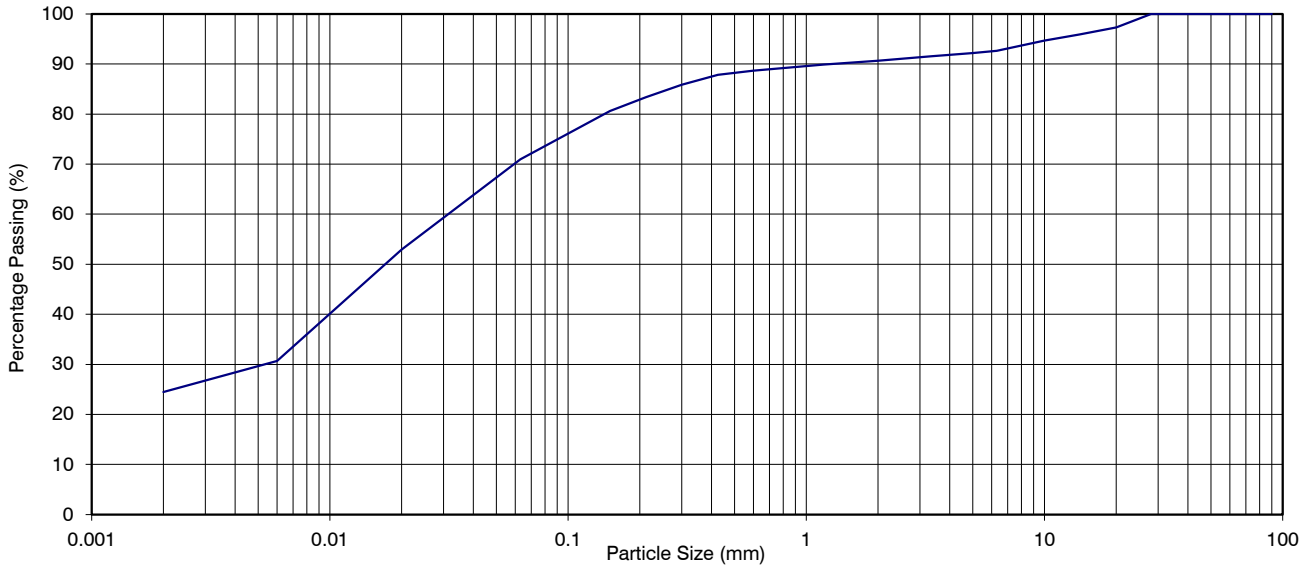
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**LEPWS04**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**0.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B1**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING & BS1377 : PART 2 : 1990 : CLAUSE 9.4 - SEDIMENTATION BY PIPETTE



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	100
20.0	97
14.0	96
10.0	95
6.30	93
5.00	92
3.35	92
2.00	91
1.18	90
0.600	89
0.425	88
0.300	86
0.212	83
0.150	81
0.063	71
0.020	53
0.006	31
0.002	24

Sample Description
Orange brown slightly gravelly slightly sandy silty CLAY. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	9.4
Sand	19.7
Silt	46.5
Clay	24.5

Remarks

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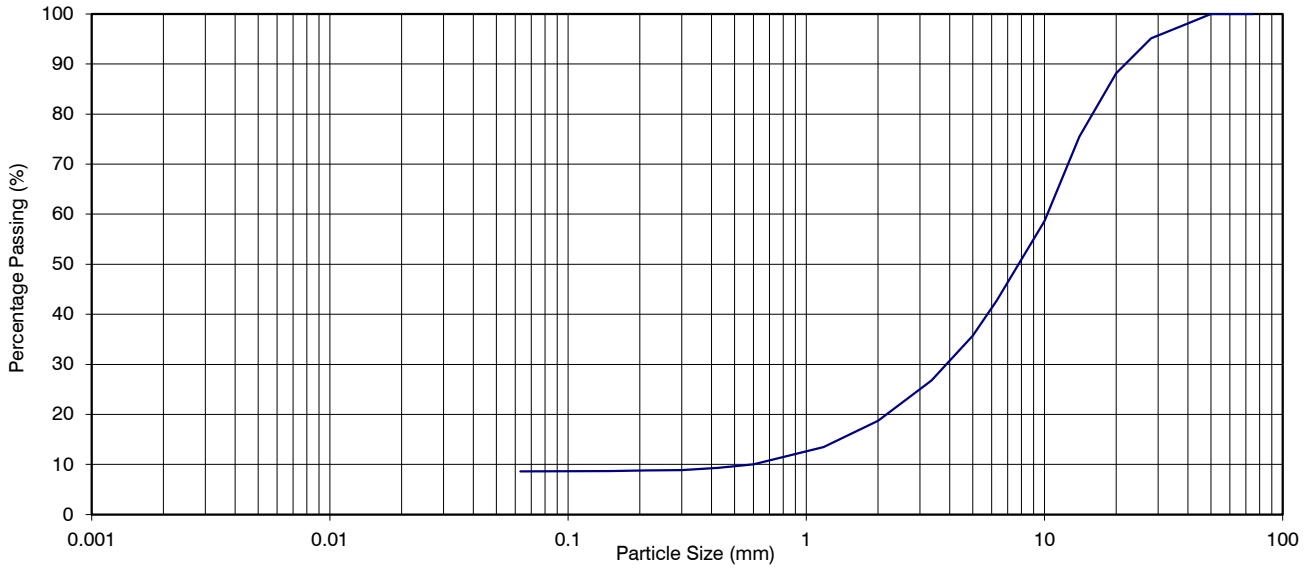
PROJECT NAME:	**Daedalus, Lee-on-the- Solent - Waterfront and Hangars West**	**BH/TP No.:**	**MCBH01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**4.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B4**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	98
28.0	95
20.0	88
14.0	76
10.0	59
6.30	43
5.00	36
3.35	27
2.00	19
1.18	13
0.600	10
0.425	9
0.300	9
0.212	9
0.150	9
0.063	9

Sample Description
Brown silty sandy GRAVEL. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	81.3
Sand	10.1
Silt / Clay	8.6

Remarks

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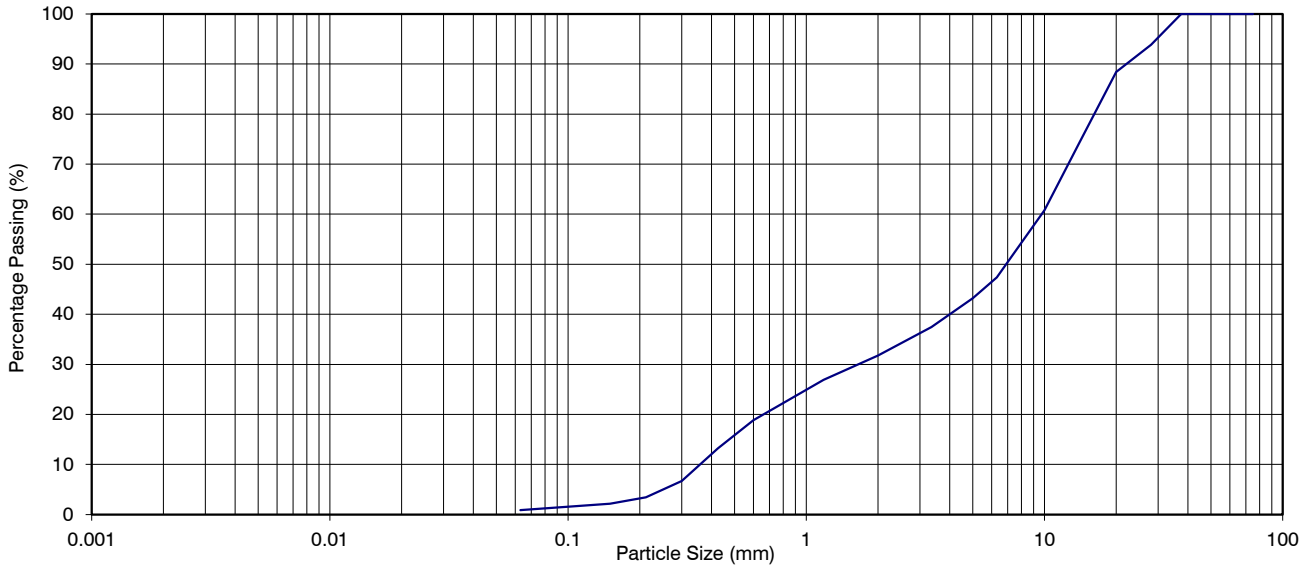
SERVICES

PROJECT NAME:	**Daedalus, Lee-on-the- Solent - Waterfront and Hangars West**	**BH/TP No.:**	**MCBH02**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**7.00**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B6**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	94
20.0	88
14.0	74
10.0	61
6.30	47
5.00	43
3.35	37
2.00	32
1.18	27
0.600	19
0.425	13
0.300	7
0.212	3
0.150	2
0.063	1

Sample Description
Orange brown slightly silty very sandy GRAVEL. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	68.2
Sand	30.9
Silt / Clay	0.9

Remarks

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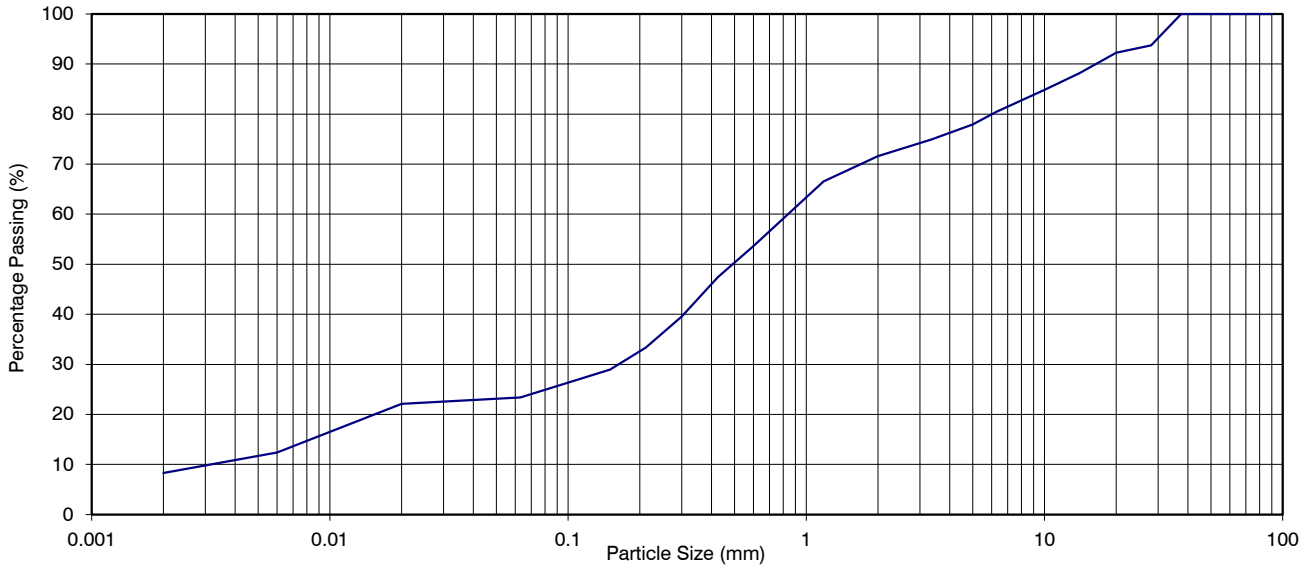
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**MCTP01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**0.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B2**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING & BS1377 : PART 2 : 1990 : CLAUSE 9.4 - SEDIMENTATION BY PIPETTE



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	94
20.0	92
14.0	88
10.0	85
6.30	81
5.00	78
3.35	75
2.00	72
1.18	67
0.600	54
0.425	47
0.300	40
0.212	33
0.150	29
0.063	23
0.020	22
0.006	12
0.002	8

Sample Description
Dark grey clayey silty very gravelly SAND. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	28.4
Sand	48.2
Silt	15.1
Clay	8.3

Remarks

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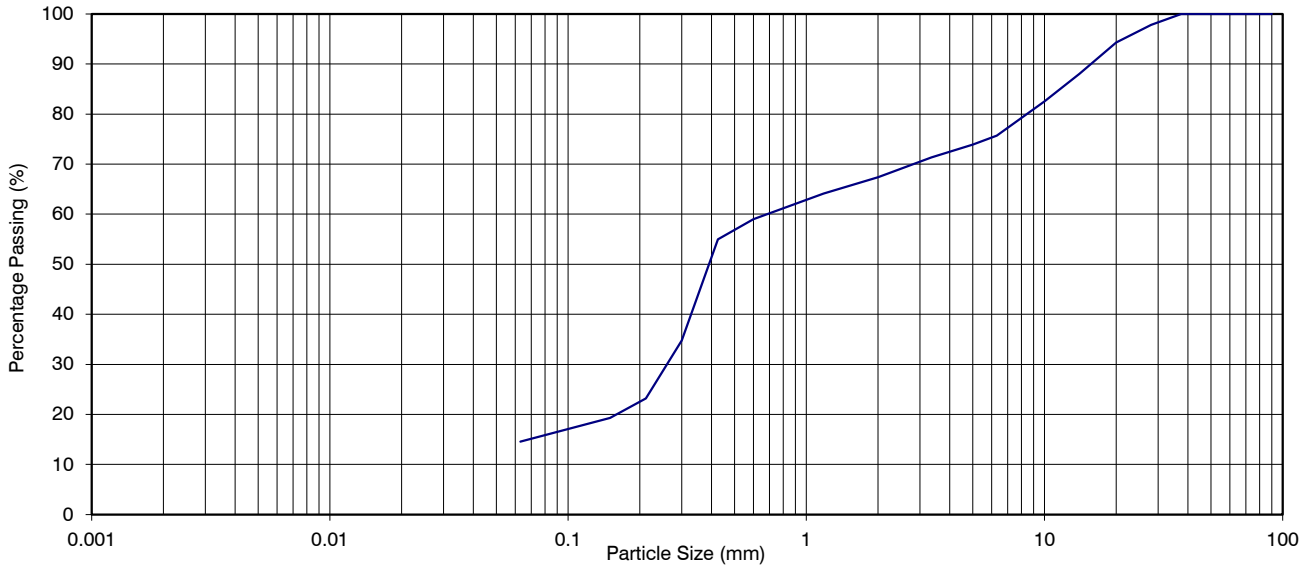
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**MCTP01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**2.00**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B3**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	98
20.0	94
14.0	88
10.0	83
6.30	76
5.00	74
3.35	71
2.00	67
1.18	64
0.600	59
0.425	55
0.300	35
0.212	23
0.150	19
0.063	15

Sample Description
Orange brown and light grey clayey very gravelly SAND. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	32.6
Sand	52.8
Silt / Clay	14.6

Remarks

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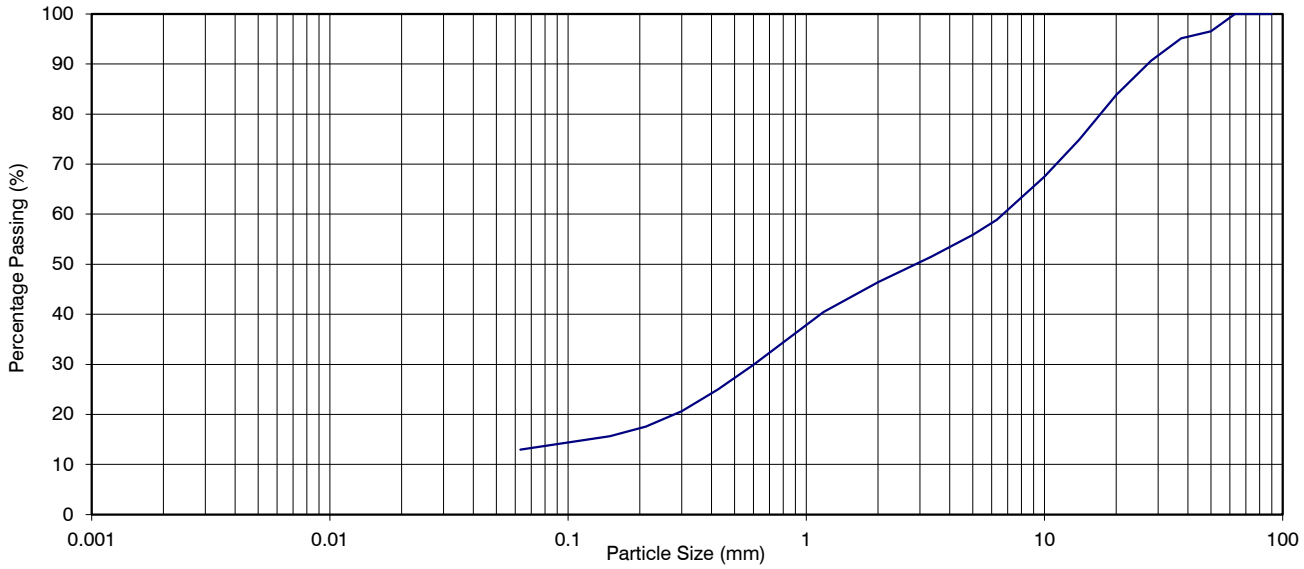
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**MCTP02**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**2.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B4**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	97
37.5	95
28.0	91
20.0	84
14.0	75
10.0	68
6.30	59
5.00	56
3.35	51
2.00	46
1.18	40
0.600	30
0.425	25
0.300	21
0.212	18
0.150	16
0.063	13

Sample Description
Orange brown clayey very sandy GRAVEL. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	53.6
Sand	33.4
Silt / Clay	13.0

Remarks

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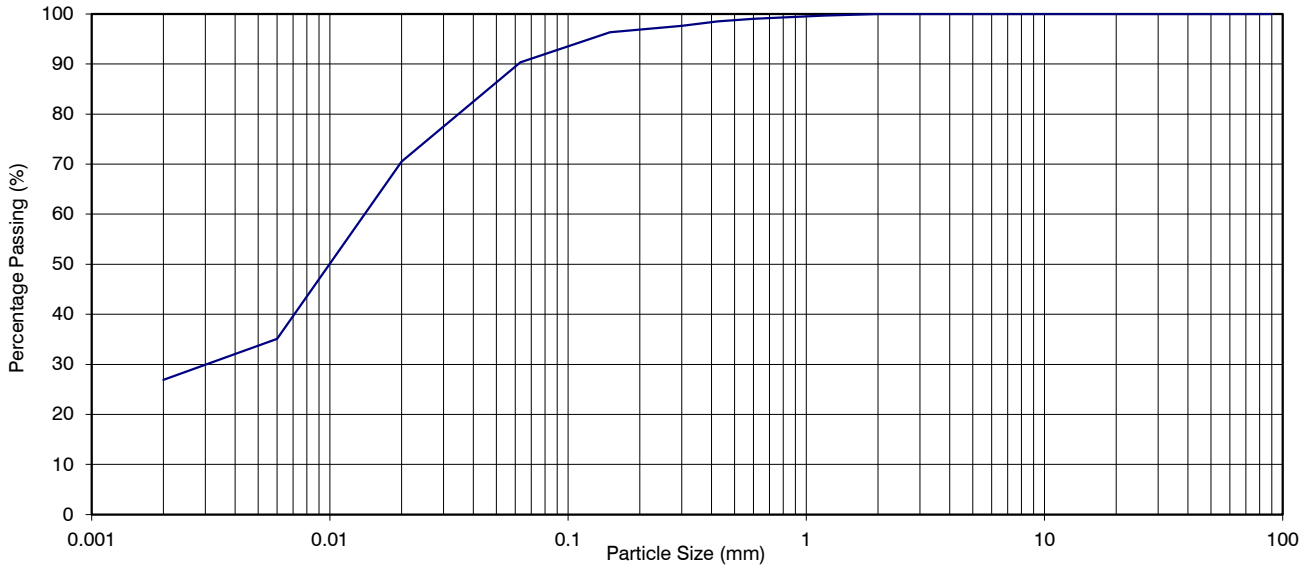
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**NGTP01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**0.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B1**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING & BS1377 : PART 2 : 1990 : CLAUSE 9.4 - SEDIMENTATION BY PIPETTE



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	100
20.0	100
14.0	100
10.0	100
6.30	100
5.00	100
3.35	100
2.00	100
1.18	100
0.600	99
0.425	98
0.300	98
0.212	97
0.150	96
0.063	90
0.020	71
0.006	35
0.002	27

Sample Description
Orange brown mottled brown slightly sandy silty CLAY

Sample Proportions %	
Cobbles	0.0
Gravel	0.0
Sand	9.7
Silt	63.5
Clay	26.9

Remarks

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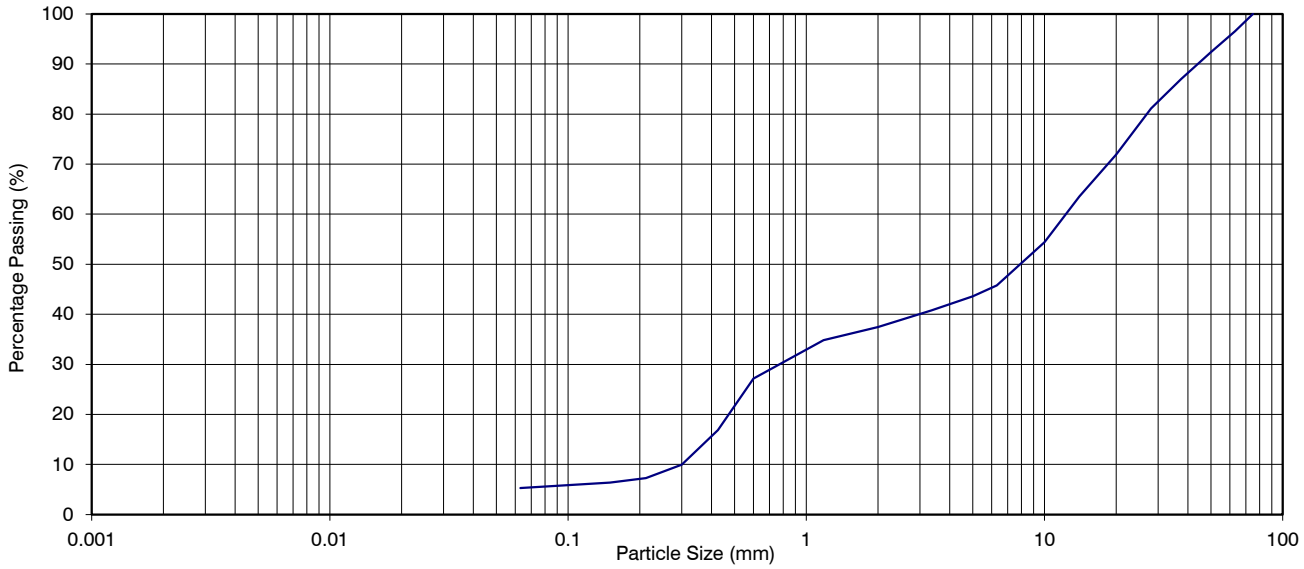
PROJECT NAME:	**Daedalus, Lee-on-the- Solent - Waterfront and Hangars West**	**BH/TP No.:**	**NGTP01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**1.90**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B2**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	97
50.0	92
37.5	87
28.0	81
20.0	72
14.0	64
10.0	54
6.30	46
5.00	44
3.35	41
2.00	37
1.18	35
0.600	27
0.425	17
0.300	10
0.212	7
0.150	6
0.063	5

Sample Description
Yellow brown slightly silty very sandy GRAVEL. Gravel is of flint

Sample Proportions %	
Cobbles	3.5
Gravel	59.1
Sand	32.2
Silt / Clay	5.3

Remarks

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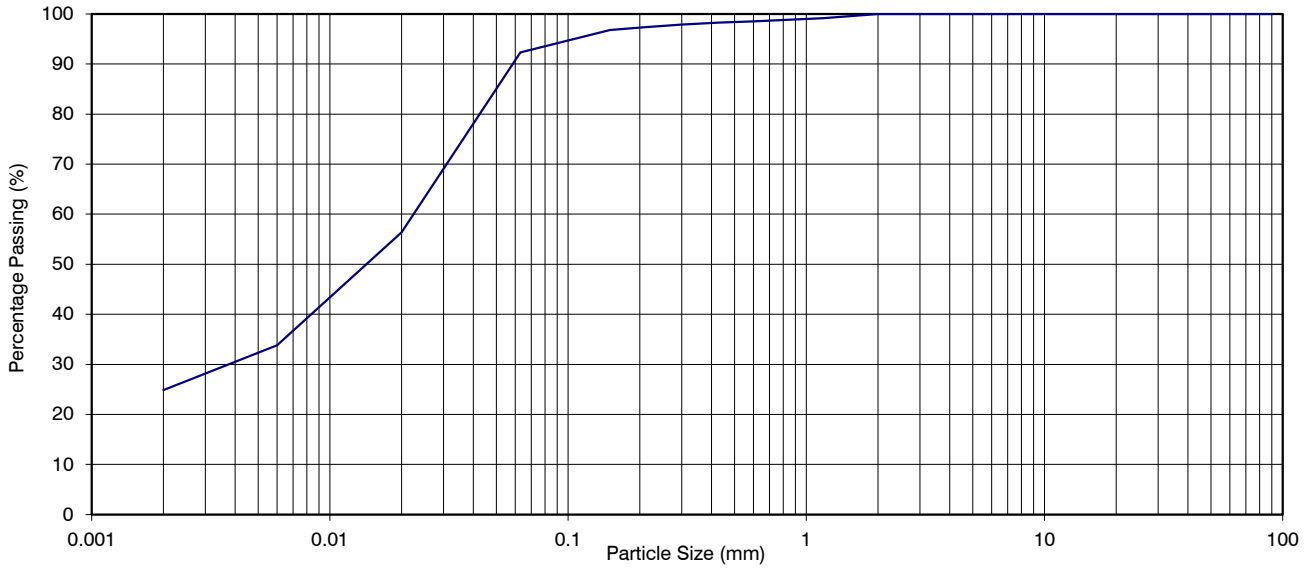
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**NGTP02**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**0.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B1**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING & BS1377 : PART 2 : 1990 : CLAUSE 9.4 - SEDIMENTATION BY PIPETTE



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	100
20.0	100
14.0	100
10.0	100
6.30	100
5.00	100
3.35	100
2.00	100
1.18	99
0.600	99
0.425	98
0.300	98
0.212	97
0.150	97
0.063	92
0.020	56
0.006	34
0.002	25

Sample Description
Orange brown slightly sandy very silty CLAY

Sample Proportions %	
Cobbles	0.0
Gravel	0.0
Sand	7.7
Silt	67.5
Clay	24.9

Remarks

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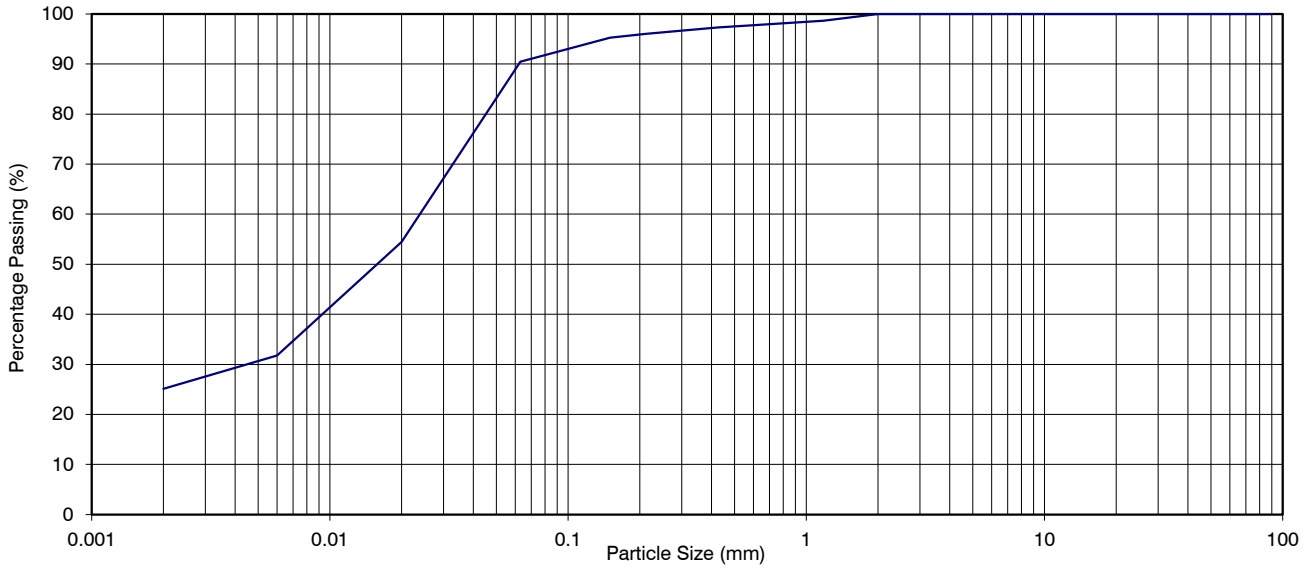
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**NGTP03**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**0.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B1**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING & BS1377 : PART 2 : 1990 : CLAUSE 9.4 - SEDIMENTATION BY PIPETTE



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	100
20.0	100
14.0	100
10.0	100
6.30	100
5.00	100
3.35	100
2.00	100
1.18	99
0.600	98
0.425	97
0.300	97
0.212	96
0.150	95
0.063	90
0.020	54
0.006	32
0.002	25

Sample Description
Orange brown slightly sandy very silty CLAY

Sample Proportions %	
Cobbles	0.0
Gravel	0.0
Sand	9.5
Silt	65.4
Clay	25.1

Remarks

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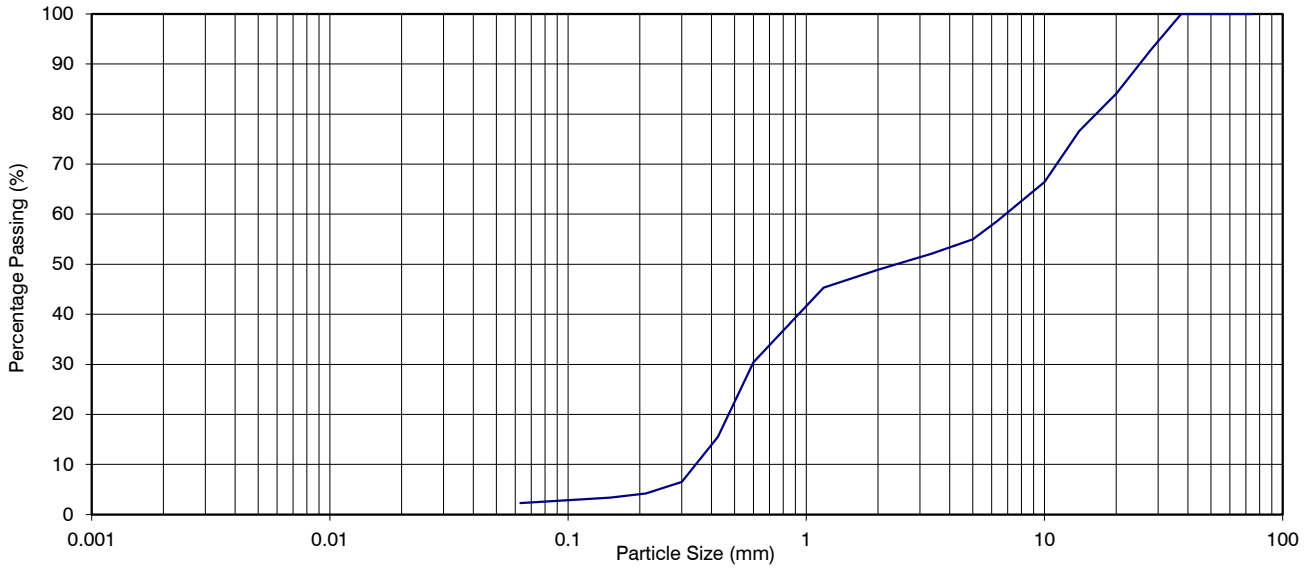
PROJECT NAME:	**Daedalus, Lee-on-the- Solent - Waterfront and Hangars West**	**BH/TP No.:**	**NGWS01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**2.00**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**D4**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	93
20.0	84
14.0	77
10.0	66
6.30	59
5.00	55
3.35	52
2.00	49
1.18	45
0.600	30
0.425	16
0.300	7
0.212	4
0.150	3
0.063	2

Sample Description
Orange brown slightly silty very sandy GRAVEL. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	51.1
Sand	46.6
Silt / Clay	2.3

Remarks

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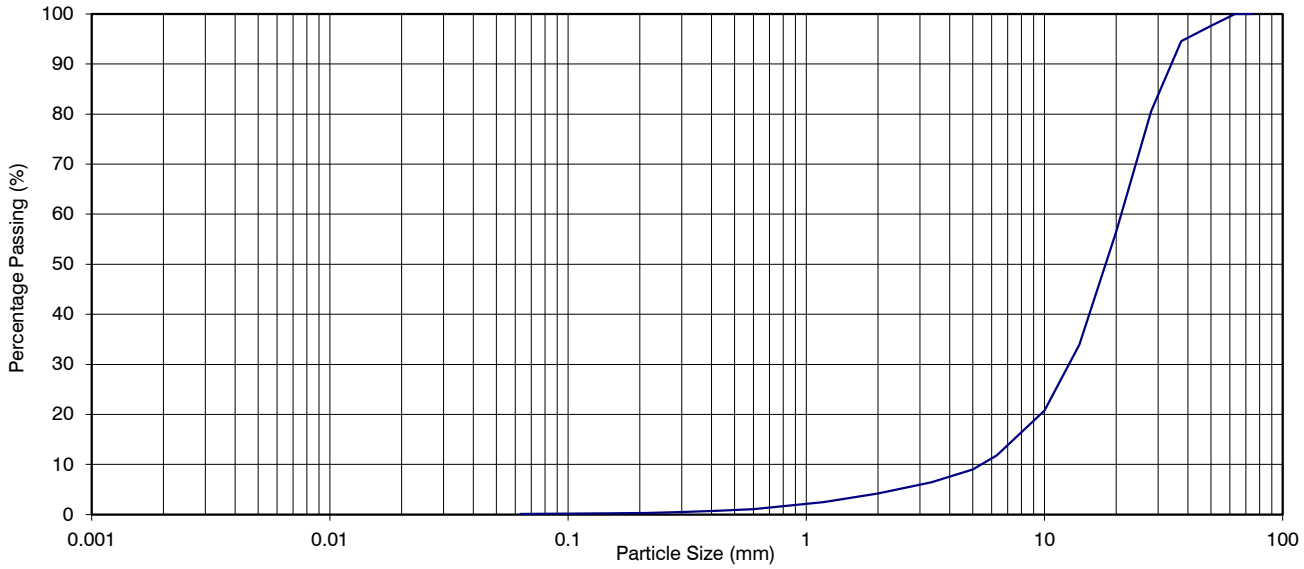
PROJECT NAME:	**Daedalus, Lee-on-the- Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH02**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**5.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B5**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	98
37.5	95
28.0	81
20.0	57
14.0	34
10.0	21
6.30	12
5.00	9
3.35	6
2.00	4
1.18	2
0.600	1
0.425	1
0.300	1
0.212	0
0.150	0
0.063	0

Sample Description
Brown slightly sandy GRAVEL. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	95.8
Sand	4.1
Silt / Clay	0.1

Remarks

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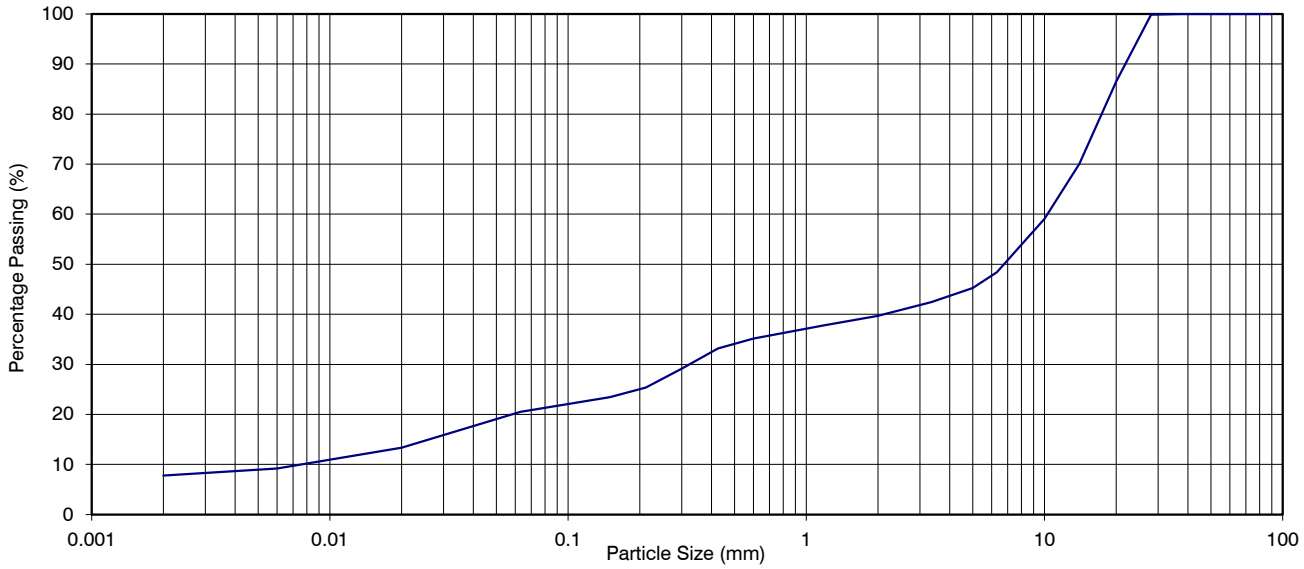
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH13**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**2.20**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B6**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING & BS1377 : PART 2 : 1990 : CLAUSE 9.4 - SEDIMENTATION BY PIPETTE



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	100
20.0	87
14.0	70
10.0	59
6.30	48
5.00	45
3.35	42
2.00	40
1.18	38
0.600	35
0.425	33
0.300	29
0.212	25
0.150	23
0.063	20
0.020	13
0.006	9
0.002	8

Sample Description
Brown clayey silty sandy GRAVEL. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	60.3
Sand	19.2
Silt	12.7
Clay	7.8

Remarks

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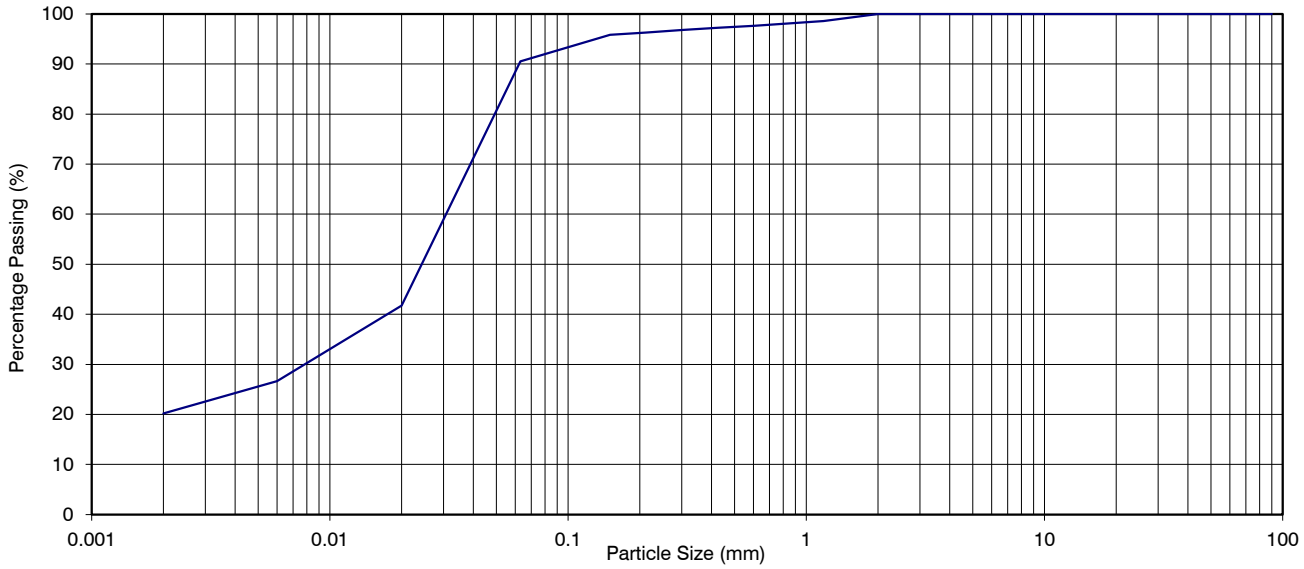
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFTP01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**0.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B1**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING & BS1377 : PART 2 : 1990 : CLAUSE 9.4 - SEDIMENTATION BY PIPETTE



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	100
20.0	100
14.0	100
10.0	100
6.30	100
5.00	100
3.35	100
2.00	100
1.18	99
0.600	98
0.425	97
0.300	97
0.212	96
0.150	96
0.063	91
0.020	42
0.006	27
0.002	20

Sample Description
Orange brown slightly sandy very silty CLAY

Sample Proportions %	
Cobbles	0.0
Gravel	0.0
Sand	9.5
Silt	70.4
Clay	20.2

Remarks

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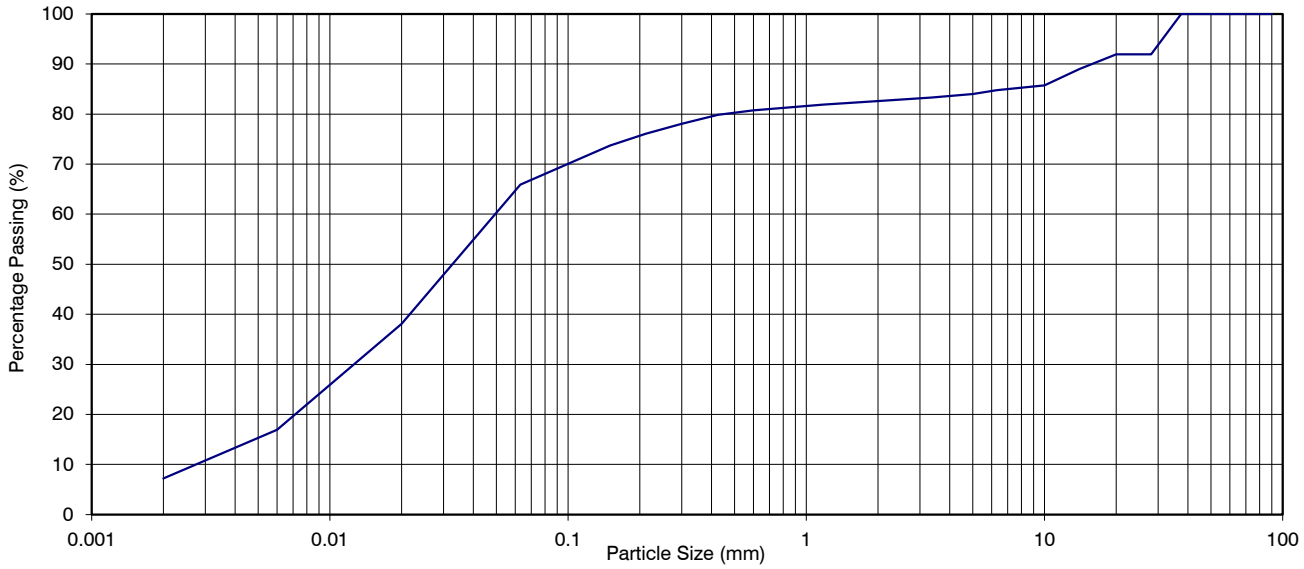
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFTP02**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**0.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B1**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING & BS1377 : PART 2 : 1990 : CLAUSE 9.4 - SEDIMENTATION BY PIPETTE



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	92
20.0	92
14.0	89
10.0	86
6.30	85
5.00	84
3.35	83
2.00	83
1.18	82
0.600	81
0.425	80
0.300	78
0.212	76
0.150	74
0.063	66
0.020	38
0.006	17
0.002	7

Sample Description
Brown slightly gravelly slightly sandy clayey SILT. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	17.4
Sand	16.7
Silt	58.7
Clay	7.2

Remarks

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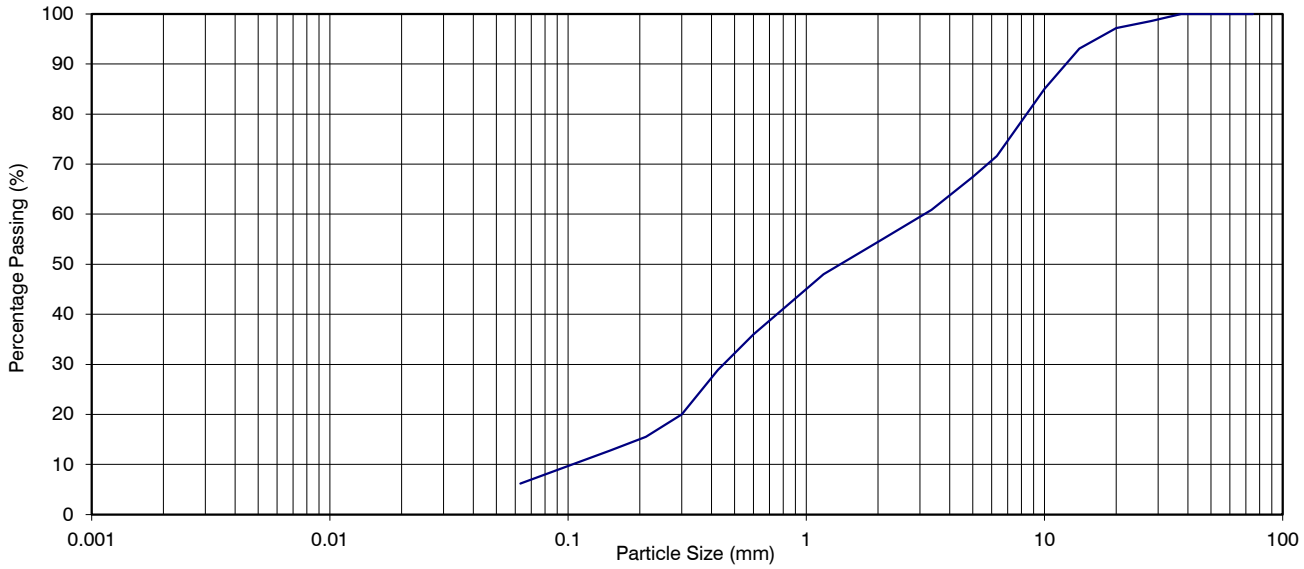
PROJECT NAME:	**Daedalus, Lee-on-the- Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFTP02**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**1.70**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B2**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	99
20.0	97
14.0	93
10.0	85
6.30	72
5.00	67
3.35	61
2.00	54
1.18	48
0.600	36
0.425	29
0.300	20
0.212	16
0.150	13
0.063	6

Sample Description
Orange brown silty SAND / GRAVEL. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	45.6
Sand	48.2
Silt / Clay	6.2

Remarks

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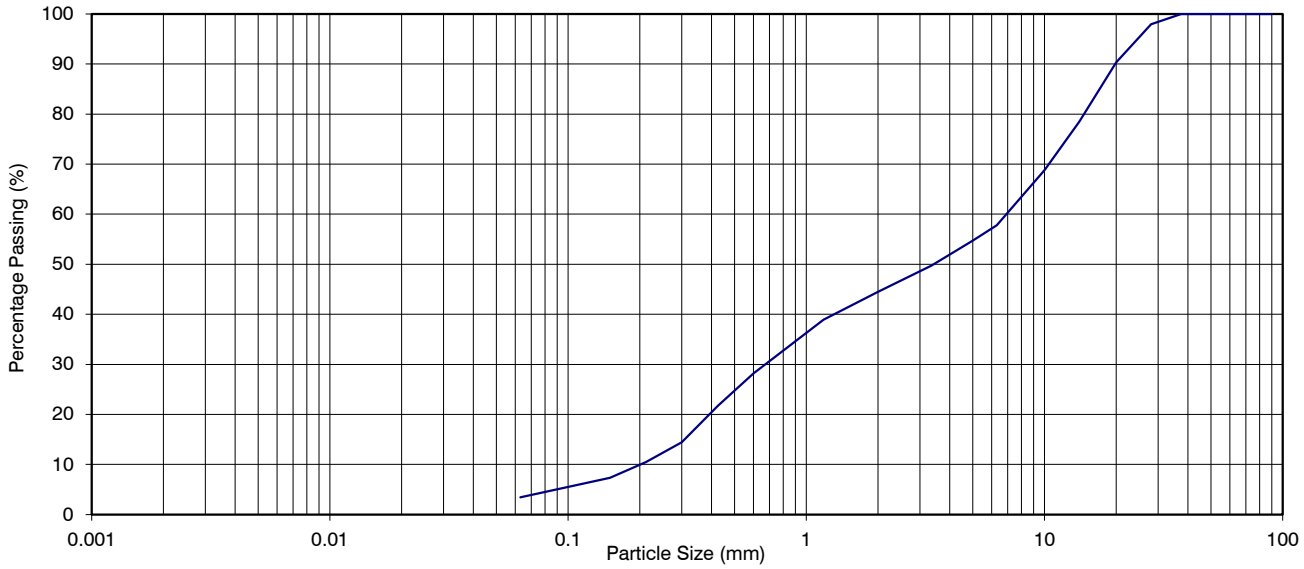
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFTP02**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**3.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B3**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	98
20.0	90
14.0	79
10.0	69
6.30	58
5.00	55
3.35	50
2.00	44
1.18	39
0.600	28
0.425	22
0.300	14
0.212	10
0.150	7
0.063	3

Sample Description
Yellow brown and light brown slightly silty very sandy GRAVEL. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	55.5
Sand	41.0
Silt / Clay	3.4

Remarks

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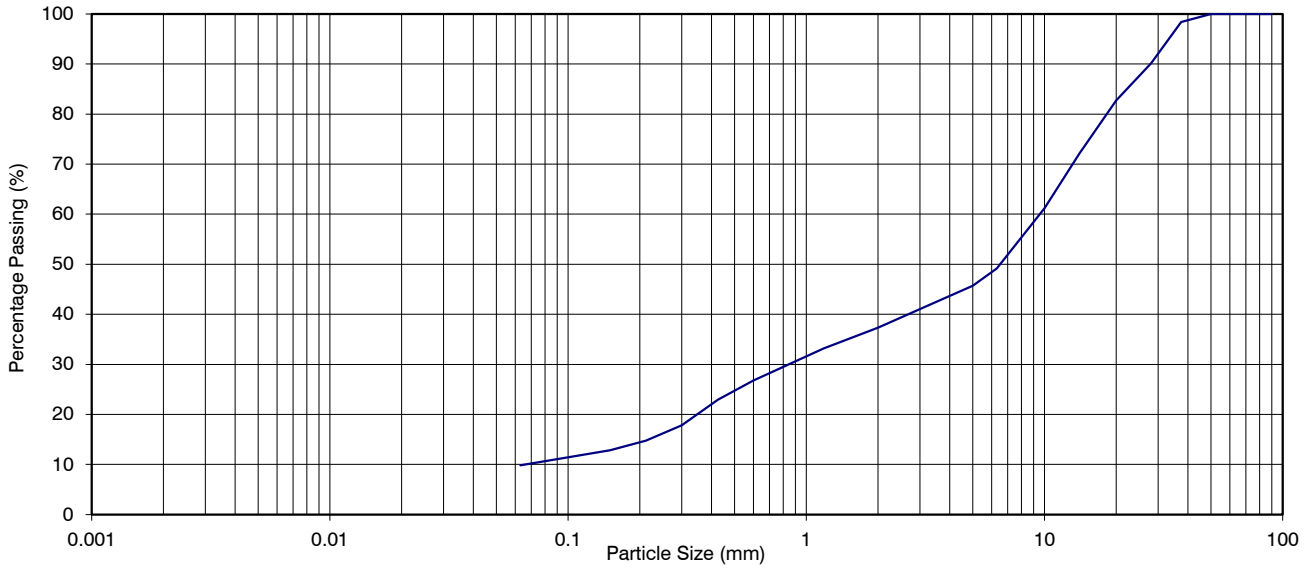
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFTP06**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**0.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B1**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	98
28.0	90
20.0	83
14.0	72
10.0	61
6.30	49
5.00	46
3.35	42
2.00	37
1.18	33
0.600	27
0.425	23
0.300	18
0.212	15
0.150	13
0.063	10

Sample Description
MADE GROUND (Brown slightly clayey silty very sandy GRAVEL. Gravel is of flint, brick and clinker fragments)

Sample Proportions %	
Cobbles	0.0
Gravel	62.7
Sand	27.5
Silt / Clay	9.8

Remarks

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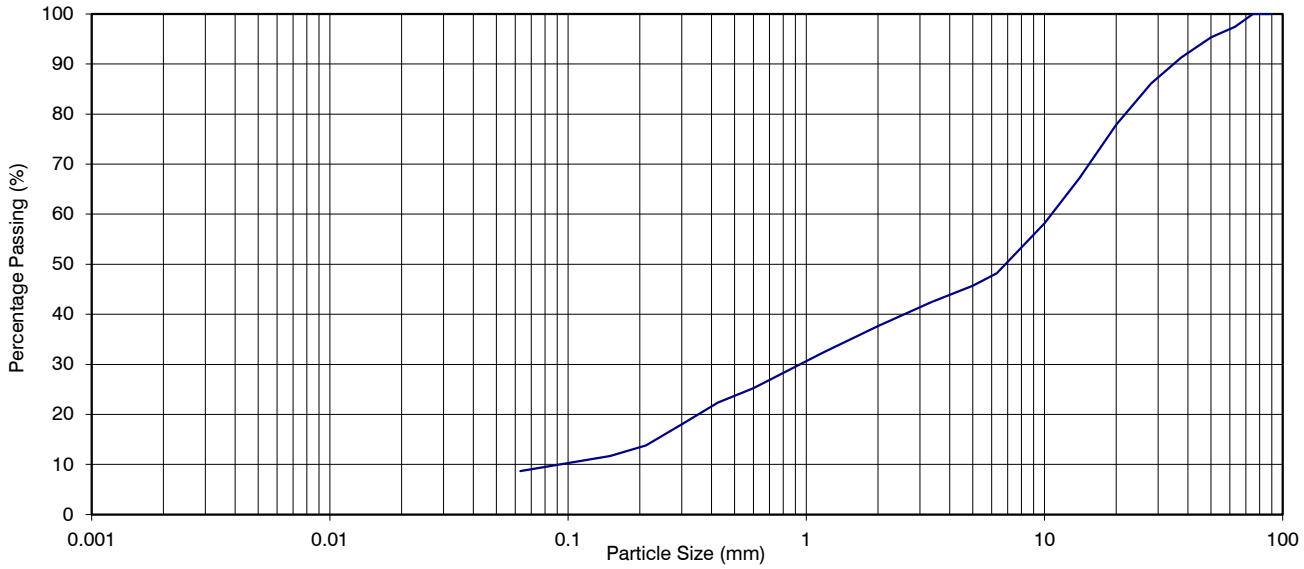
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFTP06**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**2.25**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B2**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	97
50.0	95
37.5	91
28.0	86
20.0	78
14.0	67
10.0	58
6.30	48
5.00	46
3.35	42
2.00	38
1.18	32
0.600	25
0.425	22
0.300	18
0.212	14
0.150	12
0.063	9

Sample Description
Brown and orange brown slightly clayey silty very sandy GRAVEL. Gravel is of flint

Sample Proportions %	
Cobbles	2.6
Gravel	59.8
Sand	29.0
Silt / Clay	8.7

Remarks

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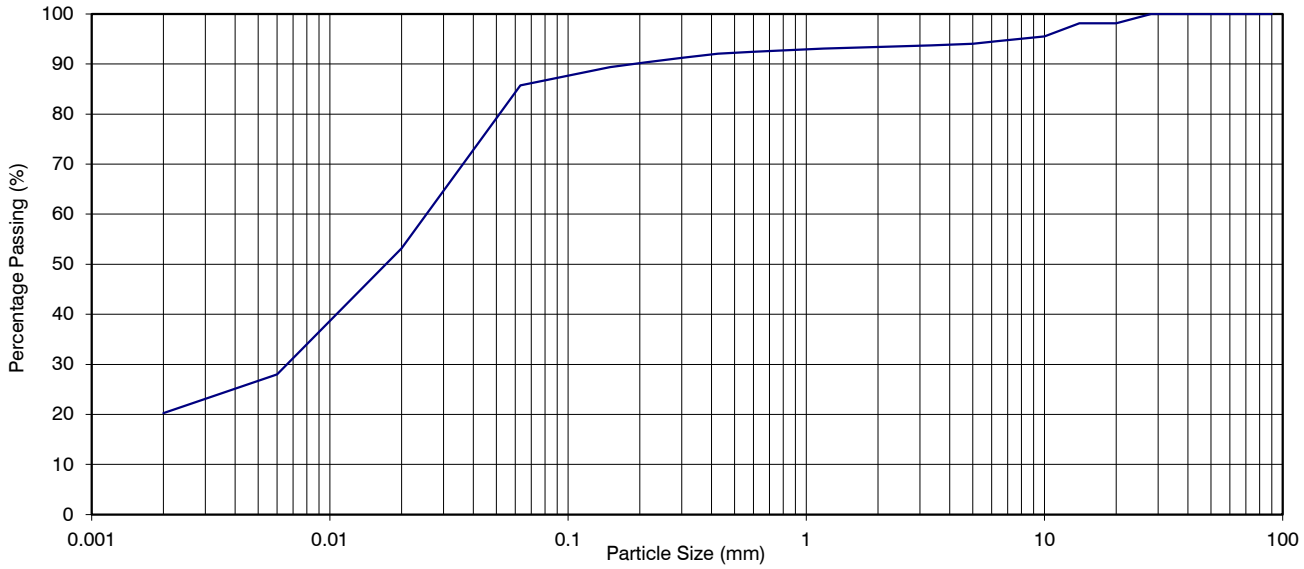
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFTP08**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**1.30**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B2**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING & BS1377 : PART 2 : 1990 : CLAUSE 9.4 - SEDIMENTATION BY PIPETTE



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	100
20.0	98
14.0	98
10.0	95
6.30	95
5.00	94
3.35	94
2.00	93
1.18	93
0.600	92
0.425	92
0.300	91
0.212	90
0.150	89
0.063	86
0.020	53
0.006	28
0.002	20

Sample Description
Orange brown slightly gravelly slightly sandy very silty CLAY. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	6.6
Sand	7.7
Silt	65.5
Clay	20.2

Remarks

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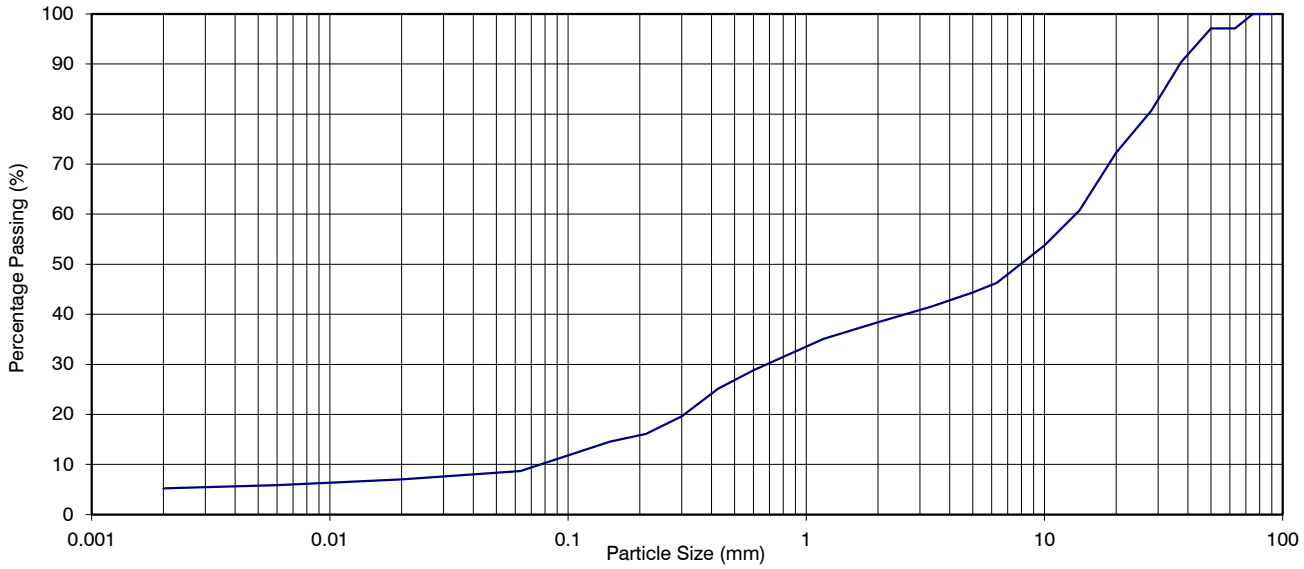
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFTP08**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**3.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B5**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING & BS1377 : PART 2 : 1990 : CLAUSE 9.4 - SEDIMENTATION BY PIPETTE



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	97
50.0	97
37.5	90
28.0	81
20.0	72
14.0	61
10.0	54
6.30	46
5.00	44
3.35	42
2.00	38
1.18	35
0.600	29
0.425	25
0.300	20
0.212	16
0.150	15
0.063	9
0.020	7
0.006	6
0.002	5

Sample Description
Orange brown slightly clayey slightly silty very sandy GRAVEL. Gravel is of flint

Sample Proportions %	
Cobbles	2.9
Gravel	58.7
Sand	29.7
Silt	3.5
Clay	5.2

Remarks

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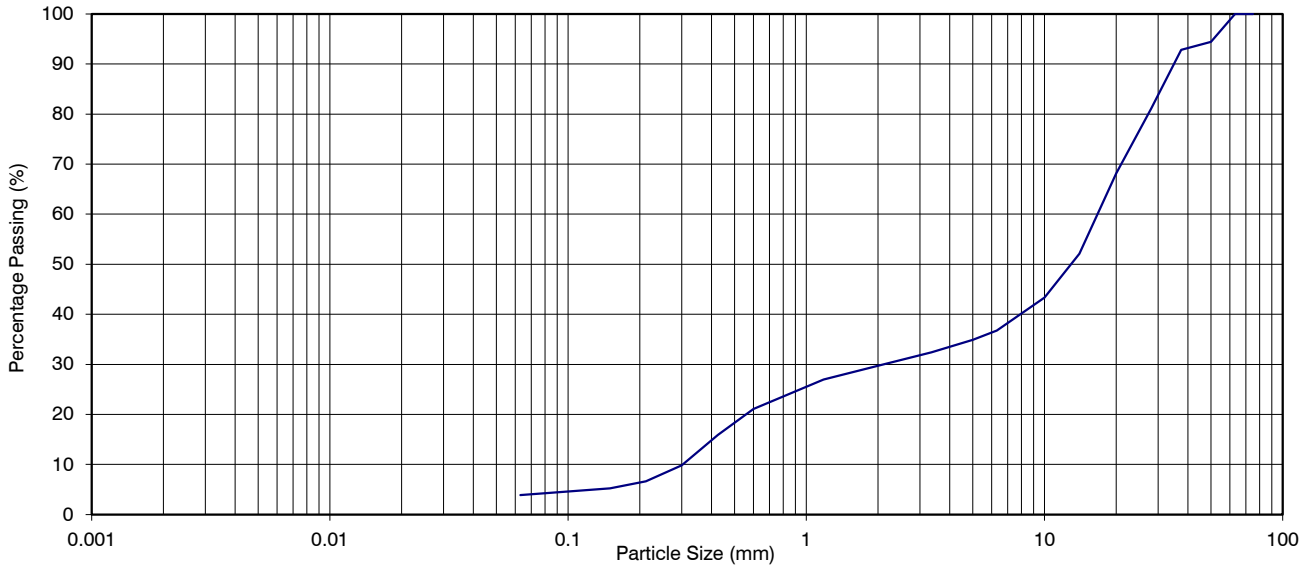
PROJECT NAME:	**Daedalus, Lee-on-the- Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFTP11**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**3.00**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B3**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	94
37.5	93
28.0	81
20.0	68
14.0	52
10.0	43
6.30	37
5.00	35
3.35	32
2.00	30
1.18	27
0.600	21
0.425	16
0.300	10
0.212	7
0.150	5
0.063	4

Sample Description

Orange brown slightly silty very sandy GRAVEL. Gravel is of flint

Sample Proportions %

Cobbles	0.0
Gravel	70.3
Sand	25.9
Silt / Clay	3.9

Remarks

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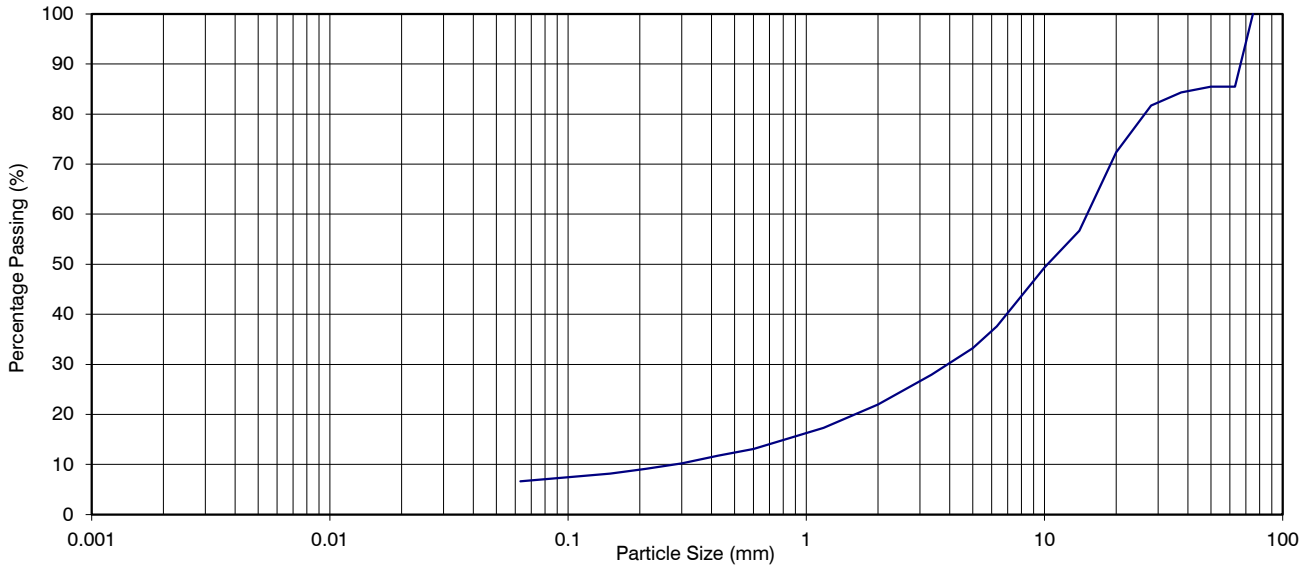
PROJECT NAME:	**Daedalus, Lee-on-the- Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFWS22**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**0.25**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**B1**
DATE OF ISSUE:	**09/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	86
50.0	86
37.5	84
28.0	82
20.0	72
14.0	57
10.0	49
6.30	38
5.00	33
3.35	28
2.00	22
1.18	17
0.600	13
0.425	12
0.300	10
0.212	9
0.150	8
0.063	7

Sample Description
MADE GROUND (Dark brown silty sandy GRAVEL. Gravel is of brick, slag, clinker, concrete and asphalt fragments)

Sample Proportions %	
Cobbles	14.5
Gravel	63.5
Sand	15.3
Silt / Clay	6.7

Remarks

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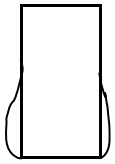
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**MCBH01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**1.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT1**
DATE OF ISSUE:	**09/04/2014**		

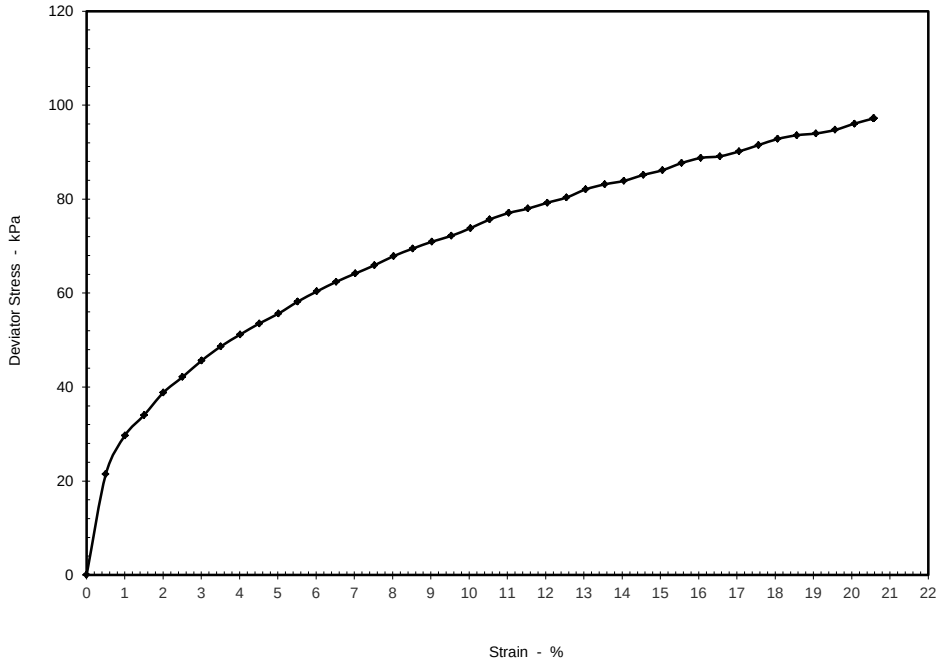
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	102.5
Moisture Content	%	21
Bulk Density	Mg/m^3	2.13
Dry Density	Mg/m^3	1.77
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.94
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	30
Strain at Failure	%	20.6
Maximum Deviator Stress	kPa	97
Shear Strength	kPa	49
Mode of Failure		Plastic
Sample Description		Medium strength orange brown sandy CLAY

Mode of failure



Shear Strength Parameters	
Cu	49 kPa
Phi	N/A °



REMARKS (Including any abnormalities or departures from procedure)

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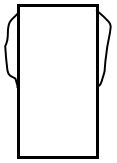
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH02**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**1.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT1**
DATE OF ISSUE:	**09/04/2014**		

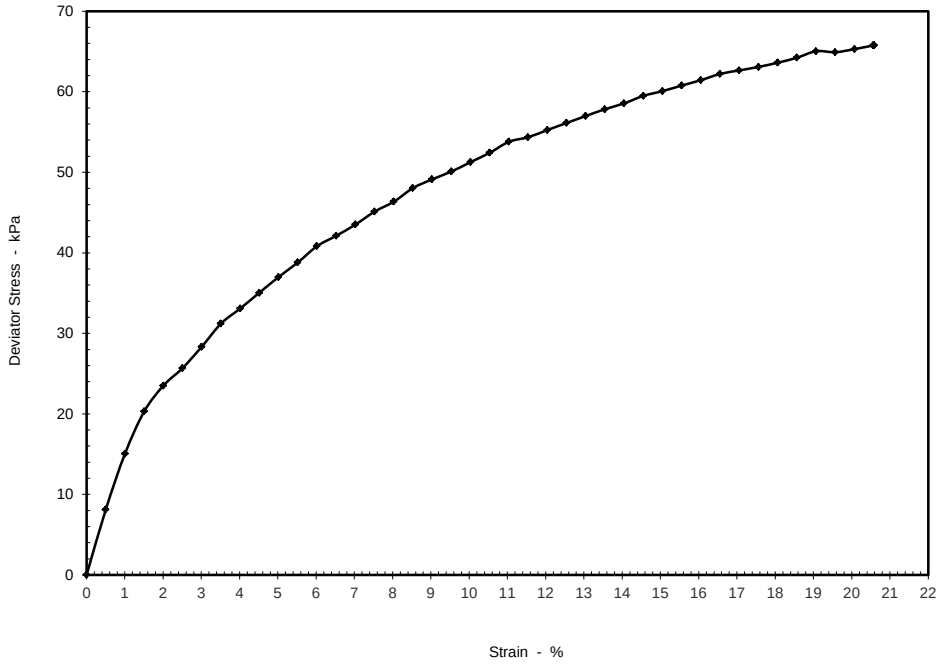
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	100.4
Moisture Content	%	18
Bulk Density	Mg/m³	2.21
Dry Density	Mg/m³	1.86
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.96
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	30
Strain at Failure	%	20.6
Maximum Deviator Stress	kPa	66
Shear Strength	kPa	33
Mode of Failure		Plastic
Sample Description		Low strength brown and orange brown slightly gravelly CLAY. Gravel is of flint

Mode of failure



Shear Strength Parameters	
Cu	33 kPa
Phi	N/A °



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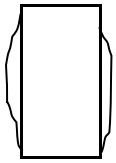
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH04**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**1.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT1**
DATE OF ISSUE:	**09/04/2014**		

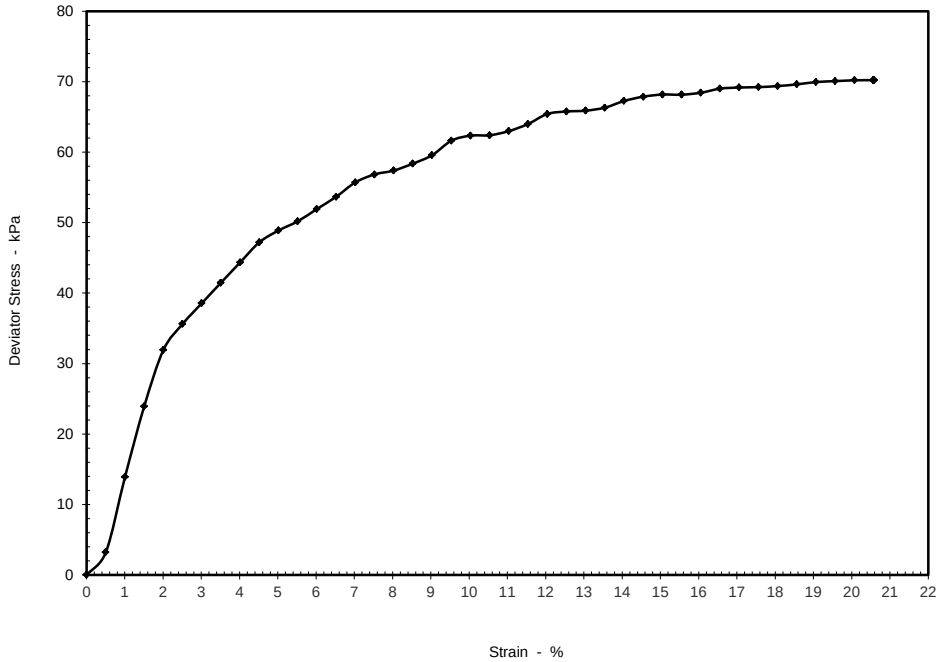
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	102.7
Moisture Content	%	20
Bulk Density	Mg/m^3	2.07
Dry Density	Mg/m^3	1.73
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.94
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	30
Strain at Failure	%	20.6
Maximum Deviator Stress	kPa	70
Shear Strength	kPa	35
Mode of Failure		Plastic
Sample Description		Low strength orange brown and grey brown slightly gravelly CLAY. Gravel is of flint

Mode of failure



Shear Strength Parameters	
Cu	35 kPa
Phi	N/A °



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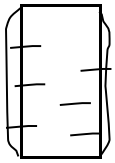
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH06**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**1.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT1**
DATE OF ISSUE:	**09/04/2014**		

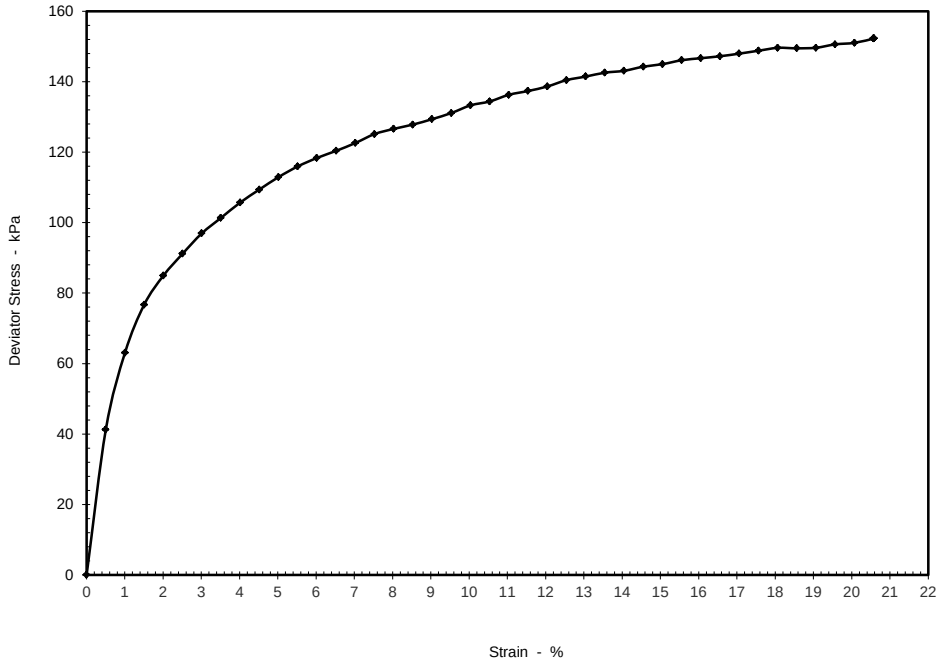
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	101.1
Moisture Content	%	27
Bulk Density	Mg/m³	2.18
Dry Density	Mg/m³	1.71
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.96
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	30
Strain at Failure	%	20.6
Maximum Deviator Stress	kPa	152
Shear Strength	kPa	76
Mode of Failure		Plastic
Sample Description		High strength orange brown slightly gravelly CLAY. Gravel is of flint

Mode of failure



Shear Strength Parameters	
Cu	76 kPa
Phi	N/A °



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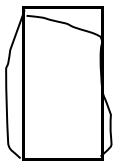
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH06**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**4.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT2**
DATE OF ISSUE:	**09/04/2014**		

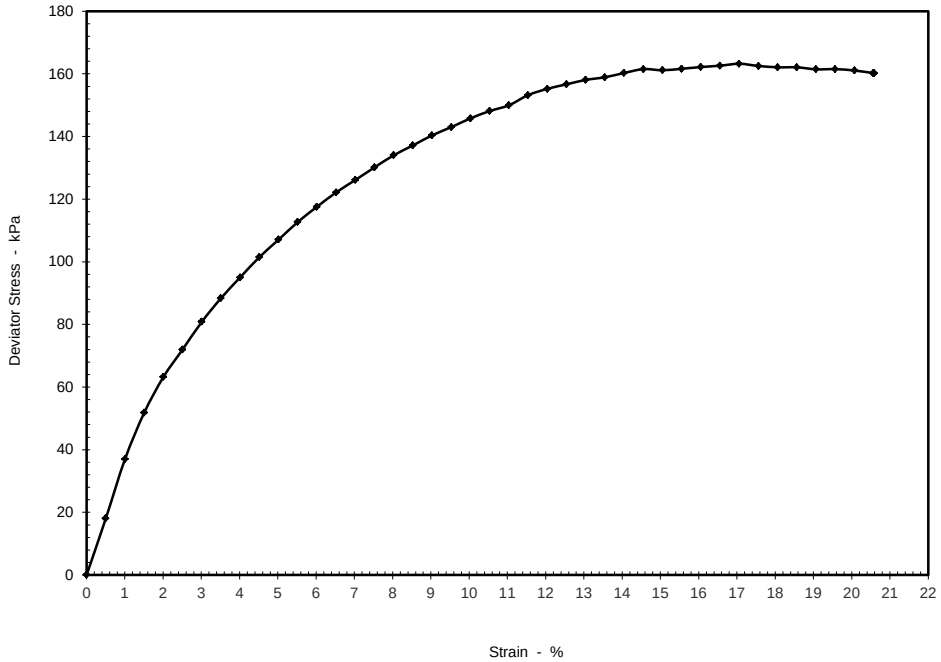
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	102.2
Moisture Content	%	21
Bulk Density	Mg/m³	2.14
Dry Density	Mg/m³	1.77
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.83
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	180
Strain at Failure	%	17.1
Maximum Deviator Stress	kPa	163
Shear Strength	kPa	82
Mode of Failure		Plastic
Sample Description		High strength grey brown slightly sandy CLAY

Mode of failure



Shear Strength Parameters	
Cu	82 kPa
Phi	N/A °



REMARKS (Including any abnormalities or departures from procedure)

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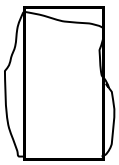
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH07**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**1.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT1**
DATE OF ISSUE:	**09/04/2014**		

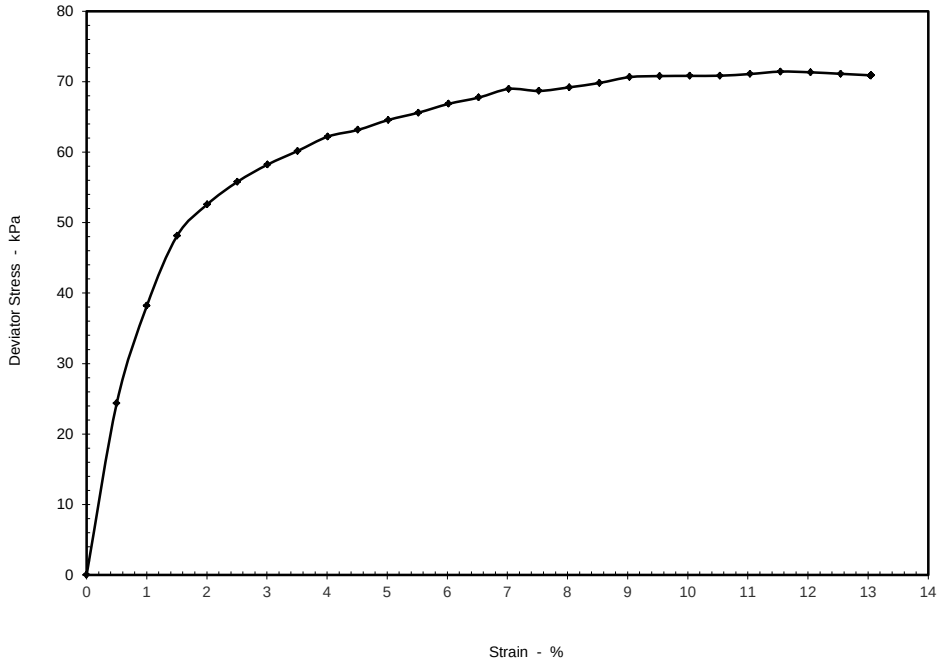
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	101.3
Moisture Content	%	19
Bulk Density	Mg/m³	2.18
Dry Density	Mg/m³	1.83
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.62
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	30
Strain at Failure	%	11.5
Maximum Deviator Stress	kPa	71
Shear Strength	kPa	36
Mode of Failure		Plastic
Sample Description		Low strength orange brown slightly gravelly CLAY. Gravel is of flint

Mode of failure



Shear Strength Parameters	
Cu	36 kPa
Phi	N/A °



REMARKS (Including any abnormalities or departures from procedure)

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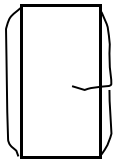
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH07**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**6.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT2**
DATE OF ISSUE:	**09/04/2014**		

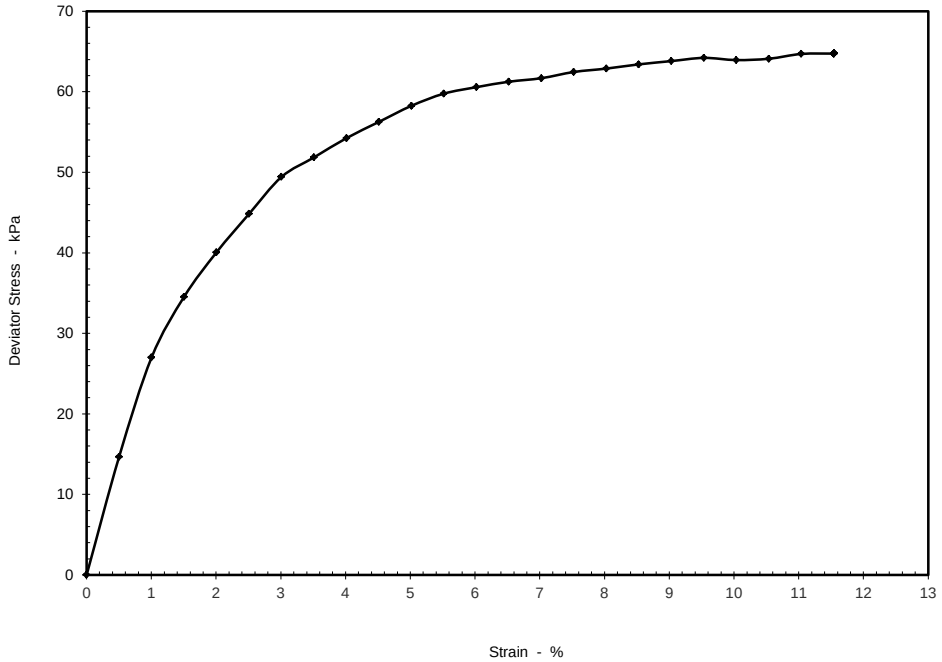
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	102.1
Moisture Content	%	25
Bulk Density	Mg/m^3	2.01
Dry Density	Mg/m^3	1.61
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.62
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	260
Strain at Failure	%	11.5
Maximum Deviator Stress	kPa	65
Shear Strength	kPa	32
Mode of Failure		Plastic
Sample Description		Low strength dark grey brown CLAY

Mode of failure



Shear Strength Parameters	
Cu	32 kPa
Phi	N/A °



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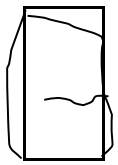
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH09**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**1.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT1**
DATE OF ISSUE:	**09/04/2014**		

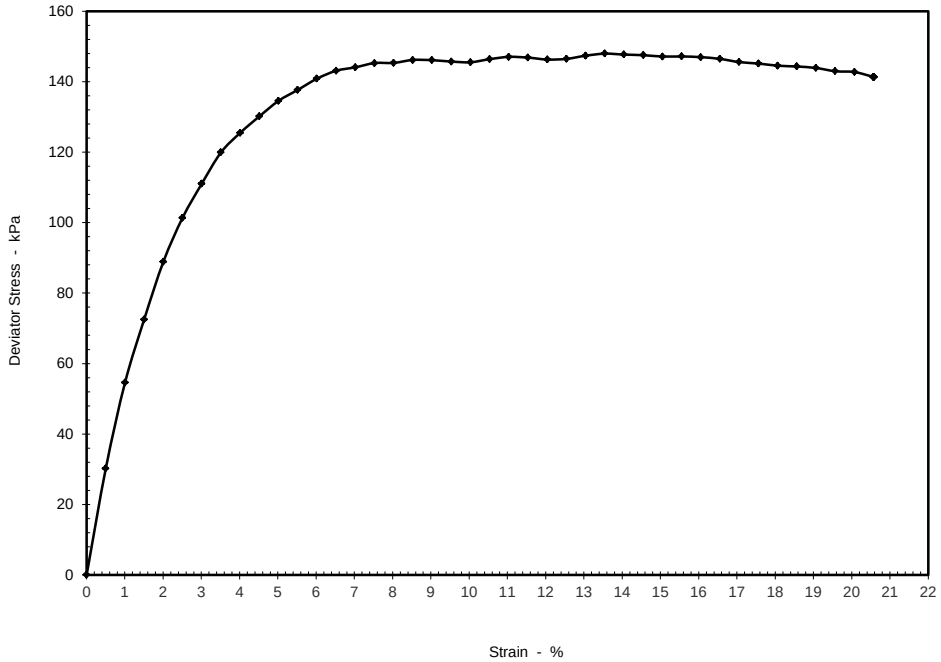
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	103.1
Moisture Content	%	27
Bulk Density	Mg/m^3	2.02
Dry Density	Mg/m^3	1.59
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.69
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	30
Strain at Failure	%	13.5
Maximum Deviator Stress	kPa	148
Shear Strength	kPa	74
Mode of Failure		Plastic
Sample Description		Medium strength orange and grey brown CLAY

Mode of failure



Shear Strength Parameters	
Cu	74 kPa
Phi	N/A °



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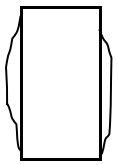
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH09**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**5.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT2**
DATE OF ISSUE:	**09/04/2014**		

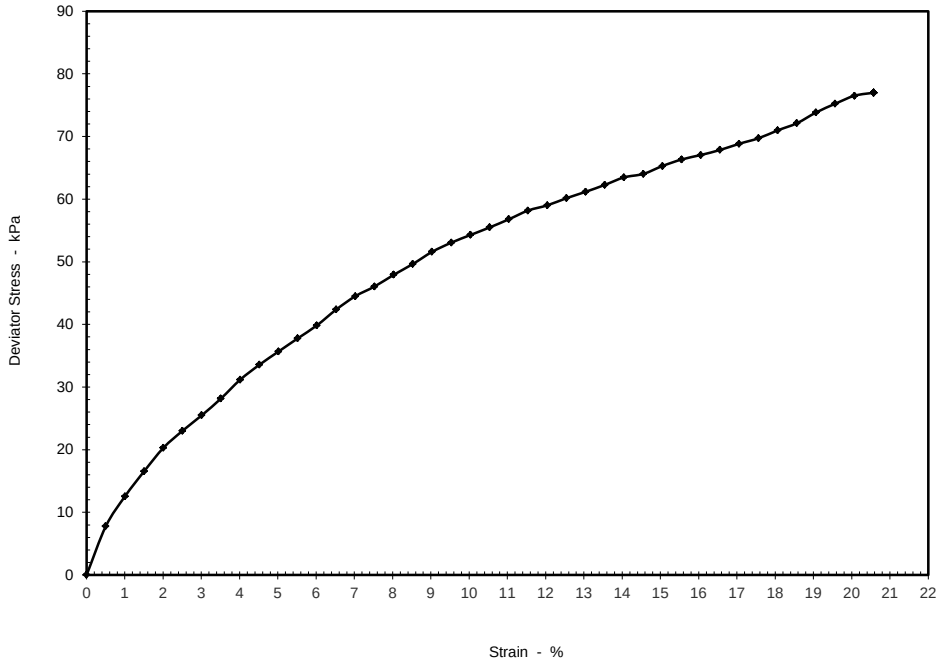
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	101.9
Moisture Content	%	25
Bulk Density	Mg/m^3	2.01
Dry Density	Mg/m^3	1.61
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.95
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	180
Strain at Failure	%	20.6
Maximum Deviator Stress	kPa	77
Shear Strength	kPa	38
Mode of Failure		Plastic
Sample Description		Low strength brown slightly sandy CLAY

Mode of failure



Shear Strength Parameters	
Cu	38 kPa
Phi	N/A °



REMARKS (Including any abnormalities or departures from procedure)

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Client: Harrison Group Environmental
Poplar Business Park
10 Preston Road
London
E14 9RL

For the attention of: John Keay

Date of Issue: 08/04/2014

TEST REPORT TRANSMITTAL

Report Form FMR3000 Rev.C Revision Date 26/11/08

Project	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**Samples Received**	**17/03/2014**
Report No	**GL18065**	**Instruction received**	**17/03/2014**
Your Ref	**GL18065**	**Testing commenced**	**21/03/2014**

SUMMARY OF RESULTS ATTACHED

Test Method and Description	Quantity	UKAS Accredited
BS1377: Part 2: 1990:3.2 Moisture Content	10	Yes
BS1377: Part 2: 1990:4.3/4.5 Liquid & Plastic Limits - Definitive Method	6	Yes
BS1377: Part 2: 1990:9.3 Particle Size Distribution - Wet Sieve Method	1	Yes
BS1377: Part 5: 1990:3.0 One Dimensional Consolidation	3	Yes
BS1377: Part 7: 1990:8.0 Unconsolidated Undrained Shear Strength - Single Stage	10	Yes

Remarks:

Issued by: M Willson

Approved Signatories:

M Willson (Laboratory Manager), G Bream (Senior Laboratory Technician)

Unless we are notified to the contrary, samples will be disposed after a period of one month from this date

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Only those results indicated in this report are UKAS accredited and any opinion or interpretations expressed are outside the scope of UKAS accreditation

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PROJECT NAME: Daedalus, Lee-on-the- Solent - Waterfront and Hangars West
PROJECT NUMBER: GL18065
CLIENT: Homes and Communities Agency
DATE OF ISSUE: 08/04/2014

SUMMARY OF MOISTURE CONTENT, LIQUID LIMIT (DEFINITIVE METHOD), PLASTIC LIMIT, PLASTICITY INDEX AND LIQUIDITY INDEX TO BS1377 : PART 2 : 1990

BH/TP No	Depth (m)	Sample No.	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index	Liquidity Index	Passing 0.425mm (%)	Soil Class	Sample Description
WFBH03	6.50-7.00	D2	24	33	22	11	0.22	100	CL	Greenish brown and grey brown mottled occasional orange brown and light grey slightly sandy very silty CLAY
WFBH05	8.00	D5	27	35	21	14	0.42	100	CI	Dark grey slightly sandy very silty CLAY
LEPTP04	0.15	D1	22							MADE GROUND (Dark brown slightly gravelly slightly sandy silty CLAY. Gravel is of flint and brick)
LEPBH01	1.00	D2	21	39	18	21	0.13	100	CI	Brown silty CLAY
LEPBH01	7.95	D5	27	74	25	49	0.04	100	CV	Dark grey CLAY with occasional pockets of light grey fine sand
NGBH01	0.15	D1	25							Dark brown slightly gravelly silty CLAY. Gravel is of flint
NGBH01	4.20	D5	23	39	18	21	0.22	100	CI	Brown and orange brown slightly sandy silty CLAY
LEPTP05	0.50	D2	26							Brown and light grey brown silty CLAY
LEPTP05	1.70	D5	21							Dark orange brown mottled light grey silty CLAY
LEPTP05	4.00	D10	24	59	19	40	0.13	100	CH	Dark grey CLAY with occasional pockets of light grey fine sand

BS1377 : Part 2 : Clause 3.2 : 1990 Determination of Moisture Content
BS1377 : Part 2 : Clause 4.3 : 1990 Determination of Liquid Limit (Definitive Method)
BS1377 : Part 2 : Clause 5 : 1990 Determination of Plastic Limit and Plasticity Index

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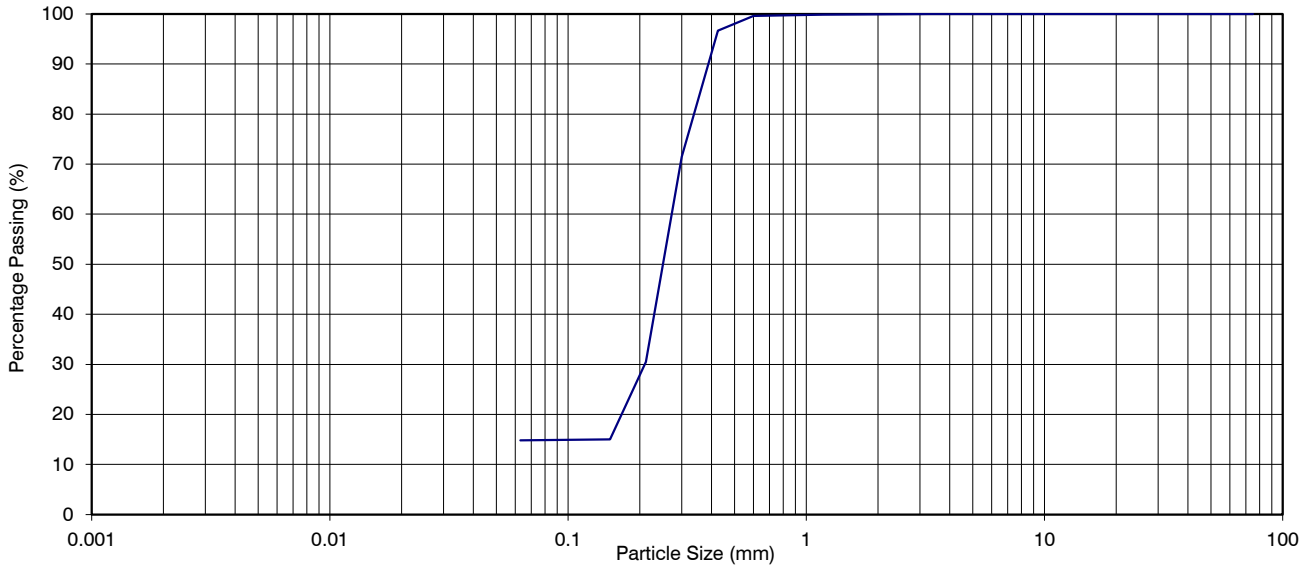
PROJECT NAME:	**Daedalus, Lee-on-the- Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH03**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**8.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**D3**
DATE OF ISSUE:	**08/04/2014**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	100
20.0	100
14.0	100
10.0	100
6.30	100
5.00	100
3.35	100
2.00	100
1.18	100
0.600	100
0.425	97
0.300	71
0.212	30
0.150	15
0.063	15

Sample Description
Orange brown and occasional dark grey slightly clayey silty SAND

Sample Proportions %	
Cobbles	0.0
Gravel	0.1
Sand	85.1
Silt / Clay	14.8

Remarks

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PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**MCBH03**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**4.50-4.95**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT1**
DATE OF ISSUE:	**08/04/2014**		

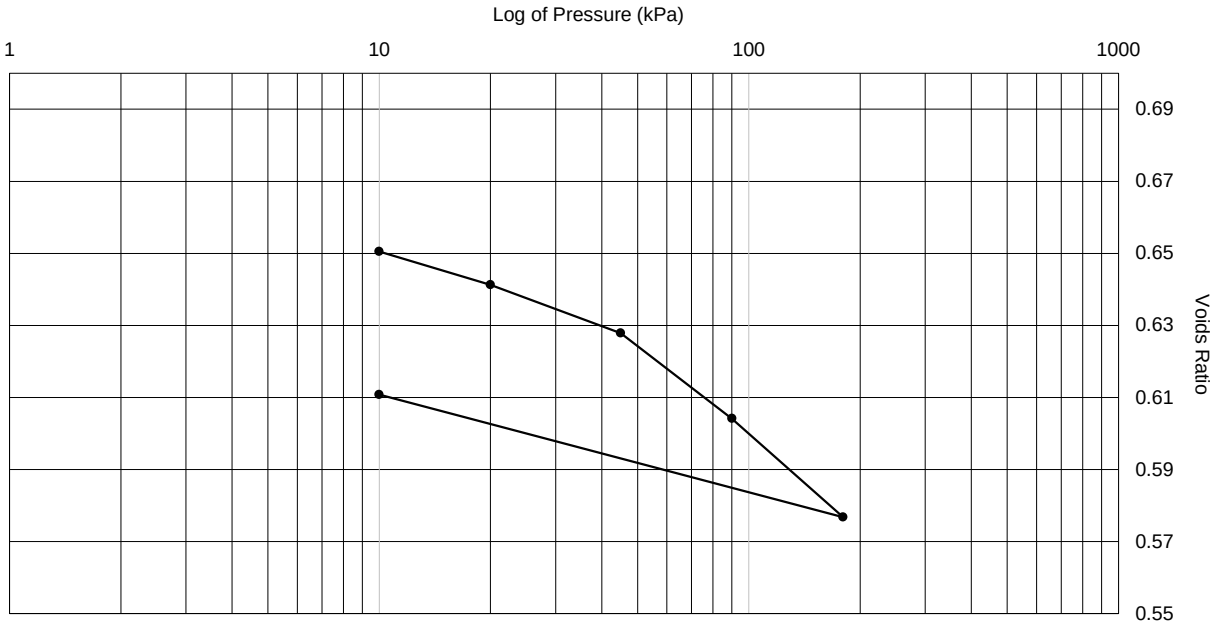
DETERMINATION OF ONE DIMENSIONAL CONSOLIDATION PROPERTIES TO BS1377 : PART 5 : 1990 : CLAUSE 3

Description: Dark grey silty CLAY with layers and pockets of light grey brown silt / fine sand

Preparation: Undisturbed
Orientation: Vertical
Depth of sample within original sample (m): 4.60

Initial Conditions:			**Final Conditions**		
Moisture Content	24	%	Moisture Content	24	%
Voids Ratio	0.658		Voids Ratio	0.6107	
Diameter	74.72	mm			
Height	20.01	mm	Degree of Saturation	100	%
Bulk Density	2.04	Mg/m^3	Particle Density	2.73	Mg/m^3 (Assumed)
Dry Density	1.65	Mg/m^3	Laboratory Temperature	18	^oC

Pressure Range kPa	Time Fitting Method	Mv (m^2/MN)	Voids Ratio	Cv M^2/year
10	t90	0.440	0.6505	10.529
20	t90	0.562	0.6412	7.009
45	t90	0.327	0.6278	4.496
90	t90	0.323	0.6041	6.247
180	t90	0.189	0.5768	10.227
10	t90	0.127	0.6107	~



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PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**MCBH03**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**8.50-8.95**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT3**
DATE OF ISSUE:	**08/04/2014**		

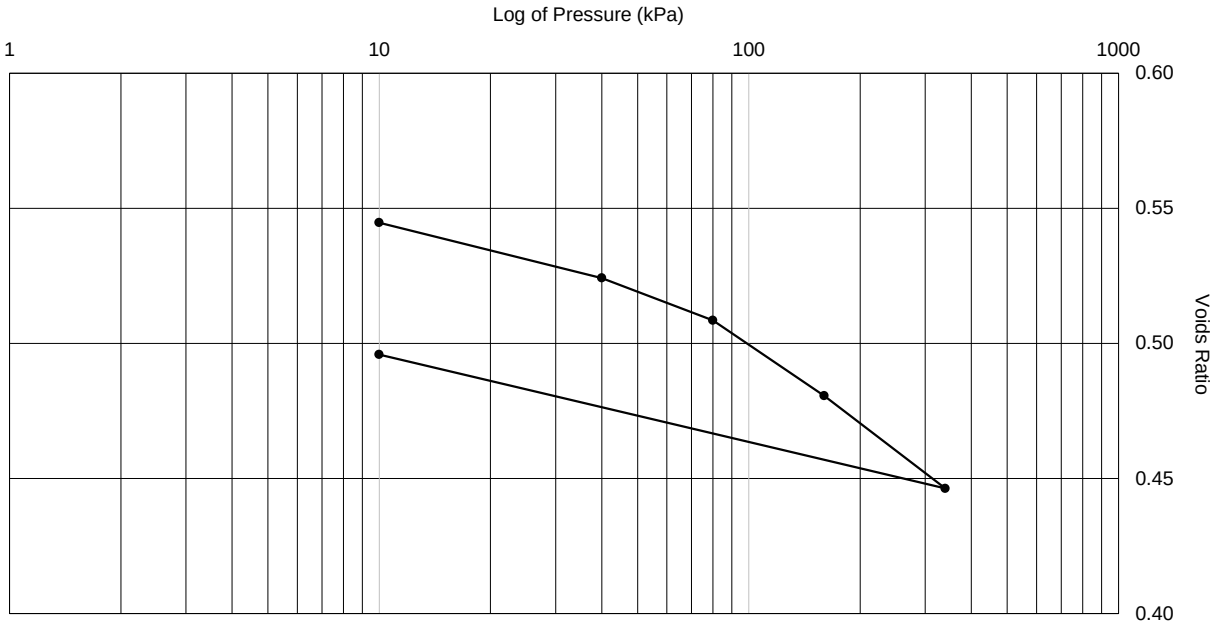
DETERMINATION OF ONE DIMENSIONAL CONSOLIDATION PROPERTIES TO BS1377 : PART 5 : 1990 : CLAUSE 3

Description: Dark grey silty CLAY with layers of grey brown silty sand

Preparation: Undisturbed
Orientation: Vertical
Depth of sample within original sample (m): 8.60

Initial Conditions:			**Final Conditions**			
Moisture Content	21	%	Moisture Content	21	%	
Voids Ratio	0.548		Voids Ratio	0.4959		
Diameter	74.62	mm				
Height	20.1	mm	Degree of Saturation	100	%	
Bulk Density	2.05	Mg/m^3	Particle Density	2.63	Mg/m^3	(Assumed)
Dry Density	1.70	Mg/m^3	Laboratory Temperature	18	^oC	

Pressure Range kPa	Time Fitting Method	Mv (m^2/MN)	Voids Ratio	Cv M^2/year
10	t90	0.219	0.5447	Swelled
40	t90	0.442	0.5242	13.598
80	t90	0.258	0.5085	16.807
160	t90	0.231	0.4806	16.327
340	t90	0.129	0.4463	23.713
10	t90	0.104	0.4959	~



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PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH05**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**1.50-1.95**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT1**
DATE OF ISSUE:	**08/04/2014**		

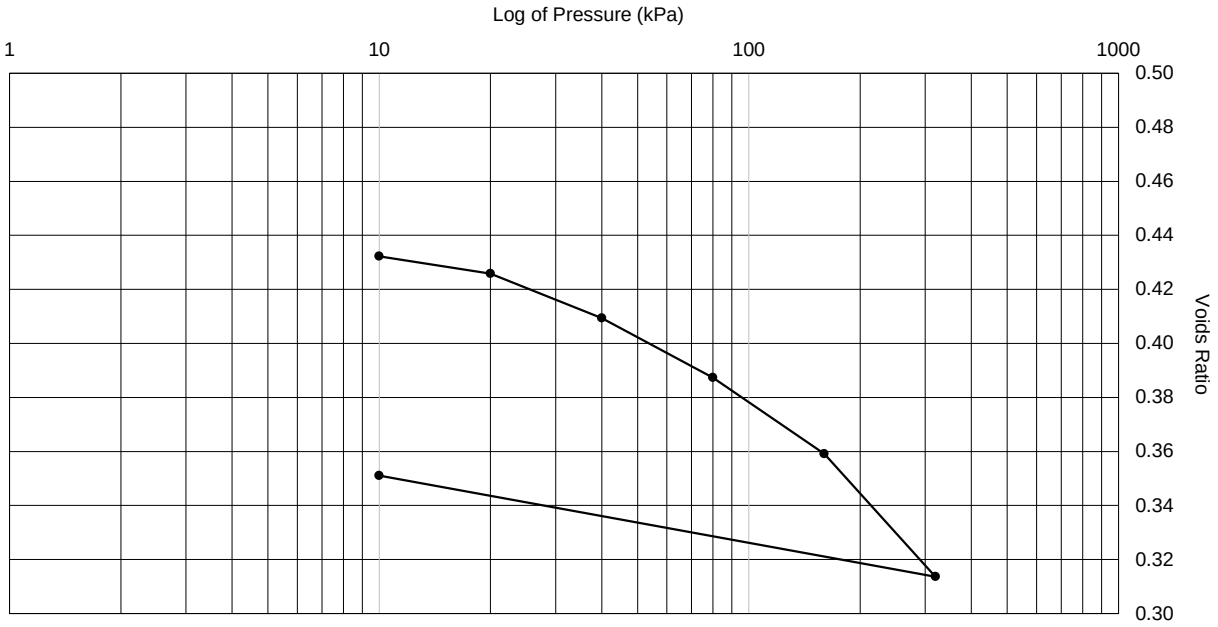
DETERMINATION OF ONE DIMENSIONAL CONSOLIDATION PROPERTIES TO BS1377 : PART 5 : 1990 : CLAUSE 3

Description: Light grey mottled orange brown slightly sandy slightly gravelly CLAY. Gravel is of flint

Preparation: Undisturbed
Orientation: Vertical
Depth of sample within original sample (m): 1.58

Initial Conditions:			**Final Conditions**			
Moisture Content	17	%	Moisture Content	16	%	
Voids Ratio	0.440		Voids Ratio	0.3511		
Diameter	74.7	mm				
Height	20.01	mm	Degree of Saturation	100	%	
Bulk Density	2.12	Mg/m^3	Particle Density	2.62	Mg/m^3	(Assumed)
Dry Density	1.82	Mg/m^3	Laboratory Temperature	18	^oC	

Pressure Range kPa	Time Fitting Method	Mv (m^2/MN)	Voids Ratio	Cv M^2/year
10	t90	0.570	0.4323	Swelled
20	t90	0.452	0.4258	12.117
40	t90	0.576	0.4094	9.760
80	t90	0.391	0.3873	11.602
160	t90	0.254	0.3591	4.203
320	t90	0.209	0.3136	4.879
10	t90	0.092	0.3511	



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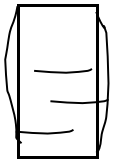
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**LEPBH01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**1.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT1**
DATE OF ISSUE:	**08/04/2014**		

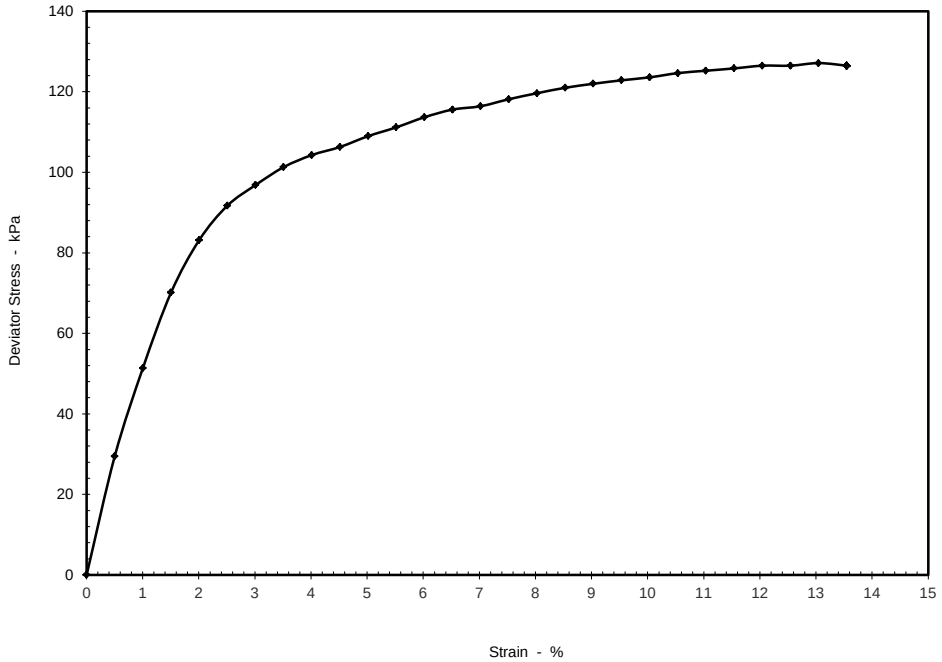
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	101.7
Moisture Content	%	20
Bulk Density	Mg/m³	1.84
Dry Density	Mg/m³	1.53
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.68
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	30
Strain at Failure	%	13.0
Maximum Deviator Stress	kPa	127
Shear Strength	kPa	64
Mode of Failure		Plastic
Sample Description		Medium strength orange brown CLAY

Mode of failure



Shear Strength Parameters	
Cu	64 kPa
Phi	N/A °



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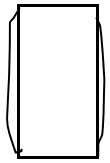
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**LEPBH01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**7.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT2**
DATE OF ISSUE:	**08/04/2014**		

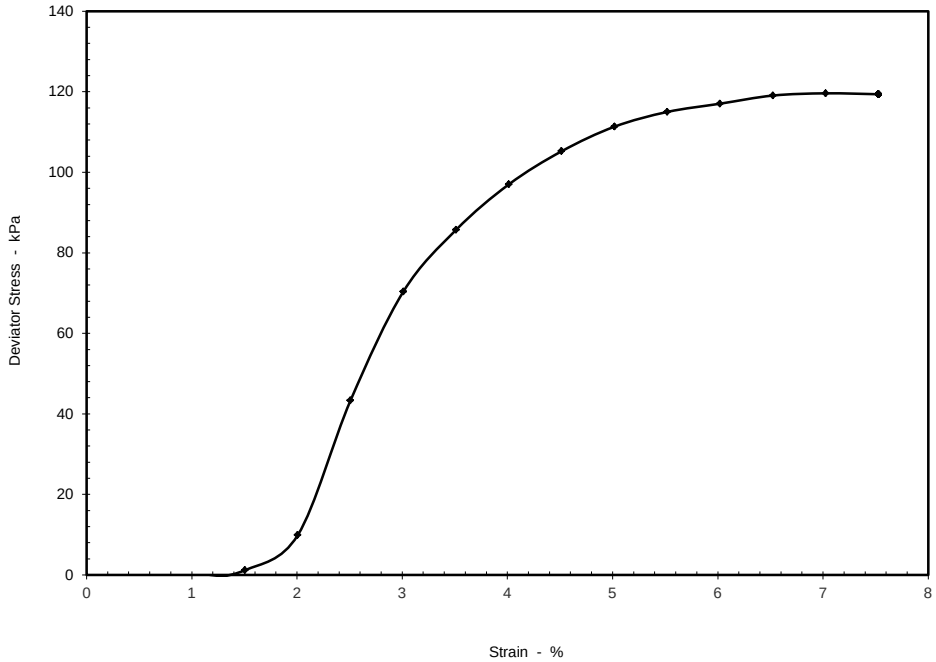
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	103.4
Moisture Content	%	28
Bulk Density	Mg/m³	1.99
Dry Density	Mg/m³	1.55
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.41
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	300
Strain at Failure	%	7.0
Maximum Deviator Stress	kPa	120
Shear Strength	kPa	60
Mode of Failure		Plastic
Sample Description		Medium strength grey brown CLAY

Mode of failure



Shear Strength Parameters	
Cu	60 kPa
Phi	N/A °



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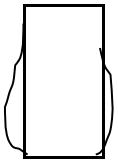
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH05**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**1.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT1**
DATE OF ISSUE:	**08/04/2014**		

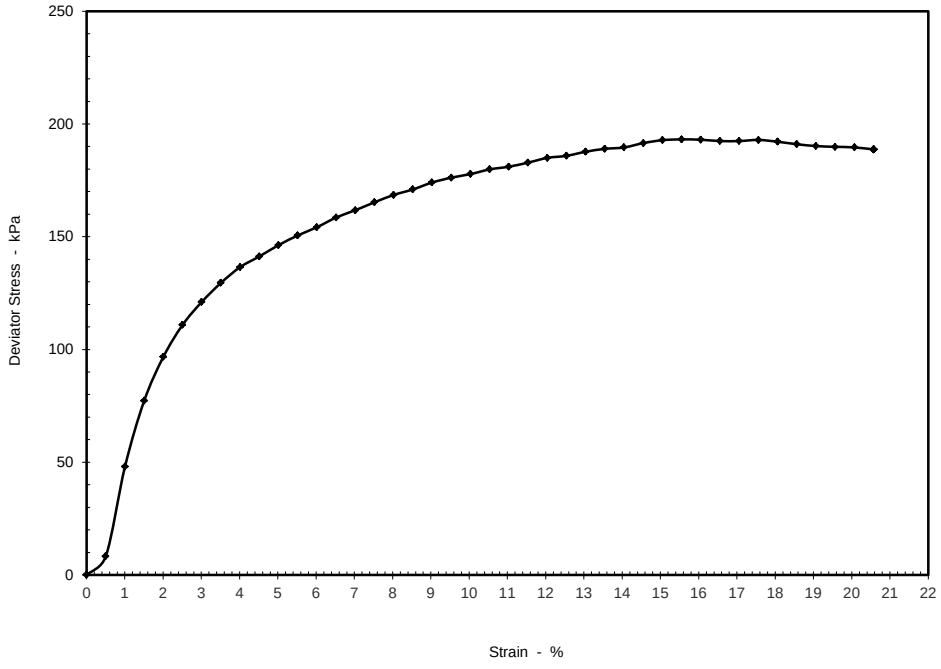
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	103.2
Moisture Content	%	19
Bulk Density	Mg/m^3	2.12
Dry Density	Mg/m^3	1.78
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.77
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	30
Strain at Failure	%	15.6
Maximum Deviator Stress	kPa	193
Shear Strength	kPa	97
Mode of Failure		Plastic
Sample Description		High strength light grey mottled orange brown slightly gravelly slightly sandy CLAY. Gravel is of flint

Mode of failure



Shear Strength Parameters		
Cu	97	kPa
Phi	N/A	°



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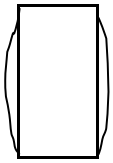
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH05**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**7.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT2**
DATE OF ISSUE:	**08/04/2014**		

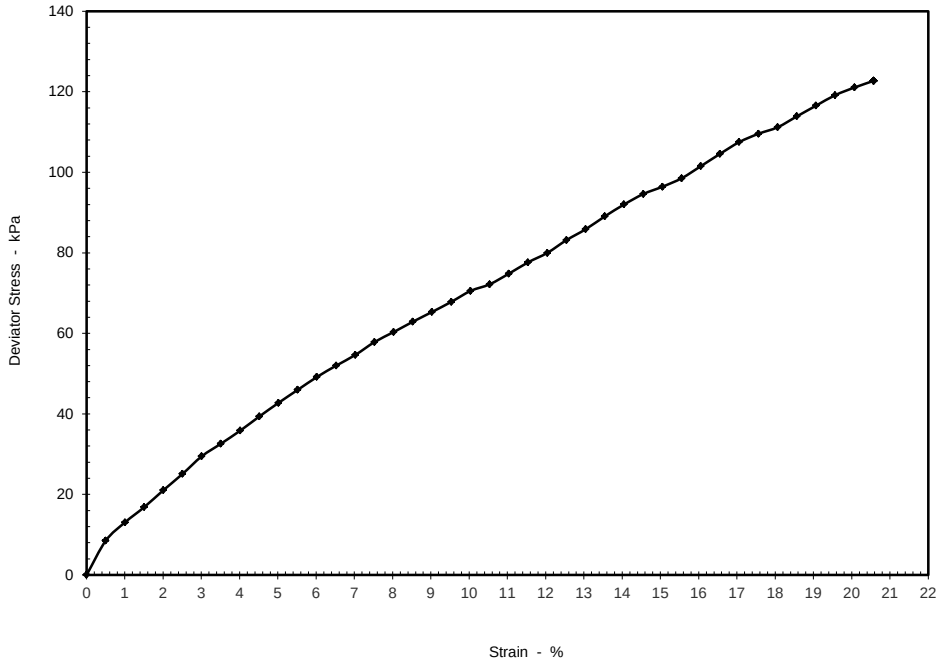
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	101.8
Moisture Content	%	25
Bulk Density	Mg/m^3	2.07
Dry Density	Mg/m^3	1.66
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.95
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	300
Strain at Failure	%	20.6
Maximum Deviator Stress	kPa	123
Shear Strength	kPa	61
Mode of Failure		Plastic
Sample Description		Medium strength grey and blue grey sandy CLAY

Mode of failure



Shear Strength Parameters	
Cu	61 kPa
Phi	N/A °



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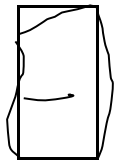
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH05**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**11.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT3**
DATE OF ISSUE:	**08/04/2014**		

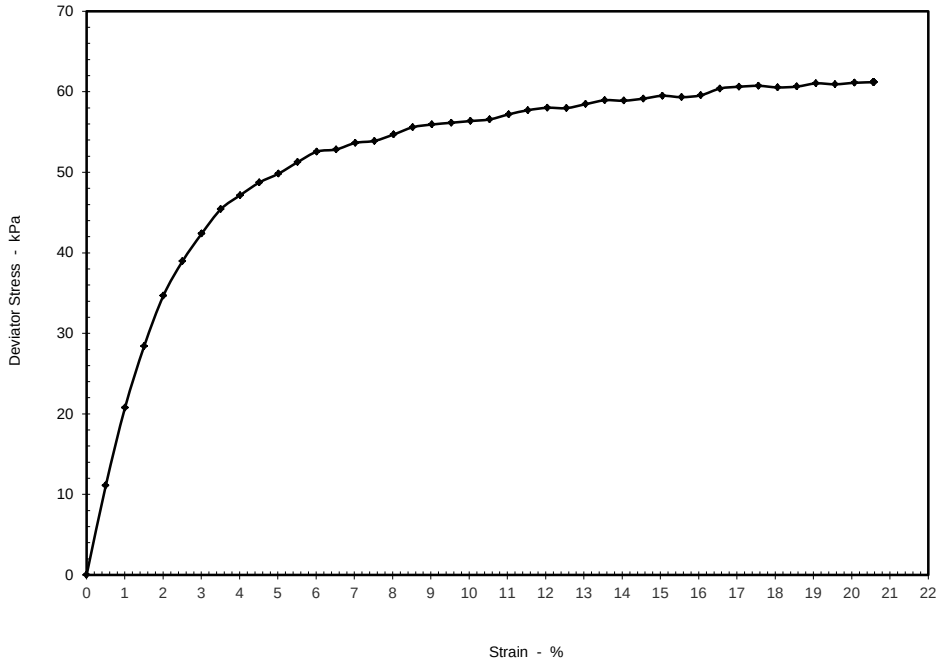
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	102.3
Moisture Content	%	21
Bulk Density	Mg/m³	1.97
Dry Density	Mg/m³	1.63
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.95
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	460
Strain at Failure	%	20.6
Maximum Deviator Stress	kPa	61
Shear Strength	kPa	31
Mode of Failure		Plastic
Sample Description		Low strength grey brown silty CLAY

Mode of failure



Shear Strength Parameters	
Cu	31 kPa
Phi	N/A °



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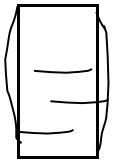
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**WFBH05**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**13.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT4**
DATE OF ISSUE:	**08/04/2014**		

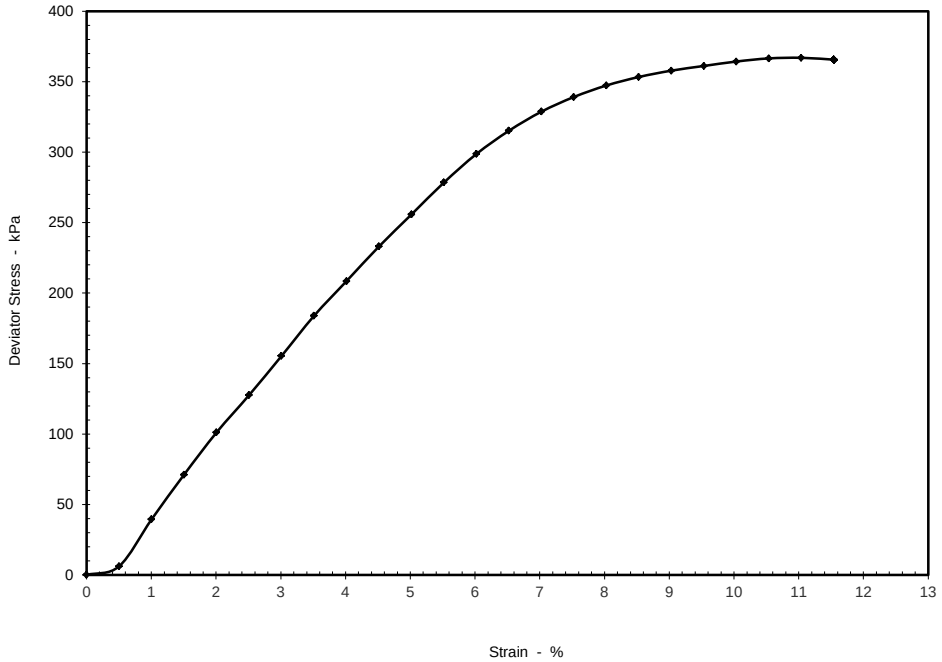
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	102.0
Moisture Content	%	18
Bulk Density	Mg/m³	1.73
Dry Density	Mg/m³	1.46
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.60
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	540
Strain at Failure	%	11.0
Maximum Deviator Stress	kPa	367
Shear Strength	kPa	183
Mode of Failure		Plastic
Sample Description		Very high strength dark grey brown sandy CLAY

Mode of failure



Shear Strength Parameters	
Cu	183 kPa
Phi	N/A °



REMARKS (Including any abnormalities or departures from procedure)

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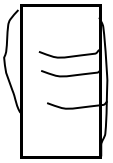
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**MHBH03**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**4.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT1**
DATE OF ISSUE:	**08/04/2014**		

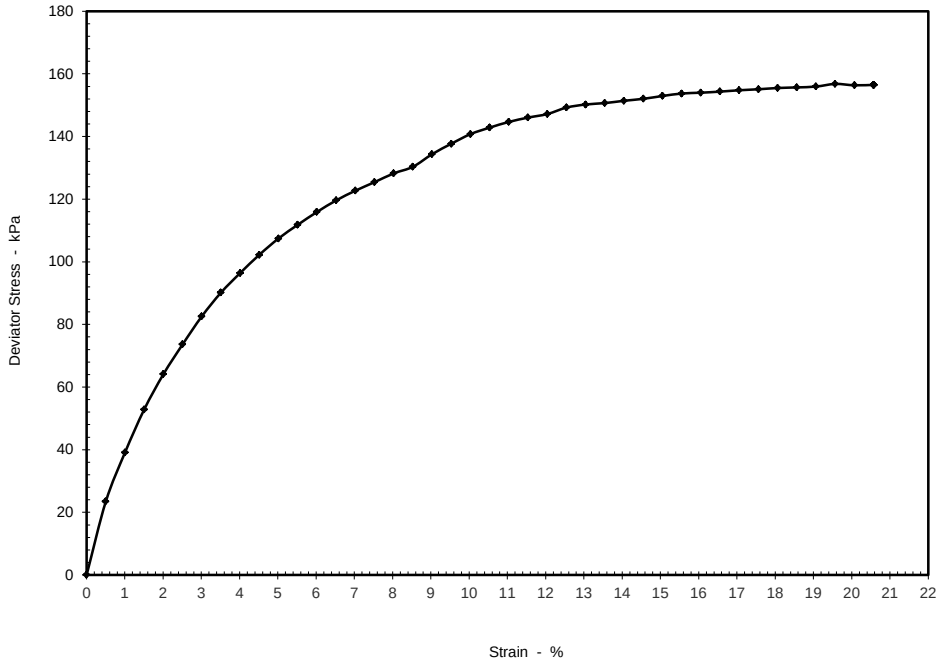
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	103.4
Moisture Content	%	24
Bulk Density	Mg/m^3	2.05
Dry Density	Mg/m^3	1.65
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.91
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	180
Strain at Failure	%	19.6
Maximum Deviator Stress	kPa	157
Shear Strength	kPa	78
Mode of Failure		Plastic
Sample Description		High strength dark grey silty CLAY with layers and pockets of grey brown silt / fine sand

Mode of failure



Shear Strength Parameters	
Cu	78 kPa
Phi	N/A °



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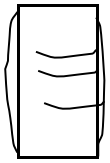
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**MHBH03**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**6.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT2**
DATE OF ISSUE:	**08/04/2014**		

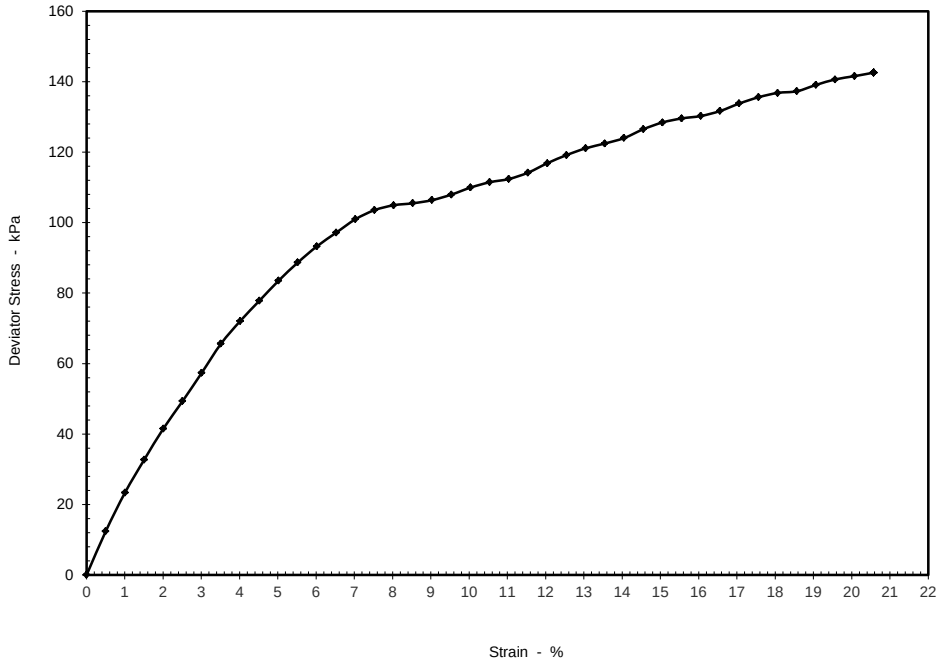
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	100.3
Moisture Content	%	23
Bulk Density	Mg/m^3	2.07
Dry Density	Mg/m^3	1.69
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.96
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	260
Strain at Failure	%	20.6
Maximum Deviator Stress	kPa	143
Shear Strength	kPa	71
Mode of Failure		Plastic
Sample Description		Medium strength dark grey slightly gravelly slightly sandy CLAY. Gravel is of flint

Mode of failure



Shear Strength Parameters	
Cu	71 kPa
Phi	N/A °



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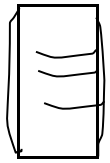
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**NGBH01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**1.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT1**
DATE OF ISSUE:	**08/04/2014**		

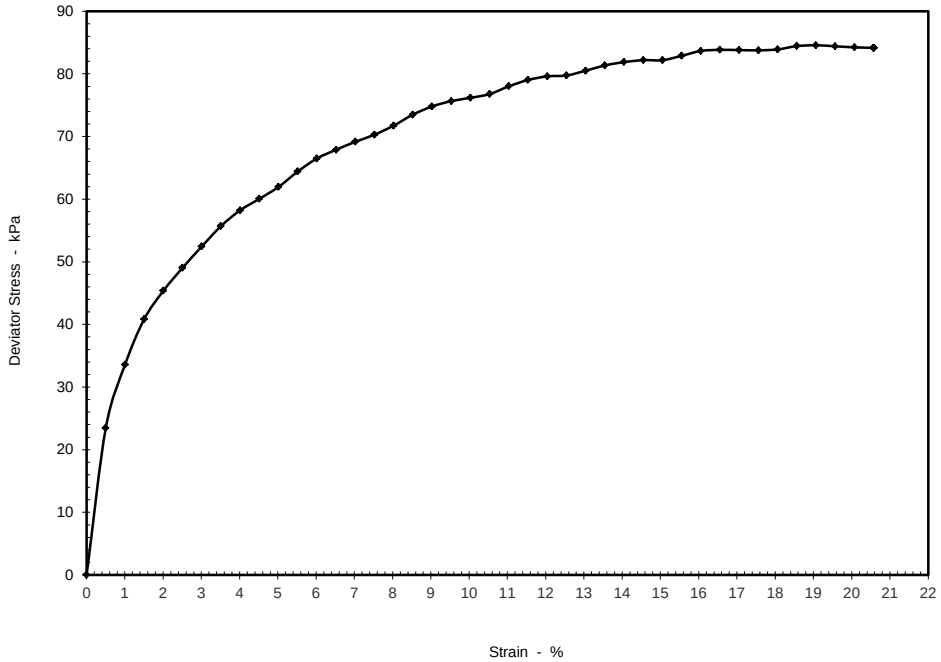
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	103.5
Moisture Content	%	24
Bulk Density	Mg/m^3	2.02
Dry Density	Mg/m^3	1.63
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.89
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	30
Strain at Failure	%	19.1
Maximum Deviator Stress	kPa	85
Shear Strength	kPa	42
Mode of Failure		Plastic
Sample Description		Medium strength orange brown slightly sandy CLAY

Mode of failure



Shear Strength Parameters	
Cu	42 kPa
Phi	N/A °



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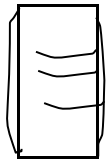
PROJECT NAME:	**Daedalus, Lee-on-the-Solent - Waterfront and Hangars West**	**BH/TP No.:**	**NGBH01**
PROJECT NUMBER:	**GL18065**	**Depth (m):**	**4.50**
CLIENT:	**Homes and Communities Agency**	**Sample No.:**	**UT2**
DATE OF ISSUE:	**08/04/2014**		

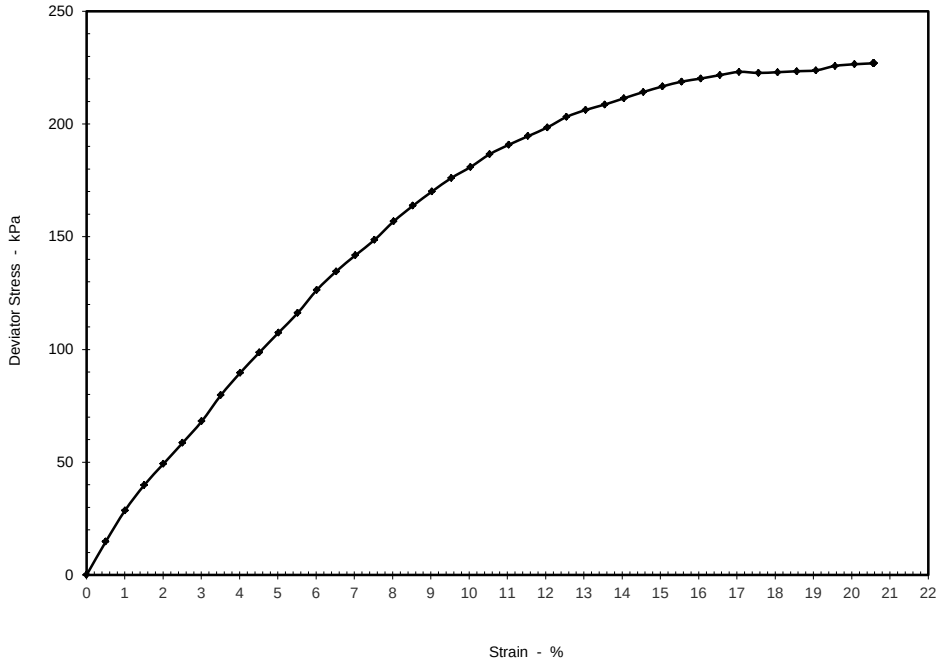
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	199.3
Diameter	mm	101.7
Moisture Content	%	22
Bulk Density	Mg/m³	2.04
Dry Density	Mg/m³	1.67
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.95
Rate of Axial Displacement	%/min	2.01
Cell Pressure	kPa	170
Strain at Failure	%	20.6
Maximum Deviator Stress	kPa	227
Shear Strength	kPa	113
Mode of Failure		Plastic
Sample Description		High strength brown sandy CLAY

Mode of failure



Shear Strength Parameters	
Cu	113 kPa
Phi	N/A °



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LABORATORY TEST REPORT

Results of analysis of 44 samples
received 21 March 2014

GL18065 - Daedalus, Lee-on-The-Solent-Waterfront & Hangars West

Chemtest
The right chemistry to deliver results

Report Date
31 March 2014

Login Batch No						**254056**					
Chemtest LIMS ID					AJ98565	AJ98566	AJ98567	AJ98568	AJ98569	AJ98570
Sample ID					WFWS02	WFWS04	WFWS10	WFWS13	NGWS01	NGWS01
Sample No					3	2	3	2	2	3
Sampling Date					10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014
Depth					1.00m	0.50m	1.00m	0.50m	1.00m	1.50m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*						
2010	pH			M	7.7		7.9	7.8	7.2	
2930	Organic matter to BS1377	OM	%	N		<0.05				<0.05
2175	Sulfur (total TRL report 447)		%	M			0.029			
2120	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	<0.01		<0.01	<0.01	<0.01	
2420	Magnesium (soluble)	7439954	g l-¹	N			<0.01			
2430	Sulfate (total BS1377 HCl extract)	14808798	%	M			0.01			

All tests undertaken between 21/03/2014 and 07/07/2014

* Accreditation status

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

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LABORATORY TEST REPORT

Results of analysis of 44 samples
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GL18065 - Daedalus, Lee-on-The-Solent-Waterfront & Hangars West

Chemtest
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Report Date
31 March 2014

Login Batch No					**254056**						
Chemtest LIMS ID					AJ98571	AJ98572	AJ98573	AJ98574	AJ98575	AJ98576
Sample ID					NGWS02	WFWS01	WFWS01	MCBH01	MCBH01	MCBH02
Sample No					3	1	3	2	11	9
Sampling Date					10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014
Depth					1.00m	0.15m	1.00m	0.50m	8.50m	10.00m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*						
2010	pH			M	7.3		7.4	8.6	7.0	7.4
2930	Organic matter to BS1377	OM	%	N		<0.05				
2175	Sulfur (total TRL report 447)		%	M	0.028				0.69	
2120	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	<0.01		<0.01	0.05	0.45	0.29
2420	Magnesium (soluble)	7439954	g l-¹	N	<0.01				0.04	
2430	Sulfate (total BS1377 HCl extract)	14808798	%	M	0.02				0.26	

* Accreditation status

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LABORATORY TEST REPORT

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GL18065 - Daedalus, Lee-on-The-Solent-Waterfront & Hangars West

Chemtest
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Report Date
31 March 2014

Login Batch No					**254056**						
Chemtest LIMS ID					AJ98577	AJ98578	AJ98579	AJ98580	AJ98581	AJ98582
Sample ID					WFBH06	WFBH13	LEPTP01	LEPTP02	LEPTP02	LEPTP03
Sample No					2	11	3	2	5	3
Sampling Date					10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014
Depth					0.50m	5.00m	1.00m	0.30m	2.00m	1.00m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*						
2010	pH			M	7.7	7.3	7.8	6.9	7.1	7.9
2930	Organic matter to BS1377	OM	%	N						
2175	Sulfur (total TRL report 447)		%	M	0.098				0.025	
2120	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	0.01	<0.01	<0.01	0.01	<0.01	<0.01
2420	Magnesium (soluble)	7439954	g l-¹	N	<0.01				<0.01	
2430	Sulfate (total BS1377 HCl extract)	14808798	%	M	0.05				<0.01	

* Accreditation status

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LABORATORY TEST REPORT

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GL18065 - Daedalus, Lee-on-The-Solent-Waterfront & Hangars West

Chemtest
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Report Date
31 March 2014

Login Batch No					**254056**						
Chemtest LIMS ID					AJ98583	AJ98584	AJ98585	AJ98586	AJ98587	AJ98588
Sample ID					MCTP01	MCTP01	MCTP02	MCTP02	NGTP01	NGTP02
Sample No					3	4	4	7	1	3
Sampling Date					10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014
Depth					1.00m	2.80m	1.40m	2.90m	0.15m	2.10m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*						
2010	pH			M	7.3	7.5	7.0	6.8	7.2	8.0
2930	Organic matter to BS1377	OM	%	N						
2175	Sulfur (total TRL report 447)		%	M	0.029	0.024				
2120	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2420	Magnesium (soluble)	7439954	g l-¹	N	<0.01	<0.01				
2430	Sulfate (total BS1377 HCl extract)	14808798	%	M	<0.01	<0.01				

* Accreditation status

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LABORATORY TEST REPORT

Results of analysis of 44 samples
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GL18065 - Daedalus, Lee-on-The-Solent-Waterfront & Hangars West

Chemtest
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Report Date
31 March 2014

Login Batch No					**254056**						
Chemtest LIMS ID					AJ98589	AJ98590	AJ98591	AJ98592	AJ98593	AJ98594
Sample ID					NGTP03	NGTP03	WFTP01	WFTP01	WFTP02	WFTP08
Sample No					2	2	1	5	7	5
Sampling Date					10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014
Depth					0.50m	1.50m	0.15m	2.50m	2.30m	1.50m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*						
2010	pH			M	6.6	7.3	6.1	7.2	7.4	7.4
2930	Organic matter to BS1377	OM	%	N						
2175	Sulfur (total TRL report 447)		%	M						0.024
2120	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2420	Magnesium (soluble)	7439954	g l-¹	N						<0.01
2430	Sulfate (total BS1377 HCl extract)	14808798	%	M						<0.01

* Accreditation status

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LABORATORY TEST REPORT

Results of analysis of 44 samples
received 21 March 2014

GL18065 - Daedalus, Lee-on-The-Solent-Waterfront & Hangars West

Chemtest
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Report Date
31 March 2014

Login Batch No					**254056**						
Chemtest LIMS ID					AJ98595	AJ98596	AJ98597	AJ98598	AJ98599	AJ98600
Sample ID					WFTP11	WFTP11	LEPWS02	LEPWS02	LEPWS05	LEPWS05
Sample No					3	5	2	4	2	7
Sampling Date					10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014
Depth					1.00m	2.50m	0.50m	1.50m	0.25m	2.50m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*						
2010	pH			M	7.7	7.6		7.5	9.3	7.6
2930	Organic matter to BS1377	OM	%	N			<0.05			
2175	Sulfur (total TRL report 447)		%	M						
2120	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	<0.01	<0.01		<0.01	0.10	<0.01
2420	Magnesium (soluble)	7439954	g l-¹	N						
2430	Sulfate (total BS1377 HCl extract)	14808798	%	M						

* Accreditation status

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LABORATORY TEST REPORT

Results of analysis of 44 samples
received 21 March 2014

GL18065 - Daedalus, Lee-on-The-Solent-Waterfront & Hangars West

Chemtest
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Report Date
31 March 2014

Login Batch No					**254056**						
Chemtest LIMS ID					AJ98601	AJ98602	AJ98603	AJ98604	AJ98605	AJ98606
Sample ID					LEPBH02	WFBH07	WFBH07	WFBH09	MCWS01	MCWS02
Sample No					4	3	4	5	1	2
Sampling Date					10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014	10/3/2014
Depth					3.00m	7.00m	7.50m	5.00m	0.50m	0.50m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*						
2010	pH			M	7.7		7.1	5.8	7.5	7.8
2930	Organic matter to BS1377	OM	%	N		<0.05				
2175	Sulfur (total TRL report 447)		%	M			0.29			
2120	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	<0.01		0.12	<0.01	<0.01	0.21
2420	Magnesium (soluble)	7439954	g l-¹	N			<0.01			
2430	Sulfate (total BS1377 HCl extract)	14808798	%	M			0.06			

* Accreditation status

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LABORATORY TEST REPORT

Results of analysis of 44 samples
received 21 March 2014

GL18065 - Daedalus, Lee-on-The-Solent-Waterfront & Hangars West

Report Date
31 March 2014

Login Batch No					**254056**	
Chemtest LIMS ID					AJ98607	AJ98608
Sample ID					WFWS21	WFWS22
Sample No					5	3
Sampling Date					10/3/2014	10/3/2014
Depth					4.00m	0.50m
Matrix					*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*		
2010	pH			M	7.5	7.7
2930	Organic matter to BS1377	OM	%	N		
2175	Sulfur (total TRL report 447)		%	M		
2120	Sulfate (2:1 water soluble) as SO4	14808798	g l^{-1}	M	0.29	<0.01
2420	Magnesium (soluble)	7439954	g l^{-1}	N		
2430	Sulfate (total BS1377 HCl extract)	14808798	%	M		

* Accreditation status

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LABORATORY TEST REPORT

Results of analysis of 11 samples
received 24 March 2014

GL18065 - Daedalus, Lee-on-The-Solent-Waterfront & Hangars West

Chemtest
The right chemistry to deliver results

Report Date
01 April 2014

Login Batch No					**254200**						
Chemtest LIMS ID					AJ99354	AJ99355	AJ99356	AJ99357	AJ99358	AJ99359
Sample ID					LEPBH01	NGBH01	NGBH01	MCBH03	MCBH03	MCBH03
Sample No					6	3	6	1	6	10
Sampling Date					18/3/2014	18/3/2014	18/3/2014	18/3/2014	18/3/2014	18/3/2014
Depth					8.50m	1.00m	4.94m	0.50m	4.95m	8.95m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*						
2010	pH			M	7.9	8.1	8.2	7.4	7.3	5.1
2175	Sulfur (total TRL report 447)		%	M	<0.01	0.06	<0.01			
2120	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	0.56	<0.01	<0.01	0.26	0.32	0.38
2420	Magnesium (soluble)	7439954	g l-¹	N	0.02	<0.01	<0.01			
2430	Sulfate (total BS1377 HCl extract)	14808798	%	M	0.16	0.01	<0.01			

All tests undertaken between 24/03/2014 and 01/04/2014

* Accreditation status

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

Harrison Testing Services
Units 1 & 2 Alston Road
Hellesdon Park Industrial Estate
Norwich
NR6 5DS

FAO Matthew Willson

LABORATORY TEST REPORT

Results of analysis of 11 samples
received 24 March 2014

GL18065 - Daedalus, Lee-on-The-Solent-Waterfront & Hangars West

Chemtest
The right chemistry to deliver results

Report Date
01 April 2014

Login Batch No					**254200**					
Chemtest LIMS ID					AJ99360	AJ99361	AJ99362	AJ99363	AJ99364	
Sample ID					WFBH01	WFBH14	LEPTP05	LEPTP06	WFTP05	
Sample No					10	3	9	2	2	
Sampling Date					18/3/2014	18/3/2014	18/3/2014	18/3/2014	18/3/2014	
Depth					12.50m	2.50m	3.50m	0.30m	0.60m	
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	
SOP↓	Determinand↓	CAS No↓	Units↓	*						
2010	pH			M	6.6	7.1	6.8	7.7	7.3	
2175	Sulfur (total TRL report 447)		%	M						
2120	Sulfate (2:1 water soluble) as SO4	14808798	g l^{-1}	M	0.17	<0.01	<0.01	<0.01	0.04	
2420	Magnesium (soluble)	7439954	g l^{-1}	N						
2430	Sulfate (total BS1377 HCl extract)	14808798	%	M						

* Accreditation status

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

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Analytical Report Number : 14-50968

Project / Site name:	Daedalus , Lee-on-the-Solent - Waterfront and Hangars West	**Samples received on:**	07/02/2014
Your job number:	GL18065	**Samples instructed on:**	13/02/2014
Your order number:	GL18065	**Analysis completed by:**	21/02/2014
Report Issue Number:	1	**Report issued on:**	21/02/2014
Samples Analysed:	1 leachate sample - 4 soil samples		

Signed:

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

Signed:

Rexona Rahman
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
asbestos	- 6 months from reporting

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

Analytical Report Number: 14-50968

Project / Site name: Daedalus , Lee-on-the-Solent -Waterfront and Hangars West
Your Order No: GL18065

Lab Sample Number				316468	316469	316470	316471	
Sample Reference				NGWS01	NGWS02	WFWS01	WFWS01	
Sample Number				ES1	ES1	ES1	ES2	
Depth (m)				0.15	0.15	0.15	0.50	
Date Sampled				04/02/2014	04/02/2014	04/02/2014	04/02/2014	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	19	17	21	18	
Total mass of sample received	kg	0.001	NONE	0.46	0.48	0.46	0.45	
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	-	
General Inorganics								
pH	pH Units	N/A	MCERTS	8.0	7.2	7.4	7.5	
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	
Fraction Organic Carbon (FOC)	N/A	0.00001	NONE	0.012	-	-	-	
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	-	-	< 2.0	-	
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	4.0	< 0.20	
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.70	< 0.10	
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	8.5	< 0.20	
Pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	7.0	< 0.20	
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	3.8	< 0.20	
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	4.1	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	4.4	< 0.10	
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	2.6	< 0.20	
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	4.0	< 0.10	
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	1.8	< 0.20	
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.48	< 0.20	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.0	< 0.05	
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6	43	< 1.6	
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.4	7.1	8.2	11	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.3	0.6	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	23	23	33	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	18	18	31	18	
Lead (aqua regia extractable)	mg/kg	2	MCERTS	38	36	75	16	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	14	15	16	18	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	48	45	94	52	
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
TPH C6 - C40	mg/kg	10	NONE	< 10	< 10	< 10	< 10	

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Analytical Report Number: 14-50968

Project / Site name: Daedalus , Lee-on-the-Solent -Waterfront and Hangars West

Your Order No: GL18065

Lab Sample Number				316472				
Sample Reference				NGWS02				
Sample Number				ES1				
Depth (m)				0.15				
Date Sampled				04/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.8				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Free Cyanide (Low Level)	µg/l	10	NONE	< 10				
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200				
Sulphate as SO_4	µg/l	100	ISO 17025	634				
Elemental Sulphur	mg/l	20	NONE	< 20				
Sulphide	µg/l	5	NONE	< 5.0				
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10				
Speciated PAHs								
Naphthalene	µg/l	0.01	NONE	< 0.01				
Acenaphthylene	µg/l	0.01	NONE	< 0.01				
Acenaphthene	µg/l	0.01	NONE	< 0.01				
Fluorene	µg/l	0.01	NONE	< 0.01				
Phenanthrene	µg/l	0.01	NONE	< 0.01				
Anthracene	µg/l	0.01	NONE	< 0.01				
Fluoranthene	µg/l	0.01	NONE	< 0.01				
Pyrene	µg/l	0.01	NONE	< 0.01				
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01				
Chrysene	µg/l	0.01	NONE	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1.1	ISO 17025	< 1.1				
Boron (dissolved)	µg/l	10	ISO 17025	35				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (hexavalent)	µg/l	5	NONE	< 5.0				
Chromium (dissolved)	µg/l	0.4	ISO 17025	7.6				
Copper (dissolved)	µg/l	0.7	ISO 17025	7.3				
Lead (dissolved)	µg/l	1	ISO 17025	14				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.1				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Zinc (dissolved)	µg/l	0.4	ISO 17025	13				
TPH1 (C10 - C40)	µg/l	10	NONE	< 10				

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Analytical Report Number : 14-50968

Project / Site name: Daedalus , Lee-on-the-Solent -Waterfront and Hangars West

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

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
316468	NGWS01	ES1	0.15	Brown topsoil and clay with vegetation.
316469	NGWS02	ES1	0.15	Brown clay and topsoil with vegetation.
316470	WFWS01	ES1	0.15	Brown clay and topsoil with vegetation.
316471	WFWS01	ES2	0.50	Light brown clay and topsoil with vegetation.

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Analytical Report Number : 14-50968

Project / Site name: Daedalus , Lee-on-the-Solent -Waterfront and Hangars West

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Elemental sulphur in leachate	Determination of elemental sulphur in leachate by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-UK	W	NONE
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	NONE
Free cyanide in leachate	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-UK		NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025

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Analytical Report Number : 14-50968

Project / Site name: Daedalus , Lee-on-the-Solent -Waterfront and Hangars West

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
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Thiocyanate in leachate	Determination of thiocyanate in water by discreet analyser (colorimetry).	In house method based on SMWW 4500-CN-M.	L082-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE

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

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Analytical Report Number : 14-50968

Replaces Analytical Report Number : 14-50968, issue no. 1

Project / Site name:	Daedalus , Lee-on-the-Solent - Waterfront and Hangars West	**Samples received on:**	07/02/2014
Your job number:	GL18065	**Samples instructed on:**	13/02/2014
Your order number:	GL18065	**Analysis completed by:**	28/02/2014
Report Issue Number:	2	**Report issued on:**	28/02/2014
Samples Analysed:	1 leachate sample - 4 soil samples		

Signed:

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Rexona Rahman
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
asbestos	- 6 months from reporting

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Analytical Report Number: 14-50968

Project / Site name: Daedalus , Lee-on-the-Solent -Waterfront and Hangars West
Your Order No: GL18065

Lab Sample Number				316468	316469	316470	316471	
Sample Reference				NGWS01	NGWS02	WFWS01	WFWS01	
Sample Number				ES1	ES1	ES1	ES2	
Depth (m)				0.15	0.15	0.15	0.50	
Date Sampled				04/02/2014	04/02/2014	04/02/2014	04/02/2014	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	19	17	21	18	
Total mass of sample received	kg	0.001	NONE	0.46	0.48	0.46	0.45	
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	-	
General Inorganics								
pH	pH Units	N/A	MCERTS	8.0	7.2	7.4	7.5	
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	
Fraction Organic Carbon (FOC)	N/A	0.00001	NONE	0.012	-	-	-	
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	-	-	< 2.0	-	
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	4.0	< 0.20	
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.70	< 0.10	
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	8.5	< 0.20	
Pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	7.0	< 0.20	
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	3.8	< 0.20	
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	4.1	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	4.4	< 0.10	
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	2.6	< 0.20	
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	4.0	< 0.10	
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	1.8	< 0.20	
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.48	< 0.20	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.0	< 0.05	
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6	43	< 1.6	
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.4	7.1	8.2	11	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.3	0.6	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	23	23	33	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	18	18	31	18	
Lead (aqua regia extractable)	mg/kg	2	MCERTS	38	36	75	16	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	14	15	16	18	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	48	45	94	52	
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	< 10	330	< 10	
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
TPH C6 - C40	mg/kg	10	NONE	< 10	< 10	330	< 10	

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Analytical Report Number: 14-50968

Project / Site name: Daedalus , Lee-on-the-Solent -Waterfront and Hangars West

Your Order No: GL18065

Lab Sample Number				316472				
Sample Reference				NGWS02				
Sample Number				ES1				
Depth (m)				0.15				
Date Sampled				04/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.8				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Free Cyanide (Low Level)	µg/l	10	NONE	< 10				
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200				
Sulphate as SO_4	µg/l	100	ISO 17025	634				
Elemental Sulphur	mg/l	20	NONE	< 20				
Sulphide	µg/l	5	NONE	< 5.0				
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10				
Speciated PAHs								
Naphthalene	µg/l	0.01	NONE	< 0.01				
Acenaphthylene	µg/l	0.01	NONE	< 0.01				
Acenaphthene	µg/l	0.01	NONE	< 0.01				
Fluorene	µg/l	0.01	NONE	< 0.01				
Phenanthrene	µg/l	0.01	NONE	< 0.01				
Anthracene	µg/l	0.01	NONE	< 0.01				
Fluoranthene	µg/l	0.01	NONE	< 0.01				
Pyrene	µg/l	0.01	NONE	< 0.01				
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01				
Chrysene	µg/l	0.01	NONE	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1.1	ISO 17025	< 1.1				
Boron (dissolved)	µg/l	10	ISO 17025	35				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (hexavalent)	µg/l	5	NONE	< 5.0				
Chromium (dissolved)	µg/l	0.4	ISO 17025	7.6				
Copper (dissolved)	µg/l	0.7	ISO 17025	7.3				
Lead (dissolved)	µg/l	1	ISO 17025	14				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.1				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Zinc (dissolved)	µg/l	0.4	ISO 17025	13				
TPH1 (C10 - C40)	µg/l	10	NONE	< 10				

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Analytical Report Number : 14-50968

Project / Site name: Daedalus , Lee-on-the-Solent -Waterfront and Hangars West

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

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
316468	NGWS01	ES1	0.15	Brown topsoil and clay with vegetation.
316469	NGWS02	ES1	0.15	Brown clay and topsoil with vegetation.
316470	WFWS01	ES1	0.15	Brown clay and topsoil with vegetation.
316471	WFWS01	ES2	0.50	Light brown clay and topsoil with vegetation.

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Analytical Report Number : 14-50968

Project / Site name: Daedalus , Lee-on-the-Solent -Waterfront and Hangars West

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Elemental sulphur in leachate	Determination of elemental sulphur in leachate by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-UK	W	NONE
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	NONE
Free cyanide in leachate	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-UK		NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025

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Analytical Report Number : 14-50968

Project / Site name: Daedalus , Lee-on-the-Solent -Waterfront and Hangars West

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
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Thiocyanate in leachate	Determination of thiocyanate in water by discreet analyser (colorimetry).	In house method based on SMWW 4500-CN-M.	L082-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE

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

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Analytical Report Number : 14-50970

Project / Site name:	Deadalus , Lee-on-the-Solent - Waterfrontand Hangars West	**Samples received on:**	07/02/2014
Your job number:	GL18065	**Samples instructed on:**	13/02/2014
Your order number:	GL18065	**Analysis completed by:**	21/02/2014
Report Issue Number:	1	**Report issued on:**	21/02/2014
Samples Analysed:	2 leachate samples - 9 soil samples		

Signed:

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

Signed:

Rexona Rahman
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
asbestos	- 6 months from reporting

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Analytical Report Number: 14-50970

Project / Site name: Deadalus , Lee-on-the-Solent -Waterfrontand Hangars West
Your Order No: GL18065

Lab Sample Number				316477	316478	316479	316480	316481	316482
Sample Reference				WFWS02	WFWS03	WFWS03	WFWS04	WFWS04	WFWS10
Sample Number				ES1	ES1	ES2	ES1	ES2	ES1
Depth (m)				0.15	0.15	0.50	0.15	0.50	0.15
Date Sampled				05/02/2014	05/02/2014	05/02/2014	05/02/2014	05/02/2014	05/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**						
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	18	18	19	20	17	13
Total mass of sample received	kg	0.001	NONE	0.45	0.46	0.44	0.42	0.44	0.45
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	-	Not-detected	-	Not-detected
General Inorganics									
pH	pH Units	N/A	MCERTS	7.6	7.1	7.1	7.1	-	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	-	< 1
Fraction Organic Carbon (FOC)	N/A	0.00001	NONE	-	-	-	-	0.0052	-
Total Phenols									
Total Phenols (monohydric)	mg/kg	2	MCERTS	-	< 2.0	-	-	-	< 2.0
Speciated PAHs									
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.28	-	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	-	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	-	0.24
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	-	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	0.78	< 0.20	0.53	-	3.5
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.14	< 0.10	< 0.10	-	0.76
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	1.1	< 0.20	0.95	-	7.1
Pyrene	mg/kg	0.2	MCERTS	< 0.20	0.89	< 0.20	0.73	-	5.7
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	0.52	< 0.20	0.47	-	3.6
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.61	< 0.05	0.65	-	3.5
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.52	< 0.10	0.61	-	4.2
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	0.40	< 0.20	0.38	-	1.8
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	0.46	< 0.10	0.49	-	3.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	-	1.5
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	-	0.38
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-	1.8
Total PAH									
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	5.4	< 1.6	5.2	-	38
Heavy Metals / Metalloids									
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.7	9.4	9.2	7.5	-	8.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.4	< 0.2	0.2	-	0.3
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	19	30	21	-	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	15	40	19	22	-	25
Lead (aqua regia extractable)	mg/kg	2	MCERTS	38	81	34	70	-	75
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	11	13	18	12	-	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	40	64	52	46	-	96

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Analytical Report Number: 14-50970

Project / Site name: Deadalus , Lee-on-the-Solent -Waterfrontand Hangars West
Your Order No: GL18065

Lab Sample Number				316477	316478	316479	316480	316481	316482
Sample Reference				WFWS02	WFWS03	WFWS03	WFWS04	WFWS04	WFWS10
Sample Number				ES1	ES1	ES2	ES1	ES2	ES1
Depth (m)				0.15	0.15	0.50	0.15	0.50	0.15
Date Sampled				05/02/2014	05/02/2014	05/02/2014	05/02/2014	05/02/2014	05/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**						
Petroleum Hydrocarbons									
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	19	< 10	23	-	300
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1
TPH C6 - C40	mg/kg	10	NONE	< 10	19	< 10	23	-	300
VOCs									
Chloromethane	µg/kg	4	ISO 17025	-	-	-	-	-	< 4.0
Chloroethane	µg/kg	2	ISO 17025	-	-	-	-	-	< 2.0
Bromomethane	µg/kg	6	ISO 17025	-	-	-	-	-	< 6.0
Vinyl Chloride	µg/kg	24	ISO 17025	-	-	-	-	-	< 24
Trichlorofluoromethane	µg/kg	5	ISO 17025	-	-	-	-	-	< 5.0
1,1-dichloroethene	µg/kg	7	MCERTS	-	-	-	-	-	< 7.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	-	-	-	-	-	< 7.0
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	-	-	-	-	-	< 7.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-	< 1.0
1,1-dichloroethane	µg/kg	6	MCERTS	-	-	-	-	-	< 6.0
2,2-Dichloropropane	µg/kg	6	NONE	-	-	-	-	-	< 6.0
Trichloromethane	µg/kg	7	MCERTS	-	-	-	-	-	< 7.0
1,1,1-Trichloroethane	µg/kg	7	MCERTS	-	-	-	-	-	< 7.0
1,2-dichloroethane	µg/kg	4	MCERTS	-	-	-	-	-	< 4.0
1,1-Dichloropropene	µg/kg	7	NONE	-	-	-	-	-	< 7.0
Trans-1,2-dichloroethene	µg/kg	7	NONE	-	-	-	-	-	< 7.0
Benzene	µg/kg	1	MCERTS	-	-	-	-	-	< 1.0
Tetrachloromethane	µg/kg	7	MCERTS	-	-	-	-	-	< 7.0
1,2-dichloropropane	µg/kg	6	MCERTS	-	-	-	-	-	< 6.0
Trichloroethene	µg/kg	6	MCERTS	-	-	-	-	-	< 6.0
Dibromomethane	µg/kg	7	MCERTS	-	-	-	-	-	< 7.0
Bromodichloromethane	µg/kg	7	NONE	-	-	-	-	-	< 7.0
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	-	-	-	-	-	< 7.0
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	-	-	-	-	-	< 8.0
Toluene	µg/kg	1	MCERTS	-	-	-	-	-	< 1.0
1,1,2-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	-	< 5.0
1,3-Dichloropropane	µg/kg	8	ISO 17025	-	-	-	-	-	< 8.0
Dibromochloromethane	µg/kg	2	ISO 17025	-	-	-	-	-	< 2.0
Tetrachloroethene	µg/kg	8	MCERTS	-	-	-	-	-	< 8.0
1,2-Dibromoethane	µg/kg	3	ISO 17025	-	-	-	-	-	< 3.0
Chlorobenzene	µg/kg	7	MCERTS	-	-	-	-	-	< 7.0
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	-	-	-	-	-	< 4.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-	< 1.0
Styrene	µg/kg	5	MCERTS	-	-	-	-	-	< 5.0
Tribromomethane	µg/kg	7	MCERTS	-	-	-	-	-	< 7.0
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	-	< 5.0
Isopropylbenzene	µg/kg	7	NONE	-	-	-	-	-	< 7.0
Bromobenzene	µg/kg	11	MCERTS	-	-	-	-	-	< 11
N-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-	< 5.0
2-Chlorotoluene	µg/kg	11	NONE	-	-	-	-	-	< 11
4-Chlorotoluene	µg/kg	11	NONE	-	-	-	-	-	< 11
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	-	-	-	-	-	< 4.0
Tert-Butylbenzene	µg/kg	4	NONE	-	-	-	-	-	< 4.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-	< 5.0
Sec-Butylbenzene	µg/kg	5	NONE	-	-	-	-	-	< 5.0
1,3-dichlorobenzene	µg/kg	7	ISO 17025	-	-	-	-	-	< 7.0
P-Isopropyltoluene	µg/kg	16	ISO 17025	-	-	-	-	-	< 16
1,2-dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-	< 5.0
1,4-dichlorobenzene	µg/kg	8	MCERTS	-	-	-	-	-	< 8.0
Butylbenzene	µg/kg	4	NONE	-	-	-	-	-	< 4.0
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	-	-	-	-	-	< 7.0
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	-	-	-	-	-	< 9.0
Hexachlorobutadiene	µg/kg	7	NONE	-	-	-	-	-	< 7.0
1,2,3-Trichlorobenzene	µg/kg	10	NONE	-	-	-	-	-	< 10

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Analytical Report Number: 14-50970

Project / Site name: Deadalus , Lee-on-the-Solent -Waterfrontand Hang
Your Order No: GL18065

Lab Sample Number				316483	316484	316485	
Sample Reference				WFWS10	WFWS13	WFWS13	
Sample Number				ES2	ES1	ES2	
Depth (m)				0.50	0.15	0.50	
Date Sampled				05/02/2014	05/02/2014	05/02/2014	
Time Taken				None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	16	18	17	
Total mass of sample received	kg	0.001	NONE	0.49	0.45	0.40	
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Amosite - Loose fibres	-	
Asbestos in Soil	Type	N/A	ISO 17025	-	Detected	-	
General Inorganics							
pH	pH Units	N/A	MCERTS	7.9	7.6	7.9	
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	
Fraction Organic Carbon (FOC)	N/A	0.00001	NONE	-	-	0.011	
Total Phenols							
Total Phenols (monohydric)	mg/kg	2	MCERTS	-	< 2.0	-	
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	0.30	< 0.10	
Fluorene	mg/kg	0.2	MCERTS	< 0.20	0.25	< 0.20	
Phenanthrene	mg/kg	0.2	MCERTS	1.8	3.1	1.5	
Anthracene	mg/kg	0.1	MCERTS	0.48	0.64	0.26	
Fluoranthene	mg/kg	0.2	MCERTS	3.6	5.4	2.4	
Pyrene	mg/kg	0.2	MCERTS	3.0	4.5	2.0	
Benzo(a)anthracene	mg/kg	0.2	MCERTS	2.1	2.9	1.2	
Chrysene	mg/kg	0.05	MCERTS	2.0	2.9	1.3	
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	2.1	3.2	1.3	
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	1.1	1.9	0.91	
Benzo(a)pyrene	mg/kg	0.1	MCERTS	1.8	2.9	1.0	
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	0.76	1.3	0.58	
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	0.24	0.37	< 0.20	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.88	1.5	0.62	
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	20	31	13	
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.6	9.6	8.2	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	1.7	1.0	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	28	23	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	81	34	
Lead (aqua regia extractable)	mg/kg	2	MCERTS	67	150	160	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	14	30	17	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	83	200	110	

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Analytical Report Number: 14-50970

Project / Site name: Deadalus , Lee-on-the-Solent -Waterfrontand Hang
Your Order No: GL18065

Lab Sample Number				316483	316484	316485	
Sample Reference				WFWS10	WFWS13	WFWS13	
Sample Number				ES2	ES1	ES2	
Depth (m)				0.50	0.15	0.50	
Date Sampled				05/02/2014	05/02/2014	05/02/2014	
Time Taken				None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Petroleum Hydrocarbons							
TPH1 (C10 - C40)	mg/kg	10	MCERTS	130	270	92	
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	
TPH C6 - C40	mg/kg	10	NONE	130	270	92	
VOCs							
Chloromethane	µg/kg	4	ISO 17025	-	< 4.0	-	
Chloroethane	µg/kg	2	ISO 17025	-	< 2.0	-	
Bromomethane	µg/kg	6	ISO 17025	-	< 6.0	-	
Vinyl Chloride	µg/kg	24	ISO 17025	-	< 24	-	
Trichlorofluoromethane	µg/kg	5	ISO 17025	-	< 5.0	-	
1,1-dichloroethene	µg/kg	7	MCERTS	-	< 7.0	-	
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	-	< 7.0	-	
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	-	< 7.0	-	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	
1,1-dichloroethane	µg/kg	6	MCERTS	-	< 6.0	-	
2,2-Dichloropropane	µg/kg	6	NONE	-	< 6.0	-	
Trichloromethane	µg/kg	7	MCERTS	-	< 7.0	-	
1,1,1-Trichloroethane	µg/kg	7	MCERTS	-	< 7.0	-	
1,2-dichloroethane	µg/kg	4	MCERTS	-	< 4.0	-	
1,1-Dichloropropene	µg/kg	7	NONE	-	< 7.0	-	
Trans-1,2-dichloroethene	µg/kg	7	NONE	-	< 7.0	-	
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	
Tetrachloromethane	µg/kg	7	MCERTS	-	< 7.0	-	
1,2-dichloropropane	µg/kg	6	MCERTS	-	< 6.0	-	
Trichloroethene	µg/kg	6	MCERTS	-	< 6.0	-	
Dibromomethane	µg/kg	7	MCERTS	-	< 7.0	-	
Bromodichloromethane	µg/kg	7	NONE	-	< 7.0	-	
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	-	< 7.0	-	
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	-	< 8.0	-	
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	
1,1,2-Trichloroethane	µg/kg	5	MCERTS	-	< 5.0	-	
1,3-Dichloropropane	µg/kg	8	ISO 17025	-	< 8.0	-	
Dibromochloromethane	µg/kg	2	ISO 17025	-	< 2.0	-	
Tetrachloroethene	µg/kg	8	MCERTS	-	< 8.0	-	
1,2-Dibromoethane	µg/kg	3	ISO 17025	-	< 3.0	-	
Chlorobenzene	µg/kg	7	MCERTS	-	< 7.0	-	
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	-	< 4.0	-	
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	-	
Styrene	µg/kg	5	MCERTS	-	< 5.0	-	
Tribromomethane	µg/kg	7	MCERTS	-	< 7.0	-	
o-xylene	µg/kg	1	MCERTS	-	< 1.0	-	
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	-	< 5.0	-	
Isopropylbenzene	µg/kg	7	NONE	-	< 7.0	-	
Bromobenzene	µg/kg	11	MCERTS	-	< 11	-	
N-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	
2-Chlorotoluene	µg/kg	11	NONE	-	< 11	-	
4-Chlorotoluene	µg/kg	11	NONE	-	< 11	-	
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	-	< 4.0	-	
Tert-Butylbenzene	µg/kg	4	NONE	-	< 4.0	-	
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	
Sec-Butylbenzene	µg/kg	5	NONE	-	< 5.0	-	
1,3-dichlorobenzene	µg/kg	7	ISO 17025	-	< 7.0	-	
P-Isopropyltoluene	µg/kg	16	ISO 17025	-	< 16	-	
1,2-dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	
1,4-dichlorobenzene	µg/kg	8	MCERTS	-	< 8.0	-	
Butylbenzene	µg/kg	4	NONE	-	< 4.0	-	
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	-	< 7.0	-	
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	-	< 9.0	-	
Hexachlorobutadiene	µg/kg	7	NONE	-	< 7.0	-	
1,2,3-Trichlorobenzene	µg/kg	10	NONE	-	< 10	-	

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Analytical Report Number: 14-50970

Project / Site name: Deadalus , Lee-on-the-Solent -Waterfrontand Hangars West

Your Order No: GL18065

Lab Sample Number				316486	316487			
Sample Reference				WFWS03	WFWS13			
Sample Number				ES1	ES1			
Depth (m)				0.15	0.15			
Date Sampled				05/02/2014	05/02/2014			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.7	7.3			
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10			
Free Cyanide (Low Level)	µg/l	10	NONE	< 10	< 10			
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200	< 200			
Sulphate as SO_4	µg/l	100	ISO 17025	681	1310			
Elemental Sulphur	mg/l	20	NONE	< 20	< 20			
Sulphide	µg/l	5	NONE	< 5.0	< 5.0			
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10			
Speciated PAHs								
Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01			
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01			
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01			
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01			
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2			

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Analytical Report Number: 14-50970

Project / Site name: Deadalus , Lee-on-the-Solent -Waterfrontand Hangars West

Your Order No: GL18065

Lab Sample Number				316486	316487			
Sample Reference				WFWS03	WFWS13			
Sample Number				ES1	ES1			
Depth (m)				0.15	0.15			
Date Sampled				05/02/2014	05/02/2014			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1.1	ISO 17025	< 1.1	3.4			
Boron (dissolved)	µg/l	10	ISO 17025	29	24			
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08			
Chromium (hexavalent)	µg/l	5	NONE	< 5.0	< 5.0			
Chromium (dissolved)	µg/l	0.4	ISO 17025	5.5	5.0			
Copper (dissolved)	µg/l	0.7	ISO 17025	12	11			
Lead (dissolved)	µg/l	1	ISO 17025	13	21			
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5			
Nickel (dissolved)	µg/l	0.3	ISO 17025	3.9	3.0			
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0			
Zinc (dissolved)	µg/l	0.4	ISO 17025	15	31			
TPH1 (C10 - C40)	µg/l	10	NONE	< 10	< 10			

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Analytical Report Number : 14-50970

Project / Site name: Deadalus , Lee-on-the-Solent -Waterfrontand Hangars West

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

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
316477	WFWS02	ES1	0.15	Brown topsoil and clay with vegetation.
316478	WFWS03	ES1	0.15	Brown topsoil and clay with vegetation.
316479	WFWS03	ES2	0.50	Light brown topsoil and clay with vegetation.
316480	WFWS04	ES1	0.15	Brown topsoil and clay with vegetation.
316481	WFWS04	ES2	0.50	Light brown sandy clay.
316482	WFWS10	ES1	0.15	Brown topsoil and sand with gravel and vegetation.
316483	WFWS10	ES2	0.50	Brown topsoil and clay with vegetation.
316484	WFWS13	ES1	0.15	Brown topsoil and clay with vegetation.
316485	WFWS13	ES2	0.50	Brown topsoil and clay with vegetation.

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Analytical Report Number : 14-50970

Project / Site name: Deadalus , Lee-on-the-Solent -Waterfrontand Hangars West

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Elemental sulphur in leachate	Determination of elemental sulphur in leachate by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-UK	W	NONE
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	NONE
Free cyanide in leachate	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-UK		NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025

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Analytical Report Number : 14-50970

Project / Site name: Deadalus , Lee-on-the-Solent -Waterfrontand Hangars West

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
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Thiocyanate in leachate	Determination of thiocyanate in water by discreet analyser (colorimetry).	In house method based on SMWW 4500-CN-M.	L082-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS

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

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Analytical Report Number : 14-51112

Project / Site name:	Daedalus Road, Lee-on-the-Solent, Waterfront and Hangars West	**Samples received on:**	18/02/2014
Your job number:	GL18065	**Samples instructed on:**	19/02/2014
Your order number:		**Analysis completed by:**	27/02/2014
Report Issue Number:	1	**Report issued on:**	27/02/2014
Samples Analysed:	2 leachate samples - 16 soil samples		

Signed:

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Rexona Rahman
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
asbestos	- 6 months from reporting

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hangars West

Lab Sample Number				317496	317497	317498	317499	317500
Sample Reference				MCBH01 ES2	MCBH01 ES3	MCBH02 ES2	MCBH02 ES3	NGBH01 ES2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	1.50	0.50	1.90	0.50
Date Sampled				06/02/2014	06/02/2014	07/02/2014	07/02/2014	11/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	21	18	30	12	17
Total mass of sample received	kg	0.001	NONE	0.53	0.42	0.47	0.40	0.44
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	-	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	8.4	8.2	7.6	9.8	8.4
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Fraction Organic Carbon (FOC)	N/A	0.00001	NONE	-	-	0.033	-	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	-	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	0.60	0.62
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	0.16	0.15
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	0.47	0.69
Pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	0.35	0.47
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	0.25
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.28
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	2.6

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hangars West

Lab Sample Number				317496	317497	317498	317499	317500
Sample Reference				MCBH01 ES2	MCBH01 ES3	MCBH02 ES2	MCBH02 ES3	NGBH01 ES2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	1.50	0.50	1.90	0.50
Date Sampled				06/02/2014	06/02/2014	07/02/2014	07/02/2014	11/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.1	6.9	6.6	9.8	10
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	20	16	25	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22	9.1	15	12	20
Lead (aqua regia extractable)	mg/kg	2	MCERTS	78	8.2	35	12	22
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	9.6	8.6	6.8	14	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	39	30	49	35	54

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hangars West

Lab Sample Number				317496	317497	317498	317499	317500
Sample Reference				MCBH01 ES2	MCBH01 ES3	MCBH02 ES2	MCBH02 ES3	NGBH01 ES2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	1.50	0.50	1.90	0.50
Date Sampled				06/02/2014	06/02/2014	07/02/2014	07/02/2014	11/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH C6 - C40	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	-

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hangars West

Lab Sample Number				317496	317497	317498	317499	317500
Sample Reference				MCBH01 ES2	MCBH01 ES3	MCBH02 ES2	MCBH02 ES3	NGBH01 ES2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	1.50	0.50	1.90	0.50
Date Sampled				06/02/2014	06/02/2014	07/02/2014	07/02/2014	11/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hangars West

Lab Sample Number				317496	317497	317498	317499	317500
Sample Reference				MCBH01 ES2	MCBH01 ES3	MCBH02 ES2	MCBH02 ES3	NGBH01 ES2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	1.50	0.50	1.90	0.50
Date Sampled				06/02/2014	06/02/2014	07/02/2014	07/02/2014	11/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	-
Chloroethane	µg/kg	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	-
Bromomethane	µg/kg	6	ISO 17025	< 6.0	< 6.0	< 6.0	< 6.0	-
Vinyl Chloride	µg/kg	24	ISO 17025	< 24	< 24	< 24	< 24	-
Trichlorofluoromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,1-dichloroethene	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	< 7.0	-
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
1,1-dichloroethane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	-
2,2-Dichloropropane	µg/kg	6	NONE	< 6.0	< 6.0	< 6.0	< 6.0	-
Trichloromethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
1,1,1-Trichloroethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
1,2-dichloroethane	µg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	-
1,1-Dichloropropene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	-
Trans-1,2-dichloroethene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	-
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Tetrachloromethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
1,2-dichloropropane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	-
Trichloroethene	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	-
Dibromomethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
Bromodichloromethane	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	-
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	< 7.0	-
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	< 8.0	< 8.0	< 8.0	< 8.0	-
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
1,1,2-Trichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
1,3-Dichloropropane	µg/kg	8	ISO 17025	< 8.0	< 8.0	< 8.0	< 8.0	-
Dibromochloromethane	µg/kg	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	-
Tetrachloroethene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	-
1,2-Dibromoethane	µg/kg	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	-
Chlorobenzene	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Styrene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
Tribromomethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
Isopropylbenzene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	-
Bromobenzene	µg/kg	11	MCERTS	< 11	< 11	< 11	< 11	-
N-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
2-Chlorotoluene	µg/kg	11	NONE	< 11	< 11	< 11	< 11	-
4-Chlorotoluene	µg/kg	11	NONE	< 11	< 11	< 11	< 11	-
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	-
Tert-Butylbenzene	µg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Sec-Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
1,3-dichlorobenzene	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	< 7.0	-
P-Isopropyltoluene	µg/kg	16	ISO 17025	< 16	< 16	< 16	< 16	-
1,2-dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
1,4-dichlorobenzene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	-
Butylbenzene	µg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	-
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	< 7.0	-
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	< 9.0	< 9.0	< 9.0	< 9.0	-
Hexachlorobutadiene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	< 10	< 10	< 10	< 10	-

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317501	317502	317503	317504	317505
Sample Reference				WFBH01 ES1	WFBH02 ES2	MCBH03 ES1	WFBH04 ES2	WFBH05 ES1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	0.50	0.15	0.50	0.15
Date Sampled				11/02/2014	11/02/2014	11/02/2014	11/02/2014	11/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	18	16	16	17	20
Total mass of sample received	kg	0.001	NONE	0.77	0.48	0.44	0.41	0.73
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	7.9	8.0	7.5	7.7	6.6
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Fraction Organic Carbon (FOC)	N/A	0.00001	NONE	-	-	-	-	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	-	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.1	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	0.79	3.0	6.1	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	0.50	5.1	11	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	7.5	32	70	< 0.20	0.41
Anthracene	mg/kg	0.1	MCERTS	1.9	10	22	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	13	38	85	0.53	0.82
Pyrene	mg/kg	0.2	MCERTS	9.9	30	68	0.49	0.69
Benzo(a)anthracene	mg/kg	0.2	MCERTS	5.8	15	38	0.32	0.35
Chrysene	mg/kg	0.05	MCERTS	4.9	16	35	0.33	0.51
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	3.9	11	30	0.29	0.44
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	3.3	6.7	17	0.26	0.31
Benzo(a)pyrene	mg/kg	0.1	MCERTS	4.2	12	30	0.28	0.38
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	1.8	4.4	10	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	0.49	0.61	1.8	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.4	5.7	14	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	60	190	440	2.6	4.0

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317501	317502	317503	317504	317505
Sample Reference				WFBH01 ES1	WFBH02 ES2	MCBH03 ES1	WFBH04 ES2	WFBH05 ES1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	0.50	0.15	0.50	0.15
Date Sampled				11/02/2014	11/02/2014	11/02/2014	11/02/2014	11/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.8	7.1	11	6.6	7.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5	0.4	4.8	0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	13	19	12	13
Copper (aqua regia extractable)	mg/kg	1	MCERTS	55	19	84	36	31
Lead (aqua regia extractable)	mg/kg	2	MCERTS	150	56	190	110	94
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5	< 0.3	0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	14	9.8	16	11	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	160	97	660	51	60

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317501	317502	317503	317504	317505
Sample Reference				WFBH01 ES1	WFBH02 ES2	MCBH03 ES1	WFBH04 ES2	WFBH05 ES1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	0.50	0.15	0.50	0.15
Date Sampled				11/02/2014	11/02/2014	11/02/2014	11/02/2014	11/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-

Petroleum Hydrocarbons

TPH1 (C10 - C40)	mg/kg	10	MCERTS	260	1500	5500	< 10	< 10
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH C6 - C40	mg/kg	10	NONE	260	1500	5500	< 10	< 10
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	-

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317501	317502	317503	317504	317505
Sample Reference				WFBH01 ES1	WFBH02 ES2	MCBH03 ES1	WFBH04 ES2	WFBH05 ES1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	0.50	0.15	0.50	0.15
Date Sampled				11/02/2014	11/02/2014	11/02/2014	11/02/2014	11/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-

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

Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317501	317502	317503	317504	317505
Sample Reference				WFBH01 ES1	WFBH02 ES2	MCBH03 ES1	WFBH04 ES2	WFBH05 ES1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	0.50	0.15	0.50	0.15
Date Sampled				11/02/2014	11/02/2014	11/02/2014	11/02/2014	11/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	2	ISO 17025	-	-	-	-	-
Bromomethane	µg/kg	6	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	24	ISO 17025	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1-dichloroethene	µg/kg	7	MCERTS	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-dichloroethane	µg/kg	6	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	6	NONE	-	-	-	-	-
Trichloromethane	µg/kg	7	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	7	MCERTS	-	-	-	-	-
1,2-dichloroethane	µg/kg	4	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	7	NONE	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	7	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	7	MCERTS	-	-	-	-	-
1,2-dichloropropane	µg/kg	6	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	6	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	7	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	7	NONE	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	8	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	2	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	8	MCERTS	-	-	-	-	-
1,2-Dibromoethane	µg/kg	3	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	7	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	5	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	7	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	7	NONE	-	-	-	-	-
Bromobenzene	µg/kg	11	MCERTS	-	-	-	-	-
N-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	11	NONE	-	-	-	-	-
4-Chlorotoluene	µg/kg	11	NONE	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	-	-	-	-	-
Tert-Butylbenzene	µg/kg	4	NONE	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Sec-Butylbenzene	µg/kg	5	NONE	-	-	-	-	-
1,3-dichlorobenzene	µg/kg	7	ISO 17025	-	-	-	-	-
P-Isopropyltoluene	µg/kg	16	ISO 17025	-	-	-	-	-
1,2-dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,4-dichlorobenzene	µg/kg	8	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	4	NONE	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	7	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	-	-	-	-	-

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317506	317507	317508	317509	317510
Sample Reference				WFBH06 ES1	WFBH06 ES3	WFBH08 ES2	WFBH08 ES4	WFBH13 ES2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	1.00	0.30	1.50	0.60
Date Sampled				11/02/2014	11/02/2014	11/02/2014	11/02/2014	13/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	16	18	16	19	14
Total mass of sample received	kg	0.001	NONE	0.46	0.42	0.42	0.46	0.43
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile - Loose fibres	-	Chrysotile - Loose fibres
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Detected	-	Detected
General Inorganics								
pH	pH Units	N/A	MCERTS	7.7	8.0	7.1	7.4	7.9
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Fraction Organic Carbon (FOC)	N/A	0.00001	NONE	-	-	-	-	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	-	-	-	-	< 2.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	0.44	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	0.53	< 0.10	< 0.10	< 0.10	0.52
Fluorene	mg/kg	0.2	MCERTS	0.53	< 0.20	< 0.20	< 0.20	0.40
Phenanthrene	mg/kg	0.2	MCERTS	14	< 0.20	1.5	0.78	7.6
Anthracene	mg/kg	0.1	MCERTS	3.0	< 0.10	0.23	0.14	1.7
Fluoranthene	mg/kg	0.2	MCERTS	29	< 0.20	3.2	1.2	18
Pyrene	mg/kg	0.2	MCERTS	24	< 0.20	2.7	0.93	15
Benzo(a)anthracene	mg/kg	0.2	MCERTS	16	< 0.20	1.8	0.47	9.0
Chrysene	mg/kg	0.05	MCERTS	12	< 0.05	1.8	0.63	8.4
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	15	< 0.10	2.0	0.46	8.3
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	7.5	< 0.20	1.1	0.25	5.3
Benzo(a)pyrene	mg/kg	0.1	MCERTS	14	< 0.10	1.6	0.36	7.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	6.6	< 0.20	0.89	< 0.20	3.6
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	1.6	< 0.20	0.20	< 0.20	0.90
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	8.4	< 0.05	1.2	< 0.05	4.4
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	150	< 1.6	18	5.2	91

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317506	317507	317508	317509	317510
Sample Reference				WFBH06 ES1	WFBH06 ES3	WFBH08 ES2	WFBH08 ES4	WFBH13 ES2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	1.00	0.30	1.50	0.60
Date Sampled				11/02/2014	11/02/2014	11/02/2014	11/02/2014	13/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.0	10	12	10	14
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.7	< 0.2	0.4	< 0.2	1.1
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	33	15	27	20
Copper (aqua regia extractable)	mg/kg	1	MCERTS	64	21	33	20	72
Lead (aqua regia extractable)	mg/kg	2	MCERTS	180	21	100	26	180
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	21	25	16	18	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	180	62	78	62	290

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317506	317507	317508	317509	317510
Sample Reference				WFBH06 ES1	WFBH06 ES3	WFBH08 ES2	WFBH08 ES4	WFBH13 ES2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	1.00	0.30	1.50	0.60
Date Sampled				11/02/2014	11/02/2014	11/02/2014	11/02/2014	13/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
o-xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	940	< 10	92	< 10	110
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH C6 - C40	mg/kg	10	NONE	940	< 10	92	< 10	110
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317506	317507	317508	317509	317510
Sample Reference				WFBH06 ES1	WFBH06 ES3	WFBH08 ES2	WFBH08 ES4	WFBH13 ES2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	1.00	0.30	1.50	0.60
Date Sampled				11/02/2014	11/02/2014	11/02/2014	11/02/2014	13/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	-	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	5.5
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	47
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	49
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	100

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317506	317507	317508	317509	317510
Sample Reference				WFBH06 ES1	WFBH06 ES3	WFBH08 ES2	WFBH08 ES4	WFBH13 ES2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	1.00	0.30	1.50	0.60
Date Sampled				11/02/2014	11/02/2014	11/02/2014	11/02/2014	13/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	-
Chloroethane	µg/kg	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	-
Bromomethane	µg/kg	6	ISO 17025	< 6.0	< 6.0	< 6.0	< 6.0	-
Vinyl Chloride	µg/kg	24	ISO 17025	< 24	< 24	< 24	< 24	-
Trichlorofluoromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,1-dichloroethene	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	< 7.0	-
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
1,1-dichloroethane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	-
2,2-Dichloropropane	µg/kg	6	NONE	< 6.0	< 6.0	< 6.0	< 6.0	-
Trichloromethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
1,1,1-Trichloroethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
1,2-dichloroethane	µg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	-
1,1-Dichloropropene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	-
Trans-1,2-dichloroethene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	-
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Tetrachloromethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
1,2-dichloropropane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	-
Trichloroethene	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	-
Dibromomethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
Bromodichloromethane	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	-
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	< 7.0	-
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	< 8.0	< 8.0	< 8.0	< 8.0	-
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
1,1,2-Trichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
1,3-Dichloropropane	µg/kg	8	ISO 17025	< 8.0	< 8.0	< 8.0	< 8.0	-
Dibromochloromethane	µg/kg	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	-
Tetrachloroethene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	-
1,2-Dibromoethane	µg/kg	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	-
Chlorobenzene	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Styrene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
Tribromomethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	-
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
Isopropylbenzene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	-
Bromobenzene	µg/kg	11	MCERTS	< 11	< 11	< 11	< 11	-
N-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
2-Chlorotoluene	µg/kg	11	NONE	< 11	< 11	< 11	< 11	-
4-Chlorotoluene	µg/kg	11	NONE	< 11	< 11	< 11	< 11	-
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	-
Tert-Butylbenzene	µg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Sec-Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
1,3-dichlorobenzene	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	< 7.0	-
P-Isopropyltoluene	µg/kg	16	ISO 17025	< 16	< 16	< 16	< 16	-
1,2-dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
1,4-dichlorobenzene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	-
Butylbenzene	µg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	-
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	< 7.0	-
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	< 9.0	< 9.0	< 9.0	< 9.0	-
Hexachlorobutadiene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	< 10	< 10	< 10	< 10	-

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317511				
Sample Reference				WFBH13 ES4				
Sample Number				None Supplied				
Depth (m)				1.50				
Date Sampled				13/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	16				
Total mass of sample received	kg	0.001	NONE	0.50				
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-				
Asbestos in Soil	Type	N/A	ISO 17025	-				
General Inorganics								
pH	pH Units	N/A	MCERTS	7.8				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Fraction Organic Carbon (FOC)	N/A	0.00001	NONE	-				
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	-				
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.2	MCERTS	< 0.20				
Phenanthrene	mg/kg	0.2	MCERTS	0.47				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Fluoranthene	mg/kg	0.2	MCERTS	0.91				
Pyrene	mg/kg	0.2	MCERTS	0.74				
Benzo(a)anthracene	mg/kg	0.2	MCERTS	0.40				
Chrysene	mg/kg	0.05	MCERTS	0.45				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.39				
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	0.20				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.34				
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20				
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	4.0				

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317511				
Sample Reference				WFBH13 ES4				
Sample Number				None Supplied				
Depth (m)				1.50				
Date Sampled				13/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.4				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	18				
Lead (aqua regia extractable)	mg/kg	2	MCERTS	24				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	15				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	45				

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317511				
Sample Reference				WFBH13 ES4				
Sample Number				None Supplied				
Depth (m)				1.50				
Date Sampled				13/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	-				
Toluene	µg/kg	1	MCERTS	-				
Ethylbenzene	µg/kg	1	MCERTS	-				
p & m-xylene	µg/kg	1	MCERTS	-				
o-xylene	µg/kg	1	MCERTS	-				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-				

Petroleum Hydrocarbons

TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10				
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1				
TPH C6 - C40	mg/kg	10	NONE	< 10				
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-				

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317511				
Sample Reference				WFBH13 ES4				
Sample Number				None Supplied				
Depth (m)				1.50				
Date Sampled				13/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-				
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-				
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-				
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-				
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-				
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-				

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				317511				
Sample Reference				WFBH13 ES4				
Sample Number				None Supplied				
Depth (m)				1.50				
Date Sampled				13/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	-				
Chloroethane	µg/kg	2	ISO 17025	-				
Bromomethane	µg/kg	6	ISO 17025	-				
Vinyl Chloride	µg/kg	24	ISO 17025	-				
Trichlorofluoromethane	µg/kg	5	ISO 17025	-				
1,1-dichloroethene	µg/kg	7	MCERTS	-				
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	-				
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	-				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-				
1,1-dichloroethane	µg/kg	6	MCERTS	-				
2,2-Dichloropropane	µg/kg	6	NONE	-				
Trichloromethane	µg/kg	7	MCERTS	-				
1,1,1-Trichloroethane	µg/kg	7	MCERTS	-				
1,2-dichloroethane	µg/kg	4	MCERTS	-				
1,1-Dichloropropene	µg/kg	7	NONE	-				
Trans-1,2-dichloroethene	µg/kg	7	NONE	-				
Benzene	µg/kg	1	MCERTS	-				
Tetrachloromethane	µg/kg	7	MCERTS	-				
1,2-dichloropropane	µg/kg	6	MCERTS	-				
Trichloroethene	µg/kg	6	MCERTS	-				
Dibromomethane	µg/kg	7	MCERTS	-				
Bromodichloromethane	µg/kg	7	NONE	-				
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	-				
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	-				
Toluene	µg/kg	1	MCERTS	-				
1,1,2-Trichloroethane	µg/kg	5	MCERTS	-				
1,3-Dichloropropane	µg/kg	8	ISO 17025	-				
Dibromochloromethane	µg/kg	2	ISO 17025	-				
Tetrachloroethene	µg/kg	8	MCERTS	-				
1,2-Dibromoethane	µg/kg	3	ISO 17025	-				
Chlorobenzene	µg/kg	7	MCERTS	-				
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	-				
Ethylbenzene	µg/kg	1	MCERTS	-				
p & m-xylene	µg/kg	1	MCERTS	-				
Styrene	µg/kg	5	MCERTS	-				
Tribromomethane	µg/kg	7	MCERTS	-				
o-xylene	µg/kg	1	MCERTS	-				
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	-				
Isopropylbenzene	µg/kg	7	NONE	-				
Bromobenzene	µg/kg	11	MCERTS	-				
N-Propylbenzene	µg/kg	5	ISO 17025	-				
2-Chlorotoluene	µg/kg	11	NONE	-				
4-Chlorotoluene	µg/kg	11	NONE	-				
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	-				
Tert-Butylbenzene	µg/kg	4	NONE	-				
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-				
Sec-Butylbenzene	µg/kg	5	NONE	-				
1,3-dichlorobenzene	µg/kg	7	ISO 17025	-				
P-Isopropyltoluene	µg/kg	16	ISO 17025	-				
1,2-dichlorobenzene	µg/kg	5	MCERTS	-				
1,4-dichlorobenzene	µg/kg	8	MCERTS	-				
Butylbenzene	µg/kg	4	NONE	-				
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	-				
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	-				
Hexachlorobutadiene	µg/kg	7	NONE	-				
1,2,3-Trichlorobenzene	µg/kg	10	NONE	-				

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hangars West

Lab Sample Number				317512	317513			
Sample Reference				MCBH02 ES2	WFBH13 ES2			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.50	0.60			
Date Sampled				07/02/2014	13/02/2014			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	8.3	7.8			
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10			
Free Cyanide (Low Level)	µg/l	10	NONE	< 10	< 10			
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200	< 200			
Sulphate as SO_4	µg/l	100	ISO 17025	438	2010			
Elemental Sulphur	mg/l	20	NONE	< 20	< 20			
Sulphide	µg/l	5	NONE	< 5.0	< 5.0			
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10			
Speciated PAHs								
Naphthalene	µg/l	0.01	NONE	3.0	12			
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01			
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01			
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01			
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	3.0	12			

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Analytical Report Number: 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hangars West

Lab Sample Number				317512	317513			
Sample Reference				MCBH02 ES2	WFBH13 ES2			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.50	0.60			
Date Sampled				07/02/2014	13/02/2014			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1.1	ISO 17025	2.1	4.8			
Boron (dissolved)	µg/l	10	ISO 17025	13	15			
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08			
Chromium (hexavalent)	µg/l	5	NONE	< 5.0	< 5.0			
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.8	0.7			
Copper (dissolved)	µg/l	0.7	ISO 17025	1.9	3.2			
Lead (dissolved)	µg/l	1	ISO 17025	2.2	7.1			
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5			
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.6	0.6			
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0			
Zinc (dissolved)	µg/l	0.4	ISO 17025	3.4	6.8			
Monoaromatics								
Benzene	µg/l	1	NONE	< 1.0	< 1.0			
Toluene	µg/l	1	NONE	< 1.0	< 1.0			
Ethylbenzene	µg/l	1	NONE	< 1.0	< 1.0			
p & m-xylene	µg/l	1	NONE	< 1.0	< 1.0			
o-xylene	µg/l	1	NONE	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10			
TPH1 (C10 - C40)	µg/l	10	NONE	< 10	12			
TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	12			
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	12			

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Analytical Report Number : 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hangars West

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

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
317496	MCBH01 ES2	None Supplied	1.00	Brown clay and sand.
317497	MCBH01 ES3	None Supplied	1.50	Light brown clay and sand.
317498	MCBH02 ES2	None Supplied	0.50	Brown clay with gravel and vegetation.
317499	MCBH02 ES3	None Supplied	1.90	Light brown clay and sand with gravel.
317500	NGBH01 ES2	None Supplied	0.50	Light brown clay with gravel and vegetation.
317501	WFBH01 ES1	None Supplied	0.15	Brown topsoil and clay with vegetation.
317502	WFBH02 ES2	None Supplied	0.50	Brown clay.
317503	MCBH03 ES1	None Supplied	0.15	Brown clay and sand with vegetation.
317504	WFBH04 ES2	None Supplied	0.50	Brown topsoil and clay with vegetation.
317505	WFBH05 ES1	None Supplied	0.15	Brown topsoil and clay with vegetation.
317506	WFBH06 ES1	None Supplied	0.15	Brown topsoil and clay with gravel and vegetation.
317507	WFBH06 ES3	None Supplied	1.00	Light brown clay and sand with gravel.
317508	WFBH08 ES2	None Supplied	0.30	Brown clay and sand with gravel and vegetation.
317509	WFBH08 ES4	None Supplied	1.50	Light brown clay and sand with gravel.
317510	WFBH13 ES2	None Supplied	0.60	Brown clay and sand with gravel and vegetation.
317511	WFBH13 ES4	None Supplied	1.50	Light brown clay with gravel.

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Analytical Report Number : 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hangars West

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L017-UK		NONE
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Elemental sulphur in leachate	Determination of elemental sulphur in leachate by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-UK	W	NONE
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	NONE
Free cyanide in leachate	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-UK		NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS

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Analytical Report Number : 14-51112

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hangars West

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
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Thiocyanate in leachate	Determination of thiocyanate in water by discreet analyser (colorimetry).	In house method based on SMWW 4500-CN-M.	L082-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE
TPHCWG (Soil)	Determination of pentane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS

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

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Analytical Report Number : 14-51461

Project / Site name:	Daedalus , Lee-on-the-Solent-Waterfront and Hangars West	**Samples received on:**	20/02/2014
Your job number:	GL18065	**Samples instructed on:**	27/02/2014
Your order number:	GL18065	**Analysis completed by:**	07/03/2014
Report Issue Number:	1	**Report issued on:**	07/03/2014
Samples Analysed:	4 soil samples		

Signed:

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

Signed:

Rexona Rahman
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
asbestos - 6 months from reporting

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Analytical Report Number: 14-51461

Project / Site name: Daedalus , Lee-on-the-Solent- Waterfront and Hangars West
Your Order No: GL18065

Lab Sample Number				319681	319682	319683	319684	
Sample Reference				LEPBH02	WFBH07	WFBH09	WFBH09	
Sample Number				ES1	ES1	ES2	ES3	
Depth (m)				0.15	0.90	0.25	3.00	
Date Sampled				18/02/2014	18/02/2014	17/02/2014	17/02/2014	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	20	19	8.0	2.8	
Total mass of sample received	kg	0.001	NONE	0.42	0.52	0.49	0.53	
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	-	
General Inorganics								
pH	pH Units	N/A	MCERTS	6.5	6.9	7.9	7.8	
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	
Phenanthrene	mg/kg	0.2	MCERTS	2.2	< 0.20	< 0.20	< 0.20	
Anthracene	mg/kg	0.1	MCERTS	0.50	< 0.10	< 0.10	< 0.10	
Fluoranthene	mg/kg	0.2	MCERTS	6.0	< 0.20	< 0.20	< 0.20	
Pyrene	mg/kg	0.2	MCERTS	4.7	< 0.20	< 0.20	< 0.20	
Benzo(a)anthracene	mg/kg	0.2	MCERTS	3.2	< 0.20	< 0.20	< 0.20	
Chrysene	mg/kg	0.05	MCERTS	3.2	< 0.05	< 0.05	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	2.7	< 0.10	< 0.10	< 0.10	
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	1.8	< 0.20	< 0.20	< 0.20	
Benzo(a)pyrene	mg/kg	0.1	MCERTS	2.5	< 0.10	< 0.10	< 0.10	
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	1.0	< 0.20	< 0.20	< 0.20	
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	0.37	< 0.20	< 0.20	< 0.20	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.2	< 0.05	< 0.05	< 0.05	
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	30	< 1.6	< 1.6	< 1.6	
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.6	12	12	8.9	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	1.4	< 0.2	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	31	9.4	11	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	24	21	12	32	
Lead (aqua regia extractable)	mg/kg	2	MCERTS	78	26	91	71	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	11	21	7.5	7.2	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	73	95	1200	52	
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	200	< 10	60	< 10	
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
TPH C6 - C40	mg/kg	10	NONE	200	< 10	60	< 10	

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Analytical Report Number : 14-51461

Project / Site name: Daedalus , Lee-on-the-Solent- Waterfront and Hangars West

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

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
319681	LEPBH02	ES1	0.15	Brown clay and topsoil with vegetation.
319682	WFBH07	ES1	0.90	Light brown clay and sand.
319683	WFBH09	ES2	0.25	Brown gravelly clay.
319684	WFBH09	ES3	3.00	Light brown gravel. **

** Non MCerts Matrix

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Analytical Report Number : 14-51461

Project / Site name: Daedalus , Lee-on-the-Solent- Waterfront and Hangars West

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE

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For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
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Analytical Report Number : 14-51480

Project / Site name:	Daedalus, Lee-on-the-Solent- Waterfront and Hangars West	**Samples received on:**	26/02/2014
Your job number:	GL18065	**Samples instructed on:**	27/02/2014
Your order number:	GL18065	**Analysis completed by:**	10/03/2014
Report Issue Number:	1	**Report issued on:**	10/03/2014
Samples Analysed:	1 leachate sample - 15 soil samples		

Signed:

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

Signed:

Anna Romanska
Quality 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
asbestos - 6 months from reporting

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Analytical Report Number: 14-51480

Project / Site name: Daedalus, Lee-on-the-Solent- Waterfront and Hangars West
Your Order No: GL18065

Lab Sample Number				319773	319774	319775	319776	319777
Sample Reference				LEPTP01	LEPTP02	LETP03	MCTP01	MCTP02
Sample Number				ES1	ES2	ES2	ES2	ES2
Depth (m)				0.15	0.30	0.50	0.50	0.50
Date Sampled				19/02/2014	18/02/2014	19/02/2014	19/02/2014	19/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	17	16	14	17	19
Total mass of sample received	kg	0.001	NONE	0.52	0.31	0.48	1.1	0.51
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	6.9	8.0	8.3	8.5	7.6
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	-	-	-	-	-
Water Soluble Sulphate as SO_4 (2:1)	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	-	-	-	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	-	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	0.37	0.71	< 0.20	0.42	< 0.20
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	0.66	1.5	< 0.20	0.63	< 0.20
Pyrene	mg/kg	0.2	MCERTS	0.52	1.3	< 0.20	0.55	< 0.20
Benzo(a)anthracene	mg/kg	0.2	MCERTS	0.35	0.64	< 0.20	0.33	< 0.20
Chrysene	mg/kg	0.05	MCERTS	0.34	0.87	< 0.05	0.37	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.31	0.73	< 0.10	0.34	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	0.45	< 0.20	0.27	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.27	0.73	< 0.10	0.31	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	0.29	< 0.20	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.43	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	2.8	7.8	< 1.6	3.2	< 1.6
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.4	11	10	15	9.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	0.3	< 0.2	1.7	0.3
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	20	20	22	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	28	60	31	43	20
Lead (aqua regia extractable)	mg/kg	2	MCERTS	80	200	120	320	70
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	14	15	14	18	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	58	120	58	180	95
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	27	< 10	< 10	< 10
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH C6 - C40	mg/kg	10	NONE	< 10	27	< 10	< 10	< 10

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Analytical Report Number: 14-51480

Project / Site name: Daedalus, Lee-on-the-Solent- Waterfront and Hangars West
Your Order No: GL18065

Lab Sample Number				319773	319774	319775	319776	319777
Sample Reference				LEPTP01	LEPTP02	LETP03	MCTP01	MCTP02
Sample Number				ES1	ES2	ES2	ES2	ES2
Depth (m)				0.15	0.30	0.50	0.50	0.50
Date Sampled				19/02/2014	18/02/2014	19/02/2014	19/02/2014	19/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	-	< 4.0	-	< 4.0	-
Chloroethane	µg/kg	2	ISO 17025	-	< 2.0	-	< 2.0	-
Bromomethane	µg/kg	6	ISO 17025	-	< 6.0	-	< 6.0	-
Vinyl Chloride	µg/kg	24	ISO 17025	-	< 24	-	< 24	-
Trichlorofluoromethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,1-dichloroethene	µg/kg	7	MCERTS	-	< 7.0	-	< 7.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	-	< 7.0	-	< 7.0	-
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	-	< 7.0	-	< 7.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1-dichloroethane	µg/kg	6	MCERTS	-	< 6.0	-	< 6.0	-
2,2-Dichloropropane	µg/kg	6	NONE	-	< 6.0	-	< 6.0	-
Trichloromethane	µg/kg	7	MCERTS	-	< 7.0	-	< 7.0	-
1,1,1-Trichloroethane	µg/kg	7	MCERTS	-	< 7.0	-	< 7.0	-
1,2-dichloroethane	µg/kg	4	MCERTS	-	< 4.0	-	< 4.0	-
1,1-Dichloropropene	µg/kg	7	NONE	-	< 7.0	-	< 7.0	-
Trans-1,2-dichloroethene	µg/kg	7	NONE	-	< 7.0	-	< 7.0	-
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Tetrachloromethane	µg/kg	7	MCERTS	-	< 7.0	-	< 7.0	-
1,2-dichloropropane	µg/kg	6	MCERTS	-	< 6.0	-	< 6.0	-
Trichloroethene	µg/kg	6	MCERTS	-	< 6.0	-	< 6.0	-
Dibromomethane	µg/kg	7	MCERTS	-	< 7.0	-	< 7.0	-
Bromodichloromethane	µg/kg	7	NONE	-	< 7.0	-	< 7.0	-
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	-	< 7.0	-	< 7.0	-
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	-	< 8.0	-	< 8.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,2-Trichloroethane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	-
1,3-Dichloropropane	µg/kg	8	ISO 17025	-	< 8.0	-	< 8.0	-
Dibromochloromethane	µg/kg	2	ISO 17025	-	< 2.0	-	< 2.0	-
Tetrachloroethene	µg/kg	8	MCERTS	-	< 8.0	-	< 8.0	-
1,2-Dibromoethane	µg/kg	3	ISO 17025	-	< 3.0	-	< 3.0	-
Chlorobenzene	µg/kg	7	MCERTS	-	< 7.0	-	< 7.0	-
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	-	< 4.0	-	< 4.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Styrene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	-
Tribromomethane	µg/kg	7	MCERTS	-	< 7.0	-	< 7.0	-
o-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	-
Isopropylbenzene	µg/kg	7	NONE	-	< 7.0	-	< 7.0	-
Bromobenzene	µg/kg	11	MCERTS	-	< 11	-	< 11	-
N-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
2-Chlorotoluene	µg/kg	11	NONE	-	< 11	-	< 11	-
4-Chlorotoluene	µg/kg	11	NONE	-	< 11	-	< 11	-
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	-	< 4.0	-	< 4.0	-
Tert-Butylbenzene	µg/kg	4	NONE	-	< 4.0	-	< 4.0	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Sec-Butylbenzene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,3-dichlorobenzene	µg/kg	7	ISO 17025	-	< 7.0	-	< 7.0	-
P-Isopropyltoluene	µg/kg	16	ISO 17025	-	< 16	-	< 16	-
1,2-dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	-
1,4-dichlorobenzene	µg/kg	8	MCERTS	-	< 8.0	-	< 8.0	-
Butylbenzene	µg/kg	4	NONE	-	< 4.0	-	< 4.0	-
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	-	< 7.0	-	< 7.0	-
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	-	< 9.0	-	< 9.0	-
Hexachlorobutadiene	µg/kg	7	NONE	-	< 7.0	-	< 7.0	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	-	< 10	-	< 10	-

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Analytical Report Number: 14-51480

Project / Site name: Daedalus, Lee-on-the-Solent- Waterfront and Hang

Your Order No: GL18065

Lab Sample Number				319778	319779	319780	319781	319782
Sample Reference				NGTP01	NGTP02	NGTP03	WFTP01	WFTP02
Sample Number				ES2	ES2	ES1	ES1	ES2
Depth (m)				0.50	0.50	0.15	0.20	0.50
Date Sampled				18/02/2014	18/02/2014	19/02/2014	19/02/2014	18/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	15	17	16	22	18
Total mass of sample received	kg	0.001	NONE	0.45	0.42	0.48	0.45	0.41
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	8.1	7.9	7.0	6.9	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	-	-	-	-	-
Water Soluble Sulphate as SO_4 (2:1)	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	-	-	-	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	-	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	0.40	< 0.20
Pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	0.34	< 0.20
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	0.15	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	12	6.7	9.1	8.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	36	33	21	21	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22	22	15	26	26
Lead (aqua regia extractable)	mg/kg	2	MCERTS	15	16	31	83	79
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	23	21	12	9.7	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	57	54	45	78	52
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH C6 - C40	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

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

Analytical Report Number: 14-51480

Project / Site name: Daedalus, Lee-on-the-Solent- Waterfront and Hang

Your Order No: GL18065

Lab Sample Number				319778	319779	319780	319781	319782
Sample Reference				NGTP01	NGTP02	NGTP03	WFTP01	WFTP02
Sample Number				ES2	ES2	ES1	ES1	ES2
Depth (m)				0.50	0.50	0.15	0.20	0.50
Date Sampled				18/02/2014	18/02/2014	19/02/2014	19/02/2014	18/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	2	ISO 17025	-	-	-	-	-
Bromomethane	µg/kg	6	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	24	ISO 17025	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1-dichloroethene	µg/kg	7	MCERTS	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-dichloroethane	µg/kg	6	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	6	NONE	-	-	-	-	-
Trichloromethane	µg/kg	7	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	7	MCERTS	-	-	-	-	-
1,2-dichloroethane	µg/kg	4	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	7	NONE	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	7	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	7	MCERTS	-	-	-	-	-
1,2-dichloropropane	µg/kg	6	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	6	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	7	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	7	NONE	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	8	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	2	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	8	MCERTS	-	-	-	-	-
1,2-Dibromoethane	µg/kg	3	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	7	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	5	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	7	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	7	NONE	-	-	-	-	-
Bromobenzene	µg/kg	11	MCERTS	-	-	-	-	-
N-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	11	NONE	-	-	-	-	-
4-Chlorotoluene	µg/kg	11	NONE	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	-	-	-	-	-
Tert-Butylbenzene	µg/kg	4	NONE	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Sec-Butylbenzene	µg/kg	5	NONE	-	-	-	-	-
1,3-dichlorobenzene	µg/kg	7	ISO 17025	-	-	-	-	-
P-Isopropyltoluene	µg/kg	16	ISO 17025	-	-	-	-	-
1,2-dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,4-dichlorobenzene	µg/kg	8	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	4	NONE	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	7	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	-	-	-	-	-

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Analytical Report Number: 14-51480

Project / Site name: Daedalus, Lee-on-the-Solent- Waterfront and Hang

Your Order No: GL18065

Lab Sample Number				319783	319784	319785	319786	319787
Sample Reference				WFTP06	WFTP06	WFTP06	WFTP08	WFTP11
Sample Number				ES1	ES2	ES3	ES2	ES1
Depth (m)				0.15	0.70	1.00	0.35	0.15
Date Sampled				19/02/2014	19/02/2014	19/02/2014	18/02/2014	19/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	48	73	59	42
Moisture Content	%	N/A	NONE	21	9.6	14	5.9	12
Total mass of sample received	kg	0.001	NONE	0.48	0.47	0.45	0.39	0.54
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	-	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	8.2	9.0	7.9	7.7	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	-	-	-	0.046	-
Water Soluble Sulphate as SO_4 (2:1)	mg/kg	2.5	MCERTS	-	-	-	46	-
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	-	-	0.023	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	0.33	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	0.39	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	5.8	< 0.20	0.66	0.46
Anthracene	mg/kg	0.1	MCERTS	< 0.10	1.1	< 0.10	< 0.10	0.11
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	9.9	< 0.20	2.6	0.89
Pyrene	mg/kg	0.2	MCERTS	< 0.20	7.6	< 0.20	2.3	0.83
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	5.8	< 0.20	1.3	0.42
Chrysene	mg/kg	0.05	MCERTS	< 0.05	6.9	< 0.05	1.9	0.63
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	7.7	< 0.10	2.0	0.58
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	3.8	< 0.20	1.2	0.36
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	5.5	< 0.10	1.9	0.53
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	2.4	< 0.20	0.66	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	0.82	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	2.7	< 0.05	0.81	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	61	< 1.6	15	4.8
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.6	7.9	8.2	7.6	9.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.5	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	19	21	17	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22	53	12	31	40
Lead (aqua regia extractable)	mg/kg	2	MCERTS	88	180	17	64	150
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	12	15	13	18	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	62	230	42	61	140
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	290	< 10	35	< 10
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH C6 - C40	mg/kg	10	NONE	< 10	290	< 10	35	< 10

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Analytical Report Number: 14-51480

Project / Site name: Daedalus, Lee-on-the-Solent- Waterfront and Hang

Your Order No: GL18065

Lab Sample Number				319783	319784	319785	319786	319787
Sample Reference				WFTP06	WFTP06	WFTP06	WFTP08	WFTP11
Sample Number				ES1	ES2	ES3	ES2	ES1
Depth (m)				0.15	0.70	1.00	0.35	0.15
Date Sampled				19/02/2014	19/02/2014	19/02/2014	18/02/2014	19/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	< 4.0	< 4.0	< 4.0	-	-
Chloroethane	µg/kg	2	ISO 17025	< 2.0	< 2.0	< 2.0	-	-
Bromomethane	µg/kg	6	ISO 17025	< 6.0	< 6.0	< 6.0	-	-
Vinyl Chloride	µg/kg	24	ISO 17025	< 24	< 24	< 24	-	-
Trichlorofluoromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
1,1-dichloroethene	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	-	-
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,1-dichloroethane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	-	-
2,2-Dichloropropane	µg/kg	6	NONE	< 6.0	< 6.0	< 6.0	-	-
Trichloromethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	-	-
1,1,1-Trichloroethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	-	-
1,2-dichloroethane	µg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	-	-
1,1-Dichloropropene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	-	-
Trans-1,2-dichloroethene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	-	-
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Tetrachloromethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	-	-
1,2-dichloropropane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	-	-
Trichloroethene	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	-	-
Dibromomethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	-	-
Bromodichloromethane	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	-	-
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	-	-
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	< 8.0	< 8.0	< 8.0	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,1,2-Trichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-	-
1,3-Dichloropropane	µg/kg	8	ISO 17025	< 8.0	< 8.0	< 8.0	-	-
Dibromochloromethane	µg/kg	2	ISO 17025	< 2.0	< 2.0	< 2.0	-	-
Tetrachloroethene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	-	-
1,2-Dibromoethane	µg/kg	3	ISO 17025	< 3.0	< 3.0	< 3.0	-	-
Chlorobenzene	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Styrene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-	-
Tribromomethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-	-
Isopropylbenzene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	-	-
Bromobenzene	µg/kg	11	MCERTS	< 11	< 11	< 11	-	-
N-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
2-Chlorotoluene	µg/kg	11	NONE	< 11	< 11	< 11	-	-
4-Chlorotoluene	µg/kg	11	NONE	< 11	< 11	< 11	-	-
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	< 4.0	< 4.0	< 4.0	-	-
Tert-Butylbenzene	µg/kg	4	NONE	< 4.0	< 4.0	< 4.0	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Sec-Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
1,3-dichlorobenzene	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	-	-
P-Isopropyltoluene	µg/kg	16	ISO 17025	< 16	< 16	< 16	-	-
1,2-dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-	-
1,4-dichlorobenzene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	-	-
Butylbenzene	µg/kg	4	NONE	< 4.0	< 4.0	< 4.0	-	-
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	-	-
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	< 9.0	< 9.0	< 9.0	-	-
Hexachlorobutadiene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	-	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	< 10	< 10	< 10	-	-

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Analytical Report Number: 14-51480

Project / Site name: Daedalus, Lee-on-the-Solent- Waterfront and Hangars West

Your Order No: GL18065

Lab Sample Number				319788				
Sample Reference				WFTP06				
Sample Number				ES1				
Depth (m)				0.15				
Date Sampled				19/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.6				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Free Cyanide (Low Level)	µg/l	10	NONE	< 10				
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200				
Sulphate as SO_4	µg/l	100	ISO 17025	12800				
Elemental Sulphur	mg/l	20	NONE	< 20				
Sulphide	µg/l	5	NONE	< 5.0				
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10				
Speciated PAHs								
Naphthalene	µg/l	0.01	NONE	< 0.01				
Acenaphthylene	µg/l	0.01	NONE	< 0.01				
Acenaphthene	µg/l	0.01	NONE	< 0.01				
Fluorene	µg/l	0.01	NONE	< 0.01				
Phenanthrene	µg/l	0.01	NONE	< 0.01				
Anthracene	µg/l	0.01	NONE	< 0.01				
Fluoranthene	µg/l	0.01	NONE	< 0.01				
Pyrene	µg/l	0.01	NONE	< 0.01				
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01				
Chrysene	µg/l	0.01	NONE	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1.1	ISO 17025	4.1				
Boron (dissolved)	µg/l	10	ISO 17025	160				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (hexavalent)	µg/l	5	NONE	< 5.0				
Chromium (dissolved)	µg/l	0.4	ISO 17025	5.2				
Copper (dissolved)	µg/l	0.7	ISO 17025	7.4				
Lead (dissolved)	µg/l	1	ISO 17025	18				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.9				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Zinc (dissolved)	µg/l	0.4	ISO 17025	14				
TPH1 (C10 - C40)	µg/l	10	NONE	< 10				

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

Analytical Report Number : 14-51480

Project / Site name: Daedalus, Lee-on-the-Solent- Waterfront and Hangars West

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

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
319773	LEPTP01	ES1	0.15	Brown topsoil and clay with vegetation.
319774	LEPTP02	ES2	0.30	Brown sandy clay.
319775	LETP03	ES2	0.50	Brown topsoil and clay with vegetation.
319776	MCTP01	ES2	0.50	Brown clay and sand.
319777	MCTP02	ES2	0.50	Brown sandy clay.
319778	NGTP01	ES2	0.50	Light brown sandy clay.
319779	NGTP02	ES2	0.50	Light brown sandy clay.
319780	NGTP03	ES1	0.15	Brown topsoil and clay with vegetation.
319781	WFTP01	ES1	0.20	Brown topsoil and clay with vegetation.
319782	WFTP02	ES2	0.50	Brown topsoil and clay with vegetation.
319783	WFTP06	ES1	0.15	Brown clay and sand with gravel.
319784	WFTP06	ES2	0.70	Brown gravelly topsoil with stones.
319785	WFTP06	ES3	1.00	Brown sandy clay.
319786	WFTP08	ES2	0.35	Brown clay and sand with coal and stones.
319787	WFTP11	ES1	0.15	Brown clay and topsoil with stones and vegetation.

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Analytical Report Number : 14-51480

Project / Site name: Daedalus, Lee-on-the-Solent- Waterfront and Hangars West

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Elemental sulphur in leachate	Determination of elemental sulphur in leachate by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-UK	W	NONE
Free cyanide in leachate	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-UK		NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphate, water soluble, in soil	Determination of water soluble sulphate by extraction with water followed by ICP-OES. Results reported corrected for extraction ratio (soil equivalent) as g/l and mg/kg; and upon the 2:1	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS

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Analytical Report Number : 14-51480

Project / Site name: Daedalus, Lee-on-the-Solent- Waterfront and Hangars West

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
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Thiocyanate in leachate	Determination of thiocyanate in water by discreet analyser (colorimetry).	In house method based on SMWW 4500-CN-M.	L082-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS

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

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Analytical Report Number : 14-51491

Project / Site name:	Daedalus, Lee-on-the-Solent-Waterfront and Hangars West	**Samples received on:**	12/02/2014
Your job number:	GL18065	**Samples instructed on:**	27/02/2014
Your order number:		**Analysis completed by:**	10/03/2014
Report Issue Number:	1	**Report issued on:**	10/03/2014
Samples Analysed:	1 leachate sample - 10 soil samples		

Signed:

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

Signed:

Thurstan Plummer
Organics Technical 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
asbestos	- 6 months from reporting

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Sampling date indicates that recommended time for holding samples prior to analysis has been exceeded. The results for all parameters except metals in soil may be invalid and should be interpreted with care.

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Analytical Report Number: 14-51491

Project / Site name: Daedalus, Lee-on-the-Solent-Waterfront and Hangars West

Lab Sample Number				319866	319867	319868	319869	319870
Sample Reference				MCWS01	MCWS02	WFWS06	WFWS12	WFWS16
Sample Number				ES1	ES1	ES2	ES1	ES1
Depth (m)				0.40	0.15	0.50	0.15	0.15
Date Sampled				06/02/2014	06/02/2014	11/02/2014	10/02/2014	11/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	15	15	15	7.9	12
Total mass of sample received	kg	0.001	NONE	0.48	0.44	0.47	0.48	1.2
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	9.2	8.2	8.1	10.2	8.5
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Fraction Organic Carbon (FOC)	N/A	0.00001	NONE	-	-	0.0091	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	0.39
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	0.54	0.77
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	1.2
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.97	0.41	16
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.12	< 0.10	2.4
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	1.7	0.45	27
Pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	1.4	0.37	22
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.72	< 0.20	11
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.0	0.24	11
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.76	< 0.10	12
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.52	< 0.20	7.3
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.56	0.14	12
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	4.1
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	1.2
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	5.1
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6	7.8	2.2	130
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.8	8.2	11	5.6	12
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.3	0.7	< 0.2	1.4
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	20	24	9.2	24
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	19	37	11	110
Lead (aqua regia extractable)	mg/kg	2	MCERTS	22	60	160	6.0	260
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	12	13	17	7.8	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	43	64	190	23	340

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Analytical Report Number: 14-51491

Project / Site name: Daedalus, Lee-on-the-Solent-Waterfront and Hangars West

Lab Sample Number				319866	319867	319868	319869	319870
Sample Reference				MCWS01	MCWS02	WFWS06	WFWS12	WFWS16
Sample Number				ES1	ES1	ES2	ES1	ES1
Depth (m)				0.40	0.15	0.50	0.15	0.15
Date Sampled				06/02/2014	06/02/2014	11/02/2014	10/02/2014	11/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	< 10	37	< 10	700
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH C6 - C40	mg/kg	10	NONE	< 10	< 10	37	< 10	700
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.02	NONE	-	-	-	-	-
PCB Congener 52	mg/kg	0.02	NONE	-	-	-	-	-
PCB Congener 101	mg/kg	0.02	NONE	-	-	-	-	-
PCB Congener 118	mg/kg	0.02	NONE	-	-	-	-	-
PCB Congener 138	mg/kg	0.02	NONE	-	-	-	-	-
PCB Congener 153	mg/kg	0.02	NONE	-	-	-	-	-
PCB Congener 180	mg/kg	0.02	NONE	-	-	-	-	-
Total PCBs	mg/kg	0.3	NONE	-	-	-	-	-

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Analytical Report Number: 14-51491

Project / Site name: Daedalus, Lee-on-the-Solent-Waterfront and Han

Lab Sample Number				319871	319872	319873	319874	319875
Sample Reference				WFWS16	WFWS20	WFWS21	WFWS22	WFWS22
Sample Number				ES3	ES2	ES1	ES2	ES4
Depth (m)				0.50	0.50	0.50	0.25	0.50
Date Sampled				11/02/2014	06/01/2014	10/02/2014	07/01/2014	07/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	10	16	11	11	16
Total mass of sample received	kg	0.001	NONE	1.2	0.50	0.50	0.45	0.51
Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	Not-detected	Not-detected	-
General Inorganics								
pH	pH Units	N/A	MCERTS	8.6	8.2	9.9	8.9	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Fraction Organic Carbon (FOC)	N/A	0.00001	NONE	-	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.31	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	1.0	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	0.38	< 0.10	< 0.10	8.8	< 0.10
Fluorene	mg/kg	0.2	MCERTS	0.69	< 0.20	< 0.20	4.7	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	8.2	0.42	1.6	25	< 0.20
Anthracene	mg/kg	0.1	MCERTS	1.4	< 0.10	0.35	13	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	11	0.92	3.6	73	< 0.20
Pyrene	mg/kg	0.2	MCERTS	8.6	0.85	3.4	63	< 0.20
Benzo(a)anthracene	mg/kg	0.2	MCERTS	4.2	0.41	1.6	40	< 0.20
Chrysene	mg/kg	0.05	MCERTS	4.1	0.58	1.9	34	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	4.1	0.54	1.5	47	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	2.5	0.32	1.3	18	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	3.8	0.42	1.6	44	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	1.5	< 0.20	0.59	21	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	0.33	< 0.20	< 0.20	3.4	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.7	< 0.05	0.73	23	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	52	4.6	18	420	< 1.6
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.8	8.7	13	17	8.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5	< 0.2	< 0.2	0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	19	19	14	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	40	33	12	76	14
Lead (aqua regia extractable)	mg/kg	2	MCERTS	100	77	21	93	18
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	13	13	12	36	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	130	77	44	67	50

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Analytical Report Number: 14-51491

Project / Site name: Daedalus, Lee-on-the-Solent-Waterfront and Han

Lab Sample Number				319871	319872	319873	319874	319875
Sample Reference				WFWS16	WFWS20	WFWS21	WFWS22	WFWS22
Sample Number				ES3	ES2	ES1	ES2	ES4
Depth (m)				0.50	0.50	0.50	0.25	0.50
Date Sampled				11/02/2014	06/01/2014	10/02/2014	07/01/2014	07/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	180	< 10	58	6000	< 10
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH C6 - C40	mg/kg	10	NONE	180	< 10	58	6000	< 10
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.02	NONE	-	-	-	< 0.02	< 0.02
PCB Congener 52	mg/kg	0.02	NONE	-	-	-	< 0.02	< 0.02
PCB Congener 101	mg/kg	0.02	NONE	-	-	-	< 0.02	< 0.02
PCB Congener 118	mg/kg	0.02	NONE	-	-	-	< 0.02	< 0.02
PCB Congener 138	mg/kg	0.02	NONE	-	-	-	< 0.02	< 0.02
PCB Congener 153	mg/kg	0.02	NONE	-	-	-	< 0.02	< 0.02
PCB Congener 180	mg/kg	0.02	NONE	-	-	-	< 0.02	< 0.02
Total PCBs	mg/kg	0.3	NONE	-	-	-	< 0.30	< 0.30

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Analytical Report Number: 14-51491

Project / Site name: Daedalus, Lee-on-the-Solent-Waterfront and Hangars West

Lab Sample Number				319876				
Sample Reference				WFWS06				
Sample Number				ES2				
Depth (m)				0.50				
Date Sampled				11/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	9.8				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Free Cyanide (Low Level)	µg/l	10	NONE	< 10				
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200				
Sulphate as SO_4	µg/l	100	ISO 17025	912				
Elemental Sulphur	mg/l	20	NONE	< 20				
Sulphide	µg/l	5	NONE	< 5.0				
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10				
Speciated PAHs								
Naphthalene	µg/l	0.01	NONE	< 0.01				
Acenaphthylene	µg/l	0.01	NONE	< 0.01				
Acenaphthene	µg/l	0.01	NONE	< 0.01				
Fluorene	µg/l	0.01	NONE	< 0.01				
Phenanthrene	µg/l	0.01	NONE	< 0.01				
Anthracene	µg/l	0.01	NONE	< 0.01				
Fluoranthene	µg/l	0.01	NONE	< 0.01				
Pyrene	µg/l	0.01	NONE	< 0.01				
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01				
Chrysene	µg/l	0.01	NONE	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1.1	ISO 17025	2.8				
Boron (dissolved)	µg/l	10	ISO 17025	20				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (hexavalent)	µg/l	5	NONE	< 5.0				
Chromium (dissolved)	µg/l	0.4	ISO 17025	5.3				
Copper (dissolved)	µg/l	0.7	ISO 17025	8.8				
Lead (dissolved)	µg/l	1	ISO 17025	16				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.0				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Zinc (dissolved)	µg/l	0.4	ISO 17025	29				
TPH1 (C10 - C40)	µg/l	10	NONE	< 10				

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

Analytical Report Number : 14-51491

Project / Site name: Daedalus, Lee-on-the-Solent-Waterfront and Hangars West

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

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
319866	MCWS01	ES1	0.40	Brown clay and sand.
319867	MCWS02	ES1	0.15	Brown topsoil and clay with vegetation.
319868	WFWS06	ES2	0.50	Brown topsoil and clay with vegetation.
319869	WFWS12	ES1	0.15	Light brown gravelly sand.
319870	WFWS16	ES1	0.15	Brown topsoil and clay with gravel and vegetation.
319871	WFWS16	ES3	0.50	Brown topsoil and clay with gravel and vegetation.
319872	WFWS20	ES2	0.50	Brown clay and sand with gravel.
319873	WFWS21	ES1	0.50	Light brown gravelly sand with rubble and brick.
319874	WFWS22	ES2	0.25	Brown topsoil and sand with rubble and brick.
319875	WFWS22	ES4	0.50	Light brown clay and sand.

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Analytical Report Number : 14-51491

Project / Site name: Daedalus, Lee-on-the-Solent-Waterfront and Hangars West

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Elemental sulphur in leachate	Determination of elemental sulphur in leachate by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-UK	W	NONE
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	NONE
Free cyanide in leachate	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	NONE
pH in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-UK		NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025

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Analytical Report Number : 14-51491

Project / Site name: Daedalus, Lee-on-the-Solent-Waterfront and Hangars West

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
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Thiocyanate in leachate	Determination of thiocyanate in water by discreet analyser (colorimetry).	In house method based on SMWW 4500-CN-M.	L082-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE

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

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Analytical Report Number : 14-51531

Project / Site name:	Deaudlus, Lee-on-the-Solent- Waterfront and Hangers West	**Samples received on:**	12/02/2014
Your job number:	GL18065	**Samples instructed on:**	27/02/2014
Your order number:	GL18065	**Analysis completed by:**	10/03/2014
Report Issue Number:	1	**Report issued on:**	10/03/2014
Samples Analysed:	2 leachate samples - 6 soil samples		

Signed:

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

Signed:

Anna Romanska
Quality 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
asbestos - 6 months from reporting

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Analytical Report Number: 14-51531

Project / Site name: Deaudlus, Lee-on-the-Solent- Waterfront and Hangers West
Your Order No: GL18065

Lab Sample Number				320234	320235	320236	320237	320238
Sample Reference				LEPWS02	LEPWS02	LEPWS03	LEPWS03	LEPWS04
Sample Number				ES1	ES3	ES1	ES3	ES2
Depth (m)				0.15	0.50	0.15	0.50	0.40
Date Sampled				07/02/2014	07/02/2014	08/02/2014	08/02/2014	08/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	16	19	19	17	16
Total mass of sample received	kg	0.001	NONE	0.47	0.53	0.46	0.53	0.57
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	8.2	8.0	7.9	7.7	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Fraction Organic Carbon (FOC)	N/A	0.00001	NONE	-	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.29	< 0.10	1.8
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.29	< 0.20	1.2
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	4.0	< 0.20	4.5
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.85	< 0.10	1.5
Fluoranthene	mg/kg	0.2	MCERTS	0.66	< 0.20	9.5	< 0.20	11
Pyrene	mg/kg	0.2	MCERTS	0.63	< 0.20	8.3	< 0.20	9.6
Benzo(a)anthracene	mg/kg	0.2	MCERTS	0.58	< 0.20	6.7	< 0.20	5.4
Chrysene	mg/kg	0.05	MCERTS	0.53	< 0.05	5.9	< 0.05	4.7
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.62	< 0.10	5.7	< 0.10	5.6
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	0.40	< 0.20	4.6	< 0.20	3.4
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.61	< 0.10	5.6	< 0.10	5.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	2.0	< 0.20	1.8
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.67	< 0.20	0.41
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.7	< 0.05	2.5
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	4.0	< 1.6	57	< 1.6	59
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.8	7.0	11	15	8.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	21	17	31	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	35	19	44	17	28
Lead (aqua regia extractable)	mg/kg	2	MCERTS	280	35	160	17	75
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	14	11	17	16	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	440	55	160	43	54
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	< 10	270	< 10	380
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH C6 - C40	mg/kg	10	NONE	< 10	< 10	270	< 10	380

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Analytical Report Number: 14-51531

Project / Site name: Deaudlus, Lee-on-the-Solent- Waterfront and Hangers West
Your Order No: GL18065

Lab Sample Number				320234	320235	320236	320237	320238
Sample Reference				LEPWS02	LEPWS02	LEPWS03	LEPWS03	LEPWS04
Sample Number				ES1	ES3	ES1	ES3	ES2
Depth (m)				0.15	0.50	0.15	0.50	0.40
Date Sampled				07/02/2014	07/02/2014	08/02/2014	08/02/2014	08/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	-	-	-	-	< 4.0
Chloroethane	µg/kg	2	ISO 17025	-	-	-	-	< 2.0
Bromomethane	µg/kg	6	ISO 17025	-	-	-	-	< 6.0
Vinyl Chloride	µg/kg	24	ISO 17025	-	-	-	-	< 24
Trichlorofluoromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1-dichloroethene	µg/kg	7	MCERTS	-	-	-	-	< 7.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	-	-	-	-	< 7.0
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	-	-	-	-	< 7.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1-dichloroethane	µg/kg	6	MCERTS	-	-	-	-	< 6.0
2,2-Dichloropropane	µg/kg	6	NONE	-	-	-	-	< 6.0
Trichloromethane	µg/kg	7	MCERTS	-	-	-	-	< 7.0
1,1,1-Trichloroethane	µg/kg	7	MCERTS	-	-	-	-	< 7.0
1,2-dichloroethane	µg/kg	4	MCERTS	-	-	-	-	< 4.0
1,1-Dichloropropene	µg/kg	7	NONE	-	-	-	-	< 7.0
Trans-1,2-dichloroethene	µg/kg	7	NONE	-	-	-	-	< 7.0
Benzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Tetrachloromethane	µg/kg	7	MCERTS	-	-	-	-	< 7.0
1,2-dichloropropane	µg/kg	6	MCERTS	-	-	-	-	< 6.0
Trichloroethene	µg/kg	6	MCERTS	-	-	-	-	< 6.0
Dibromomethane	µg/kg	7	MCERTS	-	-	-	-	< 7.0
Bromodichloromethane	µg/kg	7	NONE	-	-	-	-	< 7.0
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	-	-	-	-	< 7.0
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	-	-	-	-	< 8.0
Toluene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1,2-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,3-Dichloropropane	µg/kg	8	ISO 17025	-	-	-	-	< 8.0
Dibromochloromethane	µg/kg	2	ISO 17025	-	-	-	-	< 2.0
Tetrachloroethene	µg/kg	8	MCERTS	-	-	-	-	< 8.0
1,2-Dibromoethane	µg/kg	3	ISO 17025	-	-	-	-	< 3.0
Chlorobenzene	µg/kg	7	MCERTS	-	-	-	-	< 7.0
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	-	-	-	-	< 4.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Styrene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Tribromomethane	µg/kg	7	MCERTS	-	-	-	-	< 7.0
o-xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Isopropylbenzene	µg/kg	7	NONE	-	-	-	-	< 7.0
Bromobenzene	µg/kg	11	MCERTS	-	-	-	-	< 11
N-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
2-Chlorotoluene	µg/kg	11	NONE	-	-	-	-	< 11
4-Chlorotoluene	µg/kg	11	NONE	-	-	-	-	< 11
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	-	-	-	-	< 4.0
Tert-Butylbenzene	µg/kg	4	NONE	-	-	-	-	< 4.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Sec-Butylbenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,3-dichlorobenzene	µg/kg	7	ISO 17025	-	-	-	-	< 7.0
P-Isopropyltoluene	µg/kg	16	ISO 17025	-	-	-	-	< 16
1,2-dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,4-dichlorobenzene	µg/kg	8	MCERTS	-	-	-	-	< 8.0
Butylbenzene	µg/kg	4	NONE	-	-	-	-	< 4.0
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	-	-	-	-	< 7.0
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	-	-	-	-	< 9.0
Hexachlorobutadiene	µg/kg	7	NONE	-	-	-	-	< 7.0
1,2,3-Trichlorobenzene	µg/kg	10	NONE	-	-	-	-	< 10

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Analytical Report Number: 14-51531

Project / Site name: Deaudlus, Lee-on-the-Solent- Waterfront and Hanş

Your Order No: GL18065

Lab Sample Number				320239				
Sample Reference				LEPWS05				
Sample Number				ES2				
Depth (m)				0.35				
Date Sampled				08/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	17				
Total mass of sample received	kg	0.001	NONE	0.55				
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile - Loose fibres				
Asbestos in Soil	Type	N/A	ISO 17025	Detected				
General Inorganics								
pH	pH Units	N/A	MCERTS	8.5				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Fraction Organic Carbon (FOC)	N/A	0.00001	NONE	0.0060				
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20				
Acenaphthene	mg/kg	0.1	MCERTS	0.37				
Fluorene	mg/kg	0.2	MCERTS	0.30				
Phenanthrene	mg/kg	0.2	MCERTS	4.0				
Anthracene	mg/kg	0.1	MCERTS	0.94				
Fluoranthene	mg/kg	0.2	MCERTS	5.0				
Pyrene	mg/kg	0.2	MCERTS	3.5				
Benzo(a)anthracene	mg/kg	0.2	MCERTS	1.8				
Chrysene	mg/kg	0.05	MCERTS	1.6				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	1.5				
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	0.90				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	1.2				
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	0.41				
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.52				
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	22				
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.2				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	18				
Lead (aqua regia extractable)	mg/kg	2	MCERTS	57				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	14				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	68				
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	52				
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1				
TPH C6 - C40	mg/kg	10	NONE	52				

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Analytical Report Number: 14-51531

Project / Site name: Deaudlus, Lee-on-the-Solent- Waterfront and Hanş

Your Order No: GL18065

Lab Sample Number				320239				
Sample Reference				LEPWS05				
Sample Number				ES2				
Depth (m)				0.35				
Date Sampled				08/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	-				
Chloroethane	µg/kg	2	ISO 17025	-				
Bromomethane	µg/kg	6	ISO 17025	-				
Vinyl Chloride	µg/kg	24	ISO 17025	-				
Trichlorofluoromethane	µg/kg	5	ISO 17025	-				
1,1-dichloroethene	µg/kg	7	MCERTS	-				
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	-				
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	-				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-				
1,1-dichloroethane	µg/kg	6	MCERTS	-				
2,2-Dichloropropane	µg/kg	6	NONE	-				
Trichloromethane	µg/kg	7	MCERTS	-				
1,1,1-Trichloroethane	µg/kg	7	MCERTS	-				
1,2-dichloroethane	µg/kg	4	MCERTS	-				
1,1-Dichloropropene	µg/kg	7	NONE	-				
Trans-1,2-dichloroethene	µg/kg	7	NONE	-				
Benzene	µg/kg	1	MCERTS	-				
Tetrachloromethane	µg/kg	7	MCERTS	-				
1,2-dichloropropane	µg/kg	6	MCERTS	-				
Trichloroethene	µg/kg	6	MCERTS	-				
Dibromomethane	µg/kg	7	MCERTS	-				
Bromodichloromethane	µg/kg	7	NONE	-				
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	-				
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	-				
Toluene	µg/kg	1	MCERTS	-				
1,1,2-Trichloroethane	µg/kg	5	MCERTS	-				
1,3-Dichloropropane	µg/kg	8	ISO 17025	-				
Dibromochloromethane	µg/kg	2	ISO 17025	-				
Tetrachloroethene	µg/kg	8	MCERTS	-				
1,2-Dibromoethane	µg/kg	3	ISO 17025	-				
Chlorobenzene	µg/kg	7	MCERTS	-				
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	-				
Ethylbenzene	µg/kg	1	MCERTS	-				
p & m-xylene	µg/kg	1	MCERTS	-				
Styrene	µg/kg	5	MCERTS	-				
Tribromomethane	µg/kg	7	MCERTS	-				
o-xylene	µg/kg	1	MCERTS	-				
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	-				
Isopropylbenzene	µg/kg	7	NONE	-				
Bromobenzene	µg/kg	11	MCERTS	-				
N-Propylbenzene	µg/kg	5	ISO 17025	-				
2-Chlorotoluene	µg/kg	11	NONE	-				
4-Chlorotoluene	µg/kg	11	NONE	-				
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	-				
Tert-Butylbenzene	µg/kg	4	NONE	-				
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-				
Sec-Butylbenzene	µg/kg	5	NONE	-				
1,3-dichlorobenzene	µg/kg	7	ISO 17025	-				
P-Isopropyltoluene	µg/kg	16	ISO 17025	-				
1,2-dichlorobenzene	µg/kg	5	MCERTS	-				
1,4-dichlorobenzene	µg/kg	8	MCERTS	-				
Butylbenzene	µg/kg	4	NONE	-				
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	-				
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	-				
Hexachlorobutadiene	µg/kg	7	NONE	-				
1,2,3-Trichlorobenzene	µg/kg	10	NONE	-				

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Analytical Report Number: 14-51531

Project / Site name: Deaudlus, Lee-on-the-Solent- Waterfront and Hangers West

Your Order No: GL18065

Lab Sample Number				320240	320241			
Sample Reference				LEPWS03	LEPWS05			
Sample Number				ES1	ES2			
Depth (m)				0.15	0.35			
Date Sampled				08/02/2014	08/02/2014			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	8.0	7.7			
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10			
Free Cyanide (Low Level)	µg/l	10	NONE	< 10	< 10			
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200	< 200			
Sulphate as SO_4	µg/l	100	ISO 17025	12600	9820			
Elemental Sulphur	mg/l	20	NONE	< 20	< 20			
Sulphide	µg/l	5	NONE	< 5.0	< 5.0			
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10			
Speciated PAHs								
Naphthalene	µg/l	0.01	NONE	< 0.01	0.65			
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01			
Acenaphthene	µg/l	0.01	NONE	< 0.01	2.5			
Fluorene	µg/l	0.01	NONE	< 0.01	0.72			
Phenanthrene	µg/l	0.01	NONE	0.33	0.84			
Anthracene	µg/l	0.01	NONE	< 0.01	0.14			
Fluoranthene	µg/l	0.01	NONE	1.0	0.24			
Pyrene	µg/l	0.01	NONE	0.86	0.19			
Benzo(a)anthracene	µg/l	0.01	NONE	0.65	< 0.01			
Chrysene	µg/l	0.01	NONE	0.65	< 0.01			
Benzo(b)fluoranthene	µg/l	0.01	NONE	0.85	< 0.01			
Benzo(k)fluoranthene	µg/l	0.01	NONE	0.38	< 0.01			
Benzo(a)pyrene	µg/l	0.01	NONE	0.62	< 0.01			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	0.24	< 0.01			
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(ghi)perylene	µg/l	0.01	NONE	0.33	< 0.01			
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	6.0	5.4			
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1.1	ISO 17025	5.4	7.2			
Boron (dissolved)	µg/l	10	ISO 17025	22	10			
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08			
Chromium (hexavalent)	µg/l	5	NONE	< 5.0	< 5.0			
Chromium (dissolved)	µg/l	0.4	ISO 17025	8.3	4.0			
Copper (dissolved)	µg/l	0.7	ISO 17025	4.8	6.1			
Lead (dissolved)	µg/l	1	ISO 17025	6.9	18			
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5			
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.0	2.1			
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0			
Zinc (dissolved)	µg/l	0.4	ISO 17025	7.2	15			
TPH1 (C10 - C40)	µg/l	10	NONE	< 10	< 10			

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Analytical Report Number : 14-51531

Project / Site name: Deaudlus, Lee-on-the-Solent- Waterfront and Hangers West

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

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
320234	LEPWS02	ES1	0.15	Brown sandy clay with gravel and vegetation.
320235	LEPWS02	ES3	0.50	Light brown sandy clay.
320236	LEPWS03	ES1	0.15	Brown sandy clay.
320237	LEPWS03	ES3	0.50	Light brown sandy clay.
320238	LEPWS04	ES2	0.40	Brown sandy clay with brick.
320239	LEPWS05	ES2	0.35	Light brown sandy clay with brick.

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Analytical Report Number : 14-51531

Project / Site name: Deaudlus, Lee-on-the-Solent- Waterfront and Hangers West

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Elemental sulphur in leachate	Determination of elemental sulphur in leachate by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-UK	W	NONE
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	NONE
Free cyanide in leachate	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
pH in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-UK		NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE

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Analytical Report Number : 14-51531

Project / Site name: Deaudlus, Lee-on-the-Solent- Waterfront and Hangers West

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
Thiocyanate in leachate	Determination of thiocyanate in water by discreet analyser (colorimetry).	In house method based on SMWW 4500-CN-M.	L082-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS

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

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Analytical Report Number : 14-51683

Project / Site name:	Daedalus Road, Lee-on-the-Solent, Waterfront and Hangars West	**Samples received on:**	18/02/2014
Your job number:	GL18065	**Samples instructed on:**	06/03/2014
Your order number:		**Analysis completed by:**	13/03/2014
Report Issue Number:	1	**Report issued on:**	13/03/2014
Samples Analysed:	1 leachate sample - 7 soil samples		

Signed:

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

Signed:

Thurstan Plummer
Organics Technical 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
asbestos	- 6 months from reporting

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Analytical Report Number: 14-51683

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hanqars West

Lab Sample Number				321182	321183	321184	321185	321186
Sample Reference				WFBH01 ES2	WFBH02 ES3	WFBH06 ES3	MCBH03/WFBH03 ES3	WFBH02 ES2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	317502
Depth (m)				0.50	0.70	1.00	0.70	None Supplied
Date Sampled				11/02/2014	11/02/2014	11/02/2014	11/02/2014	11/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	16	11	16	14	16
Total mass of sample received	kg	0.001	NONE	0.84	0.51	0.45	0.85	0.48
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	-
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	-
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	-
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	-
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	-
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	-
Pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	-
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	-
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	-
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	-
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	-
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	-
Monoaromatics								
Benzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
o-xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	-	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	9.9
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	110
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	160
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	280

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Analytical Report Number: 14-51683

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and

Lab Sample Number				321187	321188			
Sample Reference				WFBH03 ES1	WFBH06 ES1			
Sample Number				317503	317506			
Depth (m)				None Supplied	None Supplied			
Date Sampled				11/02/2014	11/02/2014			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	16	16			
Total mass of sample received	kg	0.001	NONE	0.44	0.46			
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	-			
Acenaphthylene	mg/kg	0.2	MCERTS	-	-			
Acenaphthene	mg/kg	0.1	MCERTS	-	-			
Fluorene	mg/kg	0.2	MCERTS	-	-			
Phenanthrene	mg/kg	0.2	MCERTS	-	-			
Anthracene	mg/kg	0.1	MCERTS	-	-			
Fluoranthene	mg/kg	0.2	MCERTS	-	-			
Pyrene	mg/kg	0.2	MCERTS	-	-			
Benzo(a)anthracene	mg/kg	0.2	MCERTS	-	-			
Chrysene	mg/kg	0.05	MCERTS	-	-			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	-	-			
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	-	-			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	-	-			
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	-	-			
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	-	-			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-			
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	-	-			
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0			
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	14	3.5			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	200	13			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	1300	48			
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	1500	64			
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	60	28			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	440	170			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	780	200			
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	1300	390			

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Analytical Report Number: 14-51683

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hanqars West

Lab Sample Number				321189				
Sample Reference				MCBH03/WFBH03 ES2				
Sample Number				None Supplied				
Depth (m)				0.50				
Date Sampled				11/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	8.9				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Free Cyanide (Low Level)	µg/l	10	NONE	< 10				
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200				
Sulphate as SO_4	µg/l	100	ISO 17025	565				
Elemental Sulphur	mg/l	20	NONE	< 20				
Sulphide	µg/l	5	NONE	< 5.0				
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10				
Speciated PAHs								
Naphthalene	µg/l	0.01	NONE	< 0.01				
Acenaphthylene	µg/l	0.01	NONE	< 0.01				
Acenaphthene	µg/l	0.01	NONE	< 0.01				
Fluorene	µg/l	0.01	NONE	< 0.01				
Phenanthrene	µg/l	0.01	NONE	< 0.01				
Anthracene	µg/l	0.01	NONE	< 0.01				
Fluoranthene	µg/l	0.01	NONE	< 0.01				
Pyrene	µg/l	0.01	NONE	< 0.01				
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01				
Chrysene	µg/l	0.01	NONE	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1.1	ISO 17025	1.3				
Boron (dissolved)	µg/l	10	ISO 17025	13				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (hexavalent)	µg/l	5	NONE	< 5.0				
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.0				
Copper (dissolved)	µg/l	0.7	ISO 17025	7.5				
Lead (dissolved)	µg/l	1	ISO 17025	9.0				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.2				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Zinc (dissolved)	µg/l	0.4	ISO 17025	25				
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	µg/l	10	NONE	< 10				

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Analytical Report Number : 14-51683

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hanqars West

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

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
321182	WFBH01 ES2	None Supplied	0.50	Brown topsoil and clay with vegetation.
321183	WFBH02 ES3	None Supplied	0.70	Brown gravelly clay.
321184	WFBH06 ES3	None Supplied	1.00	Light brown clay and sand.
321185	BH03/WFBH03 E	None Supplied	0.70	Light brown clay and sand.
321186	WFBH02 ES2	317502	None Supplied	Brown clay.
321187	WFBH03 ES1	317503	None Supplied	Brown clay and sand with vegetation.
321188	WFBH06 ES1	317506	None Supplied	Brown topsoil and clay with gravel and vegetation.

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Analytical Report Number : 14-51683

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hanqars West

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
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Elemental sulphur in leachate	Determination of elemental sulphur in leachate by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-UK	W	NONE
Free cyanide in leachate	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
pH in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-UK		NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Thiocyanate in leachate	Determination of thiocyanate in water by discreet analyser (colorimetry).	In house method based on SMWW 4500-CN-M.	L082-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE

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Analytical Report Number : 14-51683

Project / Site name: Daedalus Road, Lee-on-the-Solent, Waterfront and Hanqars West

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
TPHCWG (Soil)	Determination of pentane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS

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

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Analytical Report Number : 14-51885

Project / Site name:	Daedalus, Lee-on-the-Solent	**Samples received on:**	26/02/2014
Your job number:	GL10865	**Samples instructed on:**	10/03/2014
Your order number:		**Analysis completed by:**	19/03/2014
Report Issue Number:	1	**Report issued on:**	19/03/2014
Samples Analysed:	1 leachate sample - 13 soil samples		

Signed:

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

Signed:

Rexona Rahman
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
asbestos - 6 months from reporting

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Analytical Report Number: 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

Lab Sample Number				322425	322426	322427	322428	322429
Sample Reference				LEPTP05	LEPTP05	LEPTP06	LEPTP06	WFTP03
Sample Number				ES1	ES2	ES2	ES3	ES1
Depth (m)				0.10	0.50	0.30	1.00	0.15-1.00
Date Sampled				21/02/2014	21/02/2014	21/02/2014	21/02/2014	21/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	28	19	18	19	16
Total mass of sample received	kg	0.001	NONE	0.49	1.1	0.45	0.47	0.43
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	-	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	7.4	7.6	7.7	7.8	8.0
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	-	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	2.3	< 0.20	0.83	0.79	1.8
Anthracene	mg/kg	0.1	MCERTS	0.45	< 0.10	0.15	0.16	0.38
Fluoranthene	mg/kg	0.2	MCERTS	8.9	0.63	3.0	2.0	4.4
Pyrene	mg/kg	0.2	MCERTS	7.7	0.60	2.6	1.6	3.7
Benzo(a)anthracene	mg/kg	0.2	MCERTS	4.2	0.21	1.3	0.64	1.9
Chrysene	mg/kg	0.05	MCERTS	5.2	0.38	1.6	1.0	2.4
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	7.0	0.35	1.9	1.0	2.9
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	2.8	0.24	0.85	0.43	1.4
Benzo(a)pyrene	mg/kg	0.1	MCERTS	5.1	0.26	1.4	0.84	2.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	2.5	< 0.20	0.58	0.32	1.0
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	0.65	< 0.20	< 0.20	< 0.20	0.30
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.0	0.20	0.79	0.42	1.4
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	50	3.0	15	9.2	24
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	6.9	8.4	7.8	12
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.2	< 0.2	< 0.2	< 0.2	6.4
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	24	24	22	27
Copper (aqua regia extractable)	mg/kg	1	MCERTS	30	9.0	27	13	100
Lead (aqua regia extractable)	mg/kg	2	MCERTS	92	28	130	100	490
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	14	16	15	11	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	91	51	61	57	820

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Analytical Report Number: 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

Lab Sample Number				322425	322426	322427	322428	322429
Sample Reference				LEPTP05	LEPTP05	LEPTP06	LEPTP06	WFTP03
Sample Number				ES1	ES2	ES2	ES3	ES1
Depth (m)				0.10	0.50	0.30	1.00	0.15-1.00
Date Sampled				21/02/2014	21/02/2014	21/02/2014	21/02/2014	21/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	410	< 10	59	16	360
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH C6 - C40	mg/kg	10	NONE	410	< 10	59	16	360
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	-	-	-	-	-

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Analytical Report Number: 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

Lab Sample Number				322425	322426	322427	322428	322429
Sample Reference				LEPTP05	LEPTP05	LEPTP06	LEPTP06	WFTP03
Sample Number				ES1	ES2	ES2	ES3	ES1
Depth (m)				0.10	0.50	0.30	1.00	0.15-1.00
Date Sampled				21/02/2014	21/02/2014	21/02/2014	21/02/2014	21/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	2	ISO 17025	-	-	-	-	-
Bromomethane	µg/kg	6	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	24	ISO 17025	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1-dichloroethene	µg/kg	7	MCERTS	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-dichloroethane	µg/kg	6	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	6	NONE	-	-	-	-	-
Trichloromethane	µg/kg	7	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	7	MCERTS	-	-	-	-	-
1,2-dichloroethane	µg/kg	4	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	7	NONE	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	7	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	7	MCERTS	-	-	-	-	-
1,2-dichloropropane	µg/kg	6	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	6	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	7	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	7	NONE	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	8	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	2	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	8	MCERTS	-	-	-	-	-
1,2-Dibromoethane	µg/kg	3	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	7	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	5	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	7	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	7	NONE	-	-	-	-	-
Bromobenzene	µg/kg	11	MCERTS	-	-	-	-	-
N-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	11	NONE	-	-	-	-	-
4-Chlorotoluene	µg/kg	11	NONE	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	-	-	-	-	-
Tert-Butylbenzene	µg/kg	4	NONE	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Sec-Butylbenzene	µg/kg	5	NONE	-	-	-	-	-
1,3-dichlorobenzene	µg/kg	7	ISO 17025	-	-	-	-	-
P-Isopropyltoluene	µg/kg	16	ISO 17025	-	-	-	-	-
1,2-dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,4-dichlorobenzene	µg/kg	8	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	4	NONE	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	7	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	-	-	-	-	-

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Analytical Report Number: 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

Lab Sample Number				322430	322431	322432	322433	322434
Sample Reference				WFTP03	WFTP04	WFTP04	WFTP04	WFTP05
Sample Number				ES2	ES1	ES2	ES3	ES1
Depth (m)				0.50-1.20	0.15	0.50	0.80	0.10
Date Sampled				21/02/2014	21/02/2014	21/02/2014	21/02/2014	21/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	16	17	20	21	13
Total mass of sample received	kg	0.001	NONE	0.49	0.48	0.46	0.49	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile - Loose fibres	-	-	Chrysotile - Loose fibres
Asbestos in Soil	Type	N/A	ISO 17025	-	Detected	-	-	Detected
General Inorganics								
pH	pH Units	N/A	MCERTS	7.9	7.5	7.6	7.7	8.8
Total Cyanide	mg/kg	1	MCERTS	< 1	1	< 1	< 1	1
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	-	< 2.0	< 2.0	< 2.0	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	5.1
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	2.0
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	1.7
Phenanthrene	mg/kg	0.2	MCERTS	3.4	0.61	< 0.20	0.44	19
Anthracene	mg/kg	0.1	MCERTS	0.68	0.17	< 0.10	0.12	1.0
Fluoranthene	mg/kg	0.2	MCERTS	9.1	1.5	0.48	0.45	18
Pyrene	mg/kg	0.2	MCERTS	7.6	1.4	0.59	0.39	14
Benzo(a)anthracene	mg/kg	0.2	MCERTS	3.9	0.89	< 0.20	< 0.20	5.4
Chrysene	mg/kg	0.05	MCERTS	5.0	0.96	< 0.05	0.22	7.2
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	5.4	1.5	< 0.10	< 0.10	9.7
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	2.9	0.53	< 0.20	< 0.20	3.1
Benzo(a)pyrene	mg/kg	0.1	MCERTS	4.4	1.1	< 0.10	0.14	6.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	2.1	0.53	< 0.20	< 0.20	3.2
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	0.54	0.21	< 0.20	< 0.20	1.2
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.5	0.64	< 0.05	< 0.05	3.7
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	47	10	< 1.6	1.8	100
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	6.9	19	9.0	7.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3.5	0.5	0.3	< 0.2	1.1
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	29	27	19	21	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	130	46	88	41	77
Lead (aqua regia extractable)	mg/kg	2	MCERTS	580	270	270	150	310
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	22	11	32	15	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	580	360	240	77	520

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Analytical Report Number: 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

Lab Sample Number				322430	322431	322432	322433	322434
Sample Reference				WFTP03	WFTP04	WFTP04	WFTP04	WFTP05
Sample Number				ES2	ES1	ES2	ES3	ES1
Depth (m)				0.50-1.20	0.15	0.50	0.80	0.10
Date Sampled				21/02/2014	21/02/2014	21/02/2014	21/02/2014	21/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Toluene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
o-xylene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	310	160	2100	< 10	870
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH C6 - C40	mg/kg	10	NONE	310	160	2100	< 10	870
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	6.3	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	17	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	130	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	1000	-	-
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	130	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	1200	-	-
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	-	-	1300	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	< 1.0	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	2.6	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	78	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	630	-	-
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	240	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	710	-	-
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	-	-	950	-	-

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Analytical Report Number: 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

Lab Sample Number				322430	322431	322432	322433	322434
Sample Reference				WFTP03	WFTP04	WFTP04	WFTP04	WFTP05
Sample Number				ES2	ES1	ES2	ES3	ES1
Depth (m)				0.50-1.20	0.15	0.50	0.80	0.10
Date Sampled				21/02/2014	21/02/2014	21/02/2014	21/02/2014	21/02/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	-	< 4.0	< 4.0	< 4.0	-
Chloroethane	µg/kg	2	ISO 17025	-	< 2.0	< 2.0	< 2.0	-
Bromomethane	µg/kg	6	ISO 17025	-	< 6.0	< 6.0	< 6.0	-
Vinyl Chloride	µg/kg	24	ISO 17025	-	< 24	< 24	< 24	-
Trichlorofluoromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	< 5.0	-
1,1-dichloroethene	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	-	< 7.0	< 7.0	< 7.0	-
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	-
1,1-dichloroethane	µg/kg	6	MCERTS	-	< 6.0	< 6.0	< 6.0	-
2,2-Dichloropropane	µg/kg	6	NONE	-	< 6.0	< 6.0	< 6.0	-
Trichloromethane	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
1,1,1-Trichloroethane	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
1,2-dichloroethane	µg/kg	4	MCERTS	-	< 4.0	< 4.0	< 4.0	-
1,1-Dichloropropene	µg/kg	7	NONE	-	< 7.0	< 7.0	< 7.0	-
Trans-1,2-dichloroethene	µg/kg	7	NONE	-	< 7.0	< 7.0	< 7.0	-
Benzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	-
Tetrachloromethane	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
1,2-dichloropropane	µg/kg	6	MCERTS	-	< 6.0	< 6.0	< 6.0	-
Trichloroethene	µg/kg	6	MCERTS	-	< 6.0	< 6.0	< 6.0	-
Dibromomethane	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
Bromodichloromethane	µg/kg	7	NONE	-	< 7.0	< 7.0	< 7.0	-
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	-	< 7.0	< 7.0	< 7.0	-
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	-	< 8.0	< 8.0	< 8.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	-
1,1,2-Trichloroethane	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0	-
1,3-Dichloropropane	µg/kg	8	ISO 17025	-	< 8.0	< 8.0	< 8.0	-
Dibromochloromethane	µg/kg	2	ISO 17025	-	< 2.0	< 2.0	< 2.0	-
Tetrachloroethene	µg/kg	8	MCERTS	-	< 8.0	< 8.0	< 8.0	-
1,2-Dibromoethane	µg/kg	3	ISO 17025	-	< 3.0	< 3.0	< 3.0	-
Chlorobenzene	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	-	< 4.0	< 4.0	< 4.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	-
Styrene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0	-
Tribromomethane	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
o-xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0	-
Isopropylbenzene	µg/kg	7	NONE	-	< 7.0	< 7.0	< 7.0	-
Bromobenzene	µg/kg	11	MCERTS	-	< 11	< 11	< 11	-
N-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	< 5.0	-
2-Chlorotoluene	µg/kg	11	NONE	-	< 11	< 11	< 11	-
4-Chlorotoluene	µg/kg	11	NONE	-	< 11	< 11	< 11	-
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	-	< 4.0	< 4.0	< 4.0	-
Tert-Butylbenzene	µg/kg	4	NONE	-	< 4.0	< 4.0	< 4.0	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	< 5.0	-
Sec-Butylbenzene	µg/kg	5	NONE	-	< 5.0	< 5.0	< 5.0	-
1,3-dichlorobenzene	µg/kg	7	ISO 17025	-	< 7.0	< 7.0	< 7.0	-
P-Isopropyltoluene	µg/kg	16	ISO 17025	-	< 16	< 16	< 16	-
1,2-dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0	-
1,4-dichlorobenzene	µg/kg	8	MCERTS	-	< 8.0	< 8.0	< 8.0	-
Butylbenzene	µg/kg	4	NONE	-	< 4.0	< 4.0	< 4.0	-
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	-	< 7.0	< 7.0	< 7.0	-
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	-	< 9.0	< 9.0	< 9.0	-
Hexachlorobutadiene	µg/kg	7	NONE	-	< 7.0	< 7.0	< 7.0	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	-	< 10	< 10	< 10	-

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Analytical Report Number: 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

Lab Sample Number				322435	322436	322437		
Sample Reference				WFTP05	WFTP10	WFTP10		
Sample Number				ES2	ES1	ES2		
Depth (m)				0.60	0.15	0.30		
Date Sampled				21/02/2014	21/02/2014	21/02/2014		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	17	12	11		
Total mass of sample received	kg	0.001	NONE	0.53	0.48	0.49		
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-		
Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	-		
General Inorganics								
pH	pH Units	N/A	MCERTS	8.5	8.1	8.0		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	-	-	-		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	0.42	0.53		
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	1.2	1.6		
Pyrene	mg/kg	0.2	MCERTS	< 0.20	0.99	1.4		
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	0.48	0.65		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.62	0.72		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.83	1.0		
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	0.35	0.38		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	0.57	0.76		
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	0.34	0.40		
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.38	0.45		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	6.2	8.0		
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.2	59	13		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	3.4	2.4		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	37	19		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	57	3200	530		
Lead (aqua regia extractable)	mg/kg	2	MCERTS	97	8200	3200		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	15	62	29		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	120	6700	2900		

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Analytical Report Number: 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

Lab Sample Number				322435	322436	322437		
Sample Reference				WFTP05	WFTP10	WFTP10		
Sample Number				ES2	ES1	ES2		
Depth (m)				0.60	0.15	0.30		
Date Sampled				21/02/2014	21/02/2014	21/02/2014		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	-	-	-		
Toluene	µg/kg	1	MCERTS	-	-	-		
Ethylbenzene	µg/kg	1	MCERTS	-	-	-		
p & m-xylene	µg/kg	1	MCERTS	-	-	-		
o-xylene	µg/kg	1	MCERTS	-	-	-		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-		
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1		
TPH C6 - C40	mg/kg	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	-		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	-		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-		
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-		
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	-	-	-		
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	-		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	-		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-		
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-		
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	-	-	-		

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

Analytical Report Number: 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

Lab Sample Number				322435	322436	322437		
Sample Reference				WFTP05	WFTP10	WFTP10		
Sample Number				ES2	ES1	ES2		
Depth (m)				0.60	0.15	0.30		
Date Sampled				21/02/2014	21/02/2014	21/02/2014		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	-	-	-		
Chloroethane	µg/kg	2	ISO 17025	-	-	-		
Bromomethane	µg/kg	6	ISO 17025	-	-	-		
Vinyl Chloride	µg/kg	24	ISO 17025	-	-	-		
Trichlorofluoromethane	µg/kg	5	ISO 17025	-	-	-		
1,1-dichloroethene	µg/kg	7	MCERTS	-	-	-		
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	-	-	-		
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	-	-	-		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-		
1,1-dichloroethane	µg/kg	6	MCERTS	-	-	-		
2,2-Dichloropropane	µg/kg	6	NONE	-	-	-		
Trichloromethane	µg/kg	7	MCERTS	-	-	-		
1,1,1-Trichloroethane	µg/kg	7	MCERTS	-	-	-		
1,2-dichloroethane	µg/kg	4	MCERTS	-	-	-		
1,1-Dichloropropene	µg/kg	7	NONE	-	-	-		
Trans-1,2-dichloroethene	µg/kg	7	NONE	-	-	-		
Benzene	µg/kg	1	MCERTS	-	-	-		
Tetrachloromethane	µg/kg	7	MCERTS	-	-	-		
1,2-dichloropropane	µg/kg	6	MCERTS	-	-	-		
Trichloroethene	µg/kg	6	MCERTS	-	-	-		
Dibromomethane	µg/kg	7	MCERTS	-	-	-		
Bromodichloromethane	µg/kg	7	NONE	-	-	-		
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	-	-	-		
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	-	-	-		
Toluene	µg/kg	1	MCERTS	-	-	-		
1,1,2-Trichloroethane	µg/kg	5	MCERTS	-	-	-		
1,3-Dichloropropane	µg/kg	8	ISO 17025	-	-	-		
Dibromochloromethane	µg/kg	2	ISO 17025	-	-	-		
Tetrachloroethene	µg/kg	8	MCERTS	-	-	-		
1,2-Dibromoethane	µg/kg	3	ISO 17025	-	-	-		
Chlorobenzene	µg/kg	7	MCERTS	-	-	-		
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	-	-	-		
Ethylbenzene	µg/kg	1	MCERTS	-	-	-		
p & m-xylene	µg/kg	1	MCERTS	-	-	-		
Styrene	µg/kg	5	MCERTS	-	-	-		
Tribromomethane	µg/kg	7	MCERTS	-	-	-		
o-xylene	µg/kg	1	MCERTS	-	-	-		
1,1,2,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-		
Isopropylbenzene	µg/kg	7	NONE	-	-	-		
Bromobenzene	µg/kg	11	MCERTS	-	-	-		
N-Propylbenzene	µg/kg	5	ISO 17025	-	-	-		
2-Chlorotoluene	µg/kg	11	NONE	-	-	-		
4-Chlorotoluene	µg/kg	11	NONE	-	-	-		
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	-	-	-		
Tert-Butylbenzene	µg/kg	4	NONE	-	-	-		
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-		
Sec-Butylbenzene	µg/kg	5	NONE	-	-	-		
1,3-dichlorobenzene	µg/kg	7	ISO 17025	-	-	-		
P-Isopropyltoluene	µg/kg	16	ISO 17025	-	-	-		
1,2-dichlorobenzene	µg/kg	5	MCERTS	-	-	-		
1,4-dichlorobenzene	µg/kg	8	MCERTS	-	-	-		
Butylbenzene	µg/kg	4	NONE	-	-	-		
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	-	-	-		
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	-	-	-		
Hexachlorobutadiene	µg/kg	7	NONE	-	-	-		
1,2,3-Trichlorobenzene	µg/kg	10	NONE	-	-	-		

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Analytical Report Number: 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

Lab Sample Number				322438				
Sample Reference				WFTP04				
Sample Number				ES2				
Depth (m)				0.50				
Date Sampled				21/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	8.2				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Free Cyanide (Low Level)	µg/l	10	NONE	< 10				
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200				
Sulphate as SO_4	µg/l	100	ISO 17025	265				
Elemental Sulphur	mg/l	20	NONE	< 20				
Sulphide	µg/l	5	NONE	< 5.0				
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10				
Speciated PAHs								
Naphthalene	µg/l	0.01	NONE	< 0.01				
Acenaphthylene	µg/l	0.01	NONE	< 0.01				
Acenaphthene	µg/l	0.01	NONE	< 0.01				
Fluorene	µg/l	0.01	NONE	< 0.01				
Phenanthrene	µg/l	0.01	NONE	< 0.01				
Anthracene	µg/l	0.01	NONE	< 0.01				
Fluoranthene	µg/l	0.01	NONE	< 0.01				
Pyrene	µg/l	0.01	NONE	< 0.01				
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01				
Chrysene	µg/l	0.01	NONE	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1.1	ISO 17025	< 1.1				
Boron (dissolved)	µg/l	10	ISO 17025	13				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (hexavalent)	µg/l	5	NONE	< 5.0				
Chromium (dissolved)	µg/l	0.4	ISO 17025	6.5				
Copper (dissolved)	µg/l	0.7	ISO 17025	3.0				
Lead (dissolved)	µg/l	1	ISO 17025	7.1				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	3.2				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Zinc (dissolved)	µg/l	0.4	ISO 17025	9.1				

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Analytical Report Number: 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

Lab Sample Number				322438				
Sample Reference				WFTP04				
Sample Number				ES2				
Depth (m)				0.50				
Date Sampled				21/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/l	1	NONE	< 1.0				
Toluene	µg/l	1	NONE	< 1.0				
Ethylbenzene	µg/l	1	NONE	< 1.0				
p & m-xylene	µg/l	1	NONE	< 1.0				
o-xylene	µg/l	1	NONE	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10				
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				

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Analytical Report Number : 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

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

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
322425	LEPTP05	ES1	0.10	Brown clay and topsoil with vegetation.
322426	LEPTP05	ES2	0.50	Light brown clay.
322427	LEPTP06	ES2	0.30	Brown clay and topsoil with gravel and vegetation.
322428	LEPTP06	ES3	1.00	Brown clay and sand with gravel.
322429	WFTP03	ES1	0.15-1.00	Brown topsoil and clay with gravel and vegetation.
322430	WFTP03	ES2	0.50-1.20	Topsoil and clay with gravel and vegetation.
322431	WFTP04	ES1	0.15	Brown gravelly topsoil with vegetation and brick.
322432	WFTP04	ES2	0.50	Brown clay and topsoil with gravel and glass.
322433	WFTP04	ES3	0.80	Brown clay and topsoil.
322434	WFTP05	ES1	0.10	Brown clay and topsoil with gravel and brick.
322435	WFTP05	ES2	0.60	Brown clay and topsoil with gravel.
322436	WFTP10	ES1	0.15	Brown topsoil and clay with gravel and vegetation.
322437	WFTP10	ES2	0.30	Brown topsoil and clay with gravel and vegetation.

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Analytical Report Number : 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L017-UK		NONE
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Elemental sulphur in leachate	Determination of elemental sulphur in leachate by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-UK	W	NONE
Free cyanide in leachate	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-UK		NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE

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Analytical Report Number : 14-51885

Project / Site name: Daedalus, Lee-on-the-Solent

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
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Thiocyanate in leachate	Determination of thiocyanate in water by discreet analyser (colorimetry).	In house method based on SMWW 4500-CN-M.	L082-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE
TPHCWG (Soil)	Determination of pentane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS

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

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Analytical Report Number : 14-51896

Project / Site name:	Daedalus, Lee-on-the-Solent- Waterfront Hangers and West	**Samples received on:**	26/02/2014
Your job number:	GL18065	**Samples instructed on:**	10/03/2014
Your order number:		**Analysis completed by:**	19/03/2014
Report Issue Number:	1	**Report issued on:**	19/03/2014
Samples Analysed:	1 soil sample		

Signed:

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

Signed:

Rexona Rahman
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
asbestos - 6 months from reporting

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Analytical Report Number: 14-51896

Project / Site name: Daedalus, Lee-on-the-Solent- Waterfront Hangers and West

Lab Sample Number				322521				
Sample Reference				WFBH11				
Sample Number				ES1				
Depth (m)				1.00				
Date Sampled				20/02/2014				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	16				
Total mass of sample received	kg	0.001	NONE	0.51				
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected				
General Inorganics								
pH	pH Units	N/A	MCERTS	8.4				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.2	MCERTS	< 0.20				
Phenanthrene	mg/kg	0.2	MCERTS	0.42				
Anthracene	mg/kg	0.1	MCERTS	0.11				
Fluoranthene	mg/kg	0.2	MCERTS	1.0				
Pyrene	mg/kg	0.2	MCERTS	0.85				
Benzo(a)anthracene	mg/kg	0.2	MCERTS	0.41				
Chrysene	mg/kg	0.05	MCERTS	0.48				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.50				
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	0.26				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.40				
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20				
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.23				
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	4.8				
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.9				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12				
Lead (aqua regia extractable)	mg/kg	2	MCERTS	20				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	14				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	64				
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10				
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1				
TPH C6 - C40	mg/kg	10	NONE	< 10				

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

Analytical Report Number : 14-51896

Project / Site name: Daedalus, Lee-on-the-Solent- Waterfront Hangers and West

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

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
322521	WFBH11	ES1	1.00	Brown clay and topsoil with vegetation.

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Analytical Report Number : 14-51896

Project / Site name: Daedalus, Lee-on-the-Solent- Waterfront Hangers and West

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE

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

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Analytical Report Number : 14-51897

Project / Site name:	Daedalus, Lee-on-the-Solent - Waterfront and Hangers West	**Samples received on:**	03/03/2014
Your job number:	GL18065	**Samples instructed on:**	10/03/2014
Your order number:		**Analysis completed by:**	19/03/2014
Report Issue Number:	1	**Report issued on:**	19/03/2014
Samples Analysed:	2 soil samples		

Signed:

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

Signed:

Rexona Rahman
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
asbestos	- 6 months from reporting

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Analytical Report Number: 14-51897

Project / Site name: Daedalus, Lee-on-the-Solent - Waterfront and Hangers West

Lab Sample Number				322522	322523			
Sample Reference				LEPBH01	WFBH12			
Sample Number				ES2	ES1			
Depth (m)				0.50	0.70			
Date Sampled				26/02/2014	26/02/2014			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	16	20			
Total mass of sample received	kg	0.001	NONE	0.47	0.47			
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected			
General Inorganics								
pH	pH Units	N/A	MCERTS	8.3	9.1			
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1			
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6			

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Analytical Report Number: 14-51897

Project / Site name: Daedalus, Lee-on-the-Solent - Waterfront and Hangers West

Lab Sample Number				322522	322523			
Sample Reference				LEPBH01	WFBH12			
Sample Number				ES2	ES1			
Depth (m)				0.50	0.70			
Date Sampled				26/02/2014	26/02/2014			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.1	13			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	33			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	18	16			
Lead (aqua regia extractable)	mg/kg	2	MCERTS	31	17			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	21	20			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0			
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	64	56			
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	< 10			
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1			
TPH C6 - C40	mg/kg	10	NONE	< 10	< 10			

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Analytical Report Number : 14-51897

Project / Site name: Daedalus, Lee-on-the-Solent - Waterfront and Hangers West

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

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
322522	LEPBH01	ES2	0.50	Brown clay and sand.
322523	WFBH12	ES1	0.70	Light brown clay and sand.

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Analytical Report Number : 14-51897

Project / Site name: Daedalus, Lee-on-the-Solent - Waterfront and Hangers West

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE

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

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Analytical Report Number : 14-51898

Project / Site name:	Daedalus , Lee-on-the-Solent-Waterfront and Hangars West	**Samples received on:**	20/02/2014
Your job number:	GL18065	**Samples instructed on:**	10/03/2014
Your order number:		**Analysis completed by:**	19/03/2014
Report Issue Number:	1	**Report issued on:**	19/03/2014
Samples Analysed:	3 soil samples		

Signed:

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

Signed:

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

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

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

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Analytical Report Number: 14-51898

Project / Site name: Daedalus , Lee-on-the-Solent- Waterfront and Hangars West

Lab Sample Number				322524	322525	322526		
Sample Reference				WFTP07	WFTP07	WFTP09		
Sample Number				ES1	ES2	ES1		
Depth (m)				0.15	0.35	0.15		
Date Sampled				17/02/2014	17/02/2014	17/02/2014		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	18	21	18		
Total mass of sample received	kg	0.001	NONE	0.50	0.36	0.43		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	-		
General Inorganics								
pH	pH Units	N/A	MCERTS	8.8	8.6	8.7		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Phenanthrene	mg/kg	0.2	MCERTS	2.3	< 0.20	3.1		
Anthracene	mg/kg	0.1	MCERTS	0.62	< 0.10	0.60		
Fluoranthene	mg/kg	0.2	MCERTS	9.4	< 0.20	9.4		
Pyrene	mg/kg	0.2	MCERTS	8.4	< 0.20	7.9		
Benzo(a)anthracene	mg/kg	0.2	MCERTS	5.4	< 0.20	4.7		
Chrysene	mg/kg	0.05	MCERTS	4.6	< 0.05	4.0		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	6.4	< 0.10	5.9		
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	4.1	< 0.20	3.0		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	5.8	< 0.10	4.8		
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	2.8	< 0.20	2.3		
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	0.89	< 0.20	0.61		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.4	< 0.05	2.6		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	54	< 1.6	49		
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	21	16		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.6	< 0.2	0.7		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	22	25		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	46	120	60		
Lead (aqua regia extractable)	mg/kg	2	MCERTS	170	25	270		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	20	62	22		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	160	38	210		
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	400	< 10	330		
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1		
TPH C6 - C40	mg/kg	10	NONE	400	< 10	330		

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Analytical Report Number : 14-51898

Project / Site name: Daedalus , Lee-on-the-Solent- Waterfront and Hangars West

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Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
322524	WFTP07	ES1	0.15	Brown clay and topsoil with gravel and vegetation.
322525	WFTP07	ES2	0.35	Brown topsoil and clay with gravel.
322526	WFTP09	ES1	0.15	Brown clay and topsoil with vegetation.

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Analytical Report Number : 14-51898

Project / Site name: Daedalus , Lee-on-the-Solent- Waterfront and Hangars West

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE

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For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
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Analytical Report Number : 14-51899

Project / Site name:	Daedalus, Lee-on-the-Solent - Waterfront and West Hangers	**Samples received on:**	26/02/1402
Your job number:	GL18065	**Samples instructed on:**	10/03/2014
Your order number:		**Analysis completed by:**	19/03/2014
Report Issue Number:	1	**Report issued on:**	19/03/2014
Samples Analysed:	2 soil samples		

Signed:

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

Signed:

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

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

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

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Analytical Report Number: 14-51899

Project / Site name: Daedalus, Lee-on-the-Solent - Waterfront and West Hangers

Lab Sample Number				322527	322528			
Sample Reference				LEPTP04	LEPTP04			
Sample Number				ES1	ES3			
Depth (m)				0.15	0.50			
Date Sampled				20/02/2014	20/02/2014			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	16	18			
Total mass of sample received	kg	0.001	NONE	0.50	0.51			
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-			
General Inorganics								
pH	pH Units	N/A	MCERTS	8.1	8.3			
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1			
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Phenanthrene	mg/kg	0.2	MCERTS	0.79	< 0.20			
Anthracene	mg/kg	0.1	MCERTS	0.17	< 0.10			
Fluoranthene	mg/kg	0.2	MCERTS	1.9	< 0.20			
Pyrene	mg/kg	0.2	MCERTS	1.6	< 0.20			
Benzo(a)anthracene	mg/kg	0.2	MCERTS	0.73	< 0.20			
Chrysene	mg/kg	0.05	MCERTS	1.1	< 0.05			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.69	< 0.10			
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	0.64	< 0.20			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.81	< 0.10			
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	0.34	< 0.20			
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.48	< 0.05			
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	9.4	< 1.6			

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Analytical Report Number: 14-51899

Project / Site name: Daedalus, Lee-on-the-Solent - Waterfront and West Hangers

Lab Sample Number				322527	322528			
Sample Reference				LEPTP04	LEPTP04			
Sample Number				ES1	ES3			
Depth (m)				0.15	0.50			
Date Sampled				20/02/2014	20/02/2014			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.5	7.2			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	< 0.2			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	26	30			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	28	14			
Lead (aqua regia extractable)	mg/kg	2	MCERTS	120	20			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	18	20			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0			
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	120	61			
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	14	< 10			
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1			
TPH C6 - C40	mg/kg	10	NONE	14	< 10			

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

Analytical Report Number : 14-51899

Project / Site name: Daedalus, Lee-on-the-Solent - Waterfront and West Hangers

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

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
322527	LEPTP04	ES1	0.15	Brown clay and topsoil with gravel and vegetation.
322528	LEPTP04	ES3	0.50	Light brown clay and sand.

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Analytical Report Number : 14-51899

Project / Site name: Daedalus, Lee-on-the-Solent - Waterfront and West Hangers

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE

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

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Analytical Report Number : 14-51900

Project / Site name:	Daedalus , Lee-on-the-Solent-Waterfront and Hangars West	**Samples received on:**	03/03/2014
Your job number:	GL18065	**Samples instructed on:**	10/03/2014
Your order number:		**Analysis completed by:**	19/03/2014
Report Issue Number:	1	**Report issued on:**	19/03/2014
Samples Analysed:	2 soil samples		

Signed:

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

Signed:

Rexona Rahman
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
asbestos - 6 months from reporting

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Analytical Report Number: 14-51900

Project / Site name: Daedalus , Lee-on-the-Solent- Waterfront and Hangars West

Lab Sample Number				322529	322530			
Sample Reference				WFBH14	WFBH14			
Sample Number				ES1	ES3			
Depth (m)				0.50	1.60			
Date Sampled				25/02/2014	25/02/2014			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	21	14			
Total mass of sample received	kg	0.001	NONE	0.54	0.55			
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-			
General Inorganics								
pH	pH Units	N/A	MCERTS	7.9	7.8			
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1			
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6			
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.4	4.7			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	17			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	10	10			
Lead (aqua regia extractable)	mg/kg	2	MCERTS	17	20			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	17	11			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0			
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	52	32			
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	< 10			
TPH2 (C6 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1			
TPH C6 - C40	mg/kg	10	NONE	< 10	< 10			

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Analytical Report Number : 14-51900

Project / Site name: Daedalus , Lee-on-the-Solent- Waterfront and Hangars West

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Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
322529	WFBH14	ES1	0.50	Light brown clay.
322530	WFBH14	ES3	1.60	Light brown sandy clay with gravel.

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Analytical Report Number : 14-51900

Project / Site name: Daedalus , Lee-on-the-Solent- Waterfront and Hangars West

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	NONE

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

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Analytical Report Number : 14-53208

Project / Site name:	Daedalus Round 1	**Samples received on:**	07/04/2014
Your job number:		**Samples instructed on:**	09/04/2014
Your order number:		**Analysis completed by:**	17/04/2014
Report Issue Number:	1	**Report issued on:**	17/04/2014
Samples Analysed:	19 water samples		

Signed:

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

Signed:

Rexona Rahman
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
asbestos - 6 months from reporting

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Analytical Report Number: 14-53208

Project / Site name: Daedalus Round 1

Lab Sample Number				330616	330617	330618	330619	330620
Sample Reference				WFBH01	WFBH02	WFBH03	WFBH04	WFBH05
Sample Number				EW1	EW1	EW1	EW1	EW1
Depth (m)				4.08	3.79	4.16	3.85	5.14
Date Sampled				03/04/2014	03/04/2014	03/04/2014	03/04/2014	03/04/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.2	7.2	7.2	7.3	7.3
Electrical Conductivity	µS/cm	10	NONE	520	500	450	580	590
Salinity	ppt	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200	< 200	< 200	< 200	< 200
Sulphate as SO_4	ug/l	45	ISO 17025	31300	26900	29100	20800	90400
Elemental Sulphur	mg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	5.2	5.7	4.2	5.7	3.8
Boron (dissolved)	µg/l	10	ISO 17025	65	43	70	74	120
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.9	< 0.4	1.4	< 0.4	1.0
Copper (dissolved)	µg/l	0.7	ISO 17025	3.4	2.1	2.2	1.9	1.0
Lead (dissolved)	µg/l	1	ISO 17025	1.9	1.5	2.6	2.6	4.1
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	3.5	2.0	2.0	2.1	5.4
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	6.1	2.3	5.0	8.2	3.8
Monoaromatics								

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Analytical Report Number: 14-53208

Project / Site name: Daedalus Round 1

Lab Sample Number				330616	330617	330618	330619	330620
Sample Reference				WFBH01	WFBH02	WFBH03	WFBH04	WFBH05
Sample Number				EW1	EW1	EW1	EW1	EW1
Depth (m)				4.08	3.79	4.16	3.85	5.14
Date Sampled				03/04/2014	03/04/2014	03/04/2014	03/04/2014	03/04/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH1 (C10 - C40)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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Analytical Report Number: 14-53208

Project / Site name: Daedalus Round 1

Lab Sample Number				330616	330617	330618	330619	330620
Sample Reference				WFBH01	WFBH02	WFBH03	WFBH04	WFBH05
Sample Number				EW1	EW1	EW1	EW1	EW1
Depth (m)				4.08	3.79	4.16	3.85	5.14
Date Sampled				03/04/2014	03/04/2014	03/04/2014	03/04/2014	03/04/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	13.0	5.4	163	50.7	44.4
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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

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Analytical Report Number: 14-53208

Project / Site name: Daedalus Round 1

Lab Sample Number				330621	330622	330623	330624	330625
Sample Reference				WFBH06	WFBH07	WFBH08	WFBH09	WFBH11
Sample Number				EW1	EW1	EW1	EW1	EW1
Depth (m)				3.28	3.44	2.89	3.80	4.21
Date Sampled				03/04/2014	03/04/2014	03/04/2014	03/04/2014	03/04/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.2	7.2	7.0	7.1	7.0
Electrical Conductivity	µS/cm	10	NONE	640	480	660	500	600
Salinity	ppt	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200	< 200	< 200	< 200	< 200
Sulphate as SO_4	ug/l	45	ISO 17025	32700	20100	17300	28400	32400
Elemental Sulphur	mg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	3.7	3.8	5.3	3.1	2.9
Boron (dissolved)	µg/l	10	ISO 17025	110	55	76	47	91
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.5	0.6	< 0.4	0.6	< 0.4
Copper (dissolved)	µg/l	0.7	ISO 17025	3.0	1.7	2.0	2.5	2.9
Lead (dissolved)	µg/l	1	ISO 17025	2.0	1.3	1.1	1.3	2.1
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.6	1.1	1.4	2.4	3.1
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	3.0	3.3	2.6	5.3	9.5
Monoaromatics								

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Analytical Report Number: 14-53208

Project / Site name: Daedalus Round 1

Lab Sample Number				330621	330622	330623	330624	330625
Sample Reference				WFBH06	WFBH07	WFBH08	WFBH09	WFBH11
Sample Number				EW1	EW1	EW1	EW1	EW1
Depth (m)				3.28	3.44	2.89	3.80	4.21
Date Sampled				03/04/2014	03/04/2014	03/04/2014	03/04/2014	03/04/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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Analytical Report Number: 14-53208

Project / Site name: Daedalus Round 1

Lab Sample Number				330621	330622	330623	330624	330625
Sample Reference				WFBH06	WFBH07	WFBH08	WFBH09	WFBH11
Sample Number				EW1	EW1	EW1	EW1	EW1
Depth (m)				3.28	3.44	2.89	3.80	4.21
Date Sampled				03/04/2014	03/04/2014	03/04/2014	03/04/2014	03/04/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	1.7	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	6.1	9.8	7.3	19.1	7.4
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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

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Analytical Report Number: 14-53208

Project / Site name: Daedalus Round 1

Lab Sample Number				330626	330627	330628	330629	330630
Sample Reference				WFBH12	WFBH13	WFBH14	MCBH01	MCBH02
Sample Number				EW1	EW1	EW1	EW1	EW1
Depth (m)				3.41	3.12	2.78	3.11	3.51
Date Sampled				03/04/2014	03/04/2014	03/04/2014	03/04/2014	03/04/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.0	7.0	7.1	7.1	6.9
Electrical Conductivity	µS/cm	10	NONE	420	520	620	460	860
Salinity	ppt	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200	< 200	< 200	< 200	< 200
Sulphate as SO_4	ug/l	45	ISO 17025	23000	1170	18600	30600	103000
Elemental Sulphur	mg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	3.3	9.0	4.2	4.5	7.6
Boron (dissolved)	µg/l	10	ISO 17025	55	71	59	73	65
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.7	< 0.4	< 0.4	< 0.4	< 0.4
Copper (dissolved)	µg/l	0.7	ISO 17025	3.0	< 0.7	1.9	1.4	3.9
Lead (dissolved)	µg/l	1	ISO 17025	1.6	5.9	2.6	2.1	1.4
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.9	3.9	1.8	1.9	2.2
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	5.7	2.8	4.0	6.2	7.2
Monoaromatics								

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Analytical Report Number: 14-53208

Project / Site name: Daedalus Round 1

Lab Sample Number				330626	330627	330628	330629	330630
Sample Reference				WFBH12	WFBH13	WFBH14	MCBH01	MCBH02
Sample Number				EW1	EW1	EW1	EW1	EW1
Depth (m)				3.41	3.12	2.78	3.11	3.51
Date Sampled				03/04/2014	03/04/2014	03/04/2014	03/04/2014	03/04/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Benzene	µg/l	1	ISO 17025	< 1.0	30.2	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	4.5	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	µg/l	10	NONE	< 10	14	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	380	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	3900	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	420	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	4700	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	34	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	14	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	48	< 10	< 10	< 10

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Analytical Report Number: 14-53208

Project / Site name: Daedalus Round 1

Lab Sample Number				330626	330627	330628	330629	330630
Sample Reference				WFBH12	WFBH13	WFBH14	MCBH01	MCBH02
Sample Number				EW1	EW1	EW1	EW1	EW1
Depth (m)				3.41	3.12	2.78	3.11	3.51
Date Sampled				03/04/2014	03/04/2014	03/04/2014	03/04/2014	03/04/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	3.1	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	30.2	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	1.3	< 1.0	< 1.0	3.3	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	693	5.1	10.3	1690	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	4.5	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	2.7	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	27.1	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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

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Analytical Report Number: 14-53208

Project / Site name: Daedalus Round 1

Lab Sample Number				330631	330632	330633	330634	
Sample Reference				MCBH03	LEPBH01	LEPBH02	NGBH01	
Sample Number				EW1	EW1	EW1	EW1	
Depth (m)				2.39	2.68	3.67	3.12	
Date Sampled				03/04/2014	03/04/2014	03/04/2014	03/04/2014	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.2	7.1	7.1	7.1	
Electrical Conductivity	µS/cm	10	NONE	490	540	530	510	
Salinity	ppt	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200	< 200	< 200	< 200	
Sulphate as SO_4	ug/l	45	ISO 17025	19500	38400	30700	27000	
Elemental Sulphur	mg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	3.6	2.3	4.3	5.9	
Boron (dissolved)	µg/l	10	ISO 17025	29	87	46	< 10	
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08	
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4	< 0.4	0.6	0.6	
Copper (dissolved)	µg/l	0.7	ISO 17025	2.2	1.4	2.0	0.8	
Lead (dissolved)	µg/l	1	ISO 17025	1.4	2.4	2.3	2.2	
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5	
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.0	2.6	2.2	6.5	
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	
Zinc (dissolved)	µg/l	0.4	ISO 17025	4.6	1.8	4.4	8.5	
Monoaromatics								

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Analytical Report Number: 14-53208

Project / Site name: Daedalus Round 1

Lab Sample Number				330631	330632	330633	330634	
Sample Reference				MCBH03	LEPBH01	LEPBH02	NGBH01	
Sample Number				EW1	EW1	EW1	EW1	
Depth (m)				2.39	2.68	3.67	3.12	
Date Sampled				03/04/2014	03/04/2014	03/04/2014	03/04/2014	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	

Petroleum Hydrocarbons

TPH1 (C10 - C40)	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	

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

Analytical Report Number: 14-53208

Project / Site name: Daedalus Round 1

Lab Sample Number				330631	330632	330633	330634	
Sample Reference				MCBH03	LEPBH01	LEPBH02	NGBH01	
Sample Number				EW1	EW1	EW1	EW1	
Depth (m)				2.39	2.68	3.67	3.12	
Date Sampled				03/04/2014	03/04/2014	03/04/2014	03/04/2014	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Vinyl Chloride	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Tetrachloroethene	µg/l	1	ISO 17025	1.1	5.4	3.8	< 1.0	
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,3-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,4-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	

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

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Analytical Report Number : 14-53208

Project / Site name: Daedalus Round 1

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
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Elemental sulphur in water	Determination of elemental sulphur in water by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
Salinity	Determination of salinity of water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-UK	W	NONE
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Thiocyanate in water	Determination of thiocyanate in water by discreet analyser (colorimetry). Accredited matrices SW, GW, PW.	In house method based on SMWW 4500-CN-M. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-UK	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE

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Analytical Report Number : 14-53208

Project / Site name: Daedalus Round 1

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
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	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.

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Analytical Report Number : 14-54777

Project / Site name:	Daedalus Waterfront	**Samples received on:**	16/05/2014
Your job number:		**Samples instructed on:**	21/05/2014
Your order number:		**Analysis completed by:**	30/05/2014
Report Issue Number:	1	**Report issued on:**	30/05/2014
Samples Analysed:	19 water samples		

Signed:

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Rexona Rahman
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
asbestos	- 6 months from reporting

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

Analytical Report Number: 14-54777

Project / Site name: Daedalus Waterfront

Lab Sample Number				340614	340615	340616	340617	340618
Sample Reference				WFBH01	WFBH02	WFBH03	WFBH04	WFBH05
Sample Number				EW2	EW2	EW2	EW2	EW2
Depth (m)				4.46	4.14	4.46	5.07	5.31
Date Sampled				Deviating	Deviating	15/05/2014	16/05/2014	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	1.1	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	119	< 1.0	418	66.8	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 14-54777

Project / Site name: Daedalus Waterfront

Lab Sample Number				340614	340615	340616	340617	340618
Sample Reference				WFBH01	WFBH02	WFBH03	WFBH04	WFBH05
Sample Number				EW2	EW2	EW2	EW2	EW2
Depth (m)				4.46	4.14	4.46	5.07	5.31
Date Sampled				Deviating	Deviating	15/05/2014	16/05/2014	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					

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

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Analytical Report Number: 14-54777

Project / Site name: Daedalus Waterfront

Lab Sample Number				340619	340620	340621	340622	340623
Sample Reference				WFBH06	WFBH07	WFBH08	WFBH09	WFBH11
Sample Number				EW2	EW2	EW2	EW2	EW2
Depth (m)				4.60	None Supplied	3.08	4.50	4.55
Date Sampled				Deviating	15/05/2014	Deviating	Deviating	16/05/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	2.0	1.9	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	17.6	3.6	3.5
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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

Analytical Report Number: 14-54777

Project / Site name: Daedalus Waterfront

Lab Sample Number				340619	340620	340621	340622	340623
Sample Reference				WFBH06	WFBH07	WFBH08	WFBH09	WFBH11
Sample Number				EW2	EW2	EW2	EW2	EW2
Depth (m)				4.60	None Supplied	3.08	4.50	4.55
Date Sampled				Deviating	15/05/2014	Deviating	Deviating	16/05/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					

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

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Analytical Report Number: 14-54777

Project / Site name: Daedalus Waterfront

Lab Sample Number				340624	340625	340626	340627	340628
Sample Reference				WFBH12	WFBH13	WFBH14	MCBH01	MCBH02
Sample Number				EW2	EW2	EW2	EW2	EW2
Depth (m)				3.56	4.24	3.26	3.22	3.67
Date Sampled				16/05/2014	Deviating	16/05/2014	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	1.8	< 1.0	< 1.0	3.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	18.5	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloropropane	µg/l	1	ISO 17025	< 1.0	15.5	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	175	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	717	5.5	1.6	2970	3.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 14-54777

Project / Site name: Daedalus Waterfront

Lab Sample Number				340624	340625	340626	340627	340628
Sample Reference				WFBH12	WFBH13	WFBH14	MCBH01	MCBH02
Sample Number				EW2	EW2	EW2	EW2	EW2
Depth (m)				3.56	4.24	3.26	3.22	3.67
Date Sampled				16/05/2014	Deviating	16/05/2014	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					

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

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Analytical Report Number: 14-54777

Project / Site name: Daedalus Waterfront

Lab Sample Number				340629	340630	340631	340632	
Sample Reference				MCBH03	LEPBH01	LEPBH02	NGBH01	
Sample Number				EW2	EW2	EW2	EW2	
Depth (m)				3.94	2.86	4.04	3.40	
Date Sampled				16/05/2014	Deviating	16/05/2014	Deviating	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Vinyl Chloride	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Tetrachloroethene	µg/l	1	ISO 17025	1.2	2.9	4.5	< 1.0	
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,3-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,4-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	

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

Analytical Report Number: 14-54777

Project / Site name: Daedalus Waterfront

Lab Sample Number				340629	340630	340631	340632	
Sample Reference				MCBH03	LEPBH01	LEPBH02	NGBH01	
Sample Number				EW2	EW2	EW2	EW2	
Depth (m)				3.94	2.86	4.04	3.40	
Date Sampled				16/05/2014	Deviating	16/05/2014	Deviating	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					

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

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.

Analytical Report Number : 14-54777

Project / Site name: Daedalus Waterfront

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
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	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.

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.

ALcontrol Laboratories

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Website: www.alcontrol.com

Harrison Group Ltd
Unit C14
Poplar Business Park
10 Prestons Road
London
E14 9RL

Attention:

CERTIFICATE OF ANALYSIS

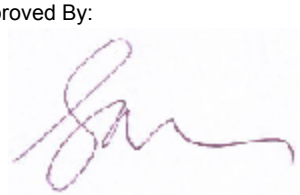
Date:	12 May 2014
Customer:	H_HARRIS_LON
Sample Delivery Group (SDG):	140423-46
Your Reference:	GL18065
Location:	Daedalus
Report No:	269558

We received 5 samples on Wednesday April 23, 2014 and 5 of these samples were scheduled for analysis which was completed on Monday May 12, 2014. 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

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	140423-46	**Location:**	Daedalus	**Order Number:**	GL18065/16871
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	269558
Client Reference:	GL18065	**Attention:**		**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9177758	BHH503		0.00	16/04/2014
9177752	MCBH02		0.00	16/04/2014
9177753	NGBH01		0.00	16/04/2014
9177757	WFBH02		0.00	16/04/2014
9177756	WFBH08		0.00	16/04/2014

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

CERTIFICATE OF ANALYSIS

SDG:	140423-46	**Location:**	Daedalus	**Order Number:**	GL18065/16871
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	269558
Client Reference:	GL18065	**Attention:**		**Superseded Report:**	

GAS

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			9177758	BHH503		0.00	Tedlar
			9177752	MCBH02		0.00	Tedlar
			9177753	NGBH01		0.00	Tedlar
			9177757	WFBH02		0.00	Tedlar
			9177756	WFBH08		0.00	Tedlar
Bulk Gas	All	NDPs: 0 Tests: 1	X				
Volatile Organic Compounds*	All	NDPs: 0 Tests: 4		X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	140423-46	**Location:**	Daedalus	**Order Number:**	GL18065/16871
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	269558
Client Reference:	GL18065	**Attention:**		**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	MCBH02	NGBH01	WFBH02	WFBH08		
			Depth (m)	0.00	0.00	0.00	0.00		
			Sample Type	Gas	Gas	Gas	Gas		
			Date Sampled	16/04/2014	16/04/2014	16/04/2014	16/04/2014		
			Sample Time	.	.	.	.		
			Date Received	23/04/2014	23/04/2014	23/04/2014	23/04/2014		
			SDG Ref	140423-46	140423-46	140423-46	140423-46		
			Lab Sample No.(s)	9177752	9177753	9177757	9177756		
			AGS Reference						
Volatile Organic Compounds*	-	SUB		See Attached	See Attached	See Attached	See Attached		

CERTIFICATE OF ANALYSIS

SDG:	140423-46	**Location:**	Daedalus	**Order Number:**	GL18065/16871
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	269558
Client Reference:	GL18065	**Attention:**		**Superseded Report:**	

Bulk Gas

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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
1-5&+§@	Sample deviation (see appendix)

	Customer Sample R	Depth (m)	Sample Type	Date Sampled	Sample Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
	BHH503	0.00	Gas	16/04/2014	.	23/04/2014	140423-46	9177758	

Component	LOD/Units	Method	
Carbon monoxide(ppm)	<1 ppm	TM053	NDP
Hydrogen sulphide	<1 ppm	TM053	NDP
Hydrogen	<0.5 %	TM053	<0.5 @ #
Oxygen	<0.5 %	TM053	22 @ #
Nitrogen	<1 %	TM053	77.9 @ #
Carbon monoxide	<0.05 %	TM053	<0.05 @ #
Methane	<0.05 %	TM053	<0.05 @ #
Carbon dioxide	<0.05 %	TM053	0.071 @ #
Bulk gas, Total	%	TM053	100 @ #

CERTIFICATE OF ANALYSIS

SDG:	140423-46	**Location:**	Daedalus	**Order Number:**	GL18065/16871
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	269558
Client Reference:	GL18065	**Attention:**		**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
SUB		Subcontracted Test		
TM053	MEWAM Methane & Hydrocarbon gases HMSO 1988	Determination of Bulk Gas Composition		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140423-46	**Location:**	Daedalus	**Order Number:**	GL18065/16871
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	269558
Client Reference:	GL18065	**Attention:**		**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	9177758	9177752	9177753	9177757	9177756
Customer Sample Ref.	BHH503	MCBH02	NGBH01	WFBH02	WFBH08
AGS Ref.					
Depth	0.00	0.00	0.00	0.00	0.00
Type	GAS	GAS	GAS	GAS	GAS
Bulk Gas	06-May-2014				
Volatile Organic Compounds*		12-May-2014	12-May-2014	12-May-2014	12-May-2014

QUALITY FORM	QF.5.10.1
ALCONTROL LABORATORIES	SHEET 1 OF 1 ISSUE NO: 2 ISSUED BY: J Howard
Title of Form **Notification of No Determination Possible**	ISSUE DATE: 22/04/10 APPROVED BY: Vicky Muir

SDG Number :140423-46
Client :H_HARRIS_LON
Sample Type : gas

ISSUED BY:
LAB AREA : specials
ANALYST : r bentley
DATE : 06/05/2014

SDG no	Sample No.	Sample ID.	Depth	Analyte(s)	Reason
140423-46	9177800	BHH503	0	carbon monoxide and hydrogen sulphide by	insufficient sample to carry out the test

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Scientific Analysis Laboratories Ltd

Certificate of Analysis

Hadfield House
Hadfield Street
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M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2404

Report Number: 391437-1

Date of Report: 29-Apr-2014

Customer: ALcontrol Laboratories Ltd
Units 7-8 Hawarden Business Park
Manor Road
(Off Manor Lane)
Hawarden
Deeside
Flintshire
CH5 3US

Customer Contact: Hawarden Subcontracts

Customer Job Reference: 140423-46
Customer Purchase Order: 185964
Date Job Received at SAL: 25-Apr-2014
Date Analysis Started: 28-Apr-2014
Date Analysis Completed: 29-Apr-2014

The results reported relate to samples received in the laboratory
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

Report checked and authorised by :
Mary Drury
Project Manager

Issued by :
Mary Drury
Project Manager

SAL Reference: 391437
Customer Reference: 140423-46

Gas Bag Analysed as Gas Bag
Volatile Organic Compounds (USEPA 624)

					SAL Reference	391437 001	391437 002	391437 003	391437 004
					Customer Sample Reference	MCBH02	WFBH02	WFBH08	NGBH01
Determinand	Method	Test Sample	LOD	Units					
1,1,1,2-Tetrachloroethane	T16	AR	10	mg/m3	<10	<10	<10	<10
1,1,1-Trichloroethane	T16	AR	10	mg/m3	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	T16	AR	10	mg/m3	<10	<10	<10	<10
1,1,2-Trichloroethane	T16	AR	10	mg/m3	<10	<10	<10	<10
1,1,2-Trichloroethylene	T16	AR	10	mg/m3	<10	<10	<10	<10
1,1-Dichloroethane	T16	AR	10	mg/m3	<10	<10	<10	<10
1,1-Dichloroethylene	T16	AR	10	mg/m3	<10	<10	<10	<10
1,1-Dichloropropene	T16	AR	10	mg/m3	<10	<10	<10	<10
1,2,3-Trichloropropane	T16	AR	10	mg/m3	<10	<10	<10	<10
1,2,4-Trimethylbenzene	T16	AR	10	mg/m3	<10	<10	<10	<10
1,2-dibromoethane	T16	AR	10	mg/m3	<10	<10	<10	<10
1,2-Dichlorobenzene	T16	AR	10	mg/m3	<10	<10	<10	<10
1,2-Dichloroethane	T16	AR	10	mg/m3	<10	<10	<10	<10
1,2-Dichloropropane	T16	AR	10	mg/m3	<10	<10	<10	<10
1,3,5-Trimethylbenzene	T16	AR	10	mg/m3	<10	<10	<10	<10
1,3-Dichloropropane	T16	AR	10	mg/m3	<10	<10	<10	<10
1,4-Dichlorobenzene	T16	AR	10	mg/m3	<10	<10	<10	<10
2,2-Dichloropropane	T16	AR	10	mg/m3	<10	<10	<10	<10
2-Chlorotoluene	T16	AR	10	mg/m3	<10	<10	<10	<10
4-Chlorotoluene	T16	AR	10	mg/m3	<10	<10	<10	<10
Benzene	T16	AR	10	mg/m3	<10	<10	<10	<10
Bromobenzene	T16	AR	10	mg/m3	<10	<10	<10	<10
Bromochloromethane	T16	AR	10	mg/m3	<10	<10	<10	<10
Bromodichloromethane	T16	AR	10	mg/m3	<10	<10	<10	<10
Bromoform	T16	AR	10	mg/m3	<10	<10	<10	<10
Bromomethane	T16	AR	10	mg/m3	<10	<10	<10	<10
Carbon tetrachloride	T16	AR	10	mg/m3	<10	<10	<10	<10
Chlorobenzene	T16	AR	10	mg/m3	<10	<10	<10	<10
Chlorodibromomethane	T16	AR	10	mg/m3	<10	<10	<10	<10
Chloroethane	T16	AR	10	mg/m3	<10	<10	<10	<10
Chloroform	T16	AR	10	mg/m3	<10	<10	<10	<10
Chloromethane	T16	AR	10	mg/m3	<10	<10	<10	<10
Cis-1,2-Dichloroethylene	T16	AR	10	mg/m3	<10	<10	<10	<10
Cis-1,3-Dichloropropene	T16	AR	10	mg/m3	<10	<10	<10	<10
Dibromomethane	T16	AR	10	mg/m3	<10	<10	<10	<10
Dichloromethane	T16	AR	10	mg/m3	<10	<10	<10	<10
EthylBenzene	T16	AR	10	mg/m3	<10	<10	<10	<10
M/P Xylene	T16	AR	10	mg/m3	<10	<10	<10	<10
O Xylene	T16	AR	10	mg/m3	<10	<10	<10	<10
Styrene	T16	AR	10	mg/m3	<10	<10	<10	<10
Tetrachloroethene	T16	AR	10	mg/m3	<10	<10	<10	<10
Toluene	T16	AR	10	mg/m3	<10	<10	<10	<10
Trans-1,2-Dichloroethene	T16	AR	10	mg/m3	<10	<10	<10	<10
Trichlorofluoromethane	T16	AR	10	mg/m3	<10	<10	<10	<10
Vinyl chloride	T16	AR	10	mg/m3	<10	<10	<10	<10

Index to symbols used in 391437-1

Value	Description
AR	As Received
N	Analysis is not UKAS accredited

Method Index

Value	Description
T16	GC/MS

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
1,1,1,2-Tetrachloroethane	T16	AR	10	mg/m3	N	001-004
1,1,1-Trichloroethane	T16	AR	10	mg/m3	N	001-004
1,1,2,2-Tetrachloroethane	T16	AR	10	mg/m3	N	001-004
1,1,2-Trichloroethane	T16	AR	10	mg/m3	N	001-004
1,1,2-Trichloroethylene	T16	AR	10	mg/m3	N	001-004
1,1-Dichloroethane	T16	AR	10	mg/m3	N	001-004
1,1-Dichloroethylene	T16	AR	10	mg/m3	N	001-004
1,1-Dichloropropene	T16	AR	10	mg/m3	N	001-004
1,2,3-Trichloropropane	T16	AR	10	mg/m3	N	001-004
1,2,4-Trimethylbenzene	T16	AR	10	mg/m3	N	001-004
1,2-dibromoethane	T16	AR	10	mg/m3	N	001-004
1,2-Dichlorobenzene	T16	AR	10	mg/m3	N	001-004
1,2-Dichloroethane	T16	AR	10	mg/m3	N	001-004
1,2-Dichloropropane	T16	AR	10	mg/m3	N	001-004
1,3,5-Trimethylbenzene	T16	AR	10	mg/m3	N	001-004
1,3-Dichloropropane	T16	AR	10	mg/m3	N	001-004
1,4-Dichlorobenzene	T16	AR	10	mg/m3	N	001-004
2,2-Dichloropropane	T16	AR	10	mg/m3	N	001-004
2-Chlorotoluene	T16	AR	10	mg/m3	N	001-004
4-Chlorotoluene	T16	AR	10	mg/m3	N	001-004
Benzene	T16	AR	10	mg/m3	N	001-004
Bromobenzene	T16	AR	10	mg/m3	N	001-004
Bromochloromethane	T16	AR	10	mg/m3	N	001-004
Bromodichloromethane	T16	AR	10	mg/m3	N	001-004
Bromoform	T16	AR	10	mg/m3	N	001-004
Bromomethane	T16	AR	10	mg/m3	N	001-004
Carbon tetrachloride	T16	AR	10	mg/m3	N	001-004
Chlorobenzene	T16	AR	10	mg/m3	N	001-004
Chlorodibromomethane	T16	AR	10	mg/m3	N	001-004
Chloroethane	T16	AR	10	mg/m3	N	001-004
Chloroform	T16	AR	10	mg/m3	N	001-004
Chloromethane	T16	AR	10	mg/m3	N	001-004
Cis-1,2-Dichloroethylene	T16	AR	10	mg/m3	N	001-004
Cis-1,3-Dichloropropene	T16	AR	10	mg/m3	N	001-004
Dibromomethane	T16	AR	10	mg/m3	N	001-004
Dichloromethane	T16	AR	10	mg/m3	N	001-004
EthylBenzene	T16	AR	10	mg/m3	N	001-004
M/P Xylene	T16	AR	10	mg/m3	N	001-004
O Xylene	T16	AR	10	mg/m3	N	001-004
Styrene	T16	AR	10	mg/m3	N	001-004
Tetrachloroethene	T16	AR	10	mg/m3	N	001-004
Toluene	T16	AR	10	mg/m3	N	001-004
Trans-1,2-Dichloroethene	T16	AR	10	mg/m3	N	001-004
Trichlorofluoromethane	T16	AR	10	mg/m3	N	001-004
Vinyl chloride	T16	AR	10	mg/m3	N	001-004

SDG:	140423-46	**Location:**	Daedalus	**Order Number:**	GL18065/16871
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	269558
Client Reference:	GL18065	**Attention:**	Jaime	**Superseded Report:**	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC 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 all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples 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 analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

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 Dimethyphenol, 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 C5-C12 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.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials 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 Anthophyllite	-
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.

ALcontrol Laboratories

Unit 7-8 Hawarden Business Park
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email: mkt@alcontrol.com
Website: www.alcontrol.com

Harrison Group Ltd
Unit C14
Poplar Business Park
10 Prestons Road
London
E14 9RL

Attention: Glenn Pursey

CERTIFICATE OF ANALYSIS

Date:	22 April 2014
Customer:	H_HARRIS_LON
Sample Delivery Group (SDG):	140409-55
Your Reference:	GL18065
Location:	Daedalus
Report No:	267404

We received 3 samples on Wednesday April 09, 2014 and 3 of these samples were scheduled for analysis which was completed on Tuesday April 22, 2014. 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.

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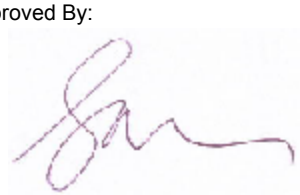
Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	140409-55	**Location:**	Daedalus	**Order Number:**	GL18055/16719
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	267404
Client Reference:	GL18065	**Attention:**	Glenn Pursey	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9117737	MCBH02			01/04/2014
9117734	WFBH08			01/04/2014
9117736	WFBH14			01/04/2014

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

CERTIFICATE OF ANALYSIS

SDG:	140409-55	**Location:**	Daedalus	**Order Number:**	GL18055/16719
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	267404
Client Reference:	GL18065	**Attention:**	Glenn Pursey	**Superseded Report:**	

GAS

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			9117737	MCBH02			Tedlar
			9117734	WFBH08			Tedlar
			9117736	WFBH14			Tedlar
Volatile Organic Compounds*	All	NDPs: 0 Tests: 3	X	X			X

CERTIFICATE OF ANALYSIS

SDG:	140409-55	**Location:**	Daedalus	**Order Number:**	GL18055/16719
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	267404
Client Reference:	GL18065	**Attention:**	Glenn Pursey	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	MCBH02	WFBH08	WFBH14			
			Depth (m)	.	.	.			
			Sample Type	Gas	Gas	Gas			
			Date Sampled	01/04/2014	01/04/2014	01/04/2014			
			Sample Time	.	.	.			
			Date Received	09/04/2014	09/04/2014	09/04/2014			
			SDG Ref	140409-55	140409-55	140409-55			
			Lab Sample No.(s)	9117737	9117734	9117736			
			AGS Reference						
Volatile Organic Compounds*	-	SUB		See Attached	See Attached	See Attached			

CERTIFICATE OF ANALYSIS

SDG:	140409-55	**Location:**	Daedalus	**Order Number:**	GL18055/16719
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	267404
Client Reference:	GL18065	**Attention:**	Glenn Pursey	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
SUB		Subcontracted Test		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140409-55	**Location:**	Daedalus	**Order Number:**	GL18055/16719
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	267404
Client Reference:	GL18065	**Attention:**	Glenn Pursey	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	9117737	9117734	9117736
Customer Sample Ref.	MCBH02	WFBH08	WFBH14
AGS Ref.			
Depth			
Type	GAS	GAS	GAS
Volatile Organic Compounds*	15-Apr-2014	15-Apr-2014	22-Apr-2014

ALcontrol Laboratories

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Harrison Group Ltd
Unit C14
Poplar Business Park
10 Prestons Road
London
E14 9RL

Attention: G I

CERTIFICATE OF ANALYSIS

Date:	03 June 2014
Customer:	H_HARRIS_LON
Sample Delivery Group (SDG):	140522-107
Your Reference:	GL18065
Location:	Daedalus
Report No:	272103

We received 4 samples on Thursday May 22, 2014 and 4 of these samples were scheduled for analysis which was completed on Tuesday June 03, 2014. 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.

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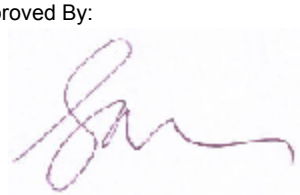
Approved By:



Sonia McWhan

Operations Manager

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CERTIFICATE OF ANALYSIS

SDG:	140522-107	**Location:**	Daedalus	**Order Number:**	GL18065/17080
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	272103
Client Reference:	GL18065	**Attention:**	G I	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9326688	MCBH01			20/05/2014
9326683	WFBH03			20/05/2014
9326684	WFBH12			20/05/2014
9326682	WFBH13A			19/05/2014

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

CERTIFICATE OF ANALYSIS

SDG:	140522-107	**Location:**	Daedalus	**Order Number:**	GL18065/17080
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	272103
Client Reference:	GL18065	**Attention:**	G I	**Superseded Report:**	

GAS

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			9326688	MCBH01			Tedlar
			9326683	WFBH03			Tedlar
			9326684	WFBH12			Tedlar
			9326682	WFBH13A			Tedlar
Volatile Organic Compounds*	All	NDPs: 0 Tests: 4					
			X	X	X	X	

CERTIFICATE OF ANALYSIS

SDG:	140522-107	**Location:**	Daedalus	**Order Number:**	GL18065/17080
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	272103
Client Reference:	GL18065	**Attention:**	G I	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	MCBH01	WFBH03	WFBH12	WFBH13A		
			Depth (m)	.	.	.	.		
			Sample Type	Gas	Gas	Gas	Gas		
			Date Sampled	20/05/2014	20/05/2014	20/05/2014	19/05/2014		
			Sample Time	.	.	.	.		
			Date Received	22/05/2014	22/05/2014	22/05/2014	22/05/2014		
			SDG Ref	140522-107	140522-107	140522-107	140522-107		
			Lab Sample No.(s)	9326688	9326683	9326684	9326682		
			AGS Reference						
Volatile Organic Compounds*	-	SUB		See Attached	See Attached	See Attached	See Attached		

CERTIFICATE OF ANALYSIS

SDG:	140522-107	**Location:**	Daedalus	**Order Number:**	GL18065/17080
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	272103
Client Reference:	GL18065	**Attention:**	G I	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
SUB		Subcontracted Test		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140522-107	**Location:**	Daedalus	**Order Number:**	GL18065/17080
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	272103
Client Reference:	GL18065	**Attention:**	G I	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	9326688	9326683	9326684	9326682
Customer Sample Ref.	MCBH01	WFBH03	WFBH12	WFBH13A
AGS Ref.				
Depth				
Type	GAS	GAS	GAS	GAS
Volatile Organic Compounds*	03-Jun-2014	03-Jun-2014	03-Jun-2014	03-Jun-2014

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Scientific Analysis Laboratories Ltd

Certificate of Analysis

Hadfield House
Hadfield Street
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M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2404

Report Number: 397898-1

Date of Report: 02-Jun-2014

Customer: ALcontrol Laboratories Ltd
Units 7-8 Hawarden Business Park
Manor Road
(Off Manor Lane)
Hawarden
Deeside
Flintshire
CH5 3US

Customer Contact: Hawarden Subcontracts

Customer Job Reference: 140522-107
Customer Purchase Order: 187563
Date Job Received at SAL: 27-May-2014
Date Analysis Started: 28-May-2014
Date Analysis Completed: 02-Jun-2014

The results reported relate to samples received in the laboratory
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

Report checked
and authorised by :
Jennifer Wraith
Sales Support Manager

Issued by :
Jennifer Wraith
Sales Support Manager

ALcontrol Laboratories

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email: mkt@alcontrol.com
Website: www.alcontrol.com

Harrison Group Ltd
Unit C14
Poplar Business Park
10 Prestons Road
London
E14 9RL

Attention: G I

CERTIFICATE OF ANALYSIS

Date:	03 June 2014
Customer:	H_HARRIS_LON
Sample Delivery Group (SDG):	140522-107
Your Reference:	GL18065
Location:	Daedalus
Report No:	272103

We received 4 samples on Thursday May 22, 2014 and 4 of these samples were scheduled for analysis which was completed on Tuesday June 03, 2014. 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.

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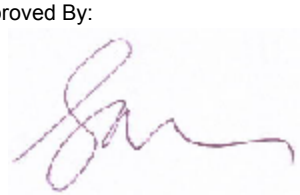

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Operations Manager

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CERTIFICATE OF ANALYSIS

SDG:	140522-107	**Location:**	Daedalus	**Order Number:**	GL18065/17080
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	272103
Client Reference:	GL18065	**Attention:**	G I	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9326688	MCBH01			20/05/2014
9326683	WFBH03			20/05/2014
9326684	WFBH12			20/05/2014
9326682	WFBH13A			19/05/2014

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

CERTIFICATE OF ANALYSIS

SDG:	140522-107	**Location:**	Daedalus	**Order Number:**	GL18065/17080
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	272103
Client Reference:	GL18065	**Attention:**	G I	**Superseded Report:**	

GAS

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			9326688	MCBH01			Tedlar
			9326683	WFBH03			Tedlar
			9326684	WFBH12			Tedlar
			9326682	WFBH13A			Tedlar
Volatile Organic Compounds*	All	NDPs: 0 Tests: 4					
			X	X	X	X	

CERTIFICATE OF ANALYSIS

SDG:	140522-107	**Location:**	Daedalus	**Order Number:**	GL18065/17080
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	272103
Client Reference:	GL18065	**Attention:**	G I	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	MCBH01	WFBH03	WFBH12	WFBH13A		
			Depth (m)	.	.	.	.		
			Sample Type	Gas	Gas	Gas	Gas		
			Date Sampled	20/05/2014	20/05/2014	20/05/2014	19/05/2014		
			Sample Time	.	.	.	.		
			Date Received	22/05/2014	22/05/2014	22/05/2014	22/05/2014		
			SDG Ref	140522-107	140522-107	140522-107	140522-107		
			Lab Sample No.(s)	9326688	9326683	9326684	9326682		
			AGS Reference						
Volatile Organic Compounds*	-	SUB		See Attached	See Attached	See Attached	See Attached		

CERTIFICATE OF ANALYSIS

SDG:	140522-107	**Location:**	Daedalus	**Order Number:**	GL18065/17080
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	272103
Client Reference:	GL18065	**Attention:**	G I	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
SUB		Subcontracted Test		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140522-107	**Location:**	Daedalus	**Order Number:**	GL18065/17080
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	272103
Client Reference:	GL18065	**Attention:**	G I	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	9326688	9326683	9326684	9326682
Customer Sample Ref.	MCBH01	WFBH03	WFBH12	WFBH13A
AGS Ref.				
Depth				
Type	GAS	GAS	GAS	GAS
Volatile Organic Compounds*	03-Jun-2014	03-Jun-2014	03-Jun-2014	03-Jun-2014

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Scientific Analysis Laboratories Ltd

Certificate of Analysis

Hadfield House
Hadfield Street
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Tel : 0161 874 2400
Fax : 0161 874 2404

Report Number: 397898-1

Date of Report: 02-Jun-2014

Customer: ALcontrol Laboratories Ltd
Units 7-8 Hawarden Business Park
Manor Road
(Off Manor Lane)
Hawarden
Deeside
Flintshire
CH5 3US

Customer Contact: Hawarden Subcontracts

Customer Job Reference: 140522-107
Customer Purchase Order: 187563
Date Job Received at SAL: 27-May-2014
Date Analysis Started: 28-May-2014
Date Analysis Completed: 02-Jun-2014

The results reported relate to samples received in the laboratory
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Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

Report checked
and authorised by :
Jennifer Wraith
Sales Support Manager

Issued by :
Jennifer Wraith
Sales Support Manager

SAL Reference: 397898
Customer Reference: 140522-107

Gas Bag Analysed as Gas Bag
Volatile Organic Compounds (USEPA 624)

					SAL Reference	397898 001	397898 002	397898 003	397898 004
					Customer Sample Reference	WFBH13A	WFBH03	WFBH12	MCBH01
					Date Sampled	19-MAY-2014	20-MAY-2014	20-MAY-2014	20-MAY-2014
Determinand	Method	Test Sample	LOD	Units					
1,1,1,2-Tetrachloroethane	T16	AR	10	mg/m3		<10	<10	<10	<10
1,1,1-Trichloroethane	T16	AR	10	mg/m3		<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	T16	AR	10	mg/m3		<10	<10	<10	<10
1,1,2-Trichloroethane	T16	AR	10	mg/m3		<10	<10	<10	<10
1,1,2-Trichloroethylene	T16	AR	10	mg/m3		<10	<10	<10	<10
1,1-Dichloroethane	T16	AR	10	mg/m3		<10	<10	<10	<10
1,1-Dichloroethylene	T16	AR	10	mg/m3		<10	<10	<10	<10
1,1-Dichloropropene	T16	AR	10	mg/m3		<10	<10	<10	<10
1,2,3-Trichloropropane	T16	AR	10	mg/m3		<10	<10	<10	<10
1,2,4-Trimethylbenzene	T16	AR	10	mg/m3		<10	<10	<10	<10
1,2-dibromoethane	T16	AR	10	mg/m3		<10	<10	<10	<10
1,2-Dichlorobenzene	T16	AR	10	mg/m3		<10	<10	<10	<10
1,2-Dichloroethane	T16	AR	10	mg/m3		<10	<10	<10	<10
1,2-Dichloropropane	T16	AR	10	mg/m3		<10	<10	<10	<10
1,3,5-Trimethylbenzene	T16	AR	10	mg/m3		<10	<10	<10	<10
1,3-Dichloropropane	T16	AR	10	mg/m3		<10	<10	<10	<10
1,4-Dichlorobenzene	T16	AR	10	mg/m3		<10	<10	<10	<10
2,2-Dichloropropane	T16	AR	10	mg/m3		<10	<10	<10	<10
2-Chlorotoluene	T16	AR	10	mg/m3		<10	<10	<10	<10
4-Chlorotoluene	T16	AR	10	mg/m3		<10	<10	<10	<10
Benzene	T16	AR	10	mg/m3		<10	<10	<10	<10
Bromobenzene	T16	AR	10	mg/m3		<10	<10	<10	<10
Bromochloromethane	T16	AR	10	mg/m3		<10	<10	<10	<10
Bromodichloromethane	T16	AR	10	mg/m3		<10	<10	<10	<10
Bromoform	T16	AR	10	mg/m3		<10	<10	<10	<10
Bromomethane	T16	AR	10	mg/m3		<10	<10	<10	<10
Carbon tetrachloride	T16	AR	10	mg/m3		<10	<10	<10	<10
Chlorobenzene	T16	AR	10	mg/m3		<10	<10	<10	<10
Chlorodibromomethane	T16	AR	10	mg/m3		<10	<10	<10	<10
Chloroethane	T16	AR	10	mg/m3		<10	<10	<10	<10
Chloroform	T16	AR	10	mg/m3		<10	<10	<10	<10
Chloromethane	T16	AR	10	mg/m3		<10	<10	<10	<10
Cis-1,2-Dichloroethylene	T16	AR	10	mg/m3		<10	<10	<10	<10
Cis-1,3-Dichloropropene	T16	AR	10	mg/m3		<10	<10	<10	<10
Dibromomethane	T16	AR	10	mg/m3		<10	<10	<10	<10
Dichloromethane	T16	AR	10	mg/m3		<10	<10	<10	<10
EthylBenzene	T16	AR	10	mg/m3		<10	<10	<10	<10
M/P Xylene	T16	AR	10	mg/m3		<10	<10	<10	<10
O Xylene	T16	AR	10	mg/m3		<10	<10	<10	<10
Styrene	T16	AR	10	mg/m3		<10	<10	<10	<10
Tetrachloroethene	T16	AR	10	mg/m3		<10	<10	<10	<10
Toluene	T16	AR	10	mg/m3		<10	<10	<10	<10
Trans-1,2-Dichloroethene	T16	AR	10	mg/m3		<10	<10	<10	<10
Trichlorofluoromethane	T16	AR	10	mg/m3		<10	<10	<10	<10
Vinyl chloride	T16	AR	10	mg/m3		<10	<10	<10	<10

Index to symbols used in 397898-1

Value	Description
AR	As Received
N	Analysis is not UKAS accredited

Method Index

Value	Description
T16	GC/MS

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
1,1,1,2-Tetrachloroethane	T16	AR	10	mg/m3	N	001-004
1,1,1-Trichloroethane	T16	AR	10	mg/m3	N	001-004
1,1,2,2-Tetrachloroethane	T16	AR	10	mg/m3	N	001-004
1,1,2-Trichloroethane	T16	AR	10	mg/m3	N	001-004
1,1,2-Trichloroethylene	T16	AR	10	mg/m3	N	001-004
1,1-Dichloroethane	T16	AR	10	mg/m3	N	001-004
1,1-Dichloroethylene	T16	AR	10	mg/m3	N	001-004
1,1-Dichloropropene	T16	AR	10	mg/m3	N	001-004
1,2,3-Trichloropropane	T16	AR	10	mg/m3	N	001-004
1,2,4-Trimethylbenzene	T16	AR	10	mg/m3	N	001-004
1,2-dibromoethane	T16	AR	10	mg/m3	N	001-004
1,2-Dichlorobenzene	T16	AR	10	mg/m3	N	001-004
1,2-Dichloroethane	T16	AR	10	mg/m3	N	001-004
1,2-Dichloropropane	T16	AR	10	mg/m3	N	001-004
1,3,5-Trimethylbenzene	T16	AR	10	mg/m3	N	001-004
1,3-Dichloropropane	T16	AR	10	mg/m3	N	001-004
1,4-Dichlorobenzene	T16	AR	10	mg/m3	N	001-004
2,2-Dichloropropane	T16	AR	10	mg/m3	N	001-004
2-Chlorotoluene	T16	AR	10	mg/m3	N	001-004
4-Chlorotoluene	T16	AR	10	mg/m3	N	001-004
Benzene	T16	AR	10	mg/m3	N	001-004
Bromobenzene	T16	AR	10	mg/m3	N	001-004
Bromochloromethane	T16	AR	10	mg/m3	N	001-004
Bromodichloromethane	T16	AR	10	mg/m3	N	001-004
Bromoform	T16	AR	10	mg/m3	N	001-004
Bromomethane	T16	AR	10	mg/m3	N	001-004
Carbon tetrachloride	T16	AR	10	mg/m3	N	001-004
Chlorobenzene	T16	AR	10	mg/m3	N	001-004
Chlorodibromomethane	T16	AR	10	mg/m3	N	001-004
Chloroethane	T16	AR	10	mg/m3	N	001-004
Chloroform	T16	AR	10	mg/m3	N	001-004
Chloromethane	T16	AR	10	mg/m3	N	001-004
Cis-1,2-Dichloroethylene	T16	AR	10	mg/m3	N	001-004
Cis-1,3-Dichloropropene	T16	AR	10	mg/m3	N	001-004
Dibromomethane	T16	AR	10	mg/m3	N	001-004
Dichloromethane	T16	AR	10	mg/m3	N	001-004
EthylBenzene	T16	AR	10	mg/m3	N	001-004
M/P Xylene	T16	AR	10	mg/m3	N	001-004
O Xylene	T16	AR	10	mg/m3	N	001-004
Styrene	T16	AR	10	mg/m3	N	001-004
Tetrachloroethene	T16	AR	10	mg/m3	N	001-004
Toluene	T16	AR	10	mg/m3	N	001-004
Trans-1,2-Dichloroethene	T16	AR	10	mg/m3	N	001-004
Trichlorofluoromethane	T16	AR	10	mg/m3	N	001-004
Vinyl chloride	T16	AR	10	mg/m3	N	001-004

SDG:	140522-107	**Location:**	Daedalus	**Order Number:**	GL18065/17080
Job:	H_HARRIS_LON-96	**Customer:**	Harrison Group Ltd	**Report Number:**	272103
Client Reference:	GL18065	**Attention:**	G I	**Superseded Report:**	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC 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 all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples 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 analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

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 Dimethyphenol, 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 C5-C12 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.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials 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 Anthophyllite	-
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.

Defence Estates

HMS Daedalus Land Quality Assessment

Phase Two: Site Investigation
DE Project No 05002

Final Land Quality Assessment Report

3 May 2007

Entec UK Ltd for the
Ministry of Defence under
commission DE11/4471



DEFENCE ESTATES
Delivering Estate Solutions to Defence Needs

Report for

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Document Revisions

No.	Details	Date
1	Draft Phase Two LQA Report	March 2006
2	Final Phase Two LQA Report	May 2007

Land Quality Statement for HMS Daedalus

Introduction and Terms of Reference

Entec UK Ltd (Entec) was commissioned by Defence Estates (DE) to undertake a Phase Two Land Quality Assessment (LQA) of HMS Daedalus (the site) on 11 November 2005. The purpose of the assessment is to provide additional land quality information on the site and assess possible health and environmental risks that any contamination may present both to the site in its current use and for any future end uses.

Site Location, Description and History

HMS Daedalus is located between Lee on the Solent and Stubbington, Hampshire, and is centred around approximate National Grid Reference (NGR) SU 562 020.

The site is a former Royal Navy airfield, barracks and training establishment extending to around 200 ha.

The site is divided into two distinct areas as follows:

- airfield and associated former aircraft hangars (northern area);
- former workshops and aircraft hangars (southern technical area).

The southern technical area comprises workshops, hangars and other buildings, and associated hardstanding with local grassed areas.

The site was developed as a Royal Navy Air Station in 1917, becoming HM Naval Seaplane Training School. In 1932, the site was developed to the Headquarters of the Coastal Area, and the aerodrome, new barracks, hangars and technical buildings were constructed. The site was substantially expanded prior to 1939 and was renamed HMS Daedalus. In 1946, the Fleet Air Arm (FAA) Field Gun Crew HQ was established. By 1959, the FAA technical training establishment was developed, and the Air Electrical School was established. The site was vacated by the Royal Navy in approximately 1996. The site has since been divided into a number of tenancies and used for a variety of commercial/ industrial uses.

Environmental Setting and Site Sensitivity

The site is underlain by Brickearth Deposits and Plateau and Terrace Gravel. The Plateau and Terrace Gravel are classified as a Minor Aquifer. There are groundwater abstractions in the vicinity of the site.

The Site lies adjacent to the Solent, a coastal water. A tributary of the River Alver lies within 50 m of the east of the site. The River Alver is a poor quality surface water.

The groundwater sensitivity at the site is assessed as moderate with shallow groundwater throughout the site connected to nearby surface water and the sea. Surface water sensitivity is low given the anticipated dilution in the Solent, and the poor quality of the River Alver.

Ecological sensitivity of the site is moderate, given that the Solent in the vicinity of the site is designated as a Site of Special Scientific Interest, a Special Protection Area and a Ramsar Site.

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Sources of Information

Information used in compiling this report includes those listed for the Phase One LQA, general mapping sources and public body records, including the relevant topographical, geological and groundwater vulnerability maps of the area, the Environment Agency, the Landmark Information Group and the National Monuments Record. MOD sources included the site Property Manager and Defence Estates. Previous investigation reports for the site have also been consulted and relevant reference to soil and groundwater assessment guidelines outlined in Section 5 were consulted during the Phase Two intrusive investigation.

Sources of Potential Site Contamination

Previous investigations have identified actual groundwater contamination by a chlorinated solvent, trichloroethene (TCE), in the southwest of the site adjacent to the Bulk Fuel Installation (BFI). This is likely to be derived from activities conducted at the workshops/hangars to the northeast of the identified contamination. The site has seen widespread use of aviation fuels and spills are expected to have occurred in many locations across the site.

Previous investigations at the former MT petrol filling station have identified hydrocarbon contamination by BTEX compounds in shallow groundwater. The full extent of the hydrocarbon impact was not proven in previous investigations although it is likely to be localised. Other fuel contamination may be present elsewhere on the site.

Previous intrusive investigation of the Grounds Maintenance Section found groundwater contamination by diesel range hydrocarbons (DRO) associated with an above ground fuel tank at this location. The full extent of the contamination was not proven in previous investigations, although it is likely to be limited.

There are above ground heating oil tanks associated with most buildings around the airfield. A selection of these tanks has been investigated previously. Although no significant impact by hydrocarbons was encountered previously, there is potential for areas not investigated to date to be contaminated by hydrocarbons.

There are former burning grounds (and a former incinerator) at the site. These are potential contamination sources resulting from disposal of ash residues to the ground surface.

Anecdotal information indicates the presence of a former Victorian domestic tip located within the north of the site, near the site perimeter. This predates the military use of the site.

Potential sources of localised contamination have been identified at a number of tenanted plots within the site.

Contamination associated with radium luminised equipment is discussed in the Entec Radiological Investigation Report (reference 03385rr128i2).

Site Investigation and Ground Condition

The Phase Two LQA comprised a risk based targeted approach to assess the potential contamination identified in the Phase One LQA. A total of 10 No boreholes, 12 No. window sample holes and 26 No trial pits were constructed to assess land and groundwater quality. The exploratory holes and pits targeted potential contaminated areas identified in the Phase One LQA. The intrusive works commenced on 28 November 2005 and were completed on 09 December 2005. Boreholes were drilled between 10 m and 14 m below ground level (bgl) and were installed with groundwater and gas monitoring standpipes targeting the groundwater.

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Trial pits were excavated to typical depths of between 3.0 m and 4.0 m bgl. Samples were obtained from each exploratory hole at frequent depth intervals and submitted to a specialist environmental laboratory for chemical testing.

The ground conditions encountered confirmed the published geology and the conditions encountered in previous site investigations. The ground conditions consisted of an upper layer of Made Ground (or topsoil where Made Ground was absent). This was underlain by Brickearth comprising silt or clay, which was in turn underlain by the Plateau or Terrace Gravels comprising granular sand and gravel. Where fully penetrated, the Sands and Gravels where underlain by sandy silt within the Bracklesham Group.

Made Ground was encountered at almost all Entec exploratory hole locations in this investigation. The depth of Made Ground was typically less than 0.5 m, ranging (where present) from a minimum depth of 0.05 m bgl in ETP308 to a maximum depth of 1.5m bgl in EWS310.

Made Ground frequently comprised reworked natural material. Made Ground comprised typically comprised sand or silt, with clay and gravel locally. Topsoil/ reworked topsoil was also present in unsurfaced areas of the site, and typically comprised a dark brown silty sand with organic matter. In the suspected former Victorian tip area to the north of the airfield, dark grey silty ash with gravel, glass, bone, brick and concrete was encountered in ETP311 to 0.80 m depth, although this material was absent from other pits in this locality.

All exploratory holes penetrated through the Made Ground and Topsoil to the underlying natural ground. The natural ground comprised Brickearth, typically an orange brown mottled grey fine grained cohesive soil (silty clay/clayey silt with a little gravel) to depths of approximately 1.5 m to 2 m bgl.

The Brickearth was underlain by Plateau and Terrace Gravels, typically granular soils comprising orange brown gravelly sand/sandy gravel. The thickness of Plateau/Terrace Gravels varied from 1.0 m in EBH308 to a maximum of 6.9 m in EBH301.

Where the Plateau and Terrace Gravels were fully penetrated in boreholes, the underlying Bracklesham Group was encountered at depths of 3.5 m bgl in EBH306 to 10.2 m bgl in EBH301. This typically comprised a grey sandy clay/ silt. The full depth of the Bracklesham Group was not fully proven.

Overall Land Quality

The majority of the site is expected to be free of significant contamination. The current working practices at the site are largely good therefore the land quality is unlikely to be impacted by recent contamination in most areas.

The most substantial contamination is likely to be derived from historical activities such as degreasing using solvents in workshops/hangars, fuel storage and on-site waste burning and disposal.

The investigation has shown that the majority of the site is uncontaminated with localised areas of the site (approximately 2%) affected by hydrocarbons, solvents, metals and asbestos contamination. Areas of localised contamination have been identified which comprise:

- Hangars/Workshops in Technical Area: Groundwater contamination by tetrachloroethene;

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- MT Section and Storage Tanks: Hydrocarbon/Fuel contamination;
- East of Technical Area and areas of demolished buildings: Shallow localised asbestos contamination;
- Waste Disposal Area (Former Victorian Tip), North of airfield;
- Former Firing Range, west of airfield.

The site investigation was designed on a risk based approach that identified areas more likely to have contamination present given their historical use. As such, it is possible that further contamination sources may be present on site that have not been identified during the current Entec site investigation.

Environmental Risk Assessment

The risks to human receptors under current and industrial/ commercial use posed by the identified contamination sources are generally assessed as low across the majority of the site rising to moderate in areas of identified contamination.

A moderate to high risk is assessed in the areas of known contamination for future residential site use with garden areas.

In areas of known contamination, risks rise to moderate to high for redevelopment workers by contact, ingestion or inhalation of any contamination encountered during redevelopment works.

The site is underlain by a Minor Aquifer and this has been impacted by chlorinated solvents and hydrocarbons in the Technical Area. Subsequently a very high risk is assessed for groundwater, given that contamination of groundwater has been identified. Across the remainder of the site, the Minor Aquifer does not appear to have been impacted and the risk has therefore been assessed as moderate to low.

The risks to surface waters are assessed as generally low to moderate. This reflects the distance to the River Alver (at least 1 km) and the likelihood of dilution and attenuation of contaminants during transport via tributaries or baseflow. Any contamination entering the Solent would undergo significant dilution given the volume and tidal nature of this water body. The risks to this Environmentally Sensitive Area (SSSI, Ramsar designation) are therefore generally assessed as low.

Risk to services and building materials are generally low to moderate in contaminated areas, associated with degradation of services and contaminant penetration.

Suitability for Redevelopment

Based on the information available it is likely that the site will be suitable for commercial and industrial use subject to localised remediation. Notably the solvent and hydrocarbon contamination in groundwater are likely to require remediation or mitigation measures.

Based on the information available, the site is suitable for commercial and industrial use subject to remediation of fuel and solvent contamination of shallow groundwater, particularly in the Technical Area.

The majority of the site, particularly the areas within the taxiways, is suitable for residential use, as are most of the non-industrial parts of the Technical Area.

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During any site redevelopment, risks to construction workers are expected to be mainly low, except for the higher risk areas where risks from limited contamination would be mitigated by personal protective equipment (PPE).

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Glossary of Terms

Site Specification

BFI	-	Bulk Fuel Installation
DE	-	Defence Estates
DRPS	-	DSTL Radiological Protection Services
DSS	-	Distribution Sub Station
DSTL	-	Defence Science and Technology Laboratory
EWC	-	Establishment Works Consultant
WSM	-	Works Services Manager
POL	-	Petrol Oil and Lubricant

Environmental

AOD	-	Above Ordnance Datum
BGL	-	Below Ground Level
BGS	-	British Geological Survey
BTEX	-	Benzene, Toluene, Ethyl Benzene and Xylene
EA	-	Environment Agency
EPH	-	Extractable Petroleum Hydrocarbons
ESA	-	Environmentally Sensitive Areas
NNR	-	National Nature Reserve
NRPB	-	National Radiological Protection Board
OS	-	Ordnance Survey
PAH	-	Poly Aromatic Hydrocarbons
PCB	-	Poly Chlorinated Bi-phenyls
SINC	-	Site of Importance for Nature Conservation
SPAs	-	Special Protection Area
SPZ	-	Source Protection Zone
SSSI	-	Site of Special Scientific Interest
SVOC	-	Semi Volatile Organic Compounds
TOC	-	Total Organic Carbon

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TPH	-	Total Petroleum Hydrocarbons
VOC	-	Volatile Organic Compounds

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Appendix E	Formatted Laboratory Data

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1. Introduction

1.1 Terms of Reference

The Ministry of Defence (MOD) requires an assessment of the land quality at HMS Daedalus (the site). The purpose of the assessment is to provide additional land quality information on the site and assess possible health and environmental risks that any contamination may present both to the site and its users in its current use and for any future end uses.

Entec UK Ltd (Entec) was commissioned by Defence Estates (DE) to undertake a Phase Two Risk Based Land Quality Assessment of the site on 11 November 2005. This commission was carried out under the Specialist Environmental Term Contract DE11/4471 between Entec and Defence Estates.

1.1.1 Aims and Methodology

The aim of the Phase Two Land Quality Assessment is to review desk study information and collate this with data obtained from the intrusive site investigation works to provide information on the ground and contamination conditions at the site. This will allow the site conceptual model to be refined and further environmental assessments of the ground conditions to be undertaken. The aim of the risk assessment is to identify any potential health or environmental risks and subsequent liabilities posed by the site, which may affect its valuation or future use, and to describe the scale of the risks.

The following methodology was adopted:

- Review of historical maps and site layout plans indicating areas where potentially contaminative activities may have been undertaken;
- Review of present day maps, geological records, and groundwater information;
- Interviews site personnel and staff connected with the site, who possess a knowledge of the present and past operations;
- Subsequent design of risk based intrusive investigation given the desk based information;
- Completion of total of 10 No boreholes, 12 No. window sample holes and 26 No trial pits with chemical testing to assess ground and groundwater conditions.

The findings of the study are based on the information made available to Entec by the MOD and personnel at the time of the desk study, together with information obtained from the intrusive investigation.

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1.1.2 Future Site Uses

It is understood that disposal of the site is planned for 2006. The Maritime and Coastguard Agency (MCA) proposes to purchase the existing main operational runway, along with land to the north west of the runway and a buffer zone around the runway. The remainder of the site is to be purchased by the South East England Development Agency (SEEDA) for onward transfer and development. Redevelopment is most likely to comprise mixed residential, commercial or industrial use. This assessment assesses risks to current users and all future site users, including a residential end use and commercial/ industrial end uses.

1.2 Site Location

HMS Daedalus is located between Lee on the Solent and Stubbington, Hampshire. The site is centred around approximate National Grid Reference (NGR) SU 562 020. A site location plan is presented as Figure 1.

1.3 Site Description

1.3.1 General

The site is a former Royal Navy airfield, barracks and training establishment extending to around 200 ha. The site was vacated by the Royal Navy in approximately 1996.

Access to the site is currently via Argus Gate off Broom Way to the east of the site. The site is divided into two distinct areas as follows:

- airfield and associated former aircraft hangars (northern area);
- former workshops and aircraft hangars (southern technical area).

The northern airfield is grassed (85% of area) with the exception of hardstanding on the runways, taxiways, hangar surrounds (10% of area) and buildings (5% of area). The site contains three runways of which only one remains active.

The southern technical area comprises workshops, hangars and other buildings (30% of area), and associated hardstanding (50% of area), with local grassed areas (20% of area). A site layout plan is included as Figure 2. Recent site photographs are included in the Phase One LQA.

The three runways are as follows:

- 05/23 active (licensed) runway aligned approximately NE/SW;
- 35/17 disused runway aligned approximately north-south;
- 10/28 disused runway aligned approximately west-east.

Runways are connected by perimeter taxiways. Besides the southern technical area, hangars are also present along the northwestern and eastern perimeter.

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The airfield landholding includes four small satellite areas of vacant land beyond the southwestern perimeter, which lies under the approaches to runways 05/23 and 10/28 (Runway Protection Areas).

1.3.2 Site Boundaries

Details of adjacent land uses to the site are presented in Table 1.1.

Table 1.1 Site Boundaries and Adjacent Land Use

Boundary	Adjacent Land Use	Proximal Land Use
Northern	School, Agricultural land	Agricultural land
Eastern	Agricultural land	Agricultural land
Southern	Residential and land to be retained by MOD for accommodation	Residential Property
Southern Western	Residential property and seafront	Solent Estuary
Western	Residential Property	Residential Property

1.3.3 Buried Services

Site

Information regarding utility services at the site was obtained largely from a series of service drawings provided by DE. The drawings (reference S1401/77 to S1420/77) were a record of services survey undertaken in 1973.

Electricity

The electricity supply to the site is served by a 11kV high voltage ring main, which lies adjacent to the airfield perimeter track, and passes through the Technical Area. A low voltage supply is distributed to the various buildings throughout the site from several distribution sub stations on the HV ring main.

Water Supply and Drainage

Drawings indicate a network of water supply pipes at the site, serving the technical area. There are also unmarked water supply pipes serving selected hangars at the airfield. Records also show a network of storm and foul drains serving the site.

Gas

There is a limited gas supply network within the site.

Communications

Records show that a network of BT telecommunications cables is present across the site.

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1.4 Site History

Information on the site history has been obtained from the following sources:

- Historical maps and plans;
- Historical aerial photographs;
- Defence Estates;
- Historical records (Naval Historical Branch);
- Anecdotal information from current site personnel;
- Publications including Hampshire Airfields in the Second World War by Robin J Brooks.

Historical Maps;
Historical maps dating from 1870 to 2000 were used in part to determine the historical development of the site and the local area.

The historical maps reviewed are shown in Table 1.2:

Table 1.2 Historical Maps

Date	Map	Scale
1870-1874	Hampshire & Isle of Wight	1:10 560
1898	Hampshire & Isle of Wight	1:10 560
1910-1911	Hampshire & Isle of Wight	1:10 560
1938-1942	Hampshire & Isle of Wight	1:10 560
1963	Ordnance Survey Plan	1:10 560
1968	Ordnance Survey Plan	1:10 560
1975	Ordnance Survey Plan	1:10 000
1983	Ordnance Survey Plan	1:10 000
1991	Ordnance Survey Plan	1:10 000
2000	Ordnance Survey Plan	1:10 000

Historical Air Photographs
Historical air photographs have been obtained from the National Monuments Records Office. Key photographs reviewed are shown in Table 1.3:

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Table 1.3 Aerial Photography

Date	Photograph Reference
25 July 1940	RAF/225D/UK848 - frame 2698
11 June 1942	RAF/HLA/554 - frame 121
20 April 1946	RAF/36/TUD/UK/16 frame 5010
12 October 1950	RAF/541T/51-Frame 4048
31 August 1954	RAF/82/1006-Frame 0364
30 September 1988	OS/88275 Frame 165
04 October 1999	NMR 18534/19
04 October 1999	NMR 18534/03
04 October 1999	NMR 18534/02
04 October 1999	NMR 18534/10
04 October 1999	NMR 18534/11

A summary of the historical development of the site is presented in Table 1.4.

Table 1.4 Summary of Historical Development of Site

Dates	Description
1871-1917	The historical maps dated 1871, 1898 and 1910 (1:10 560 scale) indicate that the site of HMS Daedalus was predominantly agricultural land at this time. The site also contained three farmsteads each comprising approximately two to three buildings. The largest farmstead was 'Milvil', located in the centre of the site. The southern of the four satellite sites to the south-west corner of the main site is shown on the 1910 map as partially on 'Saltings', the other three sites are shown as undeveloped fields. Off-site, the surrounding land use was predominantly agricultural. There were also a number of farmsteads similar to those within the site. Stubbington village lay approximately 700m to the north-west of the current site boundary. To the south of the site, predominantly residential development is shown, with associated amenities including a church and hotel. A brick works is shown on the 1911 sheet 400m to the north-east of the site, and sewage filter beds are shown 100 m north of the site.
1917-1919	By 1917 the site was in military use as Royal Navy Air Station (RNAS) Lee-on-the-Solent. It was initially a temporary establishment using some of the nearby facilities including former homes and schools. By the end of 1917, it was made a permanent establishment with 32 men and 6-8 sea planes. By the end of 1918, the base was transferred to the new Air Ministry, and accommodated 827 personnel and 69 aircraft. The site included 18 seaplane sheds, 8 canvas hangars and 4 slipways.
1919-1932	Following the end of World War One, site activity was reduced to care and maintenance, but re-opened for sea-plane training in June 1920. There also followed the addition of an Observers School for both the RAF and Navy, followed by trials on catapult launching systems and experimental sea planes. The role of the station expanded through the 1920s and into the 1930s with increases in numbers of both personnel and aircraft.

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Table 1.4 (continued) Summary of Historical Development of Site

Dates	Description
1932-1938	A major expansion occurred in 1932, when the Headquarters of Coastal Area moved from Central London to Lee-on-the Solent. The site expanded with the acquisition of additional land, and aerodrome construction began with new barrack blocks, administration and technical buildings. The number of aircraft stationed at the site increased, with both land and seaplane training taking place on the base. Significant site development continued into the mid 1930's.
1938-1942	The base was transferred to the Admiralty during this period, and commissioned as HMS Daedalus, used extensively for both training and squadron flying. Historical maps dated 1938 and 1942 show few changes from the previous plan of 1911. The site is still shown as agricultural land. Military sites are commonly omitted from maps during this period for security purposes. At the outbreak of World War Two, the base expanded considerably and many air raid shelters, slit trenches and picquet posts were constructed. Blast pens were also built off the perimeter strip. RAF aerial photography from 25 July 1940 (RAF/2250/UK848) and 11 June 1942 (RAF/HLA/554) shows that between these dates, two tarmac runways were constructed (05/23 and 10/28). A perimeter taxiway was also constructed adjoining the maintenance area at the south of the site with four hangars on the western site boundary. The aerial photographs dated 1940 show at least 30 aircraft standing on the grass airfield. The 1940 aerial photograph shows features within the grassed airfield. Former field boundaries shown on historical maps are still evident. Surface features in the airfield include five irregular shaped patches of darker ground, one darker square patch and a faint ring feature near the centre of the airfield. None of the features on the photograph are shown on historical maps. The June 1942 photograph shows an area of herringbone drainage installed in the southwest of the site. This is not shown on previous or subsequent photographs.
1942-1944	By 1943, the site expanded to accommodate larger and increasing numbers of aircraft. Land was acquired up to as far as the Lee to Fareham road on the eastern site boundary was acquired, and the airfield extended eastwards. The east west runway was extended, and a new north-south trending runway (17/35) was constructed. These changes are shown on aerial photographs taken in 1946 (RAF/36/TUD/UK/163 - frame 5010). Approximately 20 new hangars were constructed on the north and east of the site, and the current air traffic control tower was constructed at this time. The new expansion required regrading of the site surface. The gradually inclined land to the east was cut by up to 3 m, and the minor valley of a tributary of the River Alver was re-graded.
1944-1945	During early 1944, as part of the build up to Operation Overlord, the number of aircraft stationed at HMS Daedalus rose considerably to over 100 Spitfires and Seafires plus at least three more squadrons. All these aircraft were re-painted with invasion stripes during this period, and a large amount of rapid repair work was carried out by ground crews.
1945-1959	Following the war, repairs and improvements were made to the base. Operations did not significantly reduce, although in 1946 marine operations ceased and the slipway was abandoned. Various squadrons used the base through the remainder of the 1940's and into the 1950's, including for helicopter pilot training. Aerial photos taken in 1946 show aircraft occupying the grassed areas of the airfield. A significant area of activity is shown between the main runway and the north-south runway towards the north east of the site. The same disturbed area of ground is also shown on aerial photographs taken in 1950 (RAF/541T/51-Frame 4048) and 1954 (RAF/82/1006-Frame 0364 f630). Various areas of regular shaped ground disturbance are apparent on aerial photos, probably relating to previous structures or fields. Another area of disturbed ground is shown around buildings in the east of the site. This is shown on the 1946 photographs but not on later photography, and may relate to ground disturbance from construction activities.
1959-1962	In 1959, HMS Daedalus was developed as the Fleet Air Arm's major technical training establishment. The air electrical school long established on-site was re-named HMS Ariel, and this became the name of the base. Airwork Ltd were responsible for the day to day running of the airfield and all fixed wing aircraft.

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Table 1.4 (continued) **Summary of Historical Development of Site**

Dates	Description
1962-1970	In 1962, the Joint Service Hovercraft Unit was established on the site, for the purposes of testing hovercraft for military use, particularly in mine counter measures. Major modifications and refits were made to hovercraft during this period. The site continued to be used by 781 squadron as a helicopter base. In about 1965 there were approximately ten aircraft based on site at this time. The Ordnance Survey map dated 1963 shows the plan of the airfield on site. The area of disturbed ground noted on earlier aerial photos (1946, 1950 and 1954) is outlined on the site plan. The newest runway/taxiway seen on the 1946 photography isn't shown on the map. Off site, there has been little significant development from that shown on the previous map of 1938. A school is shown adjacent to the north site boundary. More residential property has been built to the west of site and a new housing estate is shown to the east of Stubbington. A Golf Course is shown to the east of site. The 1968 map shows significant residential development on land surrounding the site, mainly to the north-east and south of site. A rifle range is shown in the west of the site. The disturbed area of land in the centre of the airfield is shown on the map as heath at this time. A site layout plan dated 1965 shows all the buildings and their use at this time.
1970-1988	During 1970, the Naval Air Command headquarters and Air Engineering School vacated the site, and closure of the site was under consideration. However, the site reverted to its original role of training. In addition, an RAF search and rescue unit operated from the base between 1973 and 1988. The communications element of 781 squadron closed in 1981 and search and rescue moved away in 1988. At around this time, the local Coast Guard began operating helicopters from the base. Also, Southampton University Air Squadron and the police used the base around this time. The site was also used for refuelling aircraft operating from ships in the English Channel. A new accommodation block was opened in 1980 followed by upgrading of pre-war RAF accommodation. Ordnance survey maps of 1975 and 1983 show no changes to the site itself. Off site, there has been further residential development to the north-east of site, and south of Stubbington. Aerial photographs from September 1988 (OS/88275 frame 165) shows that the buildings previously in the centre of the airfield are no longer present. Ground disturbance at this location is evident. Activity is also evident around the east-west runway in the south of the site.
1991	The Ordnance Survey map dated 1991 shows some reduction in the number of buildings at the far north of the site, and access tracks in the west of the site. In addition the area of heath close to the centre of the airfield is no longer shown. Off-site, few significant changes are shown other than an increase in residential properties to the northwest and southeast of site.
1999	The aerial photographs for 1999 show the site layout similar to the present-day layout. An area of disturbed ground in the far southwest corner of the site is shown on oblique aerial photos taken in October 1999 (NMR 18534/19). A further area of possible disturbed ground is shown on photo NMR 18534/04 in the south-east corner of the site. Photograph (NMR 18534/03) shows an area of rough ground in the far north of the site. (anecdotal information indicates this is a former tip area). To the east of the site, another area of rough ground is shown close to an area of hardstanding (NMR 18534/02, 10, 11). This is the former fire training ground.
2000	An ordnance survey plan for the year 2000 shows no significant changes from previous maps, on or off site. Again, the site layout is very similar to the present day layout.

1.4.1 Archaeological Issues/ Listed Buildings

Entec have conducted a Cultural Heritage Desk Study (reference 03385 RR093i2) for the site dated May 2005. The site contains six buildings which are of sufficient architectural and historical interest that they have been recommended by English Heritage for designation as

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listed buildings. There are nineteen further buildings which, whilst individually of lesser interest, contribute as a group to the historical character of the site. Many of these are within a part of a site which has been designated as a Conservation Area.

1.5 Environmental Setting

1.5.1 Site Setting

The site lies at a ground elevation of approximately 5 m to 10 m Above Ordnance Datum (AOD). The ground surface rises gently from the coast at the southwestern boundary to a central plateau within the airfield. Land at the eastern boundary slopes down eastwards towards a tributary of the River Alver. During development to an airfield, the site surface was locally regraded to form a level development platform.

1.5.2 Geology

The British Geological Survey (BGS) 1:50 000 scale geological map for Portsmouth shows that the site is underlain by Plateau Gravel, which overlies the Bracklesham Beds. Brickearth is indicated within the north of the airfield overlying the Plateau Gravel.

The general sequence of deposits based on previous investigations at the site is as follows:

- Made Ground (to 0.4-1.2 m bgl): reworked natural ground with brick and concrete;
- Brickearth (approximately 0.3-2.2 m thickness): soft to firm silty sandy clay with scattered fine gravel;
- Plateau and Terrace Gravels (2.5-5.5 m thickness): medium dense and dense sandy fine to coarse flint gravel with occasional sand horizons;
- Bracklesham Group (around 10 m thickness): medium dense silty fine sands with firm to stiff laminated clays.

The Envirocheck® report also details risks associated with potential geological hazards in the area of the site. The following levels of risk were identified:

- Landslip subsidence hazards: low to moderate risk (source: BGS);
- Swelling clay subsidence hazards: low to moderate risk (source: BGS);
- Radon: Less than 1% of homes are above the Action Level (source: NRPB). The BGS indicates that radon protective measures to dwellings are not required at this level.

1.5.3 Groundwater

The Environment Agency groundwater vulnerability map for northwest Hampshire indicates that the site is underlain by a minor aquifer (Plateau and Terrace Gravels). These aquifers seldom produce large quantities of water for abstraction, but they are important for local supplies and in supplying base flow to surface waters. The groundwater vulnerability map indicates that low permeability drift deposits (Brickearth) occur at the surface across much of

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the site. These low permeability deposits will limit the vertical migration of shallow contamination to depth. However, the map also indicates that the groundwater vulnerability at the site is high.

Groundwater was encountered in previous investigations within the Plateau and Terrace Gravels at typical depths of 3.5-3.8 m bgl. The direction of groundwater flow is anticipated to be predominantly southwards towards the Solent. In localised eastern areas of the site, shallow groundwater flow is anticipated to be eastwards towards the River Alver.

The Envirocheck report details four records of groundwater abstraction within 1 km of the site. The abstraction records are summarised in Table 1.5. The site does not lie in a groundwater source protection zone (GSPZ) as defined by the Environment Agency.

Table 1.5 Summary of Licensed Groundwater Abstractions

Operator	Licence Reference	Location	Abstraction Use	Abstraction Rate (m^3/yr)
I Hammond & Son Ltd	29/2	Stubbington Lane 20 m to W	Agriculture General	2728
I Hammond & Son Ltd	11/42/29/1	The Nurseries, Stubbington 25 m to W	General farming and Domestic	Not stated
Hampshire County Council	29/055	Stubbington Study Centre 250 m W	Private water supply (Amenity)	629
Hampshire County Council	29/2	Stubbington Study Centre 250 m W	Agriculture General	629

1.5.4 Surface Water

The southwestern site boundary is near the Solent and the slipway enters the water. The Solent is a tidal coastal water. A tributary of the River Alver lies approximately 30 m to the east of the site. The River Alver discharges to the Solent at Stokes Bay approximately 3 km downstream of the site.

Under the Environment Agency General Quality Assessment (GQA) classification of surface waters, the quality of the River Alver is assessed as Poor. The River Alver has consistently failed its water quality objective over the last nine years (since 1996).

The Envirocheck Report indicates that there are no records of licensed surface water abstractions in the vicinity of the site.

1.5.5 Ecology

The shore of the Solent from Lee on the Solent to Itchen is designated as a Site of Special Scientific Interest (SSSI). This lies approximately 50 m to the southwest of the site at its nearest point. The Solent is also designated as a Special Protection Area (SPA) and a Ramsar Site.

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1.6 Overall Site Sensitivity

Groundwater is of moderate sensitivity given the presence of Minor Aquifer at the site and records of local groundwater abstractions. The Plateau and Terrace Gravel are likely to be of high permeability that will facilitate lateral groundwater flow. It is likely that the aquifer provides shallow groundwater baseflow to the River Alver to the east of the site. Groundwater is also in continuity with the Solent Estuary. Any contaminants in shallow groundwater are likely to enter surface waters. Surface water sensitivity is low to moderate given the poor quality of the River Alver and the potential dilution in the Solent.

1.7 Regulatory Issues

Discharge Consents

The Envirocheck® report identifies ten discharge consents within 0.5 km of the site. None of the discharge consent records relate to discharges from the site.

Pollution Incidents

The Envirocheck® report identifies only two records of pollution incidents to controlled waters within 0.5 km of the site. Both of these incidents are classified as minor incidents and do not relate to the site itself. In addition, loss of 9000 litres of aviation fuel (JET-A1/AVTVR) from an above ground tank near the Control Tower occurred in March 2005. The long history of fuel handling at the site and the high permeability of the underlying geology are likely to have resulted in numerous unreported incidents of fuel loss to ground and dispersal on shallow groundwater.

Waste Management Facility Records

The Envirocheck report indicates six Environment Agency records of licensed landfill sites within 0.5 km of the site. A summary of the licensed landfill records is included as Table 1.6.

Table 1.6 Summary of Licensed Waste Facilities within 0.5 km

Site Name	Operator	Location	Waste Types	Date	Licence Status
Cherque Farm	RMC Aggregates	200 m SE	Construction, demolition, dredgings	1992	Active
Cherque Farm	Hampshire County Council	200 m SE	Commercial, household, Soil	1986	Non-operational
Cherque Farm	Hall Aggregates Limited	300 m SE	Excavated natural materials, bentonite, hardcore & rubble	1982	Non-operational
Cherque Farm	BM Recycling Limited	200 m SE	Household, commercial, inert earth	1978	Non-operational
Dykes Pit	Hall Aggregates Ltd	100 m E	Concrete and concrete Drum Washings	1977	Non-operational
Shoot Farm	K & R Demolition	170 m E	Construction and Demolition waste	1985	Non-operational

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The Envirocheck® report indicates that there are no further Local Authority recorded landfill sites in the vicinity.

Radioactive Substances

The Envirocheck® report identifies three records of Registered Radioactive Substances authorised under the Radioactive Substances Act within 0.5 km of the site centre. All three records are for radioactive materials held at the site. These are summarised in Table 1.7:

Table 1.7 Summary of Registered Radioactive Substances Held at the Site

Registered Holder	Location	Date	Details
Interserve (Defence) Ltd	HMS Daedalus	1997	Authorisation under S13 of RSA for disposal of Radioactive Waste.
Ministry of Defence	HMS Daedalus	1991	Authorisation under S7 of RSA for keeping and use of radioactive materials - open source.
Ministry of Defence	HMS Daedalus	1991	Authorisation under S7 of RSA for keeping and use of radioactive materials - 1 or more sources , <4 terabecquerels.

Other Issues

The Envirocheck® report identifies two petrol filling stations within 0.5 km of the site. A Total petrol filling station is located adjacent to the east of the site on Broom Way and a Shell petrol station is located approximately 400 m to the northwest of the site.

Environment Agency Data Search

The Environment Agency conducted a data search of records held for the site and within 1 km. The Environment Agency indicated that Cars of Lee at NGR SU 565 005 approximately 1 km to the southeast of the site was formerly contaminated by petroleum, hydrocarbons and TPH. Remediation of the site was not necessary for protection of controlled waters, as hydrocarbons from previous leaks had been removed. The site was signed off by the Environment Agency in May 2003. Cherque Farm at SU 574 009 is a former landfill for domestic and trade waste that has not been signed off by the Environment Agency as being remediated to the Agency's satisfaction.

1.8 Previous Investigations

1.8.1 Introduction

Previous investigations are summarised below and are as follows, listed in date order:

- Phase One LQA, G&E Consultants for WSP, May 1995;
- Phase Two LQA, WSP, June 1995 (Factual and Interpretative Report);
- Mineral Reserve Assessment, Rust Environmental, August 1995;

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- Land Contamination Assessments, Institute of Naval Medicine, June 1996;
- LQA Review, Entec UK Ltd, January 2001;
- Phase Two LQA Preliminary Radiological Survey, Entec UK Ltd, March 2003;
- Phase Two LQA Shallow Groundwater Investigation, Entec UK Ltd, May 2003.

Phase One LQA Report, Final Report, DWS Project No N/05002, G&E Consultants, May 1995

This desk study reviewed the site activities, site history and environmental setting. The study identified several locations across the site with potential for contamination to be present. These related primarily to hydrocarbons and also asbestos in demolition rubble. Intrusive site investigation was recommended.

Phase Two LQA Interpretative Report, DWS Project No N/05002, WSP Consultants for WSP Management, June 1995

This project comprised Phase Two ground investigations at Daedalus from February to June 1995. The investigation comprised the drilling of shallow window sample holes. Principal areas of ground contamination were identified at a number of locations as detailed in Table 1.8:

Table 1.8 Contaminated and Heavily Contaminated Locations Identified in WSP Phase Two LQA

Bldg No	Name	Soil	Groundwater
41	Paint Stores	Zinc	
60	Timber Store	Oil	
81	Central Boiler House (site of)	Oil	
273	Grounds Staff Office and Store	Oil	Oil
293	Workshop		Ethylbenzene, aromatics
301	N Hanger	Oil	Oil
343	R Hangar	Oil	Oil, Ethylbenzene and aromatics
353	Northwest Boiler House		Oil
356	No 4 Bellman Hanger		Mercury, boron, ethylbenzene
390	Fire Ground and Scrap Aircraft Store	Copper, zinc	Oil

Note: Heavy contamination is underlined.

Phase Two LQA Factual Report, Final Report, DWS Project No N/05002, Chemex International Plc for WSP, June 1995

This report details the chemical analysis of samples recovered during the Phase Two investigations by WSP in 1995.

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HMS Daedalus, Mineral Reserve Assessment Issues, Proof of Evidence, Reference 778/002 Rust Environmental, August 1995

This report details mineral extraction proposals at the time, ground conditions, and an estimate of the potential volume of mineral reserves at the site. Key findings were as follows:

- The mineral deposits comprised sand and gravel within the River Terrace Deposits;
- The thickness of the sand and gravel varies from absent to over 3.0 m due to deposition in a number of channels; and
- Economically viable deposits of mineral exist at the site (estimated as 3.4 million tonnes).

The document above is the mineral assessment presented as proof of evidence. The original mineral assessment report has not been located.

Land Contamination Assessments, HMS Daedalus, Institute of Naval Medicine, June 1996

This report details work conducted to investigate five selected areas of potential contamination. (Buildings 343, 356, 353, 273, former small arms range). Key findings were as follows:

- localised contamination by hydrocarbons at Buildings 343, 353 and 273;
- suspected mercury contamination at Building 356 not encountered;
- asbestos (amosite) contamination encountered at Building 353;
- lead was encountered at widespread locations at the former firing range.

The report recommended further investigations of the identified contamination and prevention of access to the area impacted by asbestos.

HMS Daedalus LQA Review, Entec UK Ltd, January 2001

This document comprised a review of previous Phase One and Phase Two Land Quality Assessment works on the site. The objective was to determine whether the scope of works for Phase One/Two LQA had been met and to determine exactly what had been done and whether any works were required to address gaps in the investigation through new information or experience. Potential radiological contamination and shallow groundwater contamination had not been correctly appreciated or addressed. Further work was recommended to clarify potential contamination and liabilities.

HMS Daedalus Land Quality Assessment, Phase Two Radiological Investigation, Entec UK Ltd, March 2003

This investigation comprised a targeted walkover survey of areas with high potential for radioactive contamination to be present. Key findings were as follows:

- Majority of locations surveyed were free from radioactive contamination;
- Radioactive contamination encountered at 28 locations of point sources;
- Surface soils locally contained contamination in excess of Radioactive Substances Act threshold levels, and guideline screening values recommended by the NRPB;

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- Exposure to radioactive contamination presents a potential hazard resulting from ingestion of material. However the likelihood of regular ingestion is low and the risk to human health is moderate;
- The report recommended intervention (i.e. removal of radioactive artefacts) to mitigate the potential risk to human health.

HMS Daedalus Land Quality Assessment, Draft Phase Two Shallow Groundwater Assessment, Entec UK Ltd, May 2003

An intrusive shallow groundwater investigation was carried out in May 2003. The investigation comprised the drilling of 20 boreholes, and installation of shallow groundwater monitoring standpipes. The key findings are as follows:

- The investigation concluded that the majority of groundwater underlying the site is likely to be free from significant contamination;
- The principal contaminant of concern encountered was chlorinated solvent (tetrachloroethene) in groundwater in the south west of the site;
- Localised hydrocarbon contamination was also encountered at locations of former fuel storage and dispensing;
- Minor localised contamination of shallow soils by metals was also encountered during the investigation;
- The report identified that there would be a moderate risk to future site users if areas of identified contamination are redeveloped to a sensitive end-use such as residential housing and gardens;
- The site was considered suitable for redevelopment to a residential or commercial end-use subject to measures being taken to address risks identified from organic contamination.

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2. Potential Contaminative Activities

2.1 Current Activities

Sources of information for this section were obtained during recent site inspections and from the current Property Manager.

2.1.1 Tenanted Property

An Entec consultant carried out a walkover inspection of the site on 10 November 2004 and 18 January 2005, including inspection of tenanted units throughout the site. Where possible site based personnel were interviewed and consulted regarding the following:

- Tenant organisation;
- Operations undertaken;
- Presence and nature of any chemical storage;
- Presence and nature of any fuel storage;
- Nature of waste and waste management;
- Presence of boilers/heating systems;
- Spillage incidents;
- Presence of burning grounds or fire incidents;
- Visual or olfactory evidence of contamination.

Information collated during the site walkover is summarised in Table 2.1.

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Table 2.1 Summary of Site Activities and Potential Contamination Issues

Operator	Location	Activities Conducted	Potential Contamination Issues	Comments	Further Investigation Required (Y/N)
AFI Aerial Platforms	Building 35	Hydraulic lift hire and service	None identified		N
Airport Precision	Building 71	Light metal engineering	None identified		N
AM Ware	Hangar J	Unknown	Fibrous lagging visible on grass outside hangar, possible asbestos	Internal inspection not undertaken	Y
Atlas Helicopters	Hangar H (Bldg 307)	Helicopter Charter	Anecdotal information indicates black oily contamination in runoff from adjacent grass		Y
Blamire and Barton	Hangar F	Aircraft Hangar	Some fibrous lagging on ground outside, possible asbestos		Y
Bodenham	Manor Way Sportsfield	Horse grazing	None identified		N
BP Haulage	Part of site D1	Haulage contractor	Oil filters present on grass, empty 200 litre fuel drums stacked on grass, fuel pumped from drums, no bunding or spill kit, generally untidy		Y
Butcher and Chamberlain	Hangar E (Bldg 290) and Hangar N (Bldg 300)	Car Storage	None identified	Internal inspection not undertaken	N
CL Light Haulage	Site T and Bldgs 61 and 96	Light Haulage and storage	None identified		N
Mr Daniels	Hangar G (Bldg 296)	Aircraft Hangar	None identified		N
DJ Traction Services and Zenith LGV and Forklift truck School	Site N and Hangar D (Bldg 289)	Haulage and driving school	None identified		N

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Table 2.1 (continued) Summary of Site Activities and Potential Contamination Issues

Operator	Location	Activities Conducted	Potential Contamination Issues	Comments	Further Investigation Required (Y/N)
Mr K Duffy	Workshop adjoining Bldg 67	Door Storage	None identified	Internal inspection not carried out although building was inspected as part of HF Marine inspection	N
Dunley Estates	Land in north east of site	Agricultural	None identified		N
Filipinski	SW corner of Bldg 389	Sound Equipment	None identified	Premises not occupied during walkover	-
GPS Logistics	Overlord Hangar	Storage of dried milk	None identified		N
Hampshire Pallets	Bldg 55 & 51 and part of site P	Pallet assembly and storage	Old metal fuel tank being used within a concrete bund		N
Hampshire Police	Airfield and Air Traffic Control Centre	Police plane and driver training	Central heating oil tank and Aircraft fuel tank both had odours of fuel		Y
HF Marine	Main part of Esmonde hangar	Heavy Engineering	None identified	Untidy outside main entrance	N
HM Coast Guard	Building 352 with surrounding area and No. 4 & No. 1 Bellman Hangar	Coastguard Helicopter Base	Fuel Trucks parked on hardstanding. Oily contamination near Bellman No.1 around fuel bowsers. Inadequate bund present with anecdotal evidence of water being pumped from it onto ground surface		Y
Hopcraft and Hulme	Part of area D1	Haulage lorry parking	None Identified		N

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Table 2.1 (continued) Summary of Site Activities and Potential Contamination Issues

Operator	Location	Activities Conducted	Potential Contamination Issues	Comments	Further Investigation Required (Y/N)
Hovercraft museum trust	Bldg 40 and storage area	Hovercraft storage	None identified	No one available for interview and no internal inspection	N
Inchcape	Site M (opposite Esmonde)	Vauxhall car storage	None identified		N
JBT Marine	Building 35	-	-	Building now occupied by AFI Aerial Platforms	N
Julius Mellor	Dunning Hangar (Bldg 73)	Cosmetics and Pot Pourri storage	None Identified	Building empty on inspection	N
Langley/Buckland Demolition	Site J	Demolition contractors yard	Yard slightly oily, slight diesel/ oil odour. Hydraulic equipment stored on site with no absorbent material below hydraulic hoses	Site surface mainly hardstanding	Y
Livin Style	Bldg 155	Furniture Storage	None identified	No one available for interview and no internal inspection. Building appears empty	N
Lynx IPT	Site B (rear of Dunning Hangar)	Helicopter Shells	None Identified	Unit vacant at time of inspection	N
M&J Transport	Site S	Haulage Contractor	Oily drums and batteries stored on permeable base. Dirty oily metal tank used for waste oil storage on hardstanding	Small volumes stored, no evidence of significant loss to ground	N
Marine Concepts	Hangar K (Bldg 305)	Manufacture of fibre glass boat hulls	Empty resin drums outside property		Y

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Table 2.1 (continued) Summary of Site Activities and Potential Contamination Issues

Operator	Location	Activities Conducted	Potential Contamination Issues	Comments	Further Investigation Required (Y/N)
Medlow Skip Hire	Site J	Storage of skips on hardstanding- empty or filled with inert waste	None identified		N
Owton Freight	Adjacent to Bldg 14	Haulage	None identified	No vehicles or cabins present	N
Pooles of Fareham	Site P2	New car storage	None identified		N
Portsmouth Naval Gliding Club	Hangar O (Bldg 299)	Glider storage	None identified	No one available for interview. Internal inspection not conducted	N
Premier Pallets	Site J2 and Bldg 159	Pallet assembly and storage	Slight spillage around bunded diesel fuel tank on hardstanding. Fuel spillage managed using wood shavings	Dirty/untidy outside	N
Southern Airframe Specialists Ltd	Hangar L (Bldg 304)	Sheet metal repair	None observed	Untidy outside	N
Schefenacker	Swann Hangar (Bldg 68)	Storage of plastic products	None observed		N
Sea Containers	Site and Bldg 37	Hovercraft storage and repair	None observed		N
SEB Furnishings	Bldg 56	Furniture Manufacturers	None observed		N
Smile Trading	Bldg 100 and area outside	Storage of refrigeration equipment and mattresses	None observed		N
EFCO/Solent Manufacturing	Bldg 39	Furnace manufacturers	None observed		N

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Table 2.1 (continued) Summary of Site Activities and Potential Contamination Issues

Operator	Location	Activities Conducted	Potential Contamination Issues	Comments	Further Investigation Required (Y/N)
Solent Microlight	Hangar M (Bldg 303)	Microlight storage	None observed	No one available for interview. Internal inspection not conducted	N
Solent Ribs	Hangar C (Bldg 287)	Small boat manufacturer	None observed		N
Southfield Event Catering	Bldg 15 and site A	Mobile catering company	None observed	No one available for interview. Internal inspection not conducted.	N
TH Cabling Ltd	Centre of section J	Cable storage	None observed	No one available for interview	N
Thruxton Aviation	Hangar A and B (Bldg 292)	Maintenance of aircraft	None observed		N
Mrs Wilson	Plot 1	Grazing land	None observed		N
Mrs Wilson	Plot 2	Grazing land	None observed		N
Wilson (Dean)	Site Q1	Haulage		Site not found during walk over	-
Woodlands Worcestershire Ltd	Site adjacent to Bldg 153	Generator storage	None observed	Fuel stored in unbunded IBC units. No evidence of spillage/leakage	N
Xtravacom	Western end of Esmonde Hangar and Bldg 389	Storage of lights and sound equipment		Not found in Esmonde Hangar	-
Yorke	Site D1	Haulage contractor	None observed	Not encountered in area D1	N
Young (David)	Site A2 and toilet block			Not located during walkover	-

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The walkover survey encountered eight plots where there are potential contamination issues. These include the following:

- A M Ware, Hangar J; Fibrous lagging was found lying on the grass surrounding the hangar - potential asbestos fibres;
- Atlas Helicopter Charters, Hangar H; Anecdotal evidence from site staff indicated that an oily sheen was present in surface water run-off from the grass area to the south west of the hangar;
- Blamire and Barton, Hangar F; Fibrous lagging was encountered on the grass surrounding the hangar - potential asbestos fibres;
- BP Haulage, Area D1: Oil filters and unbunded fuel drums encountered on the grass adjacent to a storage container;
- Hampshire Police, Air Traffic Control Tower: A fuel odour was noted near a fuel tank in the car park and the aircraft refuelling equipment. A fuel spill occurred from the fuel tank in March 2005;
- Coast guard: Oily surface contamination was encountered below fuel bowsers to the west of Bellman Hangar No 1. Anecdotal information indicated that surface water which collected in a bunded area around the fuel bowser was pumped onto the surrounding ground surface;
- Buckland/ Langley Demolition, Area J: The yard surface used to store demolition plant and other equipment displayed evidence of oil spillage;
- Marine concepts, Hangar K: Empty resin drums left lying outside hangar.
- Woodlands Worcestershire Ltd, unbunded fuel storage, but no evidence of spillage/leakage;
- M&J Transport, oily drums, batteries and metal oil tank, although small volume stored and no evidence of significant loss to ground.

Defence Estates staff indicated that a prospective site tenant had recently used a grassed area to the east of the air traffic control tower for illegal dumping of demolition waste. Anecdotal information suggests that possible mercury waste was seen on the ground surface adjacent to the area used for tipping.

Areas where there is potential contamination due to recent site activities are illustrated on Figure 3.

2.1.2 Petrol, Oil and Lubricants (POL)

There are a number of locations at the site which have formerly been used and are currently in use for the storage of petroleum and hydrocarbon products. These are summarised in Table 2.2.

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Table 2.2 **Summary of Fuel and Hydrocarbon Storage Tanks**

Location	Contents	Current or Former	AST/UST	Comments	Previous Entec SI
Buildings 82 & 83	Fuel Oil	Former	AST	Fuel for Old Boiler House	BH202
Central Boiler House	Fuel Oil	Current (disused)	AST	No evidence of spillage	
Bulk Fuel Installation	Aviation Fuel	Current (disused) tanks removed	UST	TCE and fuel contamination	BH218, 219,220
Building 99 (MT Fuel Store)	Petroleum	Former	UST	Petroleum contamination	BH201
Building 274 (Ground Maintenance Section)	Fuel Oil	Former	UST	Diesel contamination	BH203
Building 295	Fuel Oil	Current (disused)	AST	Historical surface staining observed	BH204,205,206
Building 301	Fuel Oil	Current (disused)	AST	Historical surface staining observed	BH207, 208, 209
Building 303	Fuel Oil	Current (disused)	AST	Historical surface staining observed	
Building 343	Fuel Oil	Current	UST		BH210, 211, 212
Building 344	Fuel Oil	Current	AST		
Building 353	Fuel Oil	Former	AST		BH213
Building 351	Diesel	Current	AST	Surface staining	BH214
Building 51 & 55	Diesel	Current	AST		
Building 16 (Air Traffic Control)	Fuel Oil & Aviation Fuel	Current	AST/		
Site S	Waste Oil	Current	AST		
Site J2 Building 159	Diesel	Current	AST	Surface staining evident	

Note. In addition to the above tanks, hangars around the airfield each had their own bunded fuel tanks. Tanks at the Bulk Fuel Installation were removed in February 2005. Demolition contractors reported fuel contamination around the bowser filling point. Contaminated soil was not removed during these works.

2.2 Historical Activities

Historical activities that may have potentially given rise to contamination are illustrated on Figure 4.

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2.2.1 Workshops and Motor Transport Areas

Motor transport (MT) facilities at the site were at the following locations:

- MT Oil Store Building 34;
- MT Hangar Building 35;
- MT Hangar Building 37;
- MT Workshops Building 39;
- MT Petrol Store Building 99.

Potential contaminants at MT facilities include fuels, oils, lubricants, metals, degreasers and solvents.

2.2.2 Substations and Transformers

Former and present day electrical transformers are present at the site. Locations include Buildings 27, 132, 141, 269, 297, 340 and 361. Electrical transformers are potential sources of transformer oil and polychlorinated biphenyl (PCB) contamination.

2.2.3 Burning Grounds

Former burning grounds have been identified at the site. These include the following locations:

- Southeastern corner of the airfield south of Building 286;
- Building 392, fire ground.

In addition, a former incinerator was present at Building 227 in the east of the accommodation complex within the Technical Area.

Potential contaminants in burning areas on airfields include metals, polycyclic aromatic hydrocarbons (PAHs) and radioactive contamination. Use of an incinerator solely for disposal of documents is unlikely to create contamination; the materials disposed of in the incinerator at building 277 are not known.

2.2.4 Boilers

The former boiler house (Building 81) and above ground fuel storage tanks (Buildings 82 & 83) were located to the south of Dunning Hangar (Building 73). The boiler house served the southern Technical Area. The boiler house and fuel storage tanks were replaced in the 1990s by a nearby facility adjacent to the south of the Dunning Hangar.

Most hangars and buildings surrounding the airfield currently have, or have had in the past, dedicated boilers and associated fuel storage tanks.

2.2.5 Waste Disposal and Landfill

All waste material generated from the daily running of the site is collected from site and taken for appropriate off-site disposal. Previous LQA assessments of the site have reported localised disposal of building rubble around the site.

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In addition, anecdotal information indicates that a Victorian tip is present next to the northern boundary of the airfield. This area is currently overgrown. This predates the airfield, however, it is not known whether this waste disposal site is currently in use.

Historical aerial photographs indicate that there are areas within the site where disturbance of the ground has taken place, potentially resulting from disposal of waste materials. Notable locations include the following:

- Area within southeast corner of site adjacent to Building 221 (close to former incinerator);
- Localised areas of rubble deposition in NE of airfield (former ammunition storage area).

2.2.6 Asbestos Containing Materials

There are asbestos containing materials (ACMs) present at the site. An Asbestos Register has been compiled previously for the site (EWC, 1992), which identified ACMs at a large number of locations. The asbestos comprised predominantly white asbestos (chrysotile) in a variety of materials comprising roof sheets, eaves, gutters and rainwater pipes.

2.2.7 Explosive Ordnance/ Residues

Historical site plans indicate that there were a number of buildings where there are potential ordnance issues. Buildings with potential ordnance issues are summarised in Table 2.3.

Table 2.3 Buildings with Potential Ordnance Issues

Building No	Use
3	Held pyrotechnics for life rafts
6 & 7	Explosive Store
8	Explosive Store
14	Diving Store-Held Thunderflashes
15	Fire station ready use locker- held gas generators
16	Police tower –Held Pyrotechnics
18, 20 & 21	Explosive Store
73- Dunning Hangar	Bombed in WW2
87	Armoury Store- Held pyrotechnics
132	Held small arms ammunition
153, 154 & 155	Special Squadrons-held explosives
161	Small Arms Range
165	Naval Air Station classrooms- held pyrotechnics
313-319	Explosive Store

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Table 2.3 (continued) **Buildings with Potential Ordnance Issues**

Building No	Use
349	Pistol Range
363	303 Range
364	Firing Point for 303 Range

The use or storage of explosive ordnance at a location does not necessarily mean that these materials remain at the location or have been lost or disposed to ground.

There are a series of ordnance clearance and associated reports for the site. A summary of the clearance work conducted is presented in Table 2.4 below:

Table 2.4 **Summary of Ordnance Clearance and Related Activities**

Date	Location	Activity
1939-1943	Airfield	Pipemines Installed across airfield, 13 330 feet of pipe, 23 957lbs of Polar Blasting Gelatine. Array incomplete.
1947	Airfield	Clearance for Southern Command, full area searched, negative results, not all pipes found.
1984	South of Swann Hangar G1	Pipemine G1 recovered.
1985	Airfield	Clearance of selected areas adjacent to runways - Nil finds.
1986	North & East of Airfield	Clearance of Areas for Telegraph Poles (343, 344, 345).
		Area for fire fighting tanks (adjacent to 292, 332) - Nil finds.
1987	Entire Airfield	Clearance - Nil finds.
1990	Entire Airfield	Clearance Certificate for period 1984 to 89, 14 pipemines encountered- G1 detonated, and 13 excavated October 89.
1994		Clearance - Nil finds.
1996	Site 1 - Magazines 18 & 20 Site 2 - Ground Defence Exercise Area Site 3 Blg 162 Site 4 - Slipway Site 5 Fieldgun Training Area Site 6 - Around Dunning Hangar & 15 other buildings	Clearance - 13 fired bases found.

A summary of ordnance clearance activity is illustrated on Figure 5. There are no records of abandoned bombs at the site (33 Engineer Regiment correspondence, 8 October 2004). The explosive ordnance clearances and certification for this site has been reviewed by the Defence Logistics Organisation Ordnance Group in a desk study, which is ongoing and for which the report has not been available for review. All clearance certificates and risk assessments have been withdrawn from the site as DLO has concerns over their completeness, accuracy, and whether they are applicable for site disposal purposes. A new clearance review is underway

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(commenced May 2005). Pipe mine plans for the site from 1943 are incomplete in two respects. Firstly, pipe mines have been located in areas not marked as mined; this may be mapping errors. Secondly, there are no mines marked on the northern most part of the airfield; this has been interpreted by DLO as indicating cancellation of the mining programme when the wartime invasion threat had receded.

2.2.8 Radioactive Materials

Historical site operations have been identified that have the potential to cause radioactive contamination.

Aircraft Hangars

It is possible that radium luminised instruments were maintained and parts stored within the hangars used for aircraft repairs. Luminised dials, instrumentation and paints may have been disposed of in the vicinity of these hangars.

Fire Training Area

It is likely that obsolete and damaged aircraft were burnt for fire training purposes in this area, located on the eastern portion of the airfield. Entec is aware that DRPS have already undertaken a radiological survey and subsequent remedial works to remove radiological sources identified within this area.

Burning Grounds/Waste Disposal Areas

Three potential waste burial/burning grounds have been identified on the south eastern area of the airfield. Such areas may contain radium contaminated residues depending on the nature of the material burnt/buried.

Workshops and Maintenance Facilities

It is likely that radium luminised instrumentation would have been repaired and stored along with radium luminising paints. Historically it was common practice for the ad-hoc disposal of waste items and paints to ground locally around these facilities.

Anecdotal Evidence

During walkover survey, Coast Guard staff familiar with the historic use of the site indicated that a crash investigation team was based in one of two Hangars (Bldg. 343 and 344) and that aircraft wrecks were reassembled in these locations. It is likely that aircraft debris may have been temporarily stored outside these hangars with the potential for radium luminised instrumentation to have been released to ground.

DRPS have carried out remediation of localised radioactive contamination at the site. Further details with respect to radiological contamination are contained in Entec Radiological Investigation Report (reference RR0561) dated April 2003. A report detailed radiological investigations carried out by Entec between November 1994 and February 2005 is being drafted at the time of writing.

2.2.9 Current Site Operations

There do not appear to be any current site operations that may give rise to further radiological contamination.

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2.2.10 Off-site Issues

The petrol filling station located adjacent to the south east of the site is a potential off-site source of hydrocarbon contamination that could potentially migrate laterally onto the site.

2.3 Potential Contaminative Issues of Concern

The Phase One LQA included an environmental risk assessment identifying the following contaminants of concern and associated areas where a LOW or greater risk to environmental and/ or human receptors was identified:

1. Chlorinated solvents associated with the former hangars, workshops and Bulk Fuel Installation (BFI) within the Technical Area;
2. Hydrocarbons (diesel, petroleum and lubricating oils) associated with the former Military Transport (MT) section within the Technical Area, and miscellaneous fuel storage areas;
3. Metals and polyaromatic hydrocarbons (PAHs) associated with former waste disposal, notably the former Victorian tip area in the north of the airfield;
4. Metals and polyaromatic hydrocarbons (PAHs) associated with former burning area within the south east of the airfield;
5. Metals, polyaromatic hydrocarbons (PAHs) and hydrocarbons associated with former aircraft breaking area within the north east of the airfield;
6. Metals, notably lead in the area of the former firing range within the west of the airfield;
7. Asbestos associated with buildings, and also in soils, notably in areas of demolished buildings;

Note that radiological contamination is addressed in separate radiological survey and investigation reports prepared by Entec.

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3. Site Investigation

3.1 Objectives

The Phase Two intrusive investigation scope was agreed with Defence Estates on completion of the Phase One Desk Study. The investigation was based on a 'risk based' approach, with intrusive locations targeted on those areas of potential contamination that represented the principal environmental and health risks identified during the Phase One LQA.

The following objectives were satisfied by this approach:

- Provide an assessment of overall land quality in areas that represent the principal risks;
- To establish the ground conditions beneath the site; and
- To assess the presence, nature and extent of any residual contamination on the site associated with former and current site activities in areas that represent the principal health risks.

3.2 Scope of Works

The following proposed scope of works was identified to satisfy the objectives of the investigation:

- Drilling of 10 No. boreholes to depths of between 10-14 m below ground level (bgl) to provide a response zone within the water table;
- Excavation of 26 No. trial pits to typical depths of between 2 and 4 m bgl;
- Drilling of 12 No. window sample holes to typical depths of between 2m to 3 m bgl;
- Collection of soil samples from boreholes and trial pits;
- Collection of a groundwater samples encountered during drilling and from completed boreholes installed with groundwater monitoring pipework;
- Laboratory analysis of samples on a selected suite basis to establish and confirm potential contamination; and
- Surveying of exploratory locations and elevations.

The intrusive site works were carried out over a period of two weeks from 28 November to 09 December 2005. Entec undertook the role of designer and site engineer of the intrusive investigation whilst Sub Surface (South East) Limited acted as the main contractor. A permit to dig system was operated during the works, issued to Entec by the Works Services Manager (WSM).

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All of the works were supervised and ground conditions were logged by Entec staff. The locations of the boreholes and trial pits are shown on Figure 6. Copies of the borehole logs are presented in Appendix A, window sample hole logs presented as Appendix B and trial pit logs are presented in Appendix C.

A separate site investigation by Halcrow Consulting on behalf of South East England Development Agency (SEEDA) was carried out at the same time as the investigation conducted by Entec. The data obtained during the Halcrow investigation is not included in this report.

3.2.1 Boreholes

A total of ten boreholes (referenced E/BH301-E/BH310) were drilled at the site using a Dando cable percussion drilling rig supplied by Sub Surface (South East) Limited. The boreholes were positioned at the locations of potential environmental risk identified in the risk assessment undertaken in the Phase One desk based work. Where possible, the boreholes were positioned on soft grassed areas to reduce reinstatement requirements.

All borehole locations were scanned by the drilling contractor using a cable avoidance tool (CAT). Boreholes were repositioned where services were suspected. Hand dug pits were advanced to 1.2 m bgl at all borehole locations.

Borehole arisings were placed on plastic sheeting and disposed to the appropriate waste skip once drilling was complete. All boreholes were completed as groundwater and gas monitoring installations using 50 mm diameter HDPE factory-slotted and plain well screen with on/ off gas valves. The boreholes were completed with lockable covers flush with ground level.

3.2.2 Window Sampling

A total of twelve window sampling holes (referenced E/WS301 to E/WS312) were drilled at the site by Sub Surface (South East) limited using a Terrier 2000 window sampling rig.

All window sample hole locations were scanned by the drilling contractor using a cable avoidance tool (CAT). Exploratory holes were repositioned where services were suspected. Hand dug pits were advanced to 1.2 m bgl at all window sample locations.

3.2.3 Trial Pitting

A total of 26 No. trial pits (referenced ETP301 to ETP326) were excavated at the site using a JCB 3CX. The trial pits targeted areas of potential contamination identified during the Phase One LQA. Where possible, the trial pits were positioned on soft grassed areas to reduce reinstatement requirements.

All trial pit locations were scanned using a CAT. Where the presence of services was suspected, the trial pits were relocated a short distance away. Trial pits were advanced in 50-100 mm layers to 1.5 m bgl using a toothless bucket to reduce any risks from unidentified services. The trial pits were then advanced to typical depths of between 3 m to 4 m bgl.

On completion of the trial pits, the excavated materials were replaced in the order in which they were excavated and compacted using the JCB bucket. The trial pits were left mounded to allow for natural settlement and any grass turf recovered was replaced.

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3.2.4 Waste Arisings

Waste arisings were disposed of to a skip. Laboratory analysis was carried out on a composite sample of waste from the skip. General analysis comprising metals, total sulphate, and TPH was carried out. The skips were removed from site by a licensed waste management sub-contractor.

3.3 Chemical Sampling and Analysis

3.3.1 Soil Sampling

Soil samples were collected from boreholes at every change in strata and/or every 2 m. In general one or two of these soil samples were scheduled for analysis. Soil samples were logged in accordance with BS5930:1999.

Representative samples were taken over a depth interval, which typically ranged between 0.20 m and 0.50 m. Care was taken to ensure that the sampling range did not cross strata boundaries.

Soil samples were taken using a stainless steel trowel which was cleaned between each use to avoid cross contamination. The samples were placed directly into containers provided by the laboratory as follows:

- 0.5 kg plastic tub (all analysis except organics);
- 250 g amber glass jar for organics (TPH, PAH, SVOCs);
- 40 g glass volatile vial (VOCs).

Trial pits soil samples were collected at significant changes in lithology, and typically 3 samples were obtained per trial pit.

3.3.2 Soil Analysis

Soil samples were scheduled and subsequently analysed in the laboratory for some or all of the following determinands depending, in part, on visual and olfactory observations:

- Inorganics: metals including arsenic, cadmium, chromium, copper, lead, nickel, mercury, selenium, zinc, pH, sulphide, water soluble sulphate;
- Organics: Fractional organic carbon, BTEX, petrol range organics, aliphatic and aromatic hydrocarbons (including C_{10}-C_{35} carbon banding), volatile organic compounds (VOC), semi-volatile organic compounds (SVOC) including poly aromatic hydrocarbons (PAH), phenol;
- asbestos identification where the presence of asbestos suspected.

The method and limit of detection for the soil analysis is given in Table 3.1 below:

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Table 3.1 Method of Soil Analysis and Limits of Detection

Determinand	Method of Analysis	Limit of Detection	Accreditation
Metals	IHM Aqua Regia Extract/ ICPMS	0.1-3mg/kg	U (M as only)
Asbestos	IHM Visual examination for bulk fibres		
pH	IHM pH Electrode	<1.0 pH units	U
Sulphate (water soluble)	IHM 2:1 water extraction/ ICPOES	3.0mg/l	U/M
Sulphide	IHM acid distillation/ ion chromatography	5mg/kg	U
Fraction Organic Carbon	IHM carbonate removal with sulphurous acid/ combustion at 800deg C/NDIR	0.01%	
TPH CWG (C5-C37) inc, GRO/BTEX, ali/aro separation	IHM by Headspace GCFID (GRO/BTEX), Extraction, column chromatography and GCFID analysis based on TNRCC method	GRO 0.2mg/kg, BTEX, 0.01mg/kg, 10 mg/kg for fraction (GCFID)	
Phenol	IHM distillation/ 4 aminoantipyrene	0.5mg/kg	U
PAHs by GCFID	IHM based on EPA 8100/solvent extraction, determination by GCFID	1mg/kg	U
SVOCs (Target List)	Soxhlet extraction followed by GCMS. Analysis for 65 compounds from USEPA 8270 target list.	0.2-10mg/kg	U
VOCs (Target List)	EPA 8260 purge & trap GCMS. Analysis for 59 compounds from USEPA 8260 target list	0.005 -0.025mg/kg	U

Note U = UKAS accredited, M = MCERTS accredited
IHM = In-House Method

3.3.3 Leaching Analysis

Soil samples were scheduled and subsequently analysed in the laboratory for leaching analysis depending, in part, on visual and olfactory observations. The analysis comprised the following determinands:

- Inorganics: metals including arsenic, cadmium, chromium, copper, lead, nickel, mercury, selenium, zinc, pH, sulphide, water soluble sulphate, ammoniacal nitrogen, chemical oxygen demand (COD), cyanide;
- Organics: Poly aromatic hydrocarbons (PAH) US EPA 16, phenol.

Two soil samples which contained ash and displayed elevated metal concentrations were scheduled for leaching test analysis.

3.3.4 Groundwater Sampling and Analysis

All Entec boreholes were installed with combined groundwater and gas monitoring standpipes. A groundwater sample was obtained from each of the ten Entec monitoring installations.

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Potable quality water was added to boreholes to assist drilling in sands and gravels. Groundwater samples were not obtained during drilling due to the addition of water, and the difficulty in determining groundwater strikes. The introduced water would mask any groundwater strikes encountered during drilling. Groundwater samples were collected in accordance with BS5930:1999. Clean disposable protective gloves and individual Waterra sampling equipment was used at each borehole to minimise the potential for cross contamination.

Groundwater analysis comprised the following determinands:

- Inorganic: metals including arsenic, cadmium, chromium, copper, lead, nickel, zinc, mercury, selenium, chloride, nitrate, conductivity, pH, sulphide;
- Organics: BTEX, petrol range organics, aliphatic and aromatic hydrocarbons (including C_{10}-C_{35} carbon banding), volatile organic compounds (VOC), semi-volatile organic compounds (SVOC) including poly aromatic hydrocarbons (PAH), phenol.

The analytical method and limit of detection for the water/ leachate analysis is given in Table 3.2 below:

Table 3.2 Method of Water/ Leachate Analysis and Limits of Detection

Determinand	Method of Analysis	Limit of Detection	Accreditation
Metals	IHM determination by ICPMS	0.1-5ug/l	U/ M
Chloride	IHM by colorimetric analysis	1mg/l	U
Conductivity	IHM by Conductivity Cell	100uS/cm	U
Nitrate	IHM calculation from total oxidised nitrogen and nitrite	0.3mg/l	U
pH	IHM using pH electrode	<1.0pH unit	U
Sulphate	IHM by ICPOES	0.06mg/l	U/ M
Sulphide	IHM Sulphide Electrode	0.2mg/l	U
TPH CWG (C5-C37) inc, GRO/BTEX, ali/aro separation	IHM by Headspace GCFID (GRO/BTEX), Extraction, column chromatography and GCFID analysis based on TNRCC method	0.1 (GRO), BTEX 0.005, 0.01/fraction mg/l	
Phenol Index	Segmented flow analysis inc. distillation/ 4-aminoantipyrene	0.05mg/l	
SVOCs (Target List)	Liquid Extraction followed by GCMS: Analysis for 65 compounds from USEPA 8270 target list	0.04ug/l to ug/l	
VOCs	Headspace by GCMS EPA 8260 Target List	1-5ug/l	M
Ammoniacal Nitrogen	IHM Method by Discrete colorimetric analysis	0.01mg/l	U

U= UKAS accredited, M= MCERTS accredited

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3.3.5 Quality Assurance

During the fieldwork the following procedures were followed to ensure the accuracy of the sampling and prevent cross contamination:

i) Samples were only handled using clean latex or nitrile rubber gloves;

ii) Soil samples were collected in a manner to minimise disturbance. Also, samples selected for laboratory analysis for volatile and semi-volatile compounds were collected and stored in a manner to exclude air from the sampling container.

Samples were sent to TES Bretby, a specialist subcontractor to Entec. TES Bretby is a UKAS and ISO17025 accredited laboratory and participates in the CONTEST and Aquacheck quality control schemes. The laboratory holds MCERTS accreditation for a limited number of analyses (see Table 3.2). TES Bretby carry out their own quality assurance by testing standard samples to check the calibration of the instruments used for analysis. Selected duplicate samples were also taken.

All samples were sent by courier accompanied by full Chain of Custody documentation and unique identifiable labels. Samples on site were stored in cool boxes, which were located out of direct sunlight and were couriered on a same day basis.

The laboratory analytical certificates are presented in Annex D.

3.4 Gas and Vapour Monitoring

Readings were taken for Volatile Organic Compounds (VOC) vapours from each sample using a Photo Ionisation Detector (PID). Where elevated concentrations were observed, samples were submitted for further VOC and SVOC analysis. PID readings were also taken from each completed standpipe. The instrument was calibrated at the beginning of the day using isobutylene (100 ppm with 10.2 eV lamp, span 9.8). In addition, an Analox infra red gas detector was used to monitor levels of methane, carbon dioxide, hydrogen sulphide and oxygen from completed standpipes. The recorded concentrations are tabulated in Section 4.

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4. Ground Conditions

4.1 Strata Encountered

4.1.1 General

The ground conditions encountered confirmed the published geology and the conditions encountered in previous site investigations. The ground conditions consisted of an upper layer of Made Ground (or topsoil where Made Ground was absent.) This was underlain by Brickearth comprising silt or clay, which is in turn underlain by the Plateau or Terrace Gravels comprising granular sand and gravel. Where fully penetrated, the Sands and Gravels where underlain by sandy silt within the Bracklesham Group.

4.1.2 Made Ground

Made Ground was encountered at almost all Entec exploratory hole locations in this investigation. The depth of Made Ground was typically less than 0.5m, but was in the range (where present) from a minimum depth of 0.05m bgl in ETP308 to a maximum depth of 1.5m bgl in EWS310.

Made Ground frequently comprised reworked natural material and typically consisted of sand or silt, with clay and gravel locally. Topsoil/ reworked topsoil was also present in unsurfaced areas of the site, and typically comprised a dark brown silty sand with organic matter. In the suspected former Victorian tip area to the north of the airfield, dark grey silty ash with gravel, glass, bone, brick and concrete was encountered in ETP311 to 0.80m depth, although this material was absent from other pits in this locality.

4.1.3 Natural Ground

All exploratory holes penetrated through the Made Ground and Topsoil to the underlying natural ground. The natural ground comprised Brickearth, typically an orange brown mottled grey fine grained cohesive soil (silty clay/ clayey silt with a little gravel) to depths of approximately 1.5m to 2.m bgl.

The Brickearth was underlain by Plateau and Terrace Gravels, typically granular soils comprising orange brown gravelly sand/sandy gravel. The thickness of Plateau/Terrace Gravels varied from 1.0 m in EBH308 to a maximum of 6.9m in EBH301.

Where the Plateau and Terrace Gravels were fully penetrated in boreholes, the underlying Bracklesham Group was encountered at depths of 3.5 m bgl in EBH306 to 10.2 m bgl in EBH301. This typically comprised a grey sandy clay/silt. The full depth of the Bracklesham Group was not fully proven.

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4.2 Soil Gas Monitoring

Monitoring standpipes were monitored for soil gas and VOCs using a PID and infra-red gas analyser. The results of the standpipe monitoring are summarised in Table 4.1.

Table 4.1 Results of Soil Gas Monitoring

Borehole	Date	Oxygen (%)	Carbon Dioxide (%)	Methane (%v/v)	Carbon Monoxide (ppm)	H2S (ppm)	PID (ppm)	Atmospheric Pressure (mb)
EBH301	06/12/05	20.8	0.0	0.0	5	0	0.3	1005
EBH302	06/12/05	20.5	0.0	0.0	2	0	0.2	1007
EBH303	06/12/05	20.0	0.0	0.0	2	0	1.0	1011
EBH304	06/12/05	20.9	0.0	0.0	6	0	0.2	1005
EBH305	06/12/05	20.2	0.0	0.0	0	0	1.0	1016
EBH306	06/12/05	20.6	0.0	0.0	6	0	0.2	1004
EBH307	06/12/05	19.9	0.0	0.0	5	0	610	1007
EBH308	06/12/05	20.0	0.0	0.0	4	0	21.7	1007
EBH309	06/12/05	19.9	0.0	0.0	3	0	415	1008
EBH310	06/12/05	20.0	0.0	0.1	5	0	17	1017
EWS305	06/12/05	20.0	0.0	0.0	2	0	0.3	1016
ETP301	06/12/05	19.9	0.0	0.0	6	0	0.1	1016

4.3 Visual and Olfactory Evidence of Contamination

Visual and olfactory evidence of contamination was generally observed across three distinct areas of the site. These are summarised in Table 4.2.

Table 4.2 Summary of Visual and Olfactory Evidence of Contamination

Exploratory Hole	Depth (m bgl)	Description
EBH302	6.0-6.2	Slight hydrocarbon odour
EBH305	0.4-0.45	Possible fragments of cement bonded asbestos containing materials
EBH306	1.5-3.5	Possible slight hydrocarbon odour
EBH307	3.5-5.5	Slight staining and slight hydrocarbon odour
EBH309	2.8-3.0	Medium to strong hydrocarbon odour

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Table 4.2 (continued) Summary of Visual and Olfactory Evidence of Contamination

Exploratory Hole	Depth (m bgl)	Description
EBH309	3.1-4.5	Hydrocarbon odour, possibly diesel, diminishing with depth
EBH310	0.2	Possible fragments of cement bonded asbestos containing materials
EWS310	1.5-1.8	Slight hydrocarbon odour
EWS312	2.3-2.5	Slight hydrocarbon odour
EWS312	2.5-2.6	Strong hydrocarbon odour
ETP307	1.40-3.00	Strong hydrocarbon odour
ETP307	3.00-3.80	Hydrocarbon odour
ETP323	1.30	Rotten egg odour, decomposing organic matter

4.4 Groundwater

Groundwater strikes were generally obscured during drilling due to the addition of potable quality water to assist drilling through granular soils.

The depths to groundwater recorded in the standpipes after completion of the boreholes are summarised in Table 4.3 below. Groundwater depths, inferred groundwater contours and indicative groundwater flow directions are presented in Figure 7.

Table 4.3 Results of Groundwater Monitoring

Borehole	Date Installed	Date Monitored	Borehole Elevation (m AOD)	Groundwater Depth (m bgl)	Groundwater Elevation (m AOD)
EBH301	30/11/05	06/12/05	8.23	5.05	3.18
EBH302	29/11/05	06/12/05	8.14	4.64	3.50
EBH303	05/12/05	06/12/05	8.52	4.76	3.76
EBH304	29/11/05	06/12/05	8.18	4.63	3.55
EBH305	29/11/05	06/12/05	8.21	3.41	4.80
EBH306	28/11/05	06/12/05	7.97	2.98	4.99
EBH307	02/12/05	06/12/05	8.37	2.59	5.78
EBH308	01/12/05	06/12/05	8.72	4.54	4.18
EBH309	01/12/05	06/12/05	8.23	2.48	5.75
EBH310	30/11/05	06/12/05	8.86	3.24	5.62
EWS305	29/11/05	06/12/05	7.99	2.44	5.55
ETP301	30/11/05	06/12/05	7.83	3.34	4.49

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Three well volumes of groundwater were purged from each borehole standpipe (where recharge allowed) prior to sampling in order to obtain representative samples of groundwater. Groundwater quality was monitored during purging of each well volume removed from the standpipe using portable field instruments. A summary of groundwater monitoring during purging and sampling on 6 December is presented in Table 4.4.

Table 4.4 Results of Groundwater Monitoring During Purging and Sampling

Exploratory Hole	Purge Volume (l)	pH	Temp (°C)	Conductivity (µS)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (%)	Comments
EBH301	7.0	7.12	12.0	442	6.30	59.9	
	7.0	6.95	12.0	438	6.30	60.8	
	7.0	6.90	12.5	440	6.22	60.1	
EBH302	1.5	9.07	8.5	1570	9.39	80.9	
EBH303	12	7.27	12.5	830	0.90	8.9	
	12	7.29	12.9	830	2.28	22.0	
	12	7.18	12.9	780	4.09	40.2	
EBH304	2.2	8.00	10.6	1500	7.61	59.3	
EBH305	4.0	7.30	12.1	535	2.98	28.5	
	4.0	7.24	11.9	515	5.54	52.6	
	4.0	7.22	12.6	509	4.67	45.0	
EBH306	1.0	7.76	10.7	1256	9.01	80.0	
	1.0	7.50	10.7	957	7.83	79.8	
	1.0	7.57	11.0	870	8.66	80.0	
EBH307	7.0	7.18	11.7	1245	0.79	7.4	Hydrocarbon
	7.0	7.20	11.7	1295	0.75	6.7	
	7.0	7.16	11.7	1075	0.61	5.8	
EBH308	10.0	7.23	13.5	1990	1.40	13.5	Hydrocarbon
	10.0	7.25	13.5	1915	1.14	11.1	
	10.0	7.07	13.5	1320	0.37	3.5	
EBH309	2.0	9.54	12.2	691	0.44	4.1	Hydrocarbon
	2.0	9.60	12.5	686	0.78	7.4	
	2.0	10.6	11.9	670	1.80	17.0	
EBH310	10.0	6.80	11.0	473	5.65	52.6	
	10.0	6.71	11.1	470	5.44	51.3	
	10.0	6.65	11.3	476	5.36	50.1	

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5. Land Quality Assessment

5.1 Assessment Framework

5.1.1 Contaminated Land Definition

Part IIA of the Environmental Protection Act (EPA) 1990 was implemented in England in April 2000. It is supported by the Contaminated Land (England) Regulations (2000) and Statutory Guidance (DETR Circular 02/2000 superseded by Defra Circular 01/2006) and provides the regime for the identification and remediation of contaminated land. From September 2006 the regime was extended to include radioactivity in Circular 01/2006. Under the legislation contaminated land is defined as:

> *"any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land that -*
>
> - *significant harm is being caused or there is significant possibility of such harm being caused; or*
> - *pollution of controlled waters is being, or is likely to be caused."*

Where harm is attributable to radioactivity, the definition of contaminated land has been modified by regulation 4(a) of the Modification Regulations as:

> "any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that –
>
> - Harm is being caused, or
> - There is a significant possibility of such harm being caused."

The following situations are defined where harm is to be regarded as significant:

i) death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions of humans;

ii) irreversible or other substantial adverse change to an ecological system, or harm which affects any species of special interest and which endangers the long term maintenance of the population of that species;

iii) structural failure, substantial damage, or interference with the right of occupation of buildings;

iv) death, serious disease or other physical damage to livestock or crops;

v) the pollution of controlled waters.

Central to the Part IIA regulatory approach is a rigorous procedure of risk assessment which is used to determine whether land meets the definition of 'contaminated land' in accordance with the new Statutory Guidance. Under the risk assessment procedure for such harm to humans, the

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environment or pollution of controlled waters to be possible, there must be a 'pollutant linkage', as follows:

- a **Contaminant;**
- a **Pathway** for the contaminant to move to the receptor;
- a **Receptor** which is affected by the pollutant. This includes human beings, other living organisms, controlled waters, physical systems and built structures which could be affected by the contaminant.

5.1.2 Assessment Approach

The implementation of the Part IIA regulatory regime is to be supported by comprehensive guidance on risk management methodologies which is currently in preparation.

Entec's approach to undertaking a risk assessment in line with the regulations is based on a Tiered Framework as outlined below:

Tier 1:

- Qualitative 'Source (hazard)' - Pathway - Receptor (target)' risk assessment to identify the 'pollutant linkages' of most concern.
- Screening of analytical results against conservative generic guidelines to identify issues that require more detailed consideration.

Tier 2:

- Application of simple site specific quantitative risk assessment procedures to clarify risks of concern.
- For soil contamination this may involve quantitative consideration of potential site specific exposure scenarios taking into account toxicological properties of substances to derive site specific safe levels. To undertake the assessment proprietary models such as the CLEA model, RBCA model or the Dutch RiscHuman model may be used.
- For groundwater this may involve simple analytical calculations of groundwater flow and contaminant attenuation to ascertain if a risk is posed to a groundwater receptor and to allow acceptable levels at the site to be defined. Tier 2 may also involve the collection of additional data.

Tier 3:

- More complex 'fate and transport' modelling of contaminant behaviour in the sub surface and groundwater. More detailed quantitative human health risk assessment.

In general the application of increased tiers of analysis will result in a less conservative remediation targets resulting in less costly remedial action. Therefore the cost for increased tiers of assessment is justified where remediation liabilities are potentially high and less costly solutions can be established as acceptable by detailed risk assessment.

This report is based upon a Tier 1 assessment.

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5.2 Assessment Guidelines

Soil Assessment Guidelines

Guidance has been issued by DEFRA and the Environment Agency to support the implementation of the new Contaminated Land provisions in the form of the Contaminated Land Exposure Assessment (CLEA) model and Contaminated Land Research Reports (ref: CLR7-10). The CLEA model has been used to derive guideline concentrations for selected substances for various site end uses, with respect to chronic risks to human health. The model sets out Soil Guideline Values (SGVs) which may be considered to be an intervention value, above which the assessor may choose to either undertake a site-specific risk assessment or move straight to remediation work. To date, guidelines for only ten contaminants have been published, with additional guidelines due to be published as part of a rolling programme in the future.

In the absence of published SGVs for some substances Entec has calculated in-house generic assessment criteria (GACs) to provide assistance in screening analytical data. These calculations are based upon published toxicological data. Where SGVs or GACs are not available interim reliance is placed on the appropriate Dutch Target and Intervention Values, as these are based on sound science and have an established track record. The specific assumptions associated with the Dutch values are also taken into account.

Tier 1 screening of contamination in soils has been undertaken using the following published guidelines:

- CLEA guidelines for selected determinands published to date (arsenic, cadmium, nickel, lead, mercury, selenium, chromium, toluene ethyl benzene and phenol SGVs);
- Entec in-house derived generic assessment criteria (benzo(a)pyrene);
- Dutch Guidelines, 2001;
- The Soil Code, 1998, Code of Good Agricultural Practice for the Protection of Soil;
- Concrete in Aggressive Ground by Building Research Establishment 2001.

The primary screening criteria utilised are the CLEA soil guideline values (SGV) for residential end use with plant uptake, allotment and industrial/commercial end use. This guidance has been selected to allow assessment of all possible future end uses. The secondary screening criteria is in-house calculated GACs, and where further guidance is required for other chemicals of concern that could impact human health, Dutch Intervention Values (DIVs) are applied. Phytotoxic metals are assessed using guidance in the Soil Code applicable to plant and crop growth. Sulphate attack on concrete is assessed using tables produced in Concrete in Aggressive Ground published by BRE 2001.

Application of the guidelines is discussed in more detail below.

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Groundwater Assessment Guidelines

For groundwater a tiered assessment framework as outlined above is proposed, with screening levels appropriate to the possible use of the water body e.g. groundwater extraction for general farming and domestic use from the sands and gravels classified as a Major Aquifer.

Tier 1 screening of contamination in groundwater has been undertaken using the following published guidelines:

- UK Drinking Water Standards (taken from Water Supply (Water Quality) Regulations, 1989);
- Dutch Guidelines, 2001.

For groundwater, reference is primarily made to Water Supply (Water Quality) Regulations and also the Dutch guidelines. The former are applicable to defining the required quality for drinking water purposes and set relatively conservative guideline values that must be accounted for in the interpretation.

5.2.1 Application of Guidelines

CLEA Soil Guideline Values

The Soil Guideline Values (SGVs) provide a screening tool to assess risks posed to human health from exposure to soil contamination. They present a conservative "intervention value" indicating that soil concentrations above this level might present an unacceptable risk. Where the generic SGV is exceeded the intention is that either a further Stage (Tier 2) of risk assessment or remediation is triggered.

The SGVs are presently published for the following land use:

a) Residential with plant uptake and allotments (most sensitive land use);

b) Residential without plant uptake;

c) Allotments; and

d) Commercial/ industrial (assumes concrete, tarmac, building footprint site surfacing acting as a barrier to limit contamination exposure).

The new CLEA guidance promotes the concept of zoning the site into areas of similar historical activity (and hence likely contamination characteristics) when assessing the results of the site investigation. It also recommends that where the site is zoned for different uses in the future, that the assessment will reflect those different uses as discussed previously. For each zone the mean concentration of each priority contaminant should be less than the corresponding SGV for the appropriate land use. Since sampling and analysis will naturally introduce variability in measurement a mean concentration determined from a limited number of samples will have uncertainty associated with it and will not necessary be equal to the true mean concentration at a site. Consequently contamination concentrations are assessed to be below or above the SGV using statistical tests.

DEFRA publication CLR7 published with the CLEA Model provides a mean value test which compares the SGV with the upper 95 percentile of the mean measured concentration. Where the data passes the test it can generally be considered that the area under consideration requires no

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further action. Where a set of data fails the mean value test then consideration is to be given to more comprehensive sampling, further assessment of risk or remediation undertaken.

CLR7 also provides for a maximum value test for data sets where individual concentrations are measured at particular locations at much higher levels than the rest of the data. This test indicates whether these high concentrations fall within the maximum of the range of values that can be expected from the sample population, or whether they are indicative of an area of higher contamination. Such data points that do not fall within the expected distribution of measurements for the sample population under consideration are termed 'outliers'. If an outlier is determined, additional investigation may be necessary to clarify the extent and nature of contamination.

In using these guidelines as screening values it should be recognised that there is some inherent uncertainty in the interpretation until all the new guidance is published. Wherever possible this uncertainty has been taken into account in the interpretation.

Dutch Ministry of Public Housing, Land Use and Environmental Notification Letter on Intervention Values for Soil and Groundwater Remediation (VROM, 2001)

In the Netherlands, due to the sensitivity of groundwater resources to surface contamination a particularly rigorous approach has been adopted to identify the requirements for remediation of contaminated soil and groundwater. A comprehensive system for assessing the concentration of contaminants has been developed, referred to as the 'Dutch' guidelines. The 'Dutch' guidelines are not legally enforceable in the UK but are widely used for assessing the significance of levels of contamination, particularly of organic compounds in both soil and water. This is because they are considered to be based on sound science, and in the absence of Government-supported generic guidance for some substances, it is considered appropriate to use criteria based on sound science.

Revised 'Dutch' guidelines which became effective in the Netherlands on 24 February 2001, use Target Values (T), Intervention Values (I) and Middle Values (0.5[T+I]). The values are based on an extensive ecotoxicological and human toxicological study undertaken by RIVM (Dutch Government Research Institution).

Exceeding an I value indicates serious contamination and therefore remediation is required. In addition to exceeding the I value, it must be shown that more than 25 m^3 of soil or 100 m^3 groundwater is contaminated to those levels, in order to make remediation necessary. The urgency of remediating a site is based on location-specific conditions. The guidance states that serious contamination may also occur below the I level.

It should be noted that the T values are not specific clean-up criteria but represent targeted objectives. However, it is stated that these may prove impractical and site-specific values may need to be agreed with the relevant authorities. The Middle Value represents a threshold value for further investigation.

The Dutch criteria include the facility to modify the assessment values to take account of variations of clay content and organic content of a given soil, with respect to baseline Dutch I and T values for a standard soil. This variation reflects the influence of clay content and/or organic matter content on a given contaminants' mobility. As an example, the I and T values for mineral oil upon which the hydrocarbon assessment is based assume an organic content of 10% for the standard soil, this equates to a Dutch I value of 5000 mg/kg. Adjustment of the I value can take place based on a range of organic matter contents in the range 2% to 10%,

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giving a range of I values of between 1000 mg/kg and 5000 mg/kg. Average FOC results indicate that 2% organic matter in soils at the HMS Daedalus site would be a conservative approach for correction of DIVs.

The Soil Code, DEFRA (Revised 2001)

The Soil Code (the code of Good Agricultural Practice for the Protection of soil) is a guide to help farmers and growers avoid causing long term damage to the soils which they farm. The Code provides guidance on practices which will maintain and increase the ability of soil to support plant growth. Appendix II of the Code provides guidance on concentration of metals in soil that are protective of crops and plants grown on the soils or for grazing livestock.

BRE Special Digest I, Concrete in Aggressive Ground (SD1:2005)

The recently published 2005 edition (supplementing the 2001 edition) of the BRE Special Digest includes revisions to the procedures for ground assessment and specification of below ground concrete design. Particular attention has been given to recent findings on sulphate attack and incorporation of new European standards. The new guidance provides more conservative classifications on concrete design sulphate classes from 2:1 water/ soil extractions.

5.3 Assessment

This section describes the outcome of screening results from the chemical analysis and identifies any significant contamination when compared with the above screening criteria. The laboratory analytical results for soils have been assessed primarily with respect to human health (SGV and GACs) which also provide a first stage environmental screen. It should be noted that the soil Dutch Intervention Values overlap in the human health and environment assessments. Analysis results are presented in Appendix D, and summary data tables screened against the relevant guideline values in Appendix E.

5.3.1 Soil Quality

When assessing site investigation data, the site is initially divided into zones of similar historical activity, material type and contamination. Assumptions regarding the selection of zones are assessed by performing the maximum value test, which identifies if any statistical outliers exist within the data. The presence of 'outliers' is then considered within the context of the site to determine whether further subdivision of the data into new zones is required. In addition, consideration must also be given to the areas to which a receptor may be exposed, termed an averaging area. Averaging areas are determined based on current or proposed land use. The site has historically been used as an airfield and has therefore been considered as a single zone.

The soil quality has been assessed for the two soil groups observed during intrusive works, Made Ground and natural soils with respect to residential (with plant uptake) and commercial/ industrial soil screening values. Where no other UK screening values are available Dutch Intervention Values have been used.

Made Ground

A total of 33 samples of Made Ground were analysed at the laboratory. The soil pH ranges in Made Ground were in the range pH 6.1 (ETP305B & ETP307) to a maximum value of pH 10.8

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(EWS311, 0.9-1.2 m). The pH values were typically in the range pH6 to pH8, weakly acidic to weakly alkaline conditions.

Metal concentrations exceeded the screening criteria for residential use (with plant uptake) in five of the 34 samples of Made Ground. Arsenic exceeded the SGV for residential use in two samples. A statistical outlier was identified in the data at ETP319, 0.45 m (188.5 mg/kg). A thin layer of ash was identified at this location, within a runway protection area. The representative concentration (US95) for the remaining Made Ground was calculated as 10 mg/kg, below the SGV for residential use of 20 mg/kg.

Lead concentrations were in the range 6.4 mg/kg to 1580 mg/kg. No statistical outliers were identified in the lead data for Made Ground. The US95 for lead of 130 mg/kg is below the SGV for residential gardens with plant uptake of 450 mg/kg. Two statistical outliers were identified for nickel (ETP311, 0.5 m, 48.2 mg/kg, ETP319, 0.45 m, 61 mg/kg). The ETP311 sample was of ashy Made Ground in a suspected former Victorian Tip area. The US95 for the remaining nickel results is 14 mg/kg, less than the SGV for residential gardens with plant uptake of 50 mg/kg. The SGVs for cadmium (at the soil pH identified), chromium, mercury and selenium were all below their respective SGVs for residential gardens with plant uptake.

Copper concentrations were below the screening value of 500 mg/kg (maximum tolerated concentration) given in the Soil Code, with the exception of one sample from ETP311, 0.5 m, 20,200 mg/kg). This sample is a statistical outlier. The sample was of ashy Made Ground in a suspected former Victorian Tip area. The US95 for the remaining copper data in Made Ground is 61 mg/kg.

Zinc concentrations were below the screening value of 2000 mg/kg (maximum tolerated concentration) given in the Soil Code in all but one sample. A zinc concentration of 7440 mg/kg in ETP311 at 0.5m depth is a statistical outlier. The sample was of ashy Made Ground in a suspected former Victorian Tip area. The US95 for the remaining dataset minus outliers is 130 mg/kg.

A maximum benzo(a) pyrene concentration of 7.4 mg/kg was recorded in ETP323 at 0.3 m depth, compared to the in-house generic assessment criteria of 0.86 mg/kg for residential gardens with plant uptake. No statistical outliers were identified in the dataset

Cement bonded asbestos sheeting was confirmed in EBH310 at 0.2-0.4 m depth. Chrysotile was identified at a concentration of 2-15% of the sample.

Sulphate concentrations were generally below the BRE guidance for Class 1 conditions (below which no special precautions are required with respect to buried concrete), which the exception of two samples from EBH303 (0.3-0.5 m), ETP326 (1.0 m).

The DIV for mineral oil of 1000 mg/kg (corrected for 2% organic matter) was used for comparison of hydrocarbon results. None of the hydrocarbon results (TPH C-bands for GRO or for aromatic or aliphatic compounds) exceeded the corrected DIV of 1000 mg/kg.

Trace concentrations of SVOC and VOC compounds were also detected including naphthalene, trimethylbenzene and xylene. None exceeded their respective screening criteria, where available.

The SGVs for commercial end use were not exceeded, with the exception of lead concentrations in two samples: ETP301 at 0.3 m (1570mg/kg) and ETP311 at 0.5 m (1580 mg/kg). The SGV for lead for commercial end use of 750 mg/kg was exceeded in these two samples.

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Natural Ground (Brickearth, Terrace Deposits and Bracklesham Beds)

A total of 48 samples of natural soils were analysed at the laboratory. These comprised Brickearth, Plateau and Terrace Deposits and Bracklesham Beds.

The pH values were typically in the range pH 7.5 to pH8.5. A minimum value of pH 4.9 was encountered in EBH303 at 1.5 to 1.7 m, and was confirmed in a blind duplicate sample (pH5). A maximum pH10.2 was recorded in EBH301 1.2-1.4 m.

Metal concentrations were generally below their respective screening criteria, with the exception of 4 out of 48 samples. Two samples displayed arsenic concentrations above the SGV for residential use with gardens of 20 mg/kg. There are no statistical outliers in the arsenic results and the US95 is 11 mg/kg, well below the SGV.

There were two outliers for lead at ETP311 (0.9 m, 458 mg/kg) within the former Victorian Tip area and ETP310 (1.5-1.7 m, 1100 mg/kg) in the former aircraft breaking area. The representative concentration for lead for the remaining data is 15 mg/kg, less than the SGV for lead of 450 mg/kg for residential with garden use.

The US95 representative concentration for nickel of 18 mg/kg did not exceed the SGV of 50 mg/kg.

For the phytotoxic metals, zinc and copper, the screening criteria were not exceeded, with the exception of a single sample obtained from EWS310, 1.5-1.7 m (copper, 767 mg/kg). This sample is a statistical outlier. The sample may have been contaminated during sampling by overlying ashy material.

Contaminant concentrations were below the SGV for industrial use in all samples, with the exception of lead (1100 mg/kg) in EWS310 at 1.5-1.7 m.

The DIV for mineral oil of 1000 mg/kg (corrected for 2% organic matter) was not exceeded in any samples analysed for hydrocarbons. A maximum concentration of 252 mg/kg C21-35 for aromatics was recorded in EBH308 at 1.5-1.7 m, in the vicinity of the former MT section. The soil sample above at 0.3-0.5m depth in EBH308 displayed no exceedences of detection limits for TPH, possibly suggesting a source at depth such as historical buried tank. BTEX compounds were below their respective SGVs for residential use with plant uptake. SVOCs and VOCs were generally below the laboratory detection limits. A benzo(a)pyrene concentration of 1.1 mg/kg was recorded in EBHWS310, compared to the GAC of 0.86 mg/kg for residential use with plant uptake. Again, this sample may have been contaminated during sampling by ash from the overlying Made Ground. Trace concentrations of tetrachloroethene were encountered in EBH305 at 5.5-6.0 m (177 ug/kg) compared to the corrected DIV of 0.8 mg/kg. This borehole was targeting hangars and workshop areas. The samples displaying elevated tetrachloroethene were obtained from the saturated zone, and soil contamination could be due to lateral migration in groundwater.

Summary

Soil results compared against human health screening criteria indicate no significant contamination with respect to residential (with plant uptake) or commercial/ industrial end use. The exception to this is the statistical outliers as detailed above which indicate that further investigation (or mitigating action) may be required in these localised areas, notably the former Victorian Tip area (e.g. ETP311) in the north of the site.

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Organic contamination in soils appears limited to benzo(a)pyrene in Made Ground in localised areas of the site. Asbestos, in the form of cement bonded asbestos sheeting fragments, has been recorded in Made Ground in EBH310 in the east of the Technical Area. This is primarily a human health risk to possible redevelopment workers and future residential site users.

Results that exceed residential (with garden areas) screening criteria are shown on Figure 8. Results that exceeded commercial/ industrial screening criteria are shown on Figure 9.

5.3.2 Groundwater Quality

Inorganic

A total of ten groundwater samples obtained from borehole standpipes were submitted for analysis. The pH results were in the range pH6.2 to pH9.9. Conductivity values were in the range 438 µS/cm to 1690 µS/cm, below the Drinking Water Standard (DWS) of 2500 µS/cm. Chloride concentrations were below the DWS of 250 mg/l in all samples. Metal concentrations were generally below their respective DWS. However dissolved arsenic concentrations exceeded the DWS in 3 samples, but values were below the Environmental Quality Standard (EQS). Selenium concentrations exceeded the DWS and EQS of 0.01 mg/l in 2 samples.

Organic

For hydrocarbons, total Gasoline range organics (GRO), TPH C6-C7, and C7-C8 exceeded the Dutch IV for mineral oil of 0.6 mg/l in EBH309 in the south of the Technical Area. Phenol concentrations exceeded the DWS of 0.5 mg/l in EBH309, a concentration of 1.319 mg/l being recorded at this location. For PAHs, 7 compounds displayed concentrations exceeding their respective screening criteria. Benzo(a)pyrene concentrations exceeded the DWS of 0.01 µg/l in EBH307 (0.088 µg/l) and EBH309 (1.515 µg/l), which is 150 times the screening value. The detection limit of 0.04 µg/l was not exceeded at other locations. VOC contaminants were mostly below the limit of detection. Tetrachloroethene concentrations exceeded the screening criteria of 10 µg/l in 3 samples, from EBH302 (45 µg/l), EBH303 (22 µg/l) and EBH305 (165 µg/l).

Figure 7 plots the indicative groundwater flow and Figure 10 plots hydrocarbon contamination identified in groundwater.

5.3.3 Leaching Analysis

Two samples from ETP311 at 0.5m and ETP319 at 0.45m were subject to leaching analysis. Elevated concentrations of contaminants, notably metals, were detected in the original soil samples at these locations. The leaching test results were screened against the Drinking Water Standards (DWS) and the Environmental Quality Standards and the Dutch Intervention Values.

Inorganic

The pH values were slightly alkaline ranging from 7.2 to 7.6. Leached metal concentrations were below the relevant DWS. Conductivity values were in the range 104-107 µS/cm, compared to the DWS of 2500 µS/cm. Sulphate concentrations were in the range 6.94-8.66 mg/l.

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Organic

PAH compounds were all below their respective screening criteria. Phenol concentrations were less than the detection limit of 0.05 mg/l, below the EQS and DIV screening values.

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6. Environmental Risk Assessment

6.1 Introduction

The risk and liability assessment has been based on the established CONTAMINANT (SOURCE) - PATHWAY - RECEPTOR methodology where:

Contaminant (Source)	A contaminant that has potential to cause harm to environmental receptors. In a wider sense sources can include particular ground conditions, for example the existence of redundant footings, which have the potential to impact on re-development proposals.
Pathway	The route by which the source is brought into contact with the receptor. This can be via direct dermal contact, ingestion, inhalation for human beings and other living organisms, the transport of contamination via groundwater, wind-blown dust, excavation and deposition etc.
Receptor	Human beings, other living organisms, physical systems and built structures that could be affected by the source. A receptor will only be affected if a pathway from the source to the receptor is present. Groundwater and surface water systems can be considered as receptors in their own right as their quality is regulated by the statutory bodies, as well as being pathways for contaminant migration to other receptors.

The CONTAMINANT - PATHWAY - RECEPTOR relationship allows an assessment of potential environmental risk to be determined, based on the nature of the source, the degree of exposure of a receptor to a source and the sensitivity of the receptor. On this basis an assessment is then made of the environmental liabilities associated with the risk. These can be expressed, for example, in terms of additional costs associated with site redevelopment and remedial measures, the potential for costs, fines or penalties imposed for breaches of environmental legislation or third party claims, and loss of land value.

6.2 Conceptual Model

There are large areas of the site which appear to be free from any significant contamination compared to the various end use screening criteria. Localised areas of the site (approximately 2%) are affected by metals, hydrocarbons, solvents, PAHs (benzo(a)pyrene) and asbestos contamination which are outlined below.

6.2.1 Summary of Significant Contamination Identified

Metals

Metal contamination has mainly been identified in Made Ground, particularly ashy material. Ashy Made Ground was encountered in the former Victorian Tip in the north of the airfield, and

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also the runway protection areas to the south west of the site. Elevated lead concentrations were recorded at the location of the former firing range within the west of the airfield. There were isolated sporadic occurrences of elevated metals within the technical area in Made Ground.

Metal contamination was generally absent from the natural soils at the site. One sample of natural soil from EWS310 may have been contaminated by ash from above during sampling.

For metals, arsenic and selenium exceeded their respective DWS screening values locally. However, leaching analysis indicated that these metals are not readily leachable from soil sources at the site to groundwater.

Organics

There are sporadic occurrences of the PAH compound, benzo(a)pyrene in Made Ground at the site. These include shallow soil in the former MT section, in ashy soil in the runway protection area and the former firing range to the west of the airfield.

Natural soils displayed no significant contamination by organic compounds. Elevated benzo(a)pyrene in EWS310 at 1.5-1.7 m may not be representative of natural ground due to potential sample cross contamination.

In groundwater, the most significant contamination is by chlorinated solvents. Tetrachloroethene concentrations exceeded the screening criteria in three locations within the central Technical Area, to the south west of the main aircraft hangars. In EBH305, the concentration of Tetrachloroethene exceeded the DWS by 16 times. The occurrence of chlorinated solvent contamination identified in this investigation confirms the suspected distribution given in the shallow groundwater investigation carried out in 2003. The investigations did not confirm the source of the chlorinated solvent contamination, as elevated concentrations in shallow soils were not encountered. However, the suspected source is the historical usage of the hangars/workshops area within the north of the Technical Area. It is possible that waste solvent may have been discharged to ground in this area in the past.

In the shallow groundwater investigation in 2003, hydrocarbon contamination was encountered at the MT section associated with historical fuel storage and use at this location. Exploratory holes installed in this investigation in the vicinity of the MT section did not encounter widespread contamination by organics. Localised contamination by hydrocarbons was encountered, notably at BH309. Gasoline Range Organics exceeded the screening value of 0.6mg/l fivefold. This exploratory hole is south west of the former MT section and may be hydraulically down-gradient from this potential source of hydrocarbons.

Groundwater flow within the Technical Area appears to flow in a general west/ south west direction towards the Solent.

Leaching analysis indicates that PAHs do not appear to be leachable and are relatively immobile.

Asbestos

Ground contaminated with cement bonded asbestos sheeting was observed locally in Made Ground in EBH310 within the east of the Technical Area. This location is near a building that was relatively recently constructed, and asbestos may have been derived from older buildings demolished at this location. Further cement bonded asbestos sheeting in this area is possible.

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All asbestos contained within buildings has been noted in the asbestos register held by the base EWC. Other than the asbestos identified, it is not considered that asbestos is a major land quality issue other than in instances where historic demolition activities have taken place across the site. In these areas there remains a risk that cement bonded asbestos fragments may be present.

6.2.2 Receptors and Pathways

Potential receptors and pathways from identified contaminant sources to receptors are as follows:

Receptor	Pathway
Site Visitors/Users	Dermal contact, ingestion, inhalation
Site Workers during Redevelopment	Dermal contact, ingestion, inhalation
Site Users after Development (Industrial/Commercial Use)	Dermal contact, ingestion, inhalation
Groundwater (Minor Aquifer)	Leaching from soils, transport in groundwater
Surface Water (River Alver and Solent)	Overland runoff, transport in groundwater
Buildings and Buried Services	Chemical attack, vapour migration
Vegetation	Uptake, direct contact
Fauna	Dermal contact, ingestion, inhalation
Ecological systems	Uptake, direct contact

6.3 Environmental Risk Assessment

The environmental risk assessment comprises an analysis of potential pollutant linkages (contaminant (source)-pathway-receptor) on the site which are tabulated in Table 6.2. Each linkage is quantitatively assessed by the following criteria:

i) Potential consequence of contaminant (source)-receptor linkage;

ii) Likelihood of contaminant (source)-receptor linkage;

iii) Risk classification.

The basis of the assessment is detailed in Table 6.1.

'Potential Consequence of Contaminant (Source) - Receptor Linkage' gives an indication of the sensitivity of a given receptor to a particular source or contaminant of concern under consideration. It is a worst case classification and is based on full exposure via the particular linkage being examined.

'Likelihood of Contaminant (Source)-Receptor Linkage' is an assessment of the probability of the selected source and receptor being linked by the identified pathway. This assessment is ranked based on site-specific conditions.

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The 'Risk Classification' column is an overall assessment of the actual risk, which considers the likely effect on a given receptor, taking account of both of the previous rankings.

Table 6.1 Risk Assessment Criteria

Potential Consequence of Contaminant (Source)-Receptor Linkage	
Severe	Irreparable damage to buildings, structures or the environment. A significant change to the number of one or more species or particular ecosystems (s). Damage to human health. Substantial pollution of sensitive water resources.
Medium/ Moderate	Damage to sensitive buildings, structures or the environment. A change to population densities of non-sensitive species. Non-permanent health effects to humans. Pollution of non sensitive water resources or small scale pollution of sensitive water.
Mild	Easily repairable effects of damage to buildings or structures. Some change to population densities but with no negative effects on the function of the ecosystem. Slight short term health effects to humans. Slight pollution to non-sensitive water resources.
Minor/ Negligible	Very slight non-structural damage or cosmetic harm to buildings or structures. No significant changes to population densities in the environment or in any ecosystem. No measurable effect on humans. Insubstantial pollution to non-sensitive water resources.

Likelihood of Contaminant (Source)-Receptor Linkage	
High	95-100%
Likely or probable	50-94%
Low likelihood, possible	30-49%
Unlikely or improbable	>0-29%
Nil Chance	0%

Potential Significance	
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without appropriate remedial action.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard at the site without remedial action.
Moderate Risk	It is possible that without appropriate remedial action, harm could arise to a designated receptor but it is relatively unlikely that any such harm would be severe and if any harm were to occur it is more likely that such harm would be relatively mild.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard but it is likely that, at worst, this harm, if realised, would normally be mild.
Negligible Risk	The presence of an identified hazard does not give rise to the potential to cause significant harm.

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6.3.1 Current Site Users

Given that the site is secure and access is restricted to personnel and site workers on business, the risks to current users are generally assessed as LOW. The most significant risk to site users is due to inhalation of volatile contamination.

Shallow soil contamination by metals which exceed industrial/ commercial guideline values is generally in areas of low usage within the site. The risks to site users under current commercial/ industrial use are therefore assessed as LOW with respect to metals in soils.

6.3.2 Construction and Maintenance Workers

Risks to construction workers are generally assessed as MODERATE in areas of contamination, including areas known to have chlorinated solvent, hydrocarbon, metals and asbestos contamination. Risks can be mitigated through suitable safe systems of work and personal protective equipment resulting in a LOW assessment.

6.3.3 Future Site Users

For commercial/ industrial end use the risk to site users would be generally LOW with similar pathways/ working practices as are currently used, although this depends in part upon the layout of the proposed development.

For residential end-use, in areas known to have chlorinated solvent, hydrocarbons, metals and asbestos contamination, a MODERATE risk is present if residential gardens are located on these areas.

6.3.4 Groundwater

The site is underlain by a Minor Aquifer. The risk to groundwater is assessed as HIGH with respect to chlorinated solvent and hydrocarbon contamination, given that these contaminants have been detected in shallow groundwater at the site. The risks to groundwater in areas of metal contamination in soil (tip area, metalliferous Made Ground), are LOW given that metals do not appear to be readily leachable from shallow soils to groundwater. The Brickearth Deposits present throughout the site are generally fine grained cohesive soils, and will provide some protection to the underlying groundwater-bearing Terrace Deposits.

6.3.5 Surface Water

It is likely that groundwater beneath the site forms the base flow for the nearby River Alver to the east of the site, and may be in connectivity with the Solent. Dilution and attenuation of contamination in the groundwater is likely to occur along these routes. The River Alver is a poor quality surface water in any case. Groundwater below the Technical Area appears to flow in a west/ south west direction towards the Solent. Previous investigations have indicated that only shallow groundwater below the eastern fringe of the airfield flows towards the River Alver to the east of the site. The risk to surface waters from site contamination is therefore considered to be LOW to MODERATE.

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6.3.6 Buildings and Buried Services

Risks to buildings and buried services manifest as either damage through direct leaching or vapour migration, the latter of which occurs where fuel hydrocarbons or solvents are contaminants of concern. Throughout the majority of the site, the risks to buildings and services are assessed as LOW. In areas of chlorinated solvent and hydrocarbon impact, risks may rise to MODERATE due to the potential for penetration of water services.

6.3.7 Vegetation

Vegetation may be impacted by uptake of and direct contact with contamination. Large areas of the airfield are grassed. There was no evidence of distressed vegetation or die back observed during the site investigation and subsequently the risk is considered to be LOW.

6.3.8 Ecological Receptors

The nearest sensitive ecological receptors to the site are those associated with the Solent. The main pathway from the site is via groundwater flow. Dilution of contaminants on entry to this ecological receptor results in a LOW risk assessment for the site.

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Table 6.2 Summary of Environmental Risks

Area/ Building	Potential Pollutant (Source)	Potential Receptor	Potential Pathway to Receptor	Associated Hazard	Potential Consequence of S-R Link	Likelihood of Source-Receptor Linkage	Significance: Risk Classification
Hangars, Workshops & BFI	Chlorinated solvents	Humans (Site Users)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Unlikely	Low
		Humans (Redevelopment Workers)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Possible	Moderate Any future groundworks may encounter contamination.
		Humans (Future Users, Commercial/ Industrial)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Unlikely	Low Volatiles may potentially enter buildings
		Humans (Future Users: Residential)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Possible	Moderate Volatiles may potentially enter buildings
		Groundwater (Minor Aquifer)	Leaching Migration	Groundwater Contamination	Moderate	Almost Certain	Very High Dissolved phase contaminants present in shallow groundwater
		Surface Water (River Alver/Solent)	Runoff to drainage ditches	Water Pollution	Moderate	Possible	Low-Moderate No apparent flow towards Alver from Impacted area

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Table 6.2 (continued) Summary of Environmental Risks

Area/ Building	Potential Pollutant (Source)	Potential Receptor	Potential Pathway to Receptor	Associated Hazard	Potential Consequence of S-R Link	Likelihood of Source-Receptor Linkage	Significance: Risk Classification
		Buildings and Buried Services	Groundwater	Degradation	Moderate	Unlikely	Low No shallow soil source identified
		Vegetation	Uptake Direct Contact	Toxic	Low	Unlikely	Low
Fuel Storage Areas, MT Section	Hydrocarbons	Humans (Site Users)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Unlikely	Low Impact on site users unlikely under current use
		Humans (Redevelopment Workers)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Possible	Moderate Future groundworks may encounter contamination
		Humans (Future Users, Commercial/ Industrial)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Unlikely	Low Volatiles may enter buildings
		Humans (Future Users: Residential)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Possible	Moderate Volatiles may enter and accumulate in buildings
		Groundwater (Minor Aquifer)	Leaching Migration	Groundwater Contamination	Moderate	Almost Certain	High Encountered in shallow groundwater

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Table 6.2 (continued) Summary of Environmental Risks

Area/ Building	Potential Pollutant (Source)	Potential Receptor	Potential Pathway to Receptor	Associated Hazard	Potential Consequence of S-R Link	Likelihood of Source-Receptor Linkage	Significance: Risk Classification
		Surface Water (River Alver/Solent)	Runoff to drainage ditches	Water Pollution	Moderate	Possible	Low-Moderate Attenuation likely given distance to river
		Buildings and Buried Services	Groundwater Vapour mitigation	Degradation Hazardous vapour	Moderate	Possible	Low-Moderate Localised impact possible close to sources
		Vegetation	Uptake Direct Contact	Toxic	Low	Unlikely	Low No impact observed
Burning Grounds/Tips	Ash containing metals	Humans (Site Users)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Unlikely	Low Impacted area largely disused under current use
		Humans (Redevelopment Workers)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Possible	Moderate Future groundworks may encounter contamination
		Humans (Future Users, Commercial/ Industrial)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Unlikely	Low Future industrial/ commercial users unlikely to encounter localised contamination

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Table 6.2 (continued) Summary of Environmental Risks

Area/ Building	Potential Pollutant (Source)	Potential Receptor	Potential Pathway to Receptor	Associated Hazard	Potential Consequence of S-R Link	Likelihood of Source-Receptor Linkage	Significance: Risk Classification
Burning Grounds/Tips		Humans (Future Users: Residential)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Possible	Moderate Future residential users could encounter localised contamination in gardens
		Groundwater (Minor Aquifer)	Leaching Migration	Groundwater Contamination	Moderate	Unlikely	Low Metals/ PAHs not readily leachable
		Surface Water (River Alver/Solent)	Runoff to drainage ditches	Water Pollution	Moderate	Unlikely	Low Unlikely given distance to Alver
		Buildings and Buried Services	Groundwater	Degradation	Moderate	Unlikely	Low Non volatiles unlikely to impact buildings and structures
		Vegetation	Uptake Direct Contact	Toxic	Low	Unlikely	Low No impact observed

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Table 6.2 (continued) Summary of Environmental Risks

Area/ Building	Potential Pollutant (Source)	Potential Receptor	Potential Pathway to Receptor	Associated Hazard	Potential Consequence of S-R Link	Likelihood of Source-Receptor Linkage	Significance: Risk Classification
Burning Grounds/Tips	Ash containing PAHs	Humans (Site Users)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Unlikely	Low Impacted area largely disused under current use
		Humans (Redevelopment Workers)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Possible	Moderate Future groundworks may encounter contamination
		Humans (Future Users, Commercial/ Industrial)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Unlikely	Low Future industrial/ commercial users unlikely to encounter localised contamination
		Humans (Future Users: Residential)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Possible	Moderate Future residential users could encounter localised contamination in gardens
		Groundwater (Minor Aquifer)	Leaching Migration	Groundwater Contamination	Moderate	Unlikely	Low Metals/ PAHs not readily leachable

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Table 6.2 (continued) Summary of Environmental Risks

Area/ Building	Potential Pollutant (Source)	Potential Receptor	Potential Pathway to Receptor	Associated Hazard	Potential Consequence of S-R Link	Likelihood of Source-Receptor Linkage	Significance: Risk Classification
		Surface Water (River Alver/Solent)	Runoff to drainage ditches	Water Pollution	Moderate	Unlikely	Low Unlikely given distance to Alver
		Buildings and Buried Services	Groundwater	Degradation	Moderate	Unlikely	Low Non volatiles unlikely to impact buildings and structures
		Vegetation	Uptake Direct Contact	Toxic	Low	Unlikely	Low No impact observed
Former Firing Range	Metals	Humans (Site Users)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Unlikely	Low Impacted area largely disused under current use
		Humans (Redevelopment Workers)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Possible	Moderate Future groundworks may encounter contamination
		Humans (Future Users, Commercial/ Industrial)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Unlikely	Low Future industrial/ commercial users unlikely to encounter localised contamination

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Table 6.2 (continued) Summary of Environmental Risks

Area/ Building	Potential Pollutant (Source)	Potential Receptor	Potential Pathway to Receptor	Associated Hazard	Potential Consequence of S-R Link	Likelihood of Source-Receptor Linkage	Significance: Risk Classification
		Humans (Future Users: Residential)	Dermal Contact Ingestion Inhalation	Toxic Health Impact	Moderate	Possible	Moderate Residential users could encounter localised contamination in gardens
		Groundwater (Minor Aquifer)	Leaching Migration	Groundwater Contamination	Moderate	Unlikely	Low Metals not readily leachable
		Surface Water (River Alver/Solent)	Runoff to drainage ditches	Water Pollution	Moderate	Unlikely	Low Unlikely given distance to Alver
		Buildings and Buried Services	Groundwater	Degradation	Moderate	Unlikely	Low No metals impact to buildings
		Vegetation	Uptake Direct Contact	Toxic	Low	Unlikely	Low No impact observed

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Table 6.2 (continued) Summary of Environmental Risks

Area/ Building	Potential Pollutant (Source)	Potential Receptor	Potential Pathway to Receptor	Associated Hazard	Potential Consequence of S-R Link	Likelihood of Source-Receptor Linkage	Significance: Risk Classification
Asbestos in Soils nr demolished buildings	Asbestos fibres	Humans (Site Users)	Inhalation	Asbestosis	Moderate	Unlikely	Low Contact with buried asbestos fragments unlikely
		Humans (Redevelopment Workers)	Inhalation	Asbestosis	Moderate	Possible	Moderate+ Future groundworks may encounter contamination
		Humans (Future Users- Commercial)	Inhalation	Asbestosis	Moderate	Unlikely	Low Future ind/comm users unlikely to encounter buried asbestos
		Humans (Future Users- Residential)	Inhalation	Asbestosis	Moderate/ Severe	Possible	Moderate Residents could encounter contamination in garden

+ Risks to redevelopment workers may be managed by planning and availability of suitable Personal Protective Equipment (PPE) during excavation or other works.
Note: Risk classifications are based on the current commercial/industrial site use. The risk to future users is based on commercial/industrial site use or residential use as stated.

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7. Overall Land Quality and Suitability for Redevelopment

7.1 Site Sensitivity

The site is underlain by Plateau and Terrace Gravels comprising sands and gravel. These deposits are classified as a Minor Aquifer. The Plateau Gravel is locally overlain by Brickearth deposits, which may limit the vertical migration of contamination to depth. There are local groundwater abstractions in the vicinity of the site. The groundwater sensitivity is assessed as moderate.

The Solent is in part located adjacent to the south west of the site in the vicinity of the slipway. The Solent is a tidal coastal water. A tributary of the River Alver lies approximately 30 m to the east of the site. The River Alver discharges to the Solent approximately 3 km downstream of the site at Stokes Bay. Surface water sensitivity is assessed as low to moderate.

Ecological sensitivity of the site is moderate. The Solent coastline to the south west of the site is designated as a Site of Special Scientific Interest (SSSI), and The Solent is also a Special Protection Area (SPA) and a Ramsar site. Shallow groundwater flow is towards the Solent over most of the site.

7.2 Overall Land Quality

The majority of the site is expected to be free from significant contamination. The current working practices at the site are largely well managed, therefore the land quality is unlikely to be impacted by recent contamination in most areas. The most substantial contamination is likely to be derived from historical activities such as degreasing using solvents in workshops/hangars, fuel storage and on-site waste burning and disposal.

The investigation has shown that the majority of the site is uncontaminated with only localised areas of the site (approximately 2%) affected by hydrocarbon, solvent, metals and asbestos contamination. However, areas of localised contamination have been identified. These comprise:

- Hangars/ Workshops in Technical Area: Chlorinated solvent contamination;
- MT Section and Storage Tanks: Hydrocarbon/Fuel contamination;
- East of Technical Area and areas of demolished buildings: Shallow localised asbestos contamination;
- Waste Disposal Area (Former Victorian Tip), north of airfield;
- Former Firing Range, west of airfield.

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The site investigation was designed on a risk based approach that identified areas more likely to have contamination present given their historical use. As such, it is possible that further contamination sources may be present on site that has not been identified during the current Entec site investigation.

7.3 Environmental Risks

The risks to human receptors under current and industrial/ commercial use presented by the identified contamination sources are generally assessed as low across the majority of the site rising to moderate in areas of identified contamination.

A moderate to high risk is assessed in the areas of known contamination for future residential site use with garden areas.

In areas of known contamination, risks are assessed as moderate to high for redevelopment workers by contact, ingestion or inhalation of any contamination encountered during redevelopment works.

The site is underlain by a Minor Aquifer and has been impacted by chlorinated solvents and hydrocarbons in the Technical Area. Subsequently, a very high risk is assessed for groundwater, given that contamination of groundwater has been identified. Across the remainder of the site, the Minor Aquifer does not appear to have been impacted and the risk has therefore been assessed as moderate to low.

The risks to surface waters are assessed as generally low to moderate. This reflects the distance to the River Alver (at least 1 km) and the likelihood of dilution and attenuation of contaminants during transport. Any contamination entering the Solent would undergo significant dilution given the volume and tidal nature of this water body. The risks to this environmentally sensitive area is therefore generally assessed as low.

Risk to services and building materials are generally low to moderate in contaminated areas, associated with degradation of services and contaminant penetration.

7.4 Suitability of the Site for Development

Based on the information available it is likely that the site is suitable for commercial and industrial use subject to localised remediation. Notably the solvent and hydrocarbon contamination in the technical area groundwater require remediation or mitigation measures.

The majority of the site, particularly the areas within the taxiways, are suitable for residential use, as are most of the non-industrial parts of the Technical Area. Localised areas of the site require remediation where gardens are planned. Further site investigation is required for residential development dependent upon the form and development plan to confirm the absence of contamination in sensitive areas such as gardens.

During any site redevelopment, risks to construction workers are expected to be mainly low, except for the higher risk areas where risks from limited contamination would be mitigated by personal protective equipment (PPE).

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9. Appendices

Appendix A - Borehole Logs

Appendix B - Window Sample Logs

Appendix C - Trial Pit Logs

Appendix D - Laboratory Analysis Certificates

Appendix E - Formatted Laboratory Data

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Appendix A
Borehole Logs

15 Pages

SUB SURFACE

SITE INVESTIGATION, GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EBH301

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
HT CABLE PERCUSSIVE	150mm to m	8.23	SEDA	SE1034
Location	**Dates**	**Engineer**		**Sheet**
455646.0 E. 101424.7 N	30/11/2005	ENTEC U.K. LIMITED		1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.30 0.30-0.40	B D PID=0ppm					(1.00)	MADE GROUND: Soft dark brown sandy silt with frequent fine to coarse gravel sized brick fragments including occasional half brick (demolition infill), occasional clinker fragments and glass shards			
1.20-1.40	D PID=0ppm				7.23	1.00 (1.00)	Firm orange brown mottled brown slightly sandy gravelly SILT. Gravels are subangular fine to medium flints. Sand is fine.			
					6.23	2.00 (0.70)	Yellow brown sandy subangular to subrounded fine to medium GRAVEL of flint and chert (poor recovery)			
3.00-3.20	D PID=0ppm				5.53	2.70 (0.60)	Firm to stiff orange brown mottled green grey very sandy very gravelly SILT. Sand is medium to coarse. Gravels are subangular to subrounded fine and medium flint and chert			
3.70-4.00	D PID=0ppm				4.93	3.30	Orange red brown yellow SAND and fine to coarse GRAVEL of flint and chert. Sand is medium to coarse.			
5.00	B						....from 5.50m: becoming slightly sandy GRAVEL. Gravels are angular to subrounded fine to coarse (more medium to coarse gravel than above 5.50m)			
7.80-8.00	D PID=0.2ppm									

Remarks
Hand excavated inspection pit from GL to 1.20m to check for services.
Water added from 2.00m to assist boring in gravel.
Data logged by Entec U.K. Limited.
On completion backfilled with arisings to 10.00m and installed a 50mm diameter mdpe gas monitoring standpipe with a gas valve and gravel surround from 10.00m to 4.00m, a Bentonite seal from 4.00m to 0.50m and a concreted in lockable steel protective cover from 0.50m to GL.

Scale (approx)	Logged By
1:50	ML/DP

Figure No.
SE1034.EBH301

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EBH301

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Num
LIGHT CABLE PERCUSSIVE	150mm to m	8.23	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	455646.0 E. 101424.7 N	30/11/2005	ENTEC U.K. LIMITED	2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					-1.97	(6.90) 10.20	Orange red brown yellow SAND and fine to coarse GRAVEL of flint and chert. Sand is medium to coarse.			
10.50-10.80	D PID=0ppm					(1.30)	Dark grey silty SAND with occasional shell fragments			
				30/11/2005	-3.27	11.50	Complete at 11.50m			

Remarks

Scale (approx)	Logged By
1:50	ML/D

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EBH302

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
HT CABLE PERCUSSIVE	150mm to m	8.14	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	455772.2 E. 10138.6 N	28/11/2005-29/11/2005	ENTEC U.K. LIMITED	1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20-0.40	D PID=0ppm					(0.40)	MADE GROUND: Dark brown fibrous slightly sandy slightly gravelly reworked silt. Gravels are subrounded chert and flint. Medium to gravel sized clinker at 0.30m to 0.35m and occasional brick fragments			
0.40	B				7.74	0.40				
0.60-0.80	D PID=0ppm						Soft orange brown silty slightly gravelly CLAY. Gravels are angular to subangular fine chalk and fine to medium chert			
						(1.80)				
					5.94	2.20				
	B						Orange grey angular to subrounded fine to coarse chert and flint GRAVEL with occasional bands of gravelly clay			
2.80-3.00	D PID=0.1ppm									
						(3.80)				
6.00-6.20	D PID=0ppm			28/11/2005	2.14	6.00	Very soft to soft orange brown sandy SILT with occasional rare subrounded to rounded medium gravel. Possible slight hydrocarbon odour. Sand is fine and medium. Odour at 6.00m to 6.20m. Odour not present at 7.00m or below. Becoming a very silty fine sand with depth			
				29/11/2005						
7.00-7.20	D PID=0.1ppm max			PID peaked @ 0.5ppm						
						(3.50)				
9.20-9.40	D PID=0.1ppm			PID peaked @ 0.9ppm						
					-1.36	9.50	Firm dark grey slightly sandy CLAY			

Remarks
Hand excavated inspection pit from GL to 1.20m to check for services.
Finished at 6.00m on 28/11/05.
Water added at 2.50m to assist boring.
Material recovered from >6.00m was very wet due to volume of water introduced during driling of boreholes. Descriptions may therefore reflect this.
Strata logged by Entec U.K. Limited.
On completion backfilled with arisings and installed a 50mm diameter mdpe gas monitoring standpipe with a gas valve and gravel surround from 6.00m to 3.00m, a Bentonite seal from 3.00m to 0.50m and a concreted in lockable steel protective cover from 0.50m to GL.

Scale (approx)	Logged By
1:50	ML/DP

Figure No.
SE1034.EBH302

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EBH302

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
LIGHT CABLE PERCUSSIVE	150mm to m	8.14	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	455772.2 E. 10138.6 N	28/11/2005-29/11/2005	ENTEC U.K. LIMITED	2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
						(1.00)	Firm dark grey slightly sandy CLAY			
				29/11/2005	-2.36	10.50	Complete at 10.50m			

Remarks

Scale (approx)	Logged By
1:50	MJDr

Figure No.
SE1034.EBH302

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EBH303

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
HT CABLE PERCUSSIVE	150mm to m	8.52	SEDA	SE1034
Location	**Dates**		**Engineer**	**Sheet**
455776.2 E. 101308.6 N	05/12/2005		ENTEC U.K. LIMITED	1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.30-0.50	D PID=0.4ppm					(1.20)	MADE GROUND: Concrete, brick and half brick fragments overlyng dark grey and black gravelly sand with occasional wood fragments. Gravel is brick and concrete fragments			
1.00	B				7.32	1.20				
1.50-1.70	D PID=0.2ppm					(1.10)	Stiff orange brown mottled light grey very sandy slightly gravelly laminated SILT. Sand is fine to medium. Gravel is angular fine flint gravel ....from 2.00m: becoming gravelly			
3.00	B				6.22	2.30	Orange brown cream white and red angular to subrounded fine to coarse GRAVEL of flint and chert			
3.00-3.40	D PID=0.3ppm					(3.30)				
6.00-6.20	D PID=03ppm				2.92	5.60	Soft orange brown flecked black very sandy SILT			

Remarks
Hand excavated inspection pit from GL to 1.20m to check for services.
Water added at 2.30m to assist boring.
Strip to wet at 6.80m.
Strata logged by Entec U.K. Limited.
On completion installed a 50mm diameter mdpe gas monitoring standpipe with a gas valve and gravel surround from 14.00m to 7.00m, a Bentonite seal from 7.00m to 0.50m and a concreted in lockable steel protective cover from 0.50m to GL.

Scale (approx)	Logged By
1:50	ML/DP

Figure No.
SE1034.EBH303

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EBH303

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Num
LIGHT CABLE PERCUSSIVE	150mm to m	8.52	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	455776.2 E. 101308.6 N	05/12/2005	ENTEC U.K. LIMITED	2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
						(8.40)	Soft orange brown flecked black very sandy SILT			
				05/12/2005	-5.48	14.00	Complete at 14.00m			

Remarks

Scale (approx)	Logged By
1:50	ML/DF

Figure No. SE1034.EBH303

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EBH304

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
GHT CABLE PERCUSSIVE	150mm to m	8.18	SEDA	SE1034
Location	**Dates**	**Engineer**	**Sheet**
455850.1 E. 101444.3 N	29/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.10-0.30 0.30	D PID=0ppm B					(0.80)	MADE GROUND: dark brown fibrous slightly gravelly slightly sandy silt. Gravels are angular to subrounded fine and medium flint and chert with occasional clinker fragments ....at 0.40m: metal bar (2-3mm diameter)			
					7.38	0.80	....0.70m: further occasional clinker			
1.00-1.20	D PID=0ppm					(1.20)	Firm orange brown slightly friable slightly gravelly SILT. Gravel is subangular to subrounded fine to medium chert and flint			
2.00-2.20	D PID=0ppm				6.18	2.00 (0.30)	Yellow brown gravelly very silty medium to coarse SAND. Gravel is angular to subrounded fine to coarse chert and flint			
2.30-2.60 0	D PID=0ppm B				5.88	2.30	Green grey medium to coarse SAND and subangular to subrounded fine to medium GRAVEL of flint and chert, occasionally coarse in size ....from 3.00m: becoming an orange grey subangular to subrounded fine to medium GRAVEL			
						(3.60)				
-6.80	D PID=0ppm				2.28	5.90	Soft to firm grey very silty fine to medium SAND with occasional rounded coarse gravel with frequent shell fragments			
						(3.10)				
9.00-9.50	D PID=0ppm				-0.82	9.00	Firm grey slightly sandy CLAY with frequent shell fragments. Sand is fine			
				29/11/2005		(1.00)				
					-1.82	10.00				

Remarks
Hand excavated inspection pit from GL to 1.20m to check for services.
Water added from 2.50m to 5.50m to assist boring. No groundwater observed.
...a logged by Entec U.K. Limited.
...completion backfilled with arisings and installed a 50mm diameter mdpe gas monitoring standpipe with a gas valve and gravel surround from 6.00m to 2.00m, a Bentonite seal from 2.00m to 0.50m and a concreted in lockable steel protective cover from 0.50m to GL.

Scale (approx)	Logged By
1:50	ML/DP

Figure No.
SE1034.EBH304

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EBH305

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
LIGHT CABLE PERCUSSIVE	150mm to m	8.21	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	455919.3 E. 101369.8 N	29/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20-0.40	D PID=0ppm					(0.60)	MADE GROUND: Dark brown slightly gravelly slightly sandy silt. Sand is fine and medium. Gravel is fine to medium chert and flint. Concrete fragments (gravel sized at 0.30 - 0.40 and 5mm iron bar. Cement bonded asbestos fragments at 0.40m - 0.45m. Occasional clinker			
0.30	B									
0.40-0.45	D				7.61	0.60				
1.00-1.30	D PID=0ppm					(1.30)	Soft to firm orange brown gravelly slightly sandy SILT. Sand is fine. Gravel is a subrounded fine to medium chert and flint			
					6.31	1.90				
2.30-2.50	D PID=0ppm						Light brown slightly sandy angular to subrounded fine to medium GRAVEL. Sand is fine. Gravel becoming medium to coarse with depth			
3.00	B					(2.60)				
					3.71	4.50	Orange brown silty fine SAND. Soils moist			
5.50-6.00	D PID=0.1ppm					(3.50)				
8.00-8.50	D PID=1.4ppm				0.21	8.00	Firm dark grey very sandy SILT with frequent shell fragments			
				29/11/2005		(2.00)				
					-1.79	10.00				

Remarks
Hand excavated inspection pit from GL to 1.20m to check for services.
Water added to assist boring from 1.90m.
Hole rapidly silting on completion.
Strata logged by Entec U.K. Limited.
On completion backfilled with arisings and installed a 50mm diameter mdpe gas monitoring standpipe with a gas valve and gravel surround from 8.00m to 4.50m, a Bentonite seal from 4.50m to 0.30m and a concreted in lockable steel protective cover from 0.30m to GL.

Scale (approx)	Logged By
1:50	MLA

Figure No.
SE1034.EBH305

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EBH306

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
HT CABLE PERCUSSIVE	150mm to m	7.97	SEDA	SE1034
Location	**Dates**		**Engineer**	**Sheet**
455985.4 E. 101464.5 N	28/11/2005		ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.30-0.40	D PID=0ppm					(0.50)	Soft dark brown slightly gravelly CLAY. Gravel comprises subangular fine to medium chalk and chert. (TOPSOIL). Fibrous in upper horizon			
0.50	B				7.47	0.50	Soft becoming firm orange brown mottled grey brown slightly gravelly slightly sandy CLAY. Sand is medium. Gravel is angular to subrounded chert and flint			
1.00-1.30	D PID=0ppm					(0.65)				
1.60-1.80	D PID=2.1ppm				6.82	1.15	Green grey slightly silty medium and coarse SAND and angular to subangular medium and coarse chert and flint GRAVEL. Possible faint hydrocarbon odour			
3.00	B					(2.35)				
4.00-4.30	D PID=0.1ppm				4.47	3.50	Firm to stiff dark grey slightly sandy CLAY			
							....from 5.00m: becoming a firm dark grey sandy SILT with occasional shell			
							....from 6.00m: becoming more sandy with more frequent shell fragments			
6.80	D PID=0.2ppm					(6.50)				
8.50-8.80	D PID=0ppm			Seepage(1) at 9.00m.					▽1	
				28/11/2005	-2.03	10.00				

Remarks
Damp at 9.00m becoming wet by 9.50m.
Strata logged by Entec U.K. Limited.
Completion backfilled with arisings and installed a 50mm diameter mdpe gas monitoring standpipe with a gas valve and gravel surround from 3.[illegible]m to 1.50m, a Bentonite seal from 1.50m to 0.50m, and a concreted in lockable steel protective cover from 0.50m to GL.

Scale (approx)	Logged By
1:50	ML/DP

Figure No.
SE1034.EBH306

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EBH307

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
LIGHT CABLE PERCUSSIVE	150mm to m	8.37	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	455918.3 E. 101182.8 N	02/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					8.27	0.10	MADE GROUND: Bituminous macadam surfacing			
						(0.50)	MADE GROUND: Light brown subangular medium to coarse gravel of crushed limestone (sub-base)			
0.50	B				7.77	0.60	MADE GROUND: Soft to firm orange brown slightly gravelly reworked silt. Gravel is angular to subangular fine flint with rare angular coarse gravel			
0.70-0.90	D PID=0ppm					(0.50)				
1.20-1.40	D PID=0ppm				7.27	1.10	Firm orange brown slightly gravelly SILT. Gravel is a fine flint			
						(0.70)	....by 1.50m: becoming sandy			
					6.57	1.80	....by 1.70m: becoming sandy and gravelly			
							Orange brown cream dark grey sandy angular to rounded fine to coarse GRAVEL of flint and chert. Sand is coarse. Arisings slightly stained and slight hydrocarbon odour from 3.50m. Water is dark grey in colour			
3.00	B									
3.50-3.70	D PID=300ppm			PID peaked @ 630ppm		(3.70)				
5.50-5.70	D PID=7.2ppm				2.87	5.50	Firm to stiff dark grey slightly sandy slightly gravelly SILT. Sand is fine. Gravel is angular to subangular fine flint. No obvious contamination observed in silt			
						(2.00)				
					0.87	7.50	Dense dark grey silty occasionally very silty fine SAND. Slightly damp			
8.50-8.70	D PID=1.1ppm						....by 8.50m: becoming very silty			
						(2.50)				
				02/12/2005	-1.63	10.00				

Remarks
Hand excavated inspection pit from GL to 1.20m.
Water added from 1.80m to assist with boring through sands and gravels.
Slight hydrocarbon odour from gravels at 3.50m and water discoloured to grey.
Strata logged by Entec U.K. Limited.
On completion backfilled with arisings and installed a 50mm diameter mdpe gas monitoring standpipe with a gas valve and gravel surround from 5.50m to 1.80m, a Bentonite seal from 1.80m to 0.50m and a concreted in lockable steel protective cover from 0.50m to GL.

Scale (approx)	Logged By
1:50	ML

Figure No.
SE1034.EBH307

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EBH308

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
HT CABLE PERCUSSIVE	150mm to m	8.72	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	455897.0 E. 101226.0 N	01/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.30-0.50	D PID=0.2ppm					(0.60)	MADE GROUND: Dark brown slightly sandy gravelly silt. Gravel is angular to subrounded medium chert with occasional gravel sized fragments of brick and bituminous macadam			
0.50	B				8.12	0.60	MADE GROUND: Orange brown mottled brown slightly gravelly reworked silt. Gravel is angular to subangular chert			
						(0.50)				
					7.62	1.10	Firm red brown slightly gravelly SILT. Gravel is angular to subangular fine to medium chert and flint			
1.50-1.70	D PID=0.5ppm					(0.90)				
					6.72	2.00	Orange brown red brown cream angular to subangular fine to medium chert and flint GRAVEL			
	B					(1.00)				
3.00-3.20	D PID=1.0ppm				5.72	3.00	Firm to stiff orange brown gravelly SILT. Gravel is subangular fine flint grading into a light brown slightly gravelly slightly sandy SILT by 5.00m. Gravel is a fine flint, sand is medium to coarse			
						(3.50)				
					2.22	6.50	Green grey very sandy fine SILT			
7.00-7.30	D PID=2.5ppm						....by 7.00m: becoming moist and grading into a silty SAND			
						(3.50)				
				01/12/2005	-1.28	10.00				

Remarks
Hand excavated inspection pit from GL to 1.20m to check for services.
Water added to assist with boring through gravel.
1.2 metres were shelled due to wet conditions.
Strata logged by Entec U.K. Limited.
On completion installed a 50mm diameter mdpe gas monitoring standpipe with a gas valve and gravel surround from 10.00m to 6.50m, a Bentonite seal from 6.50m to 1.00m and a concreted in lockable steel protective cover from 1.00m to GL.

Scale (approx)	Logged By
1:50	ML/DP

Figure No.
SE1034.EBH308

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SUB SURFACE

SITE INVESTIGATION, GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EBH309

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
LIGHT CABLE PERCUSSIVE	150mm to m	8.23	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	455807.3 E. 101185.5 N	01/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					8.18	0.05	MADE GROUND: Bituminous macadam surfacing			
0.20-0.40	D PID-0ppm					(0.55)	MADE GROUND: Light brown sandy gravel. Gravel is subangular fine to medium chert with frequent medium gravel sized clinker, bituminous macadam and concrete fragments			
					7.63	0.60				
1.00-1.20	D PID=0ppm					(1.10)	Orange brown sandy gravelly SILT. Gravel is angular to subangular fine chert ....from 1.50m: becoming gravelly SILT			
					6.53	1.70				
2.00-2.20	D PID=0.3ppm					(1.40)	Orange brown cream red brown very sandy angular to rounded fine to coarse GRAVEL of flint and chert. Occasional gravel sized clay lenses between 1.70m - 2.50m. Coarse gravel recovered from 2.80m - 3.00m were covered in a green grey silt with medium to strong hydrocarbon diesel odour			
3.00	B									
3.10-3.20	D PID=1026ppm				5.13	3.10	Soft to firm green grey stained sandy SILT with very strong medium hydrocarbon diesel odour. Becoming orange brown and odour decreasing with depth			
						(1.40)				
4.50-4.80	D PID=26.2ppm				3.73	4.50	Stiff dark grey slightly sandy SILT with occasional shell fragments			
5.00	B									
						(5.50)				
							....becoming sandy to very sandy with depth			
9.00-9.20	D PID=55.0ppm									
							....between 9.50m and 10.00m: becoming damp			
				01/12/2005	-1.77	10.00				

Remarks
Hand excavated inspection pit from GL to 1.20m to check for services.
Water added to assist boring from 1.70m.
Strata logged by Entec U.K. Limited.
On completion backfilled with arisings from 10.00m to 4.50m, a Bentonite seal from 4.50m to 3.10m, a 50mm diameter mdpe gas monitoring standpipe with a gas valve and gravel surround from 3.10m to 1.70m, a Bentonite seal from 1.70m to 0.50m and a concreted in lockable steel protective cover from 0.50m to GL.

Scale (approx)	Logged By
1:50	ML/D...

Figure No.
SE1034.EBH309

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EBH310

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
T CABLE PERCUSSIVE	150mm to m	8.86	SEDA	SE1034
Location	**Dates**	**Engineer**		**Sheet**
456214.0 E. 101455.0 N	30/11/2005	ENTEC U.K. LIMITED		1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20 0.20-0.40 0.30	D D PID=0ppm B					(1.10)	MADE GROUND: Dark brown slightly sandy slightly gravelly silt. Gravel is subangular to subrounded fine to medium flint and chert. Much gravel sized fragments of brick, fine gravel sized clinker, occasional glass shards and rare cement boarding (possible asbestos). Occasional metal fragments (possible horseshoe)			
1.30-1.50	D PID=0ppm				7.76	1.10 (0.80)	Firm orange brown slightly sandy slightly gravelly SILT. Gravel is fine to medium chert			
2.00-2.20	D PID=0ppm				6.96	1.90 (0.40)	Stiff orange brown very sandy slightly gravelly SILT. Sand is medium. Gravel is subangular fine and medium chert and flint			
5.00	B				6.56	2.30 (6.40)	Red brown white cream sandy angular to rounded fine to coarse GRAVEL of flint and chert			
8.00-8.40	D PID=0.3ppm									
9.00-9.50	D PID=0.0ppm			30/11/2005	0.16 -1.14	8.70 (1.30) 10.00	Stiff dark grey slightly gravelly CLAY becoming sandy with depth			

Remarks
Hand excavated inspection pit from GL to 1.20m to check for services - 1 hour.
Strata logged by Entec U.K. Limited.
On completion backfilled with arisings and installed a 50mm diameter mdpe gas monitoring standpipe with a gas valve and gravel surround from 8.70m to 2.70m, a Bentonite seal from 2.70m to 0.50m and a concreted in lockable steel protective cover from 0.50m to GL.

Scale (approx)	Logged By
1:50	ML/DP

Figure No.
SE1034.EBH310

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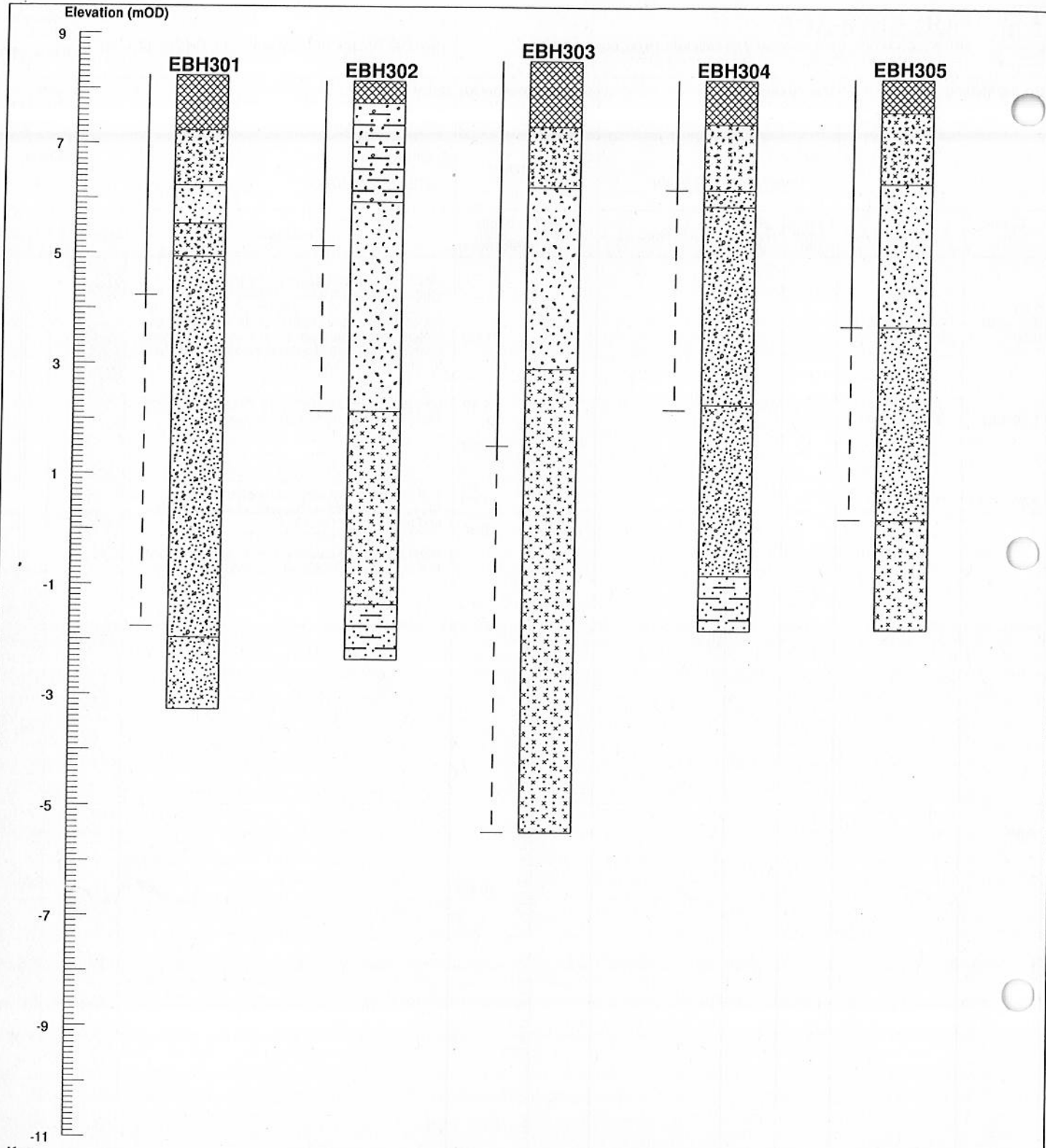

Key

- Groundwater Strike
- Strike Rise Level
- Highest recorded piezo level
- Piezometer Tip
- Slotted Standpipe
- MADE GROUND
- Sandy CLAY
- Gravelly CLAY
- Sandy gravelly CLAY
- Sandy SILT
- Gravelly SILT
- Sandy gravelly SILT
- Silty SAND
- Silty gravelly SAND
- SAND and GRAVEL
- GRAVEL
- Sandy GRAVEL

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Nominal Section

Site	Date Drawn	Date Checked	Sheet	Job Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	09/02/2006		1/2	SE1034
Client	**Drawn By**	**Checked By**	**Scale**	**Figure No.**
SEDA			1:100[V]	NE2559.1

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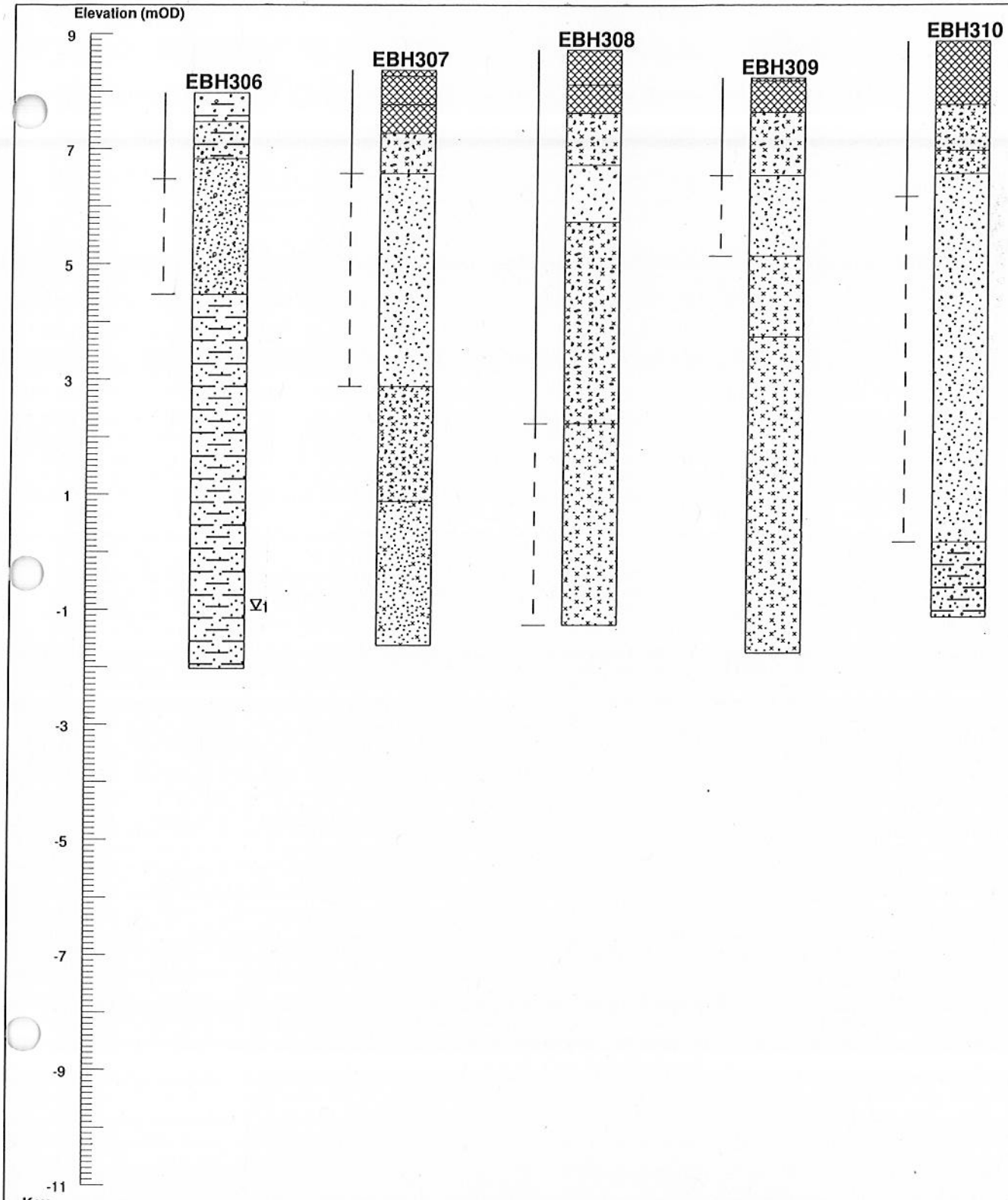

Key

- Groundwater Strike
- Strike Rise Level
- Highest recorded piezo level
- Piezometer Tip
- Slotted Standpipe
- MADE GROUND
- Sandy CLAY
- Gravelly CLAY
- Sandy gravelly CLAY
- Sandy SILT
- Gravelly SILT
- Sandy gravelly SILT
- Silty SAND
- Silty gravelly SAND
- SAND and GRAVEL
- GRAVEL
- Sandy GRAVEL

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Nominal Section

Site	Date Drawn	Date Checked	Sheet	Job Number
MS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	09/02/2006		2/2	SE1034
Client	**Drawn By**	**Checked By**	**Scale**	**Figure No.**
SEDA			1:100[V]	NE2559.1

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Appendix B
Window Sample Hole Logs

14 Pages

SUB SURFACE

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3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EWS302

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
TERRIER WINDOW SAMPLING RIG		7.91	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	455746.0 E. 101486.7 N	28/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					7.81	0.10	MADE GROUND: Topsoil		
0.20-0.30	D					(0.30)	MADE GROUND: Loose brown silty gravel. Gravel is fine to medium with occasional cobbles of flint		
					7.51	0.40	Firm orange brown sandy gravelly SILT with localised fragments of organic material (possibly reworked)		
0.60-0.70	D					(0.60)			
					6.91	1.00	Firm to stiff mottled light grey orange sandy gravelly CLAY becoming stiffer with depth. Occasional coarse gravel of flint		
1.10-1.20	D					(0.80)			
					6.11	1.80	Light yellow orange white SAND and GRAVEL. Gravel is rounded to subangular with occasional cobbles of flint		
						(0.40)			
				28/11/2005	5.71	2.20	Complete at 2.20m		

Remarks
Sand and gravel moist at 1.80m to 2.20m.
Borehole terminated at 2.20m due to refusal in gravel.
Strata logged by Entec U.K. Limited.

Scale (approx)	Logged By
1:25	LW/[illegible]

Figure No.
SE1034.EWS302

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Boring Method: RIER WINDOW SAMPLING RIG	Casing Diameter:	Ground Level (mOD): 7.89	Client: SEDA	Job Number: SE1034
	Location: 455836.6 E. 101481.4 N	Dates: 28/11/2005	Engineer: ENTEC U.K. LIMITED	Sheet: 1/1

Site: HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT

Borehole Number: EWS303

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					7.79	0.10	MADE GROUND: Topsoil		
0.20-0.30	D					(0.25)	MADE GROUND: Loose brown silty gravel with occasional coal, plastic and brick fragments		
					7.54	0.35	Mottled orange brown gravelly clayey SILT. Gravel is subrounded		
0.50-0.60	D					(0.65)			
					6.89	1.00	Firm mottled light brown orange CLAY with discrete particles of organic matter and occasional subangular gravel of flint		
1.10-1.20	D					(0.80)			
					6.09	1.80	Light yellow SAND and GRAVEL. Gravel is subangular to subrounded with occasional cobbles of flint		
1.90-2.00	D					(0.40)			
				28/11/2005	5.69	2.20	Complete at 2.20m		

Remarks
Sand and gravel moist from approx. 1.90m.
Borehole terminated at 2.20m due to refusal in gravel.
Borehole logged by Entec U.K. Limited.

Scale (approx): 1:25

Logged By: LW/DP

Figure No.: SE1034.EWS303

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EWS304

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
TERRIER WINDOW SAMPLING RIG		8.42	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	458159.0 E. 101361.1N	29/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					8.41	0.01	MADE GROUND: Topsoil		
							MADE GROUND: brown gravelly silt with frequent brick, flint, glass and occasional coal, clinker and wood		
0.30-0.50	D					(0.49)			
					7.92	0.50	Stiff brown gravelly CLAY with localised organic fragments		
						(0.40)			
0.80-0.90	D				7.52	0.90	Orange brown mottled sandy CLAY		
						(0.40)			
					7.12	1.30	Yellow orange SAND and GRAVEL. Gravel increasing with depth		
						(1.00)			
				29/11/2006	6.12	2.30	Complete at 2.30m		

Remarks
Borehole terminated at 2.30m due to refusal in gravel.
Strata logged by Entec U.K. Limited.

Scale (approx)	Logged By
1:25	LW/D.

Figure No.
SE1034.EWS304

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EWS305

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
...RRIER WINDOW ...AMPLING RIG		7.99	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456211.6 E. 101489.5 N	29/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					7.89	0.10	MADE GROUND: Topsoil		
0.20-0.30	D PID=0ppm					(0.70)	MADE GROUND: Brown gravelly sandy silt with cobbles of flint and chert and pockets of orange sand		
					7.19	0.80	Stiff mottled orange grey SILT with occasional cobbles and gravels of flint		
...20-1.40	D PID=0ppm					(1.70)			
					5.49	2.50	Yellow orange GRAVEL. Soils moist		
						(0.50)			
				29/11/2005	4.99	3.00	Complete at 3.00m		

Remarks
Incomplete recovery between 0.80m and 2.50m.
On completion installed a 50mm diameter mdpe gas monitoring standpipe with a gas valve and gravel surround from 3.00m to 2.50m, a Bentonite ... from 2.50m to 1.00m and a concreted in lockable steel protective cover from 1.00m to GL.
...ata logged by Entec U.K. Limited.

Scale (approx)	Logged By
1:25	LW/DP

Figure No.
SE1034.EWS305

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EWS306

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
TERRIER WINDOW SAMPLING RIG		9.37	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456285.8 E. 101821.6 N	30/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					9.27	0.10	TOPSOIL Reworked brown clayey SILT with rare fragments of coal		
0.30-0.40	D PID=0ppm					(0.50)			
					8.77	0.60	Soft to medium mottled orange brown SILT		
						(0.60)			
1.20-1.40	D PID=0ppm				8.17	1.20	Mottled orange brown gravelly SILT with gravel band at 1.50m, gravel increasing with depth, occasional cobbles below 1.50m of flint		
						(0.70)			
					7.47	1.90	Stiff mottled orange brown grey CLAY with frequent particles and organic material		
2.20-2.40	D PID=0ppm					(0.80)			
					6.67	2.70	Orange black and white SAND and GRAVEL with occasional cobbles of flint		
						(0.30)			
				30/11/2005	6.37	3.00	Complete at 3.00m		

Remarks
Borehole terminated at 3.00m in cobbles.
Strata logged by Entec U.K. Limited.

Scale (approx)	Logged By
1:25	LW/BJ

Figure No.
SE1034.EWS306

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EWS307

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
...RIER WINDOW ...AMPLING RIG		9.20	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456310.4 E. 101890.0 N	30/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					9.10	0.10	MADE GROUND: Topsoil		
0.10-0.20	D PID=0ppm					(0.20)	MADE GROUND: Brown clayey silt with occasional coarse gravel of flint, coal fragments and wood		
					8.90	0.30	Soft to firm mottled orange brown SILT with occasional fine gravel of flint, becoming stiffer with depth		
						(0.50)			
					8.40	0.80	Stiff mottled orange light brown SILT/CLAY		
1.00-1.20	D PID=0ppm					(0.40)			
					8.00	1.20	Fine to coarse angular to subangular GRAVEL		
						(0.20)			
					7.80	1.40	Very stiff grey orange mottled CLAY		
						(0.50)			
					7.30	1.90	Orange brown sandy SILT		
2.00-2.20	D PID=0ppm					(0.10)			
					7.20	2.00	Orange silty SAND		
						(0.50)			
					6.70	2.50	Orange white SAND and GRAVEL. Gravel increasing with depth, cobbles of flint at 2.80m		
						(0.45)			
					6.25	2.95	Green grey gravelly SAND		
				30/11/2005	6.20	3.00			
							Complete at 3.00m		

Remarks
Borehole terminated at 3.00m due to refusal.
...ata logged by Entec U.K. Limited.

Scale (approx)	Logged By
1:25	LW/DP

Figure No.
SE1034.EWS307

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EWS308

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
TERRIER WINDOW SAMPLING RIG		7.69	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456697.5 E. 102145.5 N	28/11/2005- 29/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					7.59	0.10	MADE GROUND: Topsoil		
0.20-0.30	D PID=0ppm					(0.90)	MADE GROUND: Brown sandy gravelly silt with occasional gravel of coal and brick		
					6.69	1.00	Orange brown gravelly SILT. Gravel is coarse angular to subangular of flint and chert		
1.10-1.20	D PID=0ppm					(0.50)			
					6.19	1.50	Brown yellow and white SAND and GRAVEL with cobbles of flint		
1.70-1.80	D PID=0ppm					(0.40)			
				29/11/2005	5.79	1.90	Complete at 1.90m		

Remarks
Borehole terminated at 1.90m due to hole collapsing in gravel.
Sand and gravel observed to be moist between 1.50m and 1.90m.
Strata logged by Entec U.K. Limited.

Scale (approx)	Logged By
1:25	LW/D...

Figure No.
SE1034.EWS308

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EWS309

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
RIER WINDOW SAMPLING RIG		8.30	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456832.6 E. 102193.8 N	30/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.15)	MADE GROUND: Topsoil		
					8.15	0.15			
0.20-0.40	D PID=0ppm						MADE GROUND: Brown gravelly silt with occasional coarse gravel of brick, clinker and flint		
						(0.35)			
					7.80	0.50	Brown clayey SILT (possibly reworked)		
						(0.30)			
					7.50	0.80	Stiff brown orange SILT/CLAY with localised fine organic matter and frequent rootlets		
						(0.20)			
					7.30	1.00	Mottled grey brown orange sandy SILT becoming predominantly grey from 1.90m with bands of gravel and occasional cobbles of flint		
					7.20	1.10			
1.20-1.40	D PID=0.4ppm						Yellow orange SAND and GRAVEL with occasional cobbles of flint		
						(1.20)			
					6.00	2.30	Stiff mottled green grey and orange gravelly SILT with bands of coarse gravel of flint and chert. Hydrocarbon malodour noted in SILT and in gravel band		
2.60-2.80	D PID=10.1ppm								
						(0.70)			
2.80-3.00	D PID=39ppm								
				30/11/2005	5.30	3.00			
							Complete at 3.00m		

Remarks
Terminated at 3.00m due to refusal.
Strata logged by Entec U.K. Limited

Scale (approx)	Logged By
1:25	LW/DP

Figure No. SE1034.EWS309

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SUB SURFACE

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EWS310

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
TERRIER WINDOW SAMPLING RIG			SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	AS PLAN	29/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						0.10	MADE GROUND: Topsoil		
						(0.10)	MADE GROUND: Concrete boulder		
						0.20	MADE GROUND: Brown sand with frequent gravel and cobble of brick, concrete, clinker and ceramic pipe		
0.40-0.60	D PID=0ppm					(0.90)			
1.10-1.40	D PID=0ppm					1.10	MADE GROUND: Light brown black sandy ashy matrix with gravel and cobble of concrete, glass and brick fragments		
						(0.30)			
						1.40	MADE GROUND: Yellow brown sand with fragments of brick and clinker		
1.50-1.70	D PID=0ppm					(0.10) 1.50			
						(0.30)	Dark grey SILT with pockets of light grey sand. Slight hydrocarbon malodour		
						1.80	Orange SAND and GRAVEL with gravel and cobble of flint and chert		
				29/11/2005		(0.20) 2.00			
							Complete at 2.00m		

Remarks
Window sample hole terminated at 2.00m due to refusal.
Strata logged by Entec U.K. Limited.

Scale (approx)	Logged By
1:25	LW/D.

Figure No.
SE1034.EWS310

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SUB SURFACE

SITE INVESTIGATION, GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EWS311

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
...RIER WINDOW SAMPLING RIG		9.34	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	455745.1 E, 102068.9 N	29/11/2005-30/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.40-0.60	D PID=0ppm					(0.90)	MADE GROUND: Light brown sandy silt with pockets of organic material, occasional gravel and cobble of brick and pockets of light grey sand		
0.90-1.20	D PID=0.3ppm				8.44	0.90 (0.10)	MADE GROUND: Topsoil		
					8.34	1.00 (0.20)	MADE GROUND: Black and red fine to coarse gravel with occasional gravel of clinker		
					8.14	1.20 (0.10)	MADE GROUND: Light brown/yellow sand		
1.40-1.60	D PID=0ppm				8.04	1.30 (0.50)	Stiff mottled light brown/orange CLAY with localised fine organic matter		
1.80-2.20	D PID=0.9ppm				7.54	1.80 (0.60)	Yellow orange and white SAND and GRAVEL. Gravel is angular to subrounded		
				30/11/2005	6.94	2.40	Complete at 2.40m		

Remarks
Borehole terminated I 2.40m due to refusal.
...a logged by Entec U.K. Limited.

Scale (approx)	Logged By
1:25	LW/DP

Figure No.
SE1034.EWS311

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Site	Borehole Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	EWS312

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
TERRIER WINDOW SAMPLING RIG		8.92	SEDA	SE1034
Location		**Dates**	**Engineer**	**Sheet**
455734.3 E. 102115.4 N		30/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					8.82	0.10	MADE GROUND: Topsoil		
0.10-0.20	D PID=3.0ppm				8.72	(0.10) 0.20	MADE GROUND: Dark grey gravelly sand with coarse gravel of clinker and pockets of grey sand. Staining and hydrocarbon malodour noted		
0.30-0.50	D PID=17.8ppm			PID peaked @ 17.8ppm	8.52	(0.20) 0.40	MADE GROUND: grey sandy SILT. Hydrocarbon malodour noted.		
							Orange/grey gravelly sandy SILT with frequent fine and medium gravel of flint and chert. Slight hydrocarbon malodour noted		
						(1.40)			
1.40-1.60	D PID=17.0ppm			PID peaked @ 17ppm					
					7.12	1.80	Light grey/green gravelly SAND with frequent angular to subrounded gravel of flint and chert. Slight hydrocarbon malodour noted		
					6.92	(0.20) 2.00	Grey/orange/white sandy GRAVEL. Hydrocarbon odour noted		
						(0.30)			
					6.62	2.30	Firm mottled orange/grey sandy gravelly SILT. Slight hydrocarbon odour noted		
					6.42	(0.20) 2.50	Brown SAND horizon. Stronger hydrocarbon odour noted		
					6.32	(0.10) 2.60	Grey/orange SAND. Sand is wet		
2.70-2.90	D PID=36.1ppm			PID peaked @ 36.1ppm		(0.40)			
					5.92	3.00	Orange SAND and GRAVEL. Gravel is fine to coarse flint and chert		
3.30-3.50	D PID=0ppm					(0.60)			
				30/11/2005	5.32	3.60	Complete at 3.60m		

Remarks
Borehole terminated at 3.60m due to refusal.
Strata logged by Entec U.K. Limited.

Scale (approx)	Logged By
1:25	LW/D.

Figure No. SE1034.EWS312

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Site: HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT			Borehole Number: EWS301
Boring Method: ...RIER WINDOW SAMPLING RIG	Casing Diameter:	Ground Level (mOD): 7.97	Client: SEDA
	Location: 455751.0 E. 101591.3 N	Dates: 28/11/2005	Engineer: ENTEC U.K. LIMITED
Job Number: SE1034			Sheet: 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					7.87	0.10	MADE GROUND: Topsoil		
0.10-0.20	D					(0.40)	MADE GROUND: Brown clayey silt with occasional gravel and cobbles of flint		
					7.47	0.50	Firm orange brown gravelly clayey SILT with a little fine organic matter		
0.60-0.70	D					(0.30)			
					7.17	0.80	Firm mottled orange grey sandy SILT/clay with gravel and cobbles of flint		
0.90-1.00	D					(0.30)			
					6.87	1.10	Orange grey white SAND and GRAVEL. Gravel is rounded to subangular. Occasional pockets of organic material. Very dense		
						(0.80)			
1.70-1.80	D								
				28/11/2005	6.07	1.90	Complete at 1.90m		

Remarks
Borehole terminated at 1.90m due to refusal.
S...n logged by Entec U.K. Limited.

Scale (approx)	Logged By
1:25	LW/DP

Figure No. SE1034.EWS301

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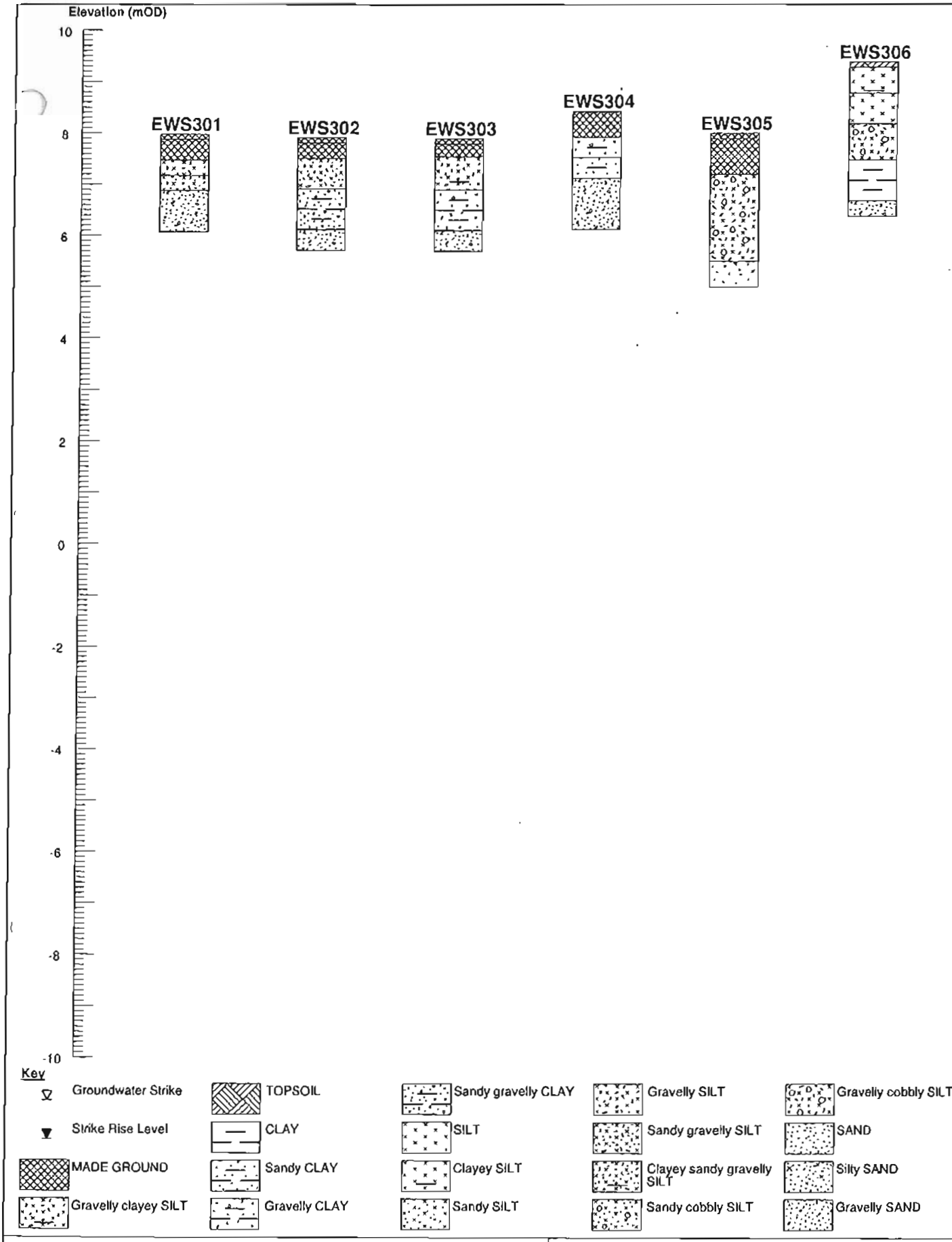

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Nominal Section

Site	Date Drawn	Date Checked	Sheet	Job Number
MS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	09/02/2006		1/2	SE1034
Client	**Drawn By**	**Checked By**	**Scale**	**Figure No.**
SEDA			1:100[V]	NE2559.1

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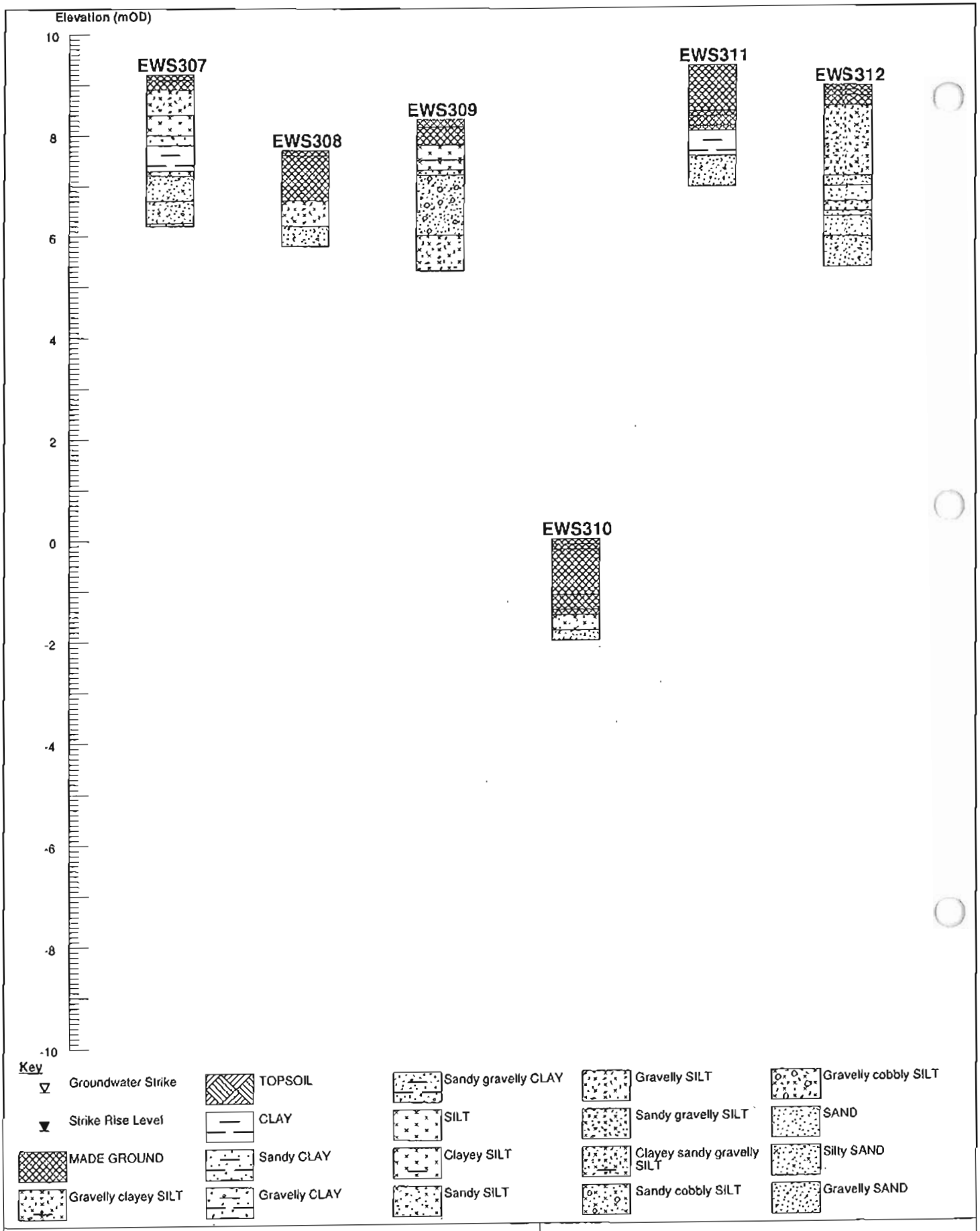

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Nominal Section

Site	Date Drawn	Date Checked	Sheet	Job Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	09/02/2006		2/2	SE1034
Client	**Drawn By**	**Checked By**	**Scale**	**Figure No.**
SEDA			1:100[V]	NE2559.1

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Appendix C
Trial Pit Logs

35 Pages

SUB SURFACE

SITE INVESTIGATION, GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP301

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	0.7m x 3.2m	7.83	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456734.3 E, 101648.8 N	30/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.50)	MADE GROUND: Grass over brown clayey fine to medium sand with some rootlets and occasional gravel sized fragments of rounded to subrounded fine to coarse chert, glass, brick and ceramic		
0.30	V							
0.30	V							
0.30	D							
0.30	A			7.33	0.50	Firm light brown light grey mottled slightly gravelly CLAY. Gravel is angular to subrounded fine to medium chert with occasional rootlets		
0.60	V							
0.60	V							
0.60	D							
0.60	A				(0.95)			
				6.38	1.45	Light brown and orange slightly clayey medium to coarse slightly gravelly SAND. Gravel is subrounded to angular fine to coarse chrert and flint		
				6.33	1.50	Light brown sandy rounded to angular fine to coarse chert, flint and quartzite GRAVEL		
					(1.70)			
3.00	V		Seepage(1) at 3.00m.					▽1
3.00	V							
3.00	D							
3.00	A		30/11/2005	4.63	3.20	Complete at 3.20m		

Plan

Remarks

Seepage inflow at 3.00m.
Pit sides remained stable.
A = Amber glass jar sample.
V = Vial sample.
On completion backfilled with arisings to 2.20m and installed a 50mm diameter mdpe gas monitoring standpipe with a gas valve and gravel surround from 2.20m to 0.50m and a concreted in lockable steel protective cover from 0.50m to GL.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP301

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP302

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Num
MECHANICAL EXCAVATOR	0.7m x 3.2m		SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	AS PLAN	30/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	MADE GROUND: grass over brown clayey fine to medium sand with some rootlets and some fine to coarse gravel sized fragments of chert, occasional glass, brick, quartzite and ceramic		
0.50	D				0.60			
0.50	V					Firm orange brown sandy slightly gravelly CLAY. Gravel is subrounded to angular fine to coarse chert and flint		
0.50	V							
0.50	A				(0.55)			
1.00	V							
1.00	A							
1.00	D				1.15			
1.00	V					Light brown sandy rounded to subangular fine to coarse chert, flint, quartz and quartzite GRAVEL		
					(1.35)			
					2.50	Firm to stiff green very sandy CLAY with black organic nodules becoming clayey sand at 3.10m		
2.70	D							
2.70	V							
2.70	V							
2.70	A							
3.00	V							
3.00	A							
3.00	D							
3.00	V				(1.50)			
			30/11/2005:DRY		4.00			

Plan

Remarks

Trial pit dry.
Pit sides remained stable.
A = Amber glass jar sample.
V = Vial sample.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP302

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3 Peel Street, Preston, PR2 2OS. Tel. (01772) 561135 Fax (01772) 204907

Site: HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT			Trial Pit Number: ETP303
Excavation Method: CHANICAL EXCAVATOR	Dimensions: 0.7m x 2.8m	Ground Level (mOD): 7.21	Client: SEDA	Job Number: SE1034
	Location: 456849.9 E. 101628.8 N	Dates: 30/11/2005	Engineer: ENTEC U.K. LIMITED	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	V				(0.70)	MADE GROUND: Grass over brown clayey fine to medium sand with some rootlets, and some gravel sized fragments of angular to subrounded fine to coarse chert		
0.30	V							
0.30	D							
0.30	A							
				6.51	0.70	Firm orange brown gravelly slightly sandy CLAY. Gravel is subrounded to angular fine to coarse chert, quartzite, flint and quartz		
0.80	V				(0.50)			
0.80	V							
0.80	D							
0.80	A							
				6.01	1.20	Light brown sandy rounded to angular fine to coarse chert, flint, quartzite and quartz GRAVEL		
					(1.80)			
3.00	V			4.21	3.00	Firm to stiff green very sandy CLAY with occasional black organic nodules		
3.00	V				(0.20)			
3.00	D							
3.00	A		30/11/2005:DRY	4.01	3.20	Complete at 3.20m		

Plan

Remarks

Trial pit dry.
Pit sides remained stable.
A = Amber glass jar sample.
V = Vial sample.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP303

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP304

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	0.7m x 2.9m	7.99	SEDA	SE[illegible]
	Location	**Dates**	**Engineer**	**Sheet**
	456841.4 E. 101678.2 N	30/11/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	D				(0.60)	MADE GROUND: Grass over brown clayey fine to medium sand with some rootlets, some subrounded to angular fine to coarse gravel sized fragments of chert with occasional brick fragments		
0.30	V							
0.30	V							
0.30	A			7.39	0.60			
0.80	V					Firm light brown light grey mottled slightly gravelly CLAY. Gravel is subrounded to angular fine to coarse chert with some rootlets		
0.80	A				(0.60)			
0.80	D							
0.80	V			6.79	1.20			
						Firm orange brown light grey mottled sandy slightly gravelly CLAY. Gravel is subrounded to angular fine to coarse chert		
					(0.50)			
				6.29	1.70	Light brown sandy rounded to angular fine to coarse chert, flint, quartzite and quartz GRAVEL		
					(1.90)			
3.50	D			4.39	3.60			
3.50	V					Stiff dark grey CLAY (completely weathered mudstone)		▽1
3.50	V							
3.50	A		Seepage(1) at 3.70m.		(0.20)			
3.70	V							
3.70	A		30/11/2005	4.19	3.80			
3.70	D					Complete at 3.80m		
3.70	V							

Plan

Remarks

Slight seepage at 3.70m.
Pit sides remained stable.
A = Amber glass jar sample.
V = Vial sample.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP304

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP305

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR		7.87	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456939.3 E. 101720.1 N	01/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.50)	MADE GROUND: Grass over brown clayey fine to medium sand with some rootlets and some angular to subrounded fine to coarse gravel sized fragments of chert, quartzite and flint		
				7.37	0.50	Firm brown gravelly CLAY		
					(0.30)			
			01/12/2005	7.07	0.80	Complete at 0.80m		

Plan

Remarks

Blue local water pipe struck and broken at 0.80m.
Trial pit moved 5.00m away from pipe and re dug.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP305

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP305B

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	0.7m x 2.9m	7.85	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456939.6 E. 101711.1 N	01/12/2005	ENTEC U.K. LIMITED	1/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	V				(0.50)	MADE GROUND: Grass over brown clayey fine to medium sand with some rootlets, some fine to coarse gravel sized fragments of chert and quartzite		
0.30	V							
0.30	D							
0.30	A			7.35	0.50	Firm orange brown gravelly CLAY. Gravel is fine to coarse subrounded to angular chert, flint and quartzite with occasional rootlets and organic nodules		
					(0.50)			
1.00	V			6.85	1.00	Firm light grey orange brown mottled slightly gravelly CLAY. Gravel is subrounded to angular fine to coarse chert and flint with occasional organic nodules		
1.00	V							
1.00	D							
1.00	A				(1.10)			
				5.75	2.10	Light brown sandy rounded to angular fine to coarse chert, flint, quartzite and quartz GRAVEL		
					(0.20)			
2.30	V			5.55	2.30	Brown green medium to coarse gravelly SAND. Gravel is subrounded to angular fine to coarse chert, flint and quartzite		
2.30	V				(0.30)			
2.30	D							
2.30	A			5.25	2.60	Light brown sandy subrounded to angular fine to coarse chert, flint, quartzite, quartz and GRAVEL		

Plan

Remarks

Trial pit dry.
Pit sides remained stable.
A = Amber glass jar sample.
V = Vial sample.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP305B

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP305B

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
CHANICAL EXCAVATOR	0.7m x 2.9m	7.85	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456939.6 E. 101711.1 N	01/12/2005	ENTEC U.K. LIMITED	2/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(2.10)	Light brown sandy subrounded to angular fine to coarse chert, flint, quartzite, quartz and GRAVEL		
			01/12/2005:DRY	3.15	4.70	Complete at 4.70m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP305B

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP306

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Num
MECHANICAL EXCAVATOR	0.7m x 2.9m	8.16	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456875.1 E. 101766.5 N	30/11/2005	ENTEC U.K. LIMITED	1/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	V				(0.70)	MADE GROUND: Grass over brown clayey fine to medium sand with some rootlets and some angular to subrounded gravel sized fragments of chert		
0.30	V							
0.30	D							
0.30	A							
				7.46	0.70	Firm brown slightly gravelly CLAY. Gravel is subrounded to angular fine to coarse chert and quartzite		
					(0.50)			
				6.96	1.20	Firm brown slightly sandy slightly gravelly CLAY. Gravel is subrounded to angular fine to coarse chert and quartzite		
					(0.30)			
1.50	V			6.66	1.50	Firm brown and light grey mottled slightly gravelly CLAY. Gravel is subrounded to angular fine to coarse chert		
1.50	V				(0.30)			
1.50	D							
1.50	A							
				6.36	1.80	Light brown sandy rounded to angular fine to coarse chert, flint, quartzite and quartz GRAVEL		

Plan

Remarks

Trial pit dry.
Pit sides remained stable.
A = Amber glass jar sample.
V = Vial sample.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP306

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP306

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	0.7m x 2.9m	8.16	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456875.1 E. 101766.5 N	30/11/2005	ENTEC U.K. LIMITED	2/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(3.20)	Light brown sandy rounded to angular fine to coarse chert, flint, quartzite and quartz GRAVEL		
4.80	V							
4.80	V							
4.80	D							
4.80	A		30/11/2005:DRY	3.16	5.00			
						Complete at 5.00m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP306

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SITE INVESTIGATION, GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP307

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	0.7m x 2.9m	8.83	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456759.3 E. 102389.8 N	02/12/2005	ENTEC U.K. LIMITED	1/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	MADE GROUND: Grass over brown very sandy clay with some rootlets		
				8.63	0.20	Brown grey slightly sandy CLAY with occasional rootlets		
0.40	D							
0.40	V							
0.40	V							
0.40	A							
					(1.20)			
				7.43	1.40	Light brown sandy subrounded to angular fine to coarse chert, flint, quartz and quartzite GRAVEL with occasional pockets of clayey sand (strong hydrocarbon odour)		
					(1.60)			
3.00	V		Seepage(1) at 3.00m.	5.83	3.00	Light brown very clayey fine to medium SAND with occasional angular to subrounded fine to coarse chert gravel (hydrocarbon odour)		▽1
3.00	A							
3.00	D							
3.00	V							
3.20	D							
3.20	V							
3.20	V							
3.20	A							
					(0.80)			
				5.03	3.80	Firm blue grey CLAY with mudstone lithorelicts (completely weathered mudstone)		
					(0.20)			
			02/12/2005	4.83	4.00			

Plan

Remarks

Seepage inflow at 3.00m.
A = Amber glass jar sample.
V = Vial sample.
Pit sides remained stable.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP307

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP307

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	0.7m x 2.9m	8.83	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456759.3 E. 102389.8 N	02/12/2005	ENTEC U.K. LIMITED	2/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
4.00	D							
4.00	A							
4.00	V							
4.00	V							

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP307

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP308

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Num.
MECHANICAL EXCAVATOR	0.7m x 2.7m	8.90	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456724.0 E. 102423.2 N	02/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				8.85	0.05	MADE GROUND: Grass over brown clayey fine to medium sand with many rootlets		
0.30	V					Firm brown grey mottled slightly sandy CLAY with some rootlets and occasional black organic inclusions		
0.30	V							
0.30	D							
0.30	A							
					(1.15)			
				7.70	1.20	Firm brown grey sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse chert, flint, quartzite and quartz with occasional rootlets and pockets of sand		
1.50	V							
1.50	V							
1.50	D							
1.50	A							
					(1.70)			
			Water strike(1) at 2.90m.	6.00	2.90	Grey sandy subrounded to angular fine to coarse chert , flint, quartzite and quartz GRAVEL		▽1
					(0.30)			
3.10	V							
3.10	V		02/12/2005	5.70	3.20			
3.10	D							
3.10	A					Complete at 3.20m		

Plan

Remarks

Water inflow at 2.90m.
Pit sides remained stable while dry. Trial pit terminated due to collapse of bottom of walls.
A = Amber glass jar sample.
V = Vial sample.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP308

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Excavation Method: MECHANICAL EXCAVATOR	Dimensions: 0.7m x 2.9m	Ground Level (mOD): 8.95	Site: HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	Trial Pit Number: ETP309
	Location: 456799.5 E. 102421.9 N	Dates: 02/12/2005	Client: SEDA	Job Number: SE1034
			Engineer: ENTEC U.K. LIMITED	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	V					MADE GROUND: Grass over firm brown very sandy slighlly gravelly CLAY with some roollets. Gravel is angular to subrounded fine to coarse chert and flint		
0.30	V							
0.30	D							
0.30	A				(1.20)			
				7.75	1.20	Firm light grey brown mottled slighlly gravelly CLAY. Gravel is angular to subrounded fine to coarse chert		
1.30	V							
1.30	V							
1.30	D							
1.30	A				(0.60)			
				7.15	1.80	Light grey sandy very gravelly CLAY. Gravel is angular to subrounded fine to coarse chert, flint and quartzite		
				7.05	1.90	Light grey sandy subangular to angular fine to coarse chert, flint, quartzite and quartz GRAVEL		
			Medium inflow(1) at 2.30m, rose to 2.90m in 20 mins.					▽1
					(1.20)			▼1
3.00	V							
3.00	V			5.85	3.10			
3.00	D		02/12/2005					
	A					Complete at 3.10m		

Plan

Remarks

Water inflow at 2.30m.
A = Amber glass jar sample.
V = Vial sample.
Pit terminated due to gravel collapse.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP309

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP310

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	0.7m x 2.8m	8.95	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456759.7 E. 102459.7 N	02/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	D					MADE GROUND: Grass over brown sandy clay with some rootlets and occasional angular to subrounded fine to coarse chert gravel		
0.30	V				(0.70)			
0.30	V							
0.30	A							
				8.25	0.70	Brown grey slightly sandy CLAY with occasional rootlets		
0.80	A							
0.80	D							
0.80	V				(0.60)			
0.80	V							
				7.65	1.30	Light brown mottled slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse chert and flint		
					(0.30)			
				7.35	1.60	Light grey gravelly medium to coarse SAND. Gravel is angular to subangular fine to coarse chert and flint		
1.70	V							
1.70	D							
1.70	V				(1.00)			
1.70	A							
				6.35	2.60	Firm brown mottled light grey CLAY		
2.70	A							
2.70	D							
2.70	V				(0.40)			▽1
2.70	V							
3.00	V		Seepage(1) at 3.00m.	5.95	3.00	Firm to stiff blue grey CLAY with mudstone lithorelicts (completely weathered mudstone)		
3.00	A							
3.00	D				(0.20)			
3.00	V		02/12/2005	5.75	3.20			
						Complete at 3.20m		

Plan

Remarks

Seepage at 3.00m.
A = Amber glass jar sample.
V = Vial sample
Pit sides remained stable.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.ETP310

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP311

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	3.2m x 0.65m	9.62	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456508.8 E. 102685.5 N	09/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	L*				(0.80)	MAOE GROUND: Dark grey silty ashy angular gravel to cobble sized fragments of ash, tile, bone, amber, glass, glass bottles, brick and concrete		
0.50	D*							
0.90	D*			8.82	0.80	Firm brown mottled orange brown CLAY		
					(0.60)			
				8.22	1.40	Stiff orange brown mottled light grey slightly sandy gravelly CLAY. Gravel comprises rounded to angular fine to coarse quartz, flint and chert		
					(1.60)			
			09/12/2005	6.62	3.00	Complete at 3.00m		

Plan

Remarks

Trial pit dry.
Pit sides remained vertical and stable.
D* = Disturbed sample for chemical contamination analysis. Comprises 1 x plastic jar, 1 x 250ml amber glass jar and 2 x 60ml amber glass jars.
L* = Disturbed sample for leachate preparation. Comprises 2 x plastic jars.

Scale (approx)	Logged By	Figure No.
1:25	ML/DP	SE1034.ETP311

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP312

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Num
MECHANICAL EXCAVATOR	2.8m x 0.65m	10.00	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456436.2 E, 102634.8 N	09/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10	D*				(0.30)	MADE GROUND: Turf over brown clayey topsoil		
0.40	D*			9.70	0.30	Firm orange brown mottled brown CLAY		
					(0.90)			
				8.80	1.20	Stiff orange brown mottled light grey slightly sandy gravelly CLAY. Gravel comprises rounded to angular fine to coarse quartz, flint and chert		
					(1.80)			
			Seepage(1) at 2.90m.					▽1
			09/12/2005	7.00	3.00	Complete at 3.00m		

Plan

Remarks

Pit sides remained vertical and stable.
D* = Disturbed sample for chemical contamination analysis. Comprises 1 x plastic jar, 1 x 250ml amber glass jar and 2 x 60ml amber glass jars.

Scale (approx)	Logged By	Figure No.
1:25	ML/DP	SE1034.ETP312

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Site: HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT			Trial Pit Number: ETP314
Excavation Method: MECHANICAL EXCAVATOR	Dimensions	Ground Level (mOD): 9.97	Client: SEDA
	Location: 456373.7 E. 102680.2 N	Dates: 08/12/2005	Engineer: ENTEC U.K. LIMITED
			Job Number: SE1034
			Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D*				(0.40)	MADE GROUND: Turf over brown clayey topsoil		
0.50	D*			9.57	0.40	Firm brown mottled orange brown CLAY		
					(1.00)			
				8.57	1.40	Firm to stiff orange brown mottled light grey slightly sandy gravelly CLAY. Gravel comprises rounded to angular fine to coarse quartz, flint and chert		
					(1.60)			
			Seepage(1) at 3.00m. 08/12/2005	6.97	3.00	Complete at 3.00m		▽1

Plan

Remarks

Pit sides remained vertical and stable.
D* = Disturbed sample for chemical contamination analysis. Comprises 1 x plastic jar, 1 x 250ml amber glass jar and 2 x 60ml amber glass jars.

Scale (approx)	Logged By	Figure No.
1:25	ML/DP	SE1034.ETP314

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP315

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	2.6m x 0.65m		SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	AS PLAN	09/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	MADE GROUND: Turf over brown clayey topsoil		
0.20	D*				0.40	Firm orange brown slightly sandy slightly gravelly CLAY. Gravel comprises rounded to angular fine quartz, flint and chert		
1.00	D*				(2.60)			
			09/12/2005		3.00	Complete at 3.00m		

Plan

Remarks

Trial pit dry.
Pit sides remained vertical and stable.
D* = Disturbed sample for chemical contamination analysis. Comprises 1 x plastic jar, 1 x 250ml amber glass jar and 2 x 60ml amber glass jars.

Scale (approx)	Logged By	Figure No.
1:25	ML/DP	SE1034.ETP315

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP316

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
ND EXCAVATED			SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	AS PLAN	05/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	MADE GROUND: Brown clayey topsoil		
0.40	D*		05/12/2005		(0.40) 0.60	MADE GROUND: Brown clayey gravel to cobble medium fragments of concrete		
						Complete at 0.60m		

Plan

Remarks

Trial pit dry.
Pit sides remained vertical and stable.

Scale (approx)	Logged By	Figure No.
1:25	ML/DP	SE1034.ETP316

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP317

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	3.0m x 0.65m		SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	AS PLAN	05/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	MADE GROUND: Brown clayey topsoil		
0.40	D*				0.30	Firm brown becoming orange brown CLAY		
					(1.60)			
					1.90	Orange brown slightly silty fine to medium SAND		
2.00	D*				(2.10)			
			05/12/2005		4.00			

Plan

Remarks

Trial pit dry.
Pit sides remained vertical and stable.
D* = Disturbed sample for chemical contamination analysis. Comprises 1 x plastic jar, 1 x 250ml amber glass jar and 2 x 60ml amber glass jars.

Scale (approx)	Logged By	Figure No.
1:25	ML/DP	SE1034.ETP317

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP318

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	3.0m x 0.65m		SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	AS PLAN	05/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	MADE GROUND: Brown sandy topsoil with occasional angular fine to coarse gravel sized fragments of brick and concrete		
0.25	D*				0.40			
0.50	D*				(0.80)	Loose yellow brown sandy CLAY and bands of silty fine to medium sand (possible reworked made ground)		
					1.20			
1.30	D*				(1.20)	Dense orange brown and yellow brown slightly silty fine to medium SAND with some angular to rounded fine to coarse quartz flint and chert gravel		
					2.40			
2.50	D*				(1.60)	Loose yellow brown fine to medium SAND and rounded to angular medium to coarse quartz, flint and chert GRAVEL		
			05/12/2005		4.00			

Plan

Remarks

Trial pit dry.
Pit sides remained vertical and stable.
D* = Disturbed sample for chemical contamination analysis. Comprises 1 x plastic jar, 1 x 250ml amber glass jar and 2 x 60ml amber glass jars.

Scale (approx)	Logged By	Figure No.
1:25	MUDP	SE1034.ETP318

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP319

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	3.0m x 0.65m		SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	AS PLAN	05/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						MADE GROUND: Brown sandy clayey topsoil with some roots and rootlets		
0.20	D*				(0.40)			
					0.40			
0.45	L*				(0.10)	MADE GROUND: Dark grey silty angular fine to coarse gravel sized fragments of ash, brick, slag and concrete		
0.45	D*				0.50			
0.60	D*					Firm brown sandy CLAY		
					(1.10)			
					1.60			
1.70	D*					Medium dense orange brown slightly silty fine to medium SAND with some rounded to angular fine to coarse quartz, flint and chert gravel		
					(2.40)			
			05/12/2005		4.00			

Plan

Remarks

Trial pit dry.
Pit sides remained vertical and stable.
D* = Disturbed sample for chemical contamination analysis. Comprises 1 x plastic jar, 1 x 250ml amber glass jar and 2 x 60ml amber glass jars.
L* = Disturbed sample for leachate preparation. Comprises 2 x plastic jars.

Scale (approx)	Logged By	Figure No.
1:25	ML/DP	SE1034.ETP319

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP320

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
ECHANICAL EXCAVATOR	3.0m x 0.65m		SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	AS PLAN	05/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D*				(0.40)	MADE GROUND: Turf over brown sandy topsoil		
0.50	D*				0.40 (1.00)	Firm brown CLAY		
1.50	D*				1.40 (0.40)	Firm to stiff orange brown mottled grey sandy gravelly CLAY. Gravel comprises rounded fine to coarse quartz flint and chert		
2.00	D*				1.80 (1.70)	Orange brown and brown silty sandy rounded to angular fine to coarse quartz, flint and chert GRAVEL		▼1 ▽1
			Medium inflow(1) at 3.50m, rose to 3.40m in 20 mins. 05/12/2005		3.50	Complete at 3.50m		

Plan

Remarks

Pit sides collapsing below water strike.
D* = Disturbed sample for chemical analysis. Comprises 1 x plastic jar, 1 x 250ml amber glass jar and 2 x 60ml amber glass jars.

Scale (approx)	Logged By	Figure No.
1:25	MJDP	SE1034.ETP320

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP321

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	3.0m x 0.65m		SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	AS PLAN	09/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D*				(0.50)	MADE GROUND: Turf over brown clayey topsoil		
					0.50	Firm orange brown mottled brown and light grey gravelly CLAY. Gravel comprises rounded fine to coarse quartz, flint and chert		
1.00	D*				(1.90)			
					2.40	Orange brown slightly silty slightly gravelly fine to medium SAND. Gravel comprises rounded to angular fine to coarse quartz, flint and chert		
2.50	D*				(0.80)			
			09/12/2005		3.20	Complete at 3.20m		

Plan

Remarks

Trial pit dry.
Pit sides remained vertical and stable.
D* = Disturbed sample for chemical analysis. Comprises 1 x plastic jar, 1 x 250ml amber glass jar and 2 x 60ml amber glass jars.

Scale (approx)	Logged By	Figure No.
1:25	ML/DP	SE1034.ETP321

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SUB SURFACE

SITE INVESTIGATION, GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP322

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	2.8m x 0.65m		SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	AS PLAN	09/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D*				(0.40)	MADE GROUND: Turf over brown clayey topsoil		
0.50	D*				0.40	Firm orange brown mottled brown slightly sandy slightly gravelly CLAY. Gravel comprises rounded to angular fine to coarse quartz, flint and chert		
					(2.60)	....below 2.00m: becoming stiff		
			09/12/2005		3.00	Complete at 3.00m		

Plan

Remarks

Trial pit dry.
Pit sides remained vertical and stable.
D* = Disturbed sample for chemical analysis. Comprises 1 x plastic jar, 1 x 250ml amber glass jar and 2 x 60ml amber glass jars.

Scale (approx)	Logged By	Figure No.
1:25	ML/DP	SE1034.ETP322

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP323

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	0.7m x 3.1m	7.63	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	456930.1 E. 102582.8 N	01/12/2005	ENTEC U.K. LIMITED	1/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.50)	MADE GROUND: Grass over brown clayey fine to medium sand with some rootlets and subangular fine to coarse gravel sized fragments of chert		
0.30	V							
0.30	V							
0.30	D							
0.30	A			7.13	0.50	Grey sandy angular to subrounded fine to coarse chert, flint quartzile and quartz GRAVEL		
1.30	V					....at 1.30m: rotten egg odour and highly decomposed organic material (sea weed?)		
1.30	V							
1.30	D							
1.30	A							
					(3.20)			
			Slow inflow(1) at 2.50m.					▽1
				3.93	3.70	Blue grey CLAY with mudstone lithorelicts		
					(0.30)			
			01/12/2005	3.63	4.00			

Plan

Remarks

Trial pit wet at 2.00m. Slow inflow at 2.50m.
Trial pit terminated because of gravel side collapsing.
A = Amber glass jar sample.
V = Vial sample.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.TPE323

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Excavation Method: MECHANICAL EXCAVATOR	Dimensions: 0.7m x 3.1m	Ground Level (mOD): 7.63	Site: HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	Trial Pit Number: ETP323
	Location: 456930.1 E. 102582.8 N	Dates: 01/12/2005	Client: SEDA	Job Number: SE1034
			Engineer: ENTEC U.K. LIMITED	Sheet: 2/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
4.00	V							
4.00	V							
4.00	D							
4.00	A							

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.TPE323

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3 Peel Street, Preston, PR2 2OS. Tel. (01772) 581135 Fax (01772) 204907

Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP324

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	0.7m x 2.8m	7.49	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	457142.6 E. 102533.3 N	02/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	V				(0.50)	MADE GROUND: Grass over brown clayey fine to medium sand with some rootlets and some subrounded to angular fine to coarse gravel sized fragments of flint, chert and quartzite		
0.30	V							
0.30	D			6.99	0.50			
0.30	A					Firm brown slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse chert, flint, quartzite and quartz		
0.70	V				(0.70)			
0.70	V							
0.70	D							
0.70	A			6.29	1.20			
						Grey orange brown slightly clayey sandy angular to subrounded fine to coarse chert, flint, quartzite GRAVEL		
					(2.60)			
			Water strike(1) at 3.60m. 02/12/2005					▽1
3.70	V			3.69	3.80			
3.70	V							
3.70	D							
3.70	A					Complete at 3.80m		

Plan

Remarks

Pit sides stable when dry. Water inflow at 3.60m. Trial pit terminated as gravel collapsing because of groundwater.
A = Amber glass jar sample.
V = Vial sample.

Scale (approx)	Logged By	Figure No.
1:50	AB/DP	SE1034.TPE324

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Site: HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT			Trial Pit Number: ETP325
Excavation Method: MECHANICAL EXCAVATOR	Dimensions: 0.7m x 2.8	Ground Level (mOD): 8.80	Client: SEDA	Job Number: SE1034
	Location: 456911.2 E. 102277.3 N	Dates: 01/12/2005	Engineer: ENTEC U.K. LIMITED	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	D				(0.60)	MADE GROUND: Grass over brown clayey sand with some rootlets and subrounded to subangular fine to coarse gravel sized fragments of chert		
0.30	V							
0.30	V							
0.30	A							
				8.20	0.60			
0.70	A					Firm orange brown grey mottled slightly gravelly CLAY. Gravel is subangular to angular fine to medium chert with occasional black organic inclusions		
0.70	D							
0.70	V							
0.70	V				(0.70)			
				7.50	1.30			
1.50	V					Firm grey very gravelly CLAY. Gravel is subangular to angular fine to coarse chert, flint and quartzite		
1.50	D				(0.50)			
1.50	V							
1.50	A							
				7.00	1.80			
					(0.30)	Light grey brown mottled slightly gravelly CLAY. Gravel is subangular to angular fine to coarse chert		
2.00	A							
2.00	D			6.70	2.10			
2.00	V					Light grey clayey sandy subrounded to angular fine to coarse chert, flint, quartzite and quartz GRAVEL with pockets of sand		
2.00	V							
					(0.90)			
3.00	A							
3.00	D							
3.00	V							
3.00	V		Water strike(1) at 3.00m. 01/12/2005	5.80	3.00	Complete at 3.00m		▽1

Plan

Remarks

Pit sides stable until wet. Water inflow at 3.00m caused bottom of pit to start collapsing . Pit terminated.
A = Amber glass jar sample.
V = Vial sample.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.TPE325

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Site	Trial Pit Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	ETP326

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
MECHANICAL EXCAVATOR	0.7m x 2.9m	8.08	SEDA	SE1034
	Location	**Dates**	**Engineer**	**Sheet**
	457058.6 E. 102178.6 N	01/12/2005	ENTEC U.K. LIMITED	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	D				(0.50)	MADE GROUND: Grass over brown very sandy clay with some fine to coarse gravel sized fragments of chert and flint, some rootlets and occasional metal piping and concrete cobbles		
0.30	V							
0.30	V							
0.30	A			7.58	0.50	MADE GROUND: Firm light grey orange brown mottled gravelly clay. Gravel is angular to subrounded fine to coarse chert, flint, quartzite and occasional brick and bituminous macadam surfacing		
					(0.80)			
1.00	V							
1.00	A							
1.00	D							
1.00	V							
				6.78	1.30	Firm blue grey orange brown mottled gravelly CLAY. Gravel is angular to subrounded fine to coarse chert, flint and quartzite		
1.40	D							
1.40	V							
1.40	V							
1.40	A							
					(1.10)			
				5.68	2.40	Light grey brown slightly sandy slightly gravelly CLAY. Gravel is subangular to angular fine mudstone/siltstone (completely weathered mudstone)		
2.50	A							
2.50	D							
2.50	V							
2.50	V							
					(1.10)			
3.50	D			4.58	3.50	Blue grey brown stained very weak highly weathered MUDSTONE, recovered as a gravelly clay		
					(0.20)			
			01/12/2005	4.38	3.70			
						Complete at 3.70m		

Plan

Remarks

Trial pit dry.
Pit sides remained stable.
A = Amber glass jar sample.
V = Vial sample.

Scale (approx)	Logged By	Figure No.
1:25	AB/DP	SE1034.TPE326

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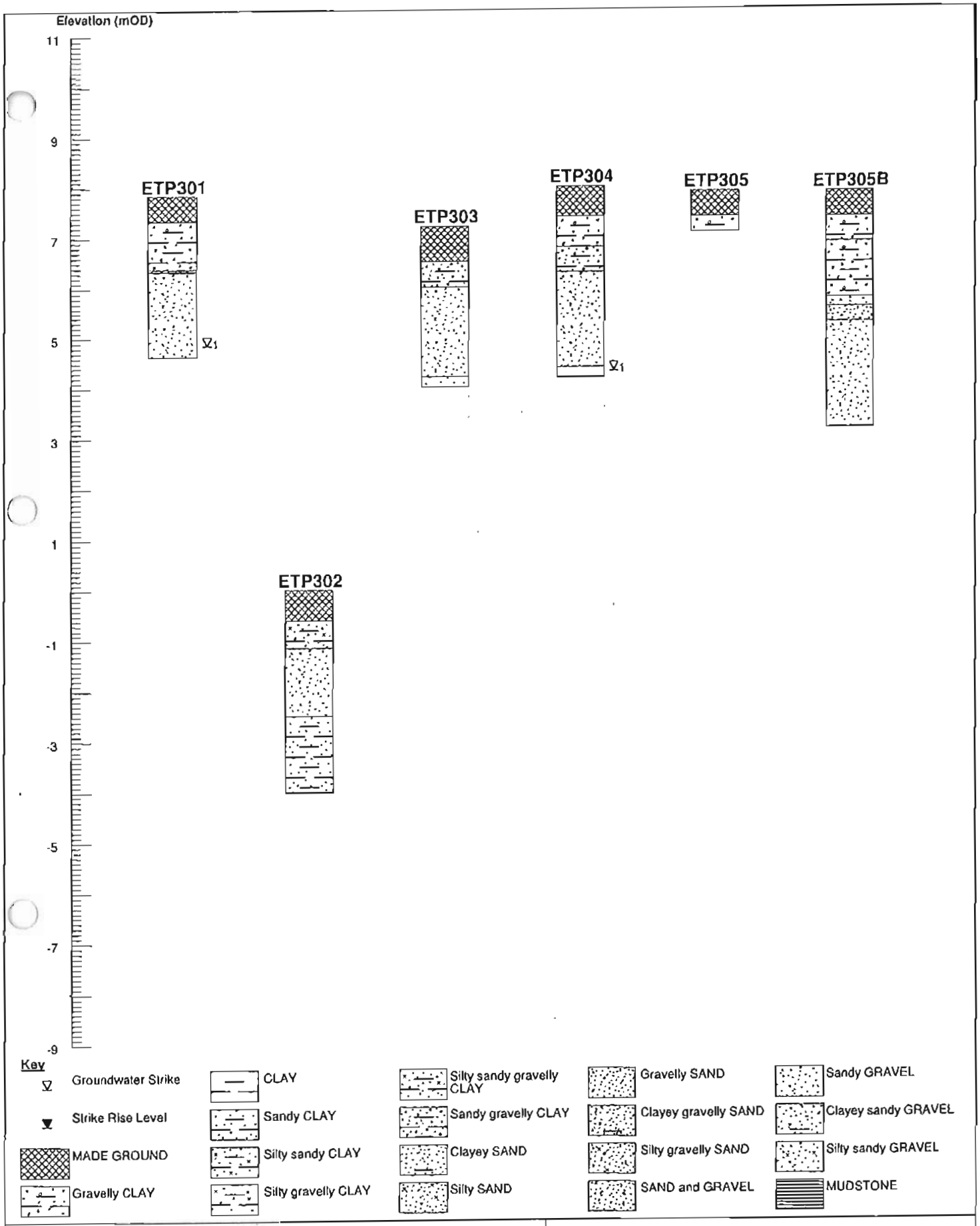

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Nominal Section

Site	Date Drawn	Date Checked	Sheet	Job Number
MS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	09/02/2006		1/5	SE1034
Client	**Drawn By**	**Checked By**	**Scale**	**Figure No.**
SEDA			1:100[V]	NE2559.1

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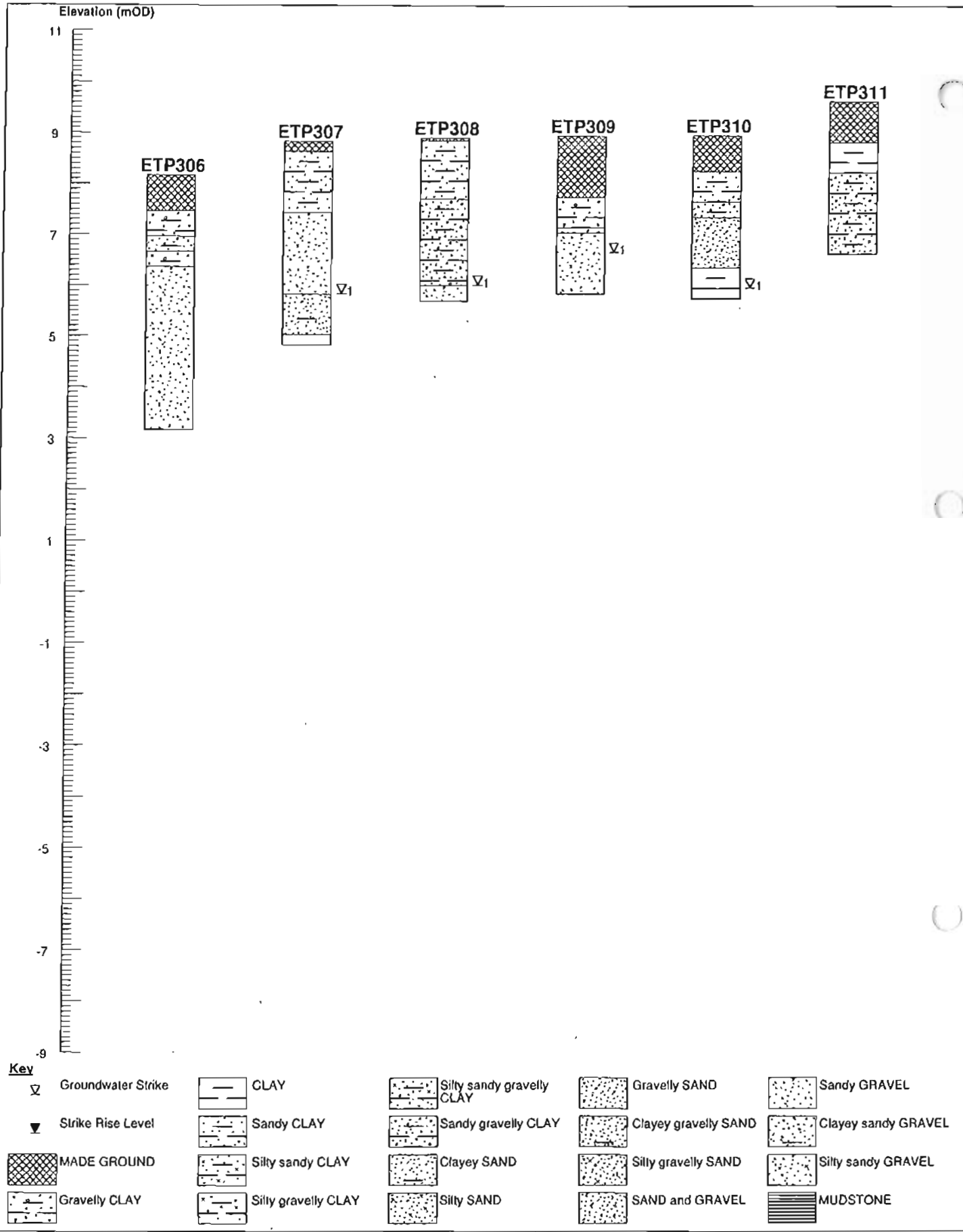

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3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

Nominal Section

Site	Date Drawn	Date Checked	Sheet	Job Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	09/02/2006		2/5	SE1034
Client	**Drawn By**	**Checked By**	**Scale**	**Figure No.**
SEDA			1:100[V]	NE2559.1

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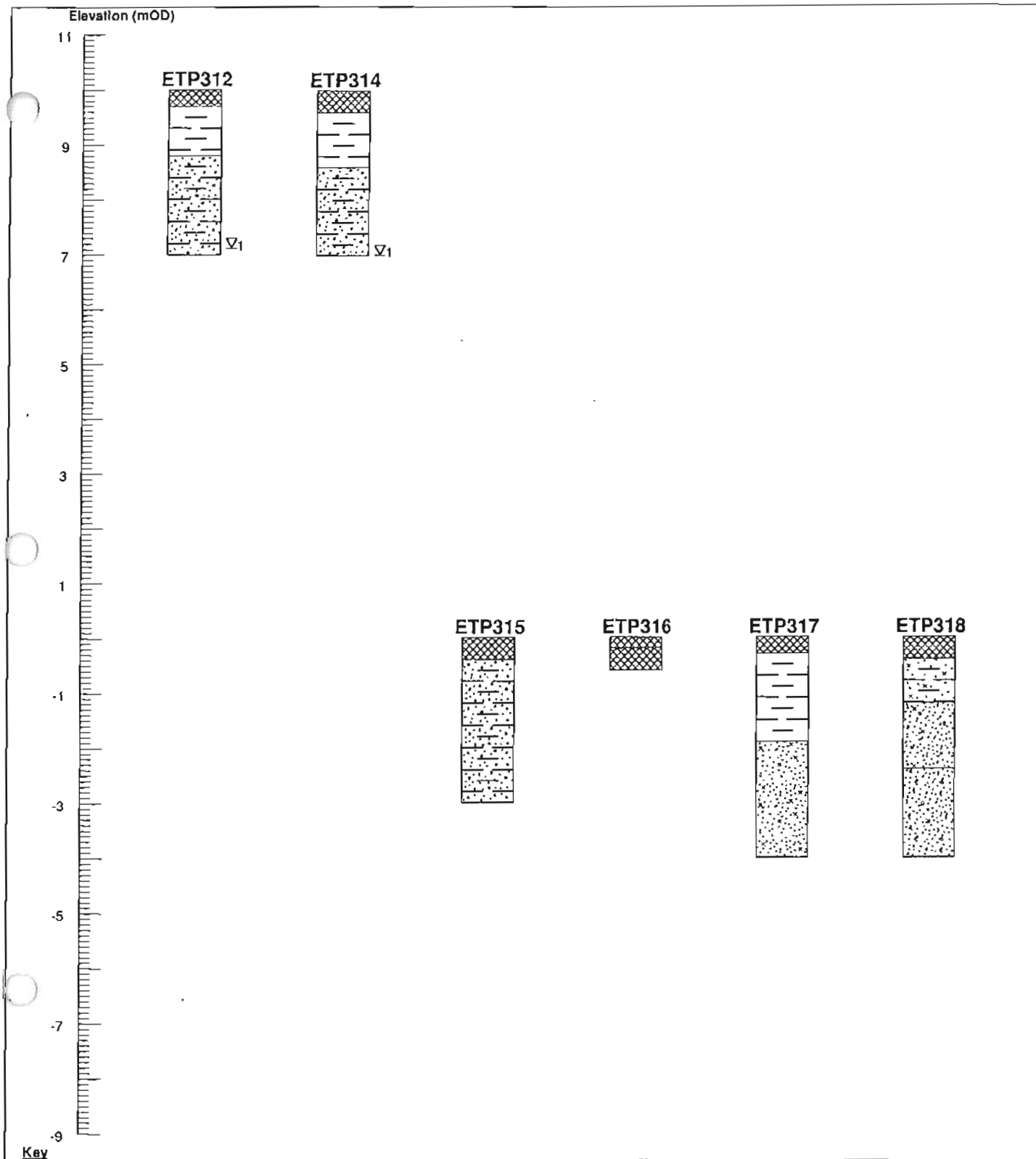

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Nominal Section

Site	Date Drawn	Date Checked	Sheet	Job Number
MS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	09/02/2006		3/5	SE1034
Client	**Drawn By**	**Checked By**	**Scale**	**Figure No.**
SEDA			1:100[V]	NE2559.1

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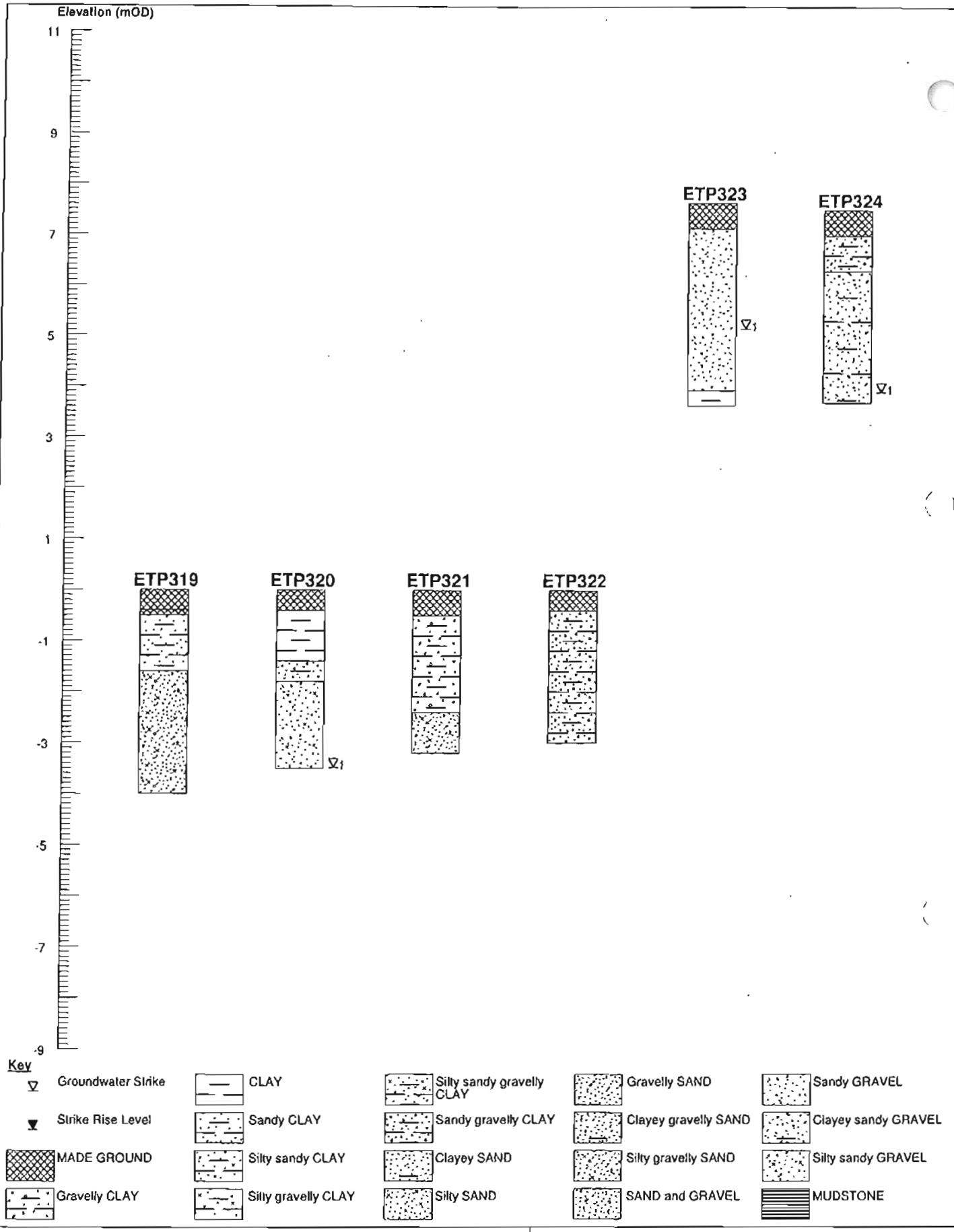

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Nominal Section

Site	Date Drawn	Date Checked	Sheet	Job Number
HMS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	09/02/2006		4/5	SE1034
Client	**Drawn By**	**Checked By**	**Scale**	**Figure No.**
SEDA			1:100[V]	NE2559.1

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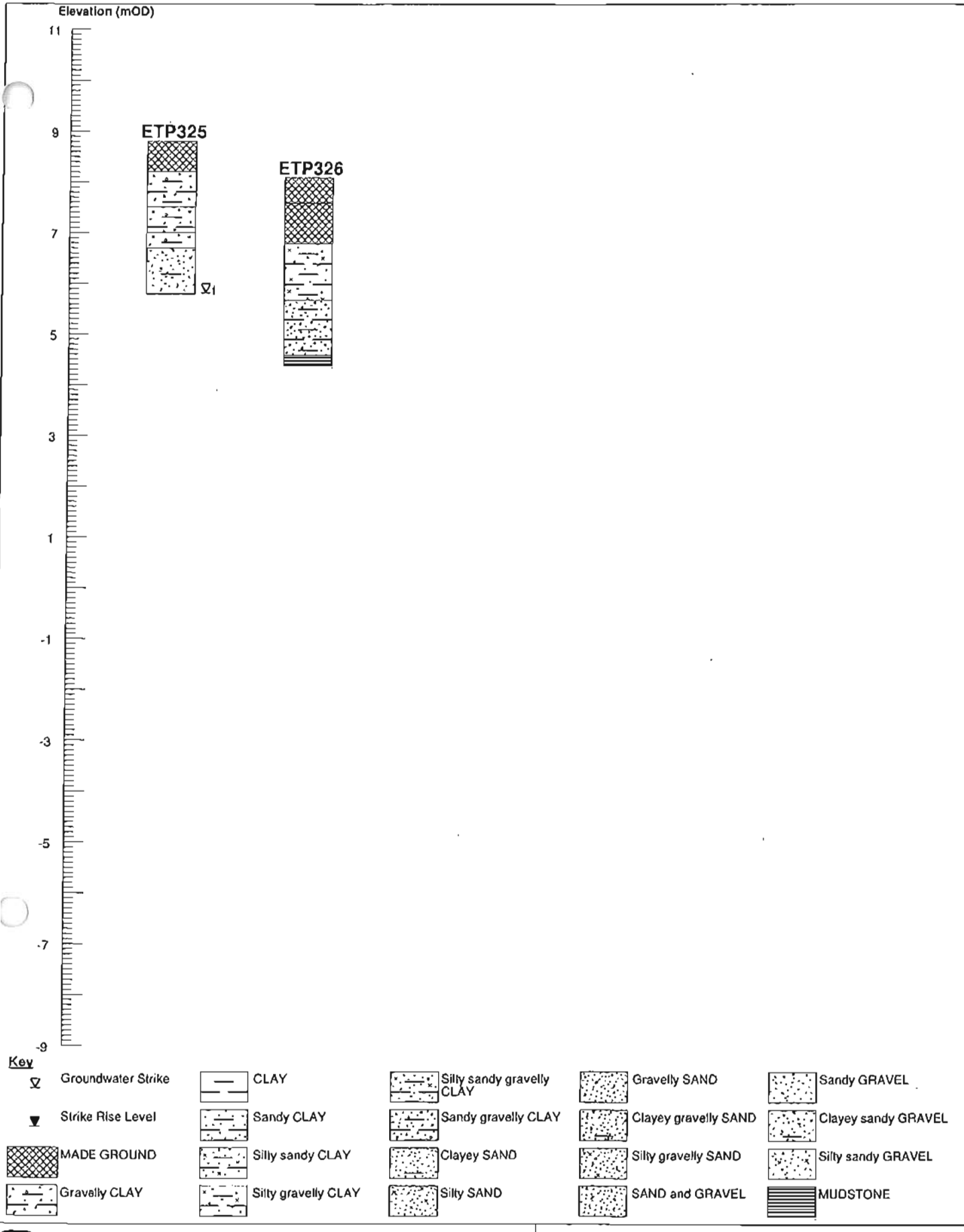

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Nominal Section

Site	Date Drawn	Date Checked	Sheet	Job Number
MS DAEDALUS, BROOM WAY, LEE ON THE SOLENT	09/02/2006		5/5	SE1034
Client	**Drawn By**	**Checked By**	**Scale**	**Figure No.**
SEDA			1:100(V)	NE2559.1

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Appendix D
Laboratory Analysis Certificates

505 Pages

Entec

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	0093
Sample Details:	EBH308 1.5-1.7	**Date Booked In:**	06-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0532136	**Date Extracted:**	17-Jan-06	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4587M	**Date Analysed:**	19-Jan-06	**Directory/Quant File:**	0118ABN.MS6\ 0118CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 12.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	-	< 0.2	-	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.2	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	72
Naphthalene-d8	74
Acenaphthene-d10	65
Phenanthrene-d10	72
Chrysene-d12	61
Perylene-d12	86

Surrogates	% Rec
2-Fluorophenol	68
Phenol-d5	69
Nitrobenzene-d5	71
2-Fluorobiphenyl	73
2,4,6-Tribromophenol	72
Terphenyl-d14	96

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	ETP307 4.0	**Job Number:**	S05_4587M
LIMS ID Number:	CL0532144	**Date Booked in:**	06-Dec-05
QC Batch Number:	0093	**Date Extracted:**	17-Jan-06
Quantitation File:	0118CCC2.D	**Date Analysed:**	19-Jan-06
Directory:	0118ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.8	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	76
Acenaphthene-d10	65
Phenanthrene-d10	69
Chrysene-d12	53
Perylene-d12	75

Surrogates	% Rec
Nitrobenzene-d5	51
2-Fluorobiphenyl	55
Terphenyl-d14	100

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	ETP307 0.2	**Job Number:**	S05_4587M
LIMS ID Number:	CL0532142	**Date Booked In:**	06-Dec-05
QC Batch Number:	0140	**Date Extracted:**	23-Jan-06
Quantitation File:	0125CCC1.D	**Date Analysed:**	25-Jan-06
Directory:	0125ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	8.19	0.3	94	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	9.24	0.3	91	U
Pyrene	129-00-0	9.44	0.3	95	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	78
Naphthalene-d8	81
Acenaphthene-d10	80
Phenanthrene-d10	80
Chrysene-d12	63
Perylene-d12	76

Surrogates	% Rec
Nitrobenzene-d5	71
2-Fluorobiphenyl	84
Terphenyl-d14	126

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	ETP310 0.3	**Job Number:**	S05_4587M
LIMS ID Number:	CL0532141	**Date Booked in:**	06-Dec-05
QC Batch Number:	0093	**Date Extracted:**	17-Jan-06
Quantitation File:	0118CCC1.D	**Date Analysed:**	19-Jan-06
Directory:	0118ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	73
Naphthalene-d8	74
Acenaphthene-d10	62
Phenanthrene-d10	64
Chrysene-d12	48
Perylene-d12	75

Surrogates	% Rec
Nitrobenzene-d5	66
2-Fluorobiphenyl	68
Terphenyl-d14	101

Concentrations are reported on a dry weight basis.

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Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	ETP308 0.3	**Job Number:**	S05_4587M
LIMS ID Number:	CL0532140	**Date Booked in:**	06-Dec-05
QC Batch Number:	0093	**Date Extracted:**	17-Jan-06
Quantitation File:	0118CCC1.D	**Date Analysed:**	18-Jan-06
Directory:	0118ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.8	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	70
Naphthalene-d8	72
Acenaphthene-d10	62
Phenanthrene-d10	62
Chrysene-d12	50
Perylene-d12	71

Surrogates	% Rec
Nitrobenzene-d5	65
2-Fluorobiphenyl	65
Terphenyl-d14	95

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	ETP324 0.3	**Job Number:**	S05_4587M
LIMS ID Number:	CL0532139	**Date Booked in:**	06-Dec-05
QC Batch Number:	0093	**Date Extracted:**	17-Jan-06
Quantitation File:	0118CCC1.D	**Date Analysed:**	18-Jan-06
Directory:	0118ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.7	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	77
Naphthalene-d8	78
Acenaphthene-d10	68
Phenanthrene-d10	69
Chrysene-d12	52
Perylene-d12	82

Surrogates	% Rec
Nitrobenzene-d5	56
2-Fluorobiphenyl	60
Terphenyl-d14	93

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	EBH307 5.5-5.7	**Job Number:**	S05_4587M
LIMS ID Number:	CL0532138	**Date Booked in:**	06-Dec-05
QC Batch Number:	0093	**Date Extracted:**	17-Jan-06
Quantitation File:	0118CCC1.D	**Date Analysed:**	18-Jan-06
Directory:	0118ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	9.13	0.4	99	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	15.93	0.5	100	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.3	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	74
Naphthalene-d8	77
Acenaphthene-d10	67
Phenanthrene-d10	73
Chrysene-d12	60
Perylene-d12	92

Surrogates	% Rec
Nitrobenzene-d5	70
2-Fluorobiphenyl	71
Terphenyl-d14	94

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	EBH308 0.3-0.5	**Job Number:**	S05_4587M
LIMS ID Number:	CL0532135	**Date Booked in:**	06-Dec-05
QC Batch Number:	0093	**Date Extracted:**	17-Jan-06
Quantitation File:	0118CCC3.D	**Date Analysed:**	19-Jan-06
Directory:	0118ABN.MS6\	**Matrix:**	Soil
Dilution:	5.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 1.0	-	U
Acenaphthylene	208-96-8	-	< 1.0	-	U
Acenaphthene	83-32-9	-	< 1.0	-	U
Fluorene	86-73-7	-	< 1.0	-	U
Phenanthrene	85-01-8	-	< 1.0	-	U
Anthracene	120-12-7	-	< 1.0	-	U
Fluoranthene	206-44-0	18.44	3.4	87	U
Pyrene	129-00-0	18.91	4.2	90	U
Benzo[a]anthracene	56-55-3	21.48	2.0	97	U
Chrysene	218-01-9	21.55	2.8	93	U
Benzo[b]fluoranthene	205-99-2	23.85	3.4	95	U
Benzo[k]fluoranthene	207-08-9	23.92	1.0	94	U
Benzo[a]pyrene	50-32-8	24.72	2.8	97	U
Indeno[1,2,3-cd]pyrene	193-39-5	27.89	1.7	92	U
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-	U
Benzo[g,h,i]perylene	191-24-2	28.36	1.7	95	U
Total (USEPA16) PAHs	-	-	< 32.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	76
Naphthalene-d8	77
Acenaphthene-d10	65
Phenanthrene-d10	66
Chrysene-d12	50
Perylene-d12	61

Surrogates	% Rec
Nitrobenzene-d5	89
2-Fluorobiphenyl	93
Terphenyl-d14	96

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	TPE323 1.3	**Job Number:**	S05_4587M
LIMS ID Number:	CL0532134	**Date Booked in:**	06-Dec-05
QC Batch Number:	0093	**Date Extracted:**	17-Jan-06
Quantitation File:	0118CCC3.D	**Date Analysed:**	19-Jan-06
Directory:	0118ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	18.44	0.2	88	U
Pyrene	129-00-0	18.90	0.4	90	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	23.84	0.2	95	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	71
Naphthalene-d8	71
Acenaphthene-d10	62
Phenanthrene-d10	65
Chrysene-d12	54
Perylene-d12	63

Surrogates	% Rec
Nitrobenzene-d5	58
2-Fluorobiphenyl	64
Terphenyl-d14	87

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	TPE323 0.3 (NVM)	**Job Number:**	S05_4587M
LIMS ID Number:	CL0532133	**Date Booked In:**	06-Dec-05
QC Batch Number:	0093	**Date Extracted:**	17-Jan-06
Quantitation File:	0118CCC3.D	**Date Analysed:**	19-Jan-06
Directory:	0118ABN.MS6\	**Matrix:**	Soil
Dilution:	5.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 1.0	-	U
Acenaphthylene	208-96-8	-	< 1.0	-	U
Acenaphthene	83-32-9	-	< 1.0	-	U
Fluorene	86-73-7	-	< 1.0	-	U
Phenanthrene	85-01-8	-	< 1.0	-	U
Anthracene	120-12-7	-	< 1.0	-	U
Fluoranthene	206-44-0	18.44	4.3	88	U
Pyrene	129-00-0	18.91	5.8	89	U
Benzo[a]anthracene	56-55-3	21.48	5.0	99	U
Chrysene	218-01-9	21.55	5.8	93	U
Benzo[b]fluoranthene	205-99-2	23.86	7.9	97	U
Benzo[k]fluoranthene	207-08-9	23.93	3.2	96	U
Benzo[a]pyrene	50-32-8	24.74	7.4	97	U
Indeno[1,2,3-cd]pyrene	193-39-5	27.91	4.8	91	U
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-	U
Benzo[g,h,i]perylene	191-24-2	28.37	5.1	94	U
Total (USEPA16) PAHs	-	-	< 57.2	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	73
Naphthalene-d8	74
Acenaphthene-d10	64
Phenanthrene-d10	67
Chrysene-d12	53
Perylene-d12	68

Surrogates	% Rec
Nitrobenzene-d5	106
2-Fluorobiphenyl	105
Terphenyl-d14	111

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Entec UK Ltd : HMS Daedalus
Job Number: S05_4587
Directory: 1221HSA1_GC6
Method: Headspace GCFID
Accreditation Code: U

Matrix: SOIL
Date Booked in: 06-Dec-05
Date extracted: 21-Dec-05
Date Analysed: 21-Dec-05

*** denotes the accreditation has been removed by the laboratory for this result only**

		Concentration, (mg/kg) - as dry weight.					Aliphatics				
Sample ID	Client ID	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	C5 - C6	>C6 - C7	>C7 - C8	>C8 - C10	Total GRO
CL0532133	TPE323 0.3 (NVM)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0532134	TPE323 1.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0532135	EBH308 0.3-0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0532136	EBH308 1.5-1.7	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0532137	EBH307 3.5-3.7 (NVM)	<0.01	0.542	0.130	0.055	0.571	<0.2	0.5	6.7	6.1	14.7
CL0532138	EBH307 5.5-5.7	<0.01	<0.01	<0.01	0.043	<0.01	<0.2	<0.2	<0.2	<0.2	0.3
CL0532139	ETP324 0.3	<0.29	<0.29	<0.29	<0.29	<0.29	<6	<6	<6	6.5	9.1
CL0532140	ETP308 0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0532141	ETP310 0.3	<0.31	<0.31	<0.31	<0.31	<0.31	<6	<6	<6	<6	<6
CL0532142	ETP307 0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
CL0532143	ETP307 3.2	<0.35	<0.35	<0.35	<0.35	<0.35	<7	<7	<7	<7	<7
CL0532144	ETP307 4.0	<0.37	<0.37	<0.37	<0.37	<0.37	13.1	<7	<7	<7	14.6

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Units :	pH Units	mg/kg	mg/kg	% M/M												
Method Codes :	WSLM3	WSLM4	TPHFID	WSLM59												
Method Reporting Limits :		0.5	10.0	0.02												
Accreditation Code:	U	U		N												

TES ID Number CU	Client Sample Description	pH units	Phenol Index	TPH GCFID (AR) (SI)	F.O.C. %
0532137	EBH307 3.5-3.7 (NVM)	7.5	<0.5	Req	0.04
0532138	EBH307 5.5-5.7	8.0	<0.5	Req	
0532135	EBH308 0.3-0.5	8.0	<0.5	Req	
0532136	EBH308 1.5-1.7	8.0	<0.5	Req	0.21
0532142	ETP307 0.2	6.1	0.7	Req	
0532143	ETP307 3.2	7.8	<0.6	Req	0.06
0532144	ETP307 4.0	8.0	<0.5	Req	
0532140	ETP308 0.3	7.6	<0.5	Req	0.11
0532141	ETP310 0.3	6.9	<0.5	Req	0.47
0532133	TPE323 0.3 (NVM)	7.6	<0.5	Req	0.09
0532134	TPE323 1.3	7.5	3.6	Req	
0532139	ETP324 0.3	7.0	<0.5	Req	

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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	26-Jan-06
Report Number	EFS/054587M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

	Units :	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	ug/kg
	Method Codes :	GROHSA	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPWSS	ICTSCN28	SVOCSW	SVOCSW	TMSS	VOCSW
	Method Reporting Limits :	0.1	0.5	0.1	0.5	0.5	0.5	0.10	0.5	0.5	3.0	0.3	5	0.2-10.0	0.2-10.0	0.2	5
	Accreditation Code:		UM	U	U	U	U	U	U	U	U	UM	U			U	
TES ID Number CLI	Client Sample Description	GRO (AA)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SO4-- (H2O sol) mg/l	Sulphide	PAH by MS	SVOC	TotMoisture @ 105oC	VOC
0532137	EBH307 3.5-3.7 (NVM)	Req	3.9?	<0.1	8.8	1.9*	3.2?	<0.1	8.7?	<0.5	12.5?	31.6	<5		Req	15.8	Req
0532138	EBH307 5.5-5.7	Req	11.2?	<0.1	22.3	6.2*	12.5?	<0.1	19.5?	0.69	45.0?	160.2	<5	Req		18.7	
0532135	EBH308 0.3-0.5	Req	9.6?	0.73	21.2	26.1*	268.5?	<0.1	19.8?	<0.5	128.0?	26.3	<5	Req		17.2	
0532136	EBH308 1.5-1.7	Req	12.3?	<0.1	29	12.5*	18?	<0.1	20.0?	<0.5	53.8?	21.8	<5		Req	19.9	Req
0532142	ETP307 0.2	Req	8.1?	0.23	19.3	18.3*	288.5?	<0.1	11.2?	0.51	52.5?	24.9	<5	Req		20.2	
0532143	ETP307 3.2	Req	9.7?	0.2	15.8	4.1*	9.0?	<0.1	16.2?	<0.6	33.4?	20.12	<6		Req	28.3	Req
0532144	ETP307 4.0	Req	20.1?	<0.1	16.2	14.9*	29.8?	<0.1	62.3?	<0.5	88.4?	312	<5	Req		32.8	
0532140	ETP308 0.3	Req	10.4?	0.15	23	9.6*	16.0?	<0.1	21.1?	0.66	43.8?	25.7	<5	Req		16.4	
0532141	ETP310 0.3	Req	8.4?	<0.1	25.2	10.1*	26.6?	<0.1	14.0?	0.56	48.1?	13.88	<5	Req		19.9	
0532133	TPE323 0.3 (NVM)	Req	2.8?	<0.1	5.1	1.8*	6.4?	<0.1	4.7?	<0.5	14.0?	50.2	<5	Req		10.3	
0532134	TPE323 1.3	Req	8.9?	0.17	15.3	23.0*	85?	<0.1	10.6?	<0.5	50.3?	19.91	<5	Req		17.5	
0532139	ETP324 0.3	Req	11.0?	0.15	17.6	10.3*	29.8?	<0.1	10.8?	<0.5	41.0?	23.2	<5	Req		14.5	

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Client Name Entec UK Ltd

Contact Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	26-Jan-06
Report Number	EFS/064587M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Sample Descriptions

Client : Entec UK Ltd

Site : HMS Daedalus (E)

Report Number : S05_4587M

Lab ID Number	Client ID	Description
CL/0532133	TPE323 0.3 (NVM)	Brown/Grey Silt STONE
CL/0532134	TPE323 1.3	Brown Stone SILT
CL/0532135	EBH308 0.3-0.5	Brown Stone SILT
CL/0532136	EBH308 1.5-1.7	Brown Stone CLAY
CL/0532137	EBH307 3.5-3.7 (NVM)	Brown STONE
CL/0532138	EBH307 5.5-5.7	Brown/Grey CLAY
CL/0532139	ETP324 0.3	Brown Stone CLAY
CL/0532140	ETP308 0.3	Brown Stone CLAY
CL/0532141	ETP310 0.3	Brown CLAY Vegetation
CL/0532142	ETP307 0.2	Brown CLAY Vegetation
CL/0532143	ETP307 3.2	Brown Sand SILT
CL/0532144	ETP307 4.0	Grey/Brown CLAY

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

TES Report No. EFS/054587M

Entec UK Ltd
Cannon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
SY2 5DE

Site: HMS Daedalus (E)

The 12 samples described in this report were logged for analysis by TES Bretby on 06-Dec-2005.
Analysis was completed by: 26-Jan-2006

Tests marked as 'not accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS or MCERTS accreditation held by TES Bretby Laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of GRO Results (Page 4)
Table of PAH (MS) Results (Pages 5 to 13)
Table of SVOC Results (Pages 14 to 16)
Table of TPH (Si) banding (std) (Page 17)
GC-FID Chromatograms (Pages 18 to 41)
Table of VOC Results (Pages 42 to 44)
Sample Chain of Custody Record (Pages 45 to 46)
Table of Report Notes (Page 47)

On behalf of
TES Bretby :
J Hannah

J Hannah
Project Co-ordinator

Date of Issue: 26-Jan-2006

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)
Tests marked '^' have been subcontracted to another laboratory.
(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.
All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)
TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample
co-eluted with benzo(b)fluoranthene
co-eluted with Indeno(123-cd)pyrene
BTEX analysis expressed as ug/kg As Received
Phenol HPLC results expressed as mg/kg As Received

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15°C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed
T Trace
L Low (2-15%)
M Medium (15-50%)
H High (>50%)

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
? Denotes that an element of the quality control system is currently exhibiting sustained bias from its normal working pattern. The QC has not failed action limits and the cause of this is being investigated and rectified.
This does not invalidate the data but our quality policy specifies that you will be kept informed when this happens.
* denotes the accreditation has been removed by the laboratory for this result only

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP311 0.5	**Job Number:**	W05_6092
LIMS ID Number:	EX0526469	**Date Booked In:**	21-Dec-05
QC Batch Number:	60014	**Date Extracted:**	17-Jan-06
Quantitation File:	0129CCC2.D	**Date Analysed:**	29-Jan-06
Directory:	0129PAH.GC5\	**Matrix:**	Leachate
Dilution:	1.2	**Ext Method:**	Sep. Funnel

UKAS accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration ug/l	% Fit
Naphthalene	91-20-3	5.53	0.039	93
Acenaphthylene	208-96-8	-	< 0.012	-
Acenaphthene	83-32-9	-	< 0.012	-
Fluorene	86-73-7	7.77	0.013	83
Phenanthrene	85-01-8	8.73	0.018	98
Anthracene	120-12-7	8.78	0.016	95
Fluoranthene	206-44-0	9.91	0.019	90
Pyrene	129-00-0	10.14	0.020	M
Benzo[a]anthracene	56-55-3	11.32	0.017	53
Chrysene	218-01-9	11.36	0.013	97
Benzo[b]fluoranthene	205-99-2	12.40	0.017	97
Benzo[k]fluoranthene	207-08-9	12.43	0.016	M
Benzo[a]pyrene	50-32-8	12.77	0.017	96
Indeno[1,2,3-cd]pyrene	193-39-5	14.27	0.017	94
Dibenzo[a,h]anthracene	53-70-3	14.30	0.014	98
Benzo[g,h,i]perylene	191-24-2	14.70	0.018	89
Total (USEPA16) PAHs	-	-	< 0.278	-

Internal Standards	% Area
1,4-Dichlorobenzene-d4	93
Naphthalene-d8	92
Acenaphthene-d10	94
Phenanthrene-d10	92
Chrysene-d12	88
Perylene-d12	90

Surrogates	% Rec
Nitrobenzene-d5	67
2-Fluorobiphenyl	64
Terphenyl-d14	46

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Units :		mg/l	mg/l	ug/l	mg/l	mg/l													
Method Codes :		ISESW24	WSLM11	SVOCSWSIM	KONECN	SFAPI													
Method Reporting Limits :		0.2	5	0.04	0.01	0.05													
UKAS Accredited :		yes	yes	yes	no	no													
TES ID Number EXR	Client Sample Description	Sulphide (Free) as S	Chemical Oxygen Demand	PAH by MS	Cyanide (Free) as CN	Phenol Index as C6H5OH													
0526469	T/P E311 @ 0.5 m	<0.2	<5	Req	<0.01	<0.05													

TES Bretby

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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Leachate Sample Analysis

Date Printed	01-Feb-06
Report Number	EXR/056092
Table Number	1

TES Bretby

Units :			uS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Method Codes :		WSLM3	WSLM2	KONENS	ICPWATER	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPWATER	ICPMSW	ICPWATER	ICPMSW	ICPMSW	KONENS
Method Reporting Limits :			100	1	0.06	0.001	0.001	0.0001	0.001	0.001	0.002	0.01	0.001	0.05	0.0001	0.001	0.01
UKAS Accredited :		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
TES ID Number EXJ	Client Sample Description	pH units	Conductivity uS/cm @ 25C	Chloride as Cl w	Total Sulphur as SO4 (Dissolved)	Nickel as Ni (Dissolved)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Iron as Fe (Dissolved)	Arsenic as As (Dissolved)	Boron as B (Dissolved)	Mercury as Hg (Dissolved)	Selenium as Se (Dissolved)	Ammoniacal Nitrogen as N
0526469	T/P E311 @ 0.5 m	7.2	107	4	6.94	<0.001	0.005	<0.0001	0.010	0.009	0.041	0.03	0.002	<0.05	<0.0001	<0.001	0.02

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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Leachate Sample Analysis

Date Printed	01-Feb-06
Report Number	EXR/056092
Table Number	1

TES Bretby

TEST REPORT
LEACHATE SAMPLE ANALYSIS

1252

TES Report No. EXR/056092

Entec UK Ltd
Canon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
Shropshire
SY2 5DE

Site: HMS Daedalus (E)

The 1 sample described in this report were logged for analysis by TES Bretby on 21-Dec-2005.
The analysis was completed by: 02-Feb-2006

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby Laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of PAH (MS) Results (Page 4)
Table of Report Notes (Page 5)

On behalf of
TES Bretby :
J Elstub

Date of Issue: 02-Feb-2006

Tests marked '^' have been subcontracted to another laboratory.

TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Volatile Organic Compounds by PTGCMS

		Accredited?:	**Yes**		
Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1220VOC.MS1\ 1220CCC3.D	**Matrix:**	Soil
Sample Details:	Skip 1	**Date Booked In:**	07-Dec-05	**Method:**	Purge & trap
LIMS ID Number:	CL0532385	**Date Analysed:**	21-Dec-05	**Multiplier:**	5
Job Number:	S05_4622M	**Operator:**	SH/AH	**Position:**	14

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 7	-	U
Chloromethane	74-87-3	-	< 7	-	UM
Vinyl Chloride	75-01-4	-	< 7	-	UM
Bromomethane	74-83-9 *	-	< 33	-	U
Chloroethane	75-00-3 *	-	< 33	-	U
Trichlorofluoromethane	75-69-4	-	< 7	-	U
1,1-Dichloroethene	75-35-4 ?	-	< 7	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 7	-	UM
1,1-Dichloroethane	75-34-3	-	< 7	-	UM
2,2-Dichloropropane	594-20-7	-	< 7	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 7	-	UM
Bromochloromethane	74-97-5	-	< 7	-	UM
Chloroform	67-66-3	-	< 7	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 7	-	UM
Carbon Tetrachloride	56-23-5	-	< 7	-	UM
1,1-Dichloropropene	563-58-6	-	< 7	-	UM
Benzene	71-43-2	-	< 7	-	UM
1,2-Dichloroethane	107-06-2	-	< 7	-	UM
Trichloroethene	79-01-6	-	< 7	-	UM
1,2-Dichloropropane	78-87-5	-	< 7	-	UM
Dibromomethane	74-95-3	-	< 7	-	UM
Bromodichloromethane	75-27-4	-	< 7	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 7	-	UM
Toluene	108-88-3	-	< 66	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 7	-	U
1,1,2-Trichloroethane	79-00-5	-	< 7	-	UM
Tetrachloroethene	127-18-4	-	< 33	-	UM
1,3-Dichloropropane	142-28-9	-	< 7	-	U
Dibromochloromethane	124-48-1	-	< 7	-	U
1,2-Dibromoethane	106-93-4	-	< 7	-	U
Chlorobenzene	108-90-7	-	< 7	-	UM
Ethylbenzene	100-41-4	-	< 7	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 7	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 7	-	UM
o-Xylene	95-47-6	-	< 7	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 7	-	UM
Bromoform	75-25-2	-	< 7	-	U
iso-Propylbenzene	98-82-8	-	< 7	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 7	-	U
Propylbenzene	103-65-1	-	< 7	-	UM
Bromobenzene	108-86-1	-	< 7	-	U
1,2,3-Trichloropropane	96-18-4	-	< 7	-	U
2-Chlorotoluene	95-49-8	-	< 7	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 7	-	UM
4-Chlorotoluene	106-43-4	-	< 7	-	UM
tert-Butylbenzene	98-06-6	-	< 7	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 7	-	UM
sec-Butylbenzene	135-98-8	-	< 7	-	UM
p-Isopropyltoluene	99-87-6	-	< 7	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 7	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 7	-	U
n-Butylbenzene	104-51-8	-	< 7	-	U
1,2-Dichlorobenzene	95-50-1	-	< 7	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 33	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 33	-	U
Hexachlorobutadiene	87-68-3	-	< 33	-	U
Naphthalene	91-20-3	-	< 33	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 33	-	U

Concentrations are reported on a dry weight basis

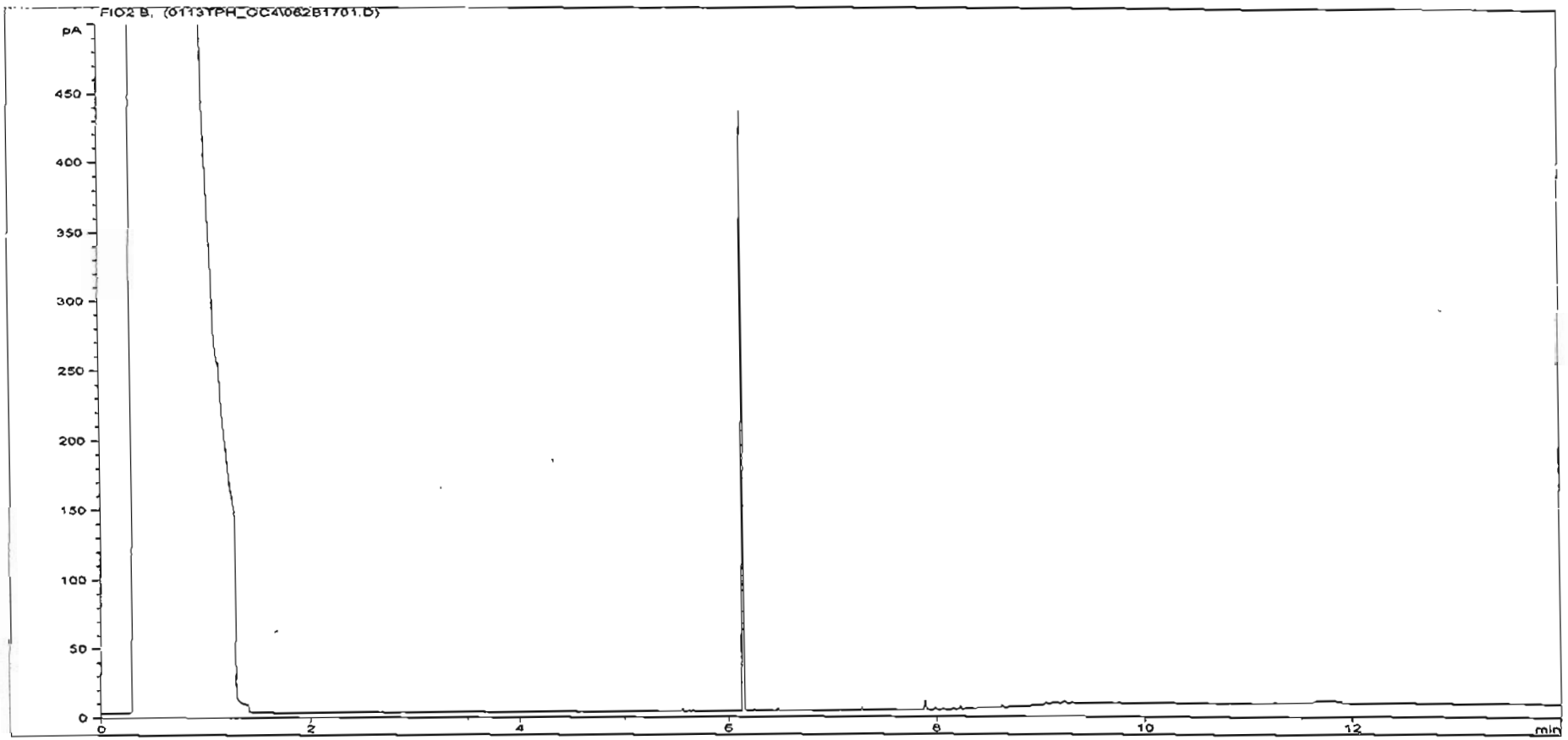
* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.83	103	Dibromofluoromethane	99
1,4-Difluorobenzene	13.13	103	Toluene-d8	98
Chlorobenzene-d5	18.07	100	Bromofluorobenzene	100
1,4-Dichlorobenzene-d4	22.04	97		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

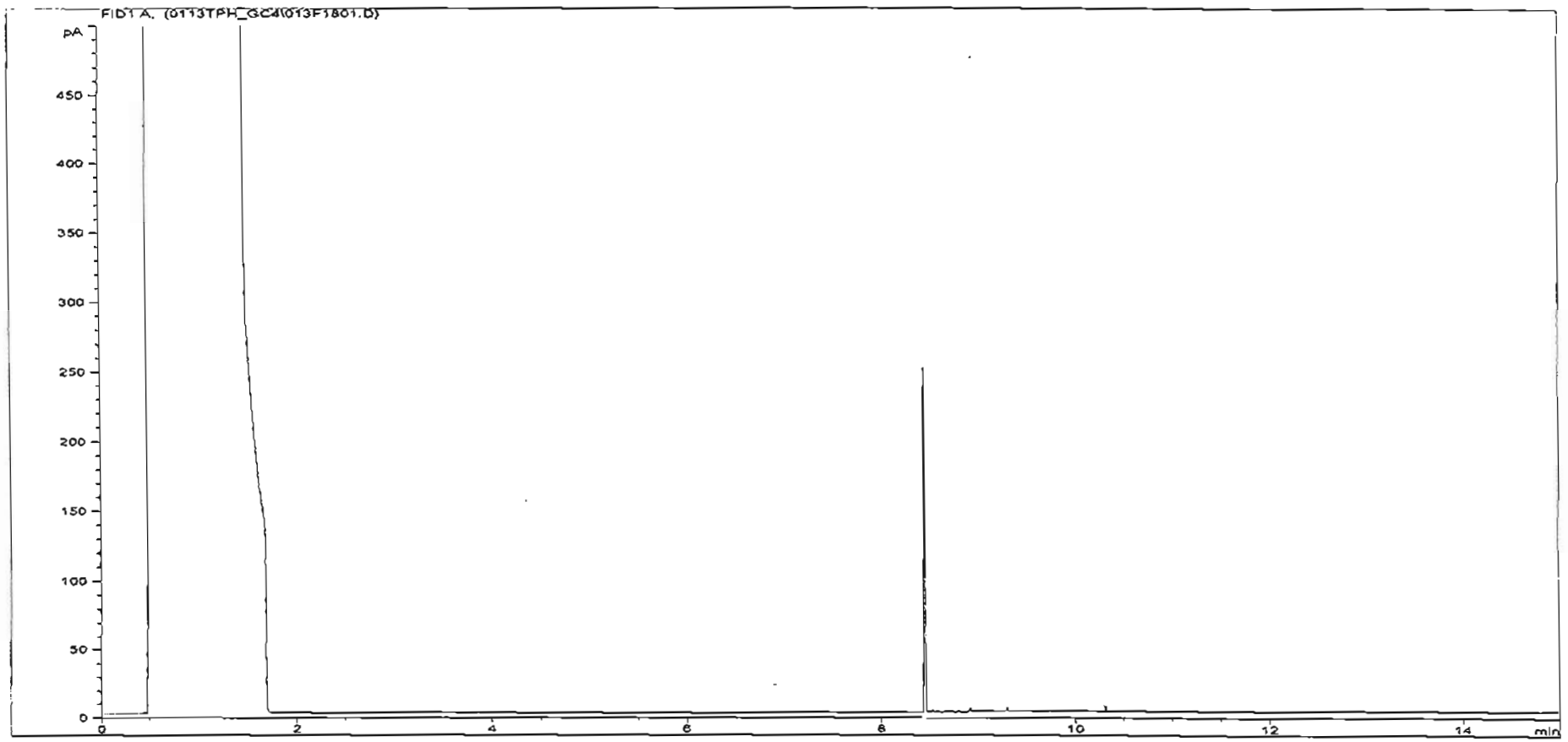
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532388ARO	**Job Number:**	S05_4622M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP320 0.5
Acquisition Date/Time:	13/01/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0113TPH_GC4\062B1701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

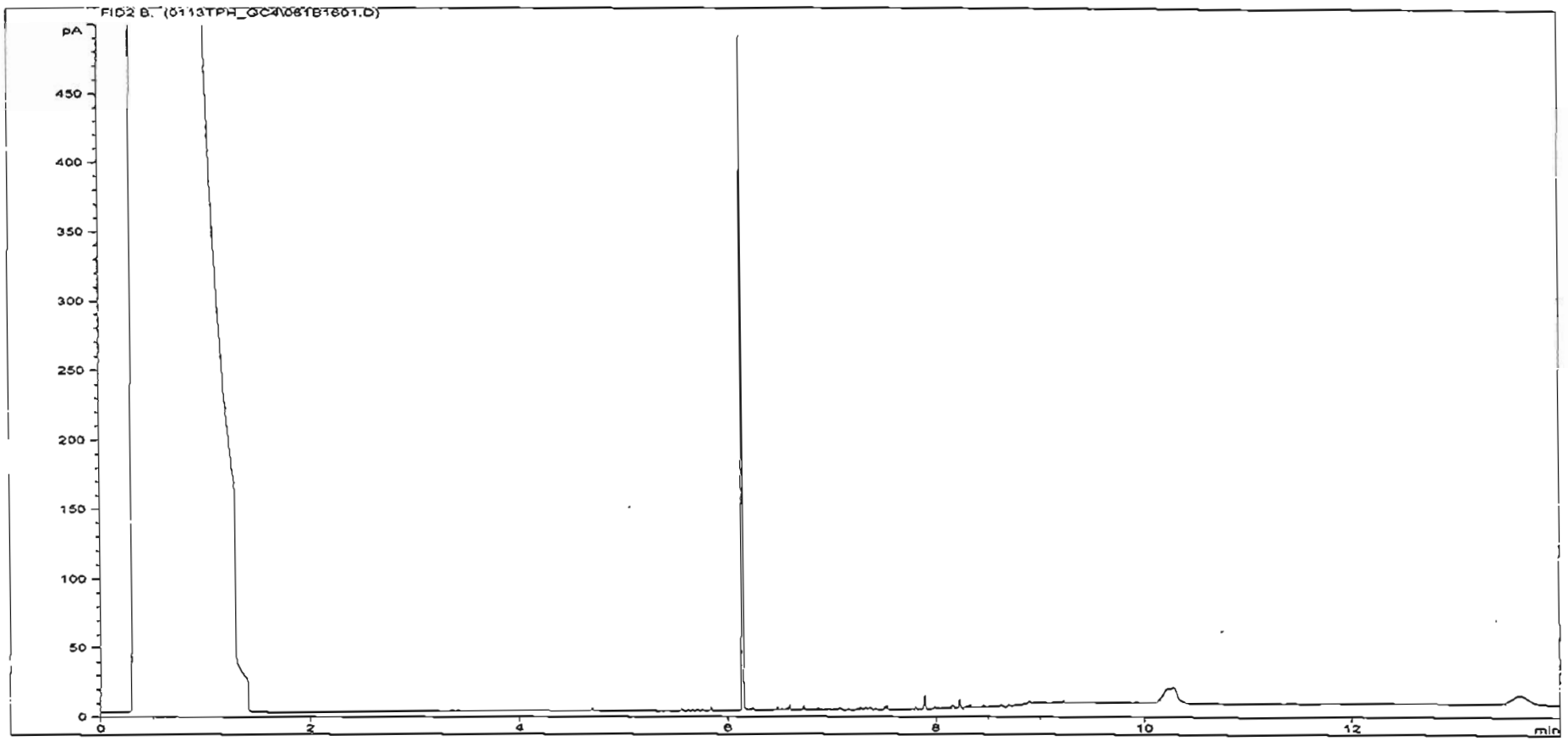
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532388ALI	**Job Number:**	S05_4622M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP320 0.5
Acquisition Date/Time:	13/01/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0113TPH_GC4\013F1801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

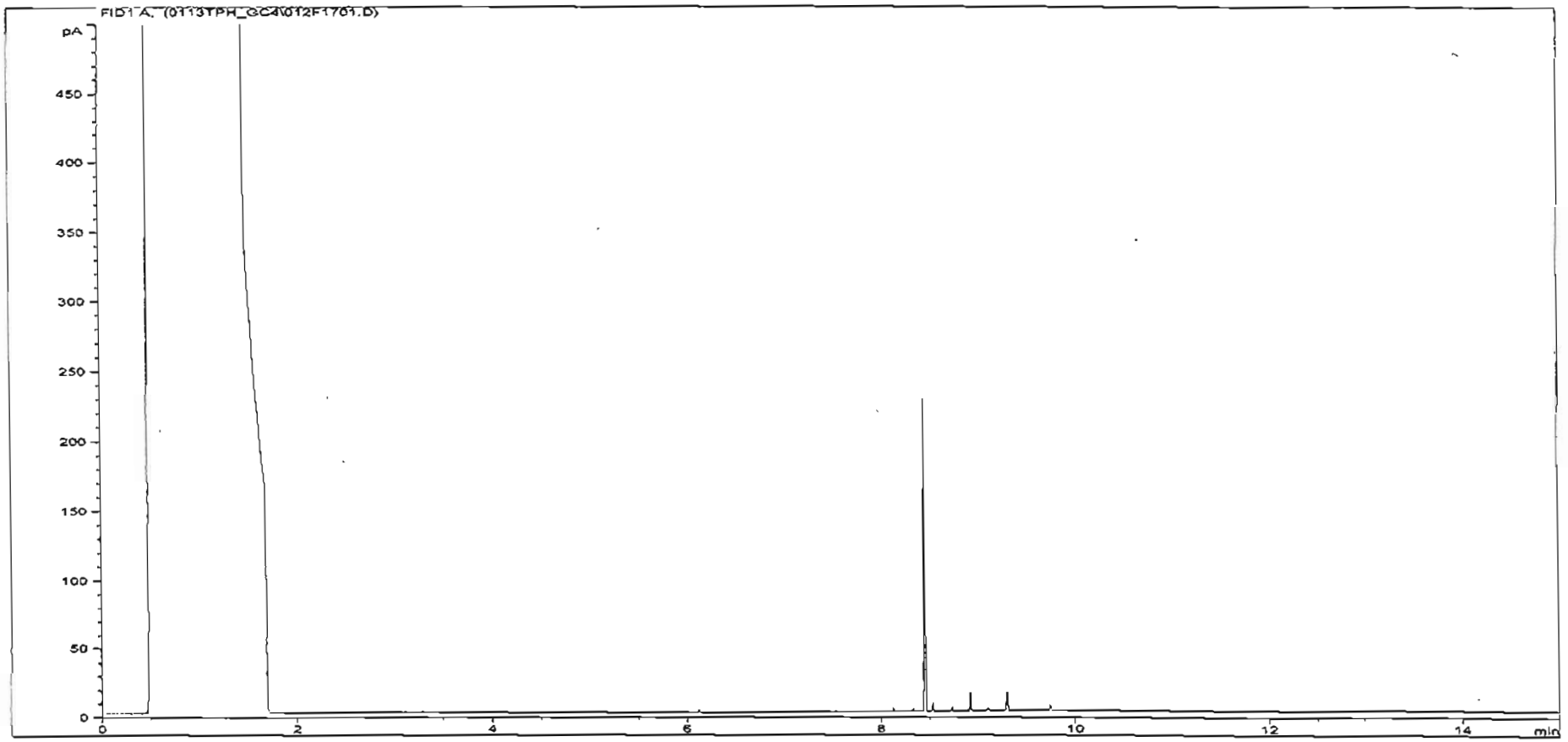
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532387ARO	**Job Number:**	S05_4622M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP320 0.2
Acquisition Date/Time:	13/01/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0113TPH_GC4\061B1601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

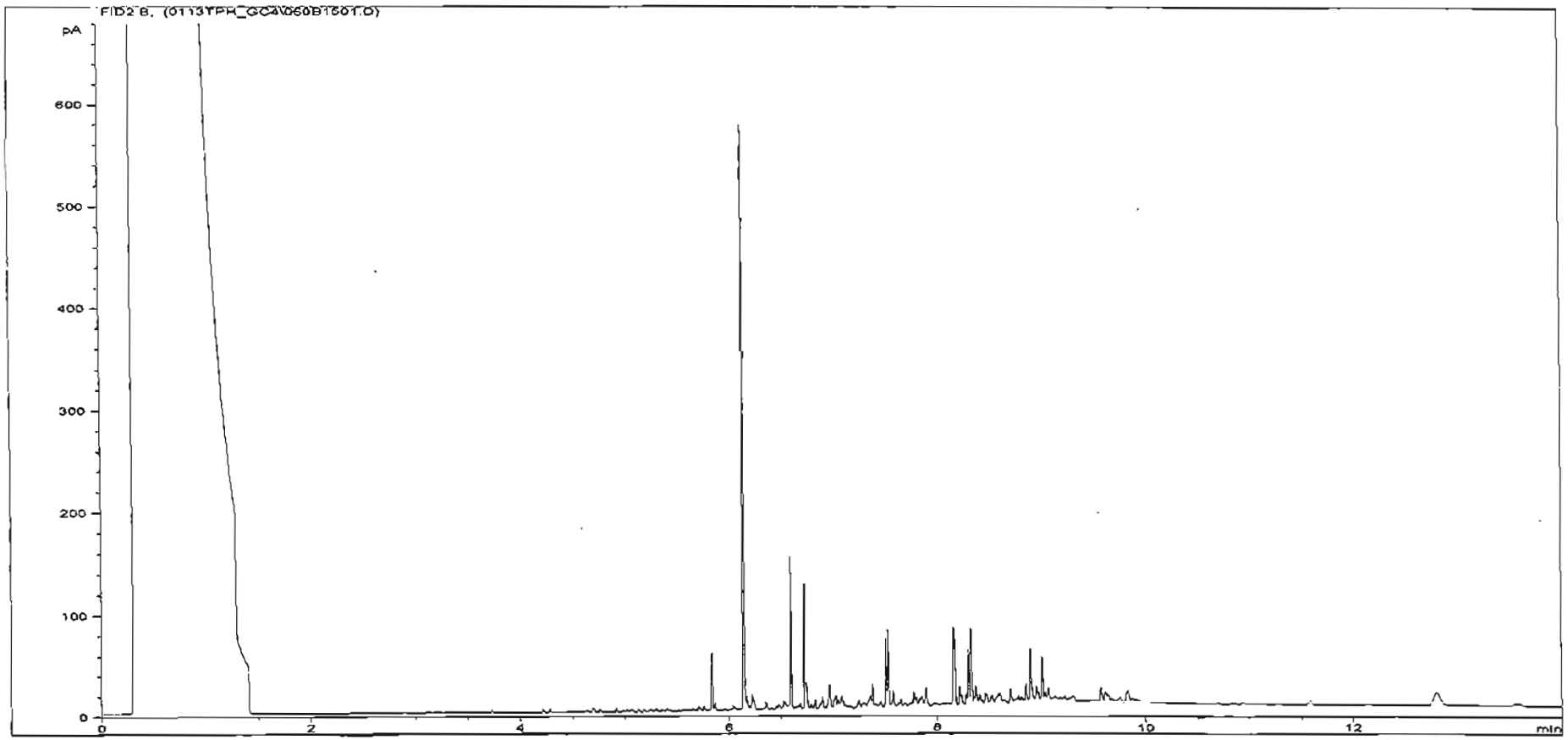
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532387ALI	**Job Number:**	S05_4622M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP320 0.2
Acquisition Date/Time:	13/01/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0113TPH_GC4\012F1701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

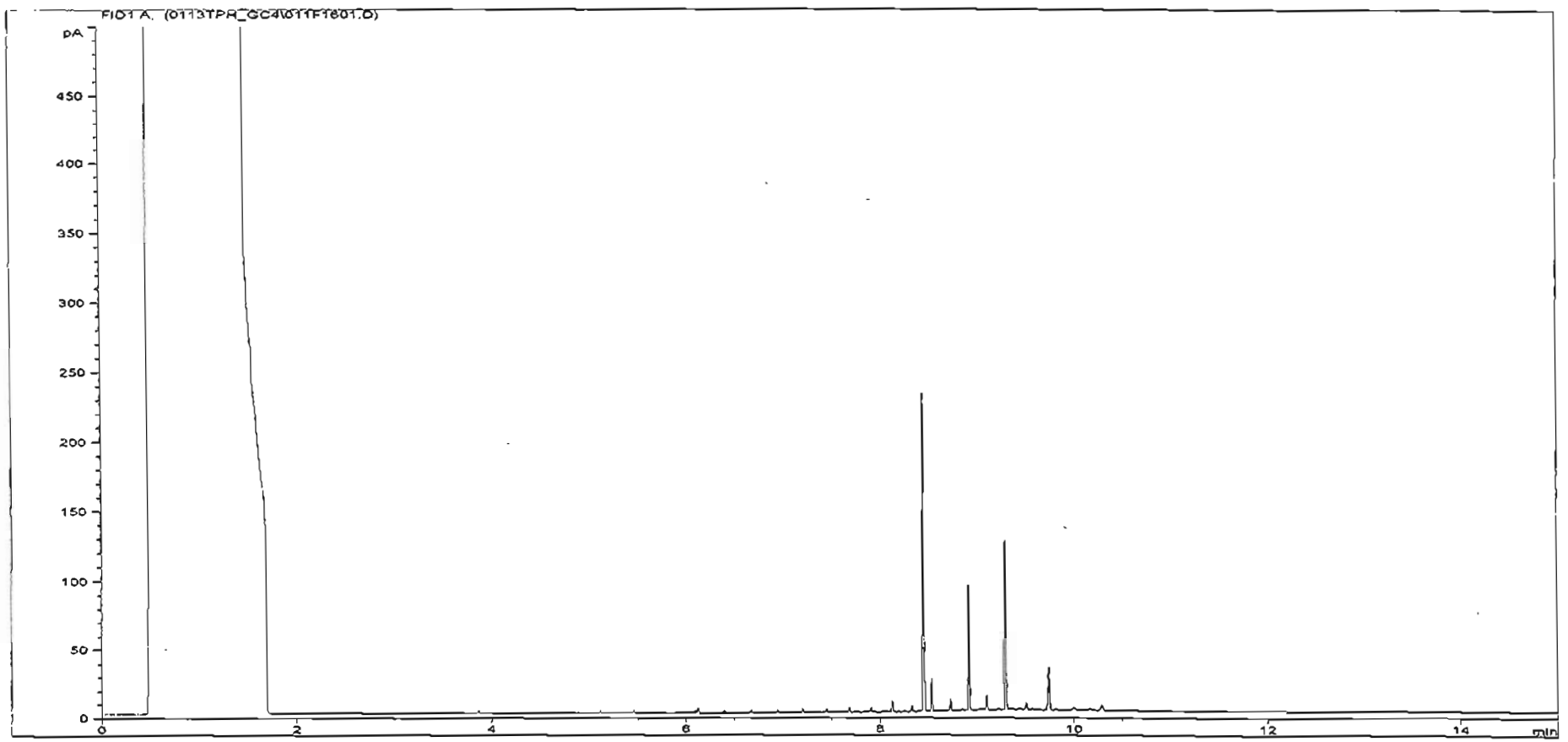
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532386ARO	**Job Number:**	S05_4622M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP316 0.4
Acquisition Date/Time:	13/01/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0113TPH_GC4\060B1501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

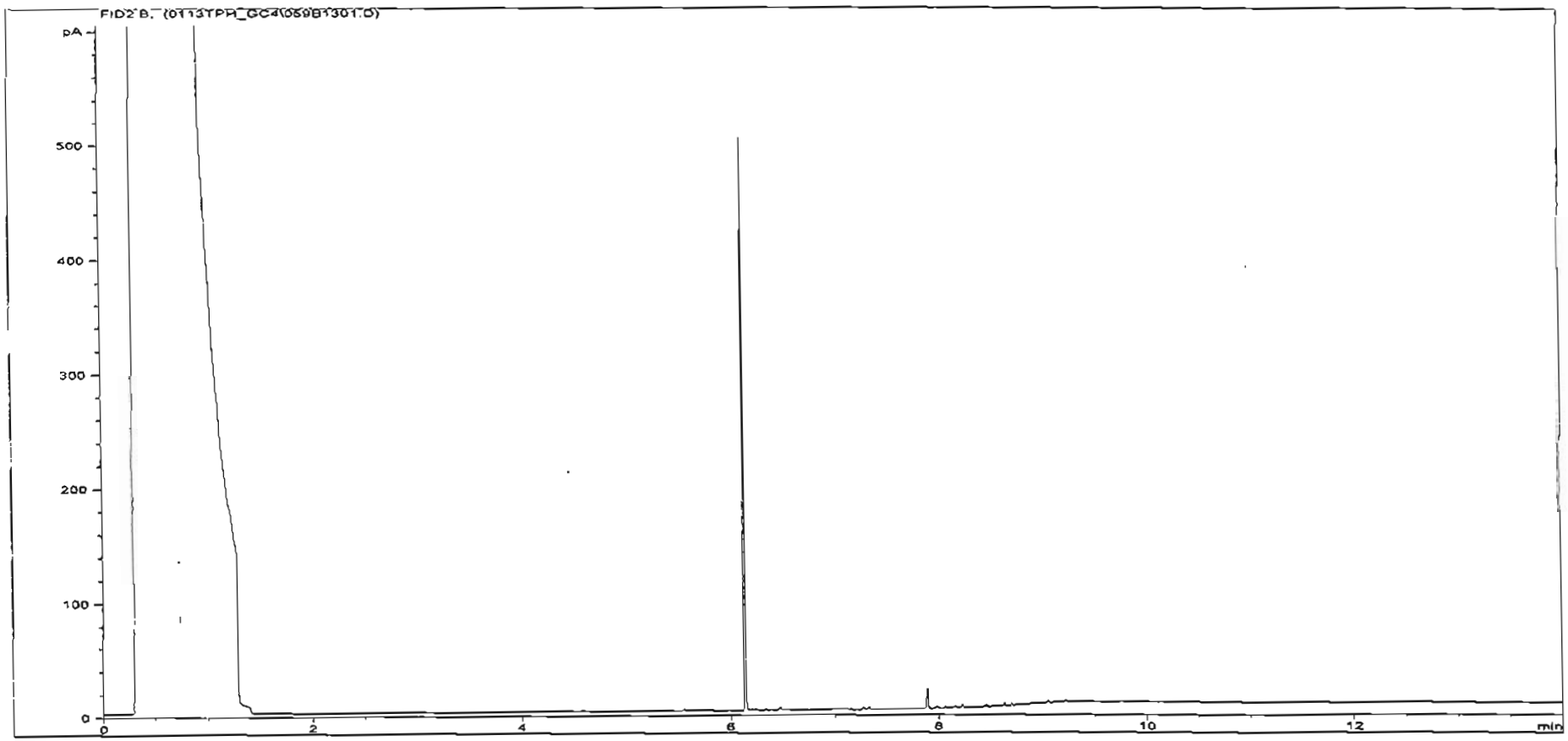
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532386ALI	**Job Number:**	S05_4622M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP316 0.4
Acquisition Date/Time:	13/01/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0113TPH_GC4\011F1601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

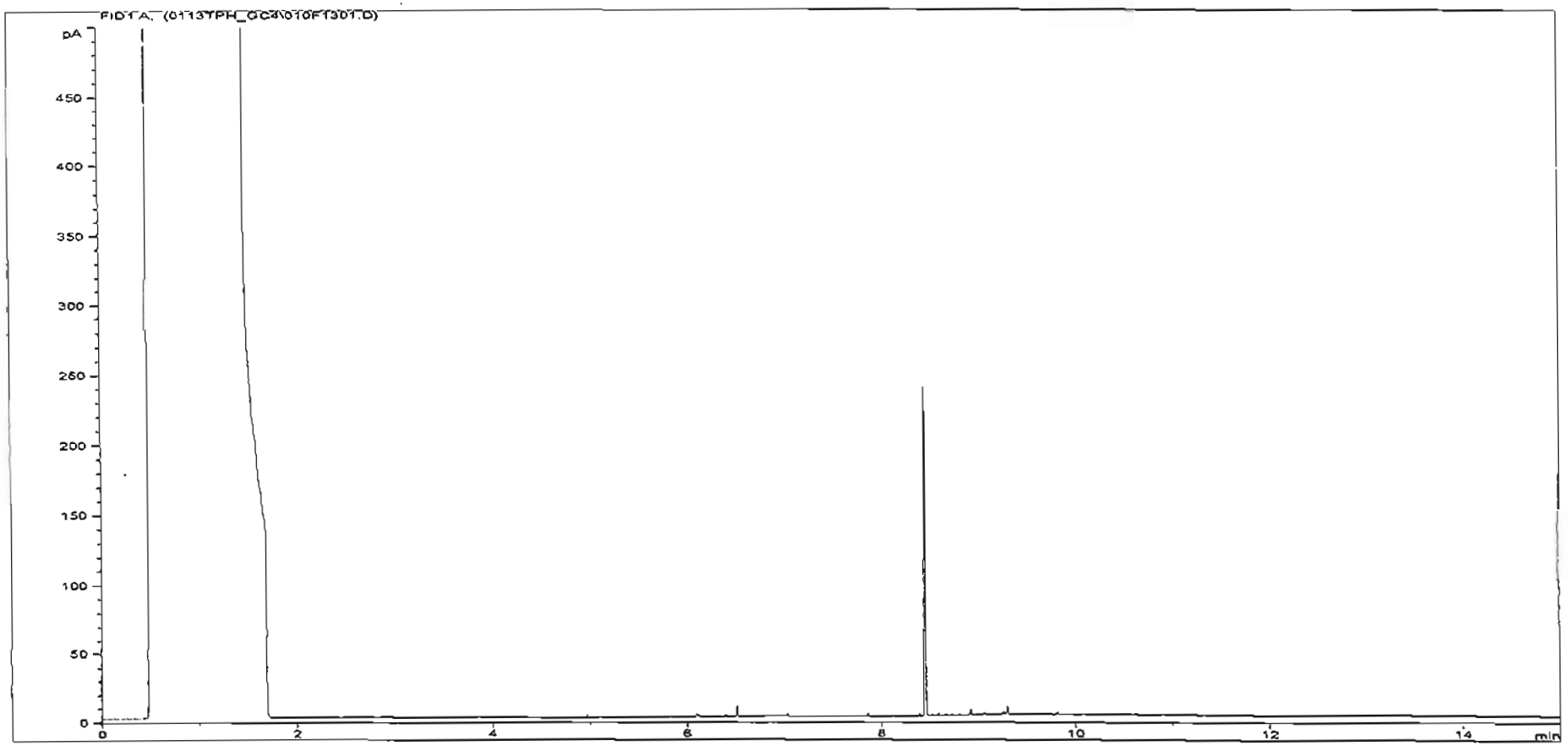
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532385ARO	**Job Number:**	S05_4622M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	Skip 1
Acquisition Date/Time:	13/01/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0113TPH_GC4\059B1301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532385ALI	**Job Number:**	S05_4622M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	Skip 1
Acquisition Date/Time:	13/01/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0113TPH_GC4\010F1301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details:	Entec UK Ltd : HMS Daedalus (E)			**Matrix:**	Soil
Job Number:	S05_4622	**Separation:**	Silica gel	**Date Booked Ir**	07-Dec-05
QC Batch Number:	52740	**Eluents:**	Pentane, DCM	**Date Extracted**	03-Jan-06
Directory:	O:\LAB_DATA\GC4\GC\TES\DATA\0113TPH_GC4\062B1701.D			**Date Analysed:**	13-Jan-06
Method:	Soxhlet				

This sample data is not accredited.

		Concentration, (mg/kg) - as dry weight.									
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35	
Sample ID	**Client ID**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**
CL0532385	Skip 1	<0.90	<0.90	<0.90	<0.90	<1.81	<1.81	<2.25	<2.25	<6.32	<6.32
CL0532386	E-TP316 0.4	<0.90	<0.90	<0.90	<0.90	<1.79	<1.79	<2.24	5.5	<6.27	24.3
CL0532387	E-TP320 0.2	<0.83	<0.83	<0.83	<0.83	<1.66	<1.66	<2.07	<2.07	<5.81	<5.81
CL0532388	E-TP320 0.5	<0.83	<0.83	<0.83	<0.83	<1.66	<1.66	<2.07	<2.07	<5.80	<5.80

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	0096
Sample Details:	Skip 1	**Date Booked In:**	07-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0532385	**Date Extracted:**	18-Jan-06	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4622M	**Date Analysed:**	21-Jan-06	**Directory/Quant File:**	0120ABN.MS6\ 0120CCC3.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 3.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.7	-	U
2-Chlorophenol	95-57-8	-	< 3.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.7	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.7	-	U
Benzyl alcohol	100-51-6	-	< 0.7	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.7	-	U
2-Methylphenol	95-48-7	-	< 0.7	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.7	-	U
Hexachloroethane	67-72-1	-	< 0.7	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.7	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 3.0	-	UM
Nitrobenzene	98-95-3	-	< 0.7	-	UM
Isophorone	78-59-1	-	< 0.7	-	UM
2-Nitrophenol	88-75-5	-	< 3.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 3.0	-	UM
Benzoic Acid	65-85-0 *	-	< 13.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.7	-	U
2,4-Dichlorophenol	120-83-2	-	< 3.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.7	-	UM
Naphthalene	91-20-3	-	< 0.3	-	UM
4-Chlorophenol	106-48-9	-	< 3.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.7	-	U
Hexachlorobutadiene	87-68-3	-	< 0.7	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.7	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.3	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.3	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.7	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 3.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 3.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.3	-	U
Biphenyl	92-52-4	-	< 0.3	-	UM
Diphenyl ether	101-84-8	-	< 0.3	-	UM
2-Nitroaniline	88-74-4	-	< 0.7	-	UM
Acenaphthylene	208-96-8	-	< 0.3	-	UM
Dimethylphthalate	131-11-3	-	< 0.7	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.7	-	UM
Acenaphthene	83-32-9	-	< 0.3	-	UM
3-Nitroaniline	99-09-2	-	< 0.7	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.7	-	UM
4-Nitrophenol	100-02-7	-	< 7.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.7	-	UM
Fluorene	86-73-7	-	< 0.3	-	UM
Diethylphthalate	84-66-2	-	< 0.7	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.7	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 7.0	-	U
4-Nitroaniline	100-01-6	-	< 0.7	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.7	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.7	-	UM
Hexachlorobenzene	118-74-1	-	< 0.7	-	UM
Pentachlorophenol	87-86-5	-	< 7.0	-	U
Phenanthrene	85-01-8	-	< 0.3	-	UM
Anthracene	120-12-7	-	< 0.3	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.7	-	UM
Fluoranthene	206-44-0	-	< 0.3	-	UM
Pyrene	129-00-0	-	< 0.3	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.7	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.3	-	UM
Chrysene	218-01-9	-	< 0.3	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 3.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.7	-	U
Di-n-octylphthalate	117-84-0	-	< 0.3	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.3	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	89
Naphthalene-d8	81
Acenaphthene-d10	84
Phenanthrene-d10	88
Chrysene-d12	68
Perylene-d12	79

Surrogates	% Rec
2-Fluorophenol	62
Phenol-d5	55
Nitrobenzene-d5	66
2-Fluorobiphenyl	60
2,4,6-Tribromophenol	70
Terphenyl-d14	98

* denotes the accreditation has been removed by the laboratory for this result only
Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP320 0.5	**Job Number:**	S05_4622M
LIMS ID Number:	CL0532388	**Date Booked in:**	07-Dec-05
QC Batch Number:	0158	**Date Extracted:**	25-Jan-06
Quantitation File:	0127CCC3.D	**Date Analysed:**	27-Jan-06
Directory:	0127ABN.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Coronene	191-07-1	-	< 0.4	-	N
Total (17) PAHs	-	-	< 4.2	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	71
Naphthalene-d8	70
Acenaphthene-d10	70
Phenanthrene-d10	69
Chrysene-d12	56
Perylene-d12	67

Surrogates	% Rec
Nitrobenzene-d5	57
2-Fluorobiphenyl	97
Terphenyl-d14	100

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP320 0.2	**Job Number:**	S05_4622M
LIMS ID Number:	CL0532387	**Date Booked in:**	07-Dec-05
QC Batch Number:	0158	**Date Extracted:**	25-Jan-06
Quantitation File:	0127CCC3.D	**Date Analysed:**	27-Jan-06
Directory:	0127ABN.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Coronene	191-07-1	-	< 0.4	-	N
Total (17) PAHs	-	-	< 4.2	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	71
Naphthalene-d8	71
Acenaphthene-d10	70
Phenanthrene-d10	66
Chrysene-d12	57
Perylene-d12	60

Surrogates	% Rec
Nitrobenzene-d5	68
2-Fluorobiphenyl	97
Terphenyl-d14	100

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP316 0.4	**Job Number:**	S05_4622M
LIMS ID Number:	CL0532386	**Date Booked In:**	07-Dec-05
QC Batch Number:	0158	**Date Extracted:**	25-Jan-06
Quantitation File:	0127CCC3.D	**Date Analysed:**	27-Jan-06
Directory:	0127ABN.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	8.43	0.5	94	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	9.48	1.2	94	U
Pyrene	129-00-0	9.68	1.0	98	U
Benzo[a]anthracene	56-55-3	10.73	0.7	94	U
Chrysene	218-01-9	10.77	0.8	90	U
Benzo[b]fluoranthene	205-99-2	11.65	0.7	92	U
Benzo[k]fluoranthene	207-08-9	11.67	0.3	94	U
Benzo[a]pyrene	50-32-8	11.96	0.5	95	U
Indeno[1,2,3-cd]pyrene	193-39-5	13.18	0.3	90	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	13.53	0.3	91	U
Coronene	191-07-1	-	< 0.4	-	U
Total (17) PAHs	-	-	< 8.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	73
Acenaphthene-d10	71
Phenanthrene-d10	69
Chrysene-d12	59
Perylene-d12	68

Surrogates	% Rec
Nitrobenzene-d5	72
2-Fluorobiphenyl	97
Terphenyl-d14	96

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Job Number: S05_4622
Directory: 0104HSA1_GC6
Method: Headspace GCFID
Accreditation Code: U

Matrix: SOIL
Date Booked in: 07-Dec-05
Date extracted: 03-Jan-06
Date Analysed: 04-Jan-06

*** denotes the accreditation has been removed by the laboratory for this result only**

		Concentration, (mg/kg) - as dry weight.					Aliphatics				
Sample ID	**Client ID**	**Benzene**	**Toluene**	**Ethyl benzene**	**m/p-Xylene**	**o-Xylene**	**C5 - C6**	**>C6 - C7**	**>C7 - C8**	**>C8 - C10**	**Total GRO**
CL0532385	Skip 1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
CL0532386	E-TP316 0.4	<0.33	<0.33	<0.33	<0.33	<0.33	<7	<7	<7	<7	<7
CL0532387	E-TP320 0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0532388	E-TP320 0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Units :		mg/kg	mg/kg	mg/kg	% M/M													
Method Codes :		WSLM4	SVOCSW	TPHFID	WSLM59													
Method Reporting Limits :		0.5	0.2	10.0	0.02													
Accreditation Code:		U			N													
TES ID Number CLJ	Client Sample Description	Phenol Index	PAH by GCMS (17)	TPH GCFID (AR) (SI)	F.O.C. %													
0532385	Skip 1	<0.5		Req	0.17													
0532386	E-TP316 0.4	<0.5	Req	Req	2.73													
0532387	E-TP320 0.2	<0.5	Req	Req														
0532388	E-TP320 0.5	<0.5	Req	Req	0.58													

TES Bretby
PO Box 100, Bretby Business Park,
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Tel +44 (0) 1283 554400
Fax +44 (0) 1283 554422

Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	01-Feb-06
Report Number	EFS/054822M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Units :		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	ug/kg	pH Units
Method Codes :		GROHSA	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPWSS	ICTSCN28	SVOCSW	TMSS	VOCSW	WSLMS
Method Reporting Limits :		0.1	0.5	0.1	0.5	0.5	0.5	0.10	0.5	0.5	3.0	0.3	5	0.2-10.0	0.2	5	
Accreditation Code:			UM	U	U	U	U	U	U	U	U	UM	U		U		U
TES ID Number CL/	Client Sample Description	GRO (AA)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SO4 - (H2O sol) mg/l	Sulphide	SVOC	Tot.Moisture @ 105oC	VOC	pH units
0532385	Skip 1	Req	7.7?	0.2	13.7	7.0?	22.6?	<0.1	8.9?	<0.5	48.7?	59.4	<5	Req	23.7	Req	7.8
0532386	E-TP316 0.4	Req	7.3?	0.29	15	17.8?	105.6?	<0.1	10.3?	<0.5	101.6?	56.9	<5		23.1		7.0
0532387	E-TP320 0.2	Req	7?	0.18	17.5	14.1?	58.1?	<0.1	11.4?	<0.5	47.3?	37	<5		17.1		6.6
0532388	E-TP320 0.5	Req	9.2?	<0.1	24.6	13?	21.7?	<0.1	15.5?	0.52	69.4?	33.9	<5		16.9		6.7

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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	01-Feb-06
Report Number	EFS/054622M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Sample Descriptions

Client : Entec UK Ltd

Site : HMS Daedalus (E)

Report Number : S05_4622M

Lab ID Number	Client ID	Description
CL/0532385	Skip 1	Brown Stone CLAY Vegetation
CL/0532386	E-TP316 0.4	Brown Stone SILT Vegetation
CL/0532387	E-TP320 0.2	Brown Stone CLAY Silt
CL/0532388	E-TP320 0.5	Brown CLAY

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

TES Report No. EFS/054622M

Entec UK Ltd
Cannon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
SY2 5DE

Site: HMS Daedalus (E)

The 4 samples described in this report were logged for analysis by TES Bretby on 07-Dec-2005.
Analysis was completed by: 01-Feb-2006

Tests marked as 'not accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS or MCERTS accreditation held by TES Bretby Laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of GRO Results (Page 4)
Table of PAH (MS) (17) Results (Pages 5 to 7)
Table of SVOC Results (Page 8)
Table of TPH (Si) banding (std) (Page 9)
GC-FID Chromatograms (Pages 10 to 17)
Table of VOC Results (Page 18)
Sample Chain of Custody Record (Page 19)
Table of Report Notes (Page 20)

On behalf of
TES Bretby :
J Elstub Project Co-ordinator

Date of Issue: 01-Feb-2006

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)
Tests marked '^' have been subcontracted to another laboratory.
(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.
All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)
TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample
co-eluted with benzo(b)fluoranthene
co-eluted with Indeno(123-cd)pyrene
BTEX analysis expressed as ug/kg As Received
Phenol HPLC results expressed as mg/kg As Received

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15°C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed
T Trace
L Low (2-15%)
M Medium (15-50%)
H High (>50%)

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S Insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
? Denotes that an element of the quality control system is currently exhibiting sustained bias from its normal working pattern. The QC has not failed action limits and the cause of this is being investigated and rectified.
This does not invalidate the data but our quality policy specifies that you will be kept informed when this happens.
* denotes the accreditation has been removed by the laboratory for this result only

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP319 0.45	**Job Number:**	W05_5893
LIMS ID Number:	EX0525580	**Date Booked in:**	13-Dec-05
QC Batch Number:	60001	**Date Extracted:**	03-Jan-06
Quantitation File:	0127ccc1.D	**Date Analysed:**	27-Jan-06
Directory:	0127PAH.GC5\	**Matrix:**	Leachate
Dilution:	1.0	**Ext Method:**	Sep. Funnel

UKAS accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration ug/l	% Fit
Naphthalene	91-20-3	5.57	0.022	92
Acenaphthylene	208-96-8	-	< 0.010	-
Acenaphthene	83-32-9	7.31	0.024	M
Fluorene	86-73-7	-	< 0.010	-
Phenanthrene	85-01-8	8.77	0.014	90
Anthracene	120-12-7	-	< 0.010	-
Fluoranthene	206-44-0	9.96	0.010	93
Pyrene	129-00-0	10.18	0.010	M
Benzo[a]anthracene	56-55-3	-	< 0.010	-
Chrysene	218-01-9	-	< 0.010	-
Benzo[b]fluoranthene	205-99-2	-	< 0.010	-
Benzo[k]fluoranthene	207-08-9	-	< 0.010	-
Benzo[a]pyrene	50-32-8	-	< 0.010	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.010	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.010	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.010	-
Total (USEPA16) PAHs	-	-	< 0.190	-

Internal Standards	% Area
1,4-Dichlorobenzene-d4	153
Naphthalene-d8	140
Acenaphthene-d10	143
Phenanthrene-d10	141
Chrysene-d12	136
Perylene-d12	129

Surrogates	% Rec
Nitrobenzene-d5	60
2-Fluorobiphenyl	55
Terphenyl-d14	50

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Units :		mg/l	mg/l	ug/l	mg/l	mg/l												
Method Codes :		ISESW24	WSLM11	SVOCSWSIM	KONECN	SFAPI												
Method Reporting Limits :		0.2	5	0.04	0.01	0.05												
UKAS Accredited :		yes	yes	yes	no	no												
TES ID Number EXJ	Client Sample Description	Sulphide (Free) as S	Chemical Oxygen Demand	PAH by MS	Cyanide (Free) as CN	Phenol Index as C6H5OH												
0525580	T/P E319 @ 0.45 m	<0.2	12	Req	<0.01	<0.05												

TES Bretby

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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Leachate Sample Analysis

Date Printed	31-Jan-06
Report Number	EXR/055893
Table Number	1

TES Bretby

Units :		uS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Method Codes :		WSLM3	WSLM2	KONENS	ICPWATER	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPWATER	ICPMSW	ICPWATER	ICPMSW	ICPMSW	KONENS
Method Reporting Limits :			100	1	0.06	0.001	0.001	0.0001	0.001	0.001	0.002	0.01	0.001	0.05	0.0001	0.001	0.01
UKAS Accredited :		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
TES ID Number EX/	Client Sample Description	pH units	Conductivity uS/cm @ 25C	Chloride as Cl w	Total Sulphur as SO4 (Dissolved)	Nickel as Ni (Dissolved)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Iron as Fe (Dissolved)	Arsenic as As (Dissolved)	Boron as B (Dissolved)	Mercury as Hg (Dissolved)	Selenium as Se (Dissolved)	Ammoniacal Nitrogen as N
0525580	T/P E319 @ 0.45 m	7.6	104	4	8.66	0.010	0.002	<0.0001	0.032	0.044	0.222	0.34	0.022	0.05	<0.0001	<0.001	<0.01

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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Leachate Sample Analysis

Date Printed	31-Jan-06
Report Number	EXR/055893
Table Number	1

TES Bretby

TEST REPORT
LEACHATE SAMPLE ANALYSIS

1252

TES Report No. EXR/055893

Entec UK Ltd
Canon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
Shropshire
SY2 5DE

Site: HMS Daedalus (E)

The 1 sample described in this report were logged for analysis by TES Bretby on 13-Dec-2005.
The analysis was completed by: 02-Feb-2006

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby Laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of PAH (MS) Results (Page 4)
Table of Report Notes (Page 5)

On behalf of
TES Bretby :
J Elstub

Date of Issue: 02-Feb-2006

Tests marked '^' have been subcontracted to another laboratory.

TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample
co-eluted with benzo(b)fluoranthene
co-eluted with Indeno(123-cd)pyrene
BTEX analysis expressed as ug/kg As Received
Phenol HPLC results expressed as mg/kg As Received

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15°C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed
T Trace
L Low (2-15%)
M Medium (15-50%)
H High (>50%)

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
? Denotes that an element of the quality control system is currently exhibiting sustained bias from its normal working pattern. The QC has not failed action limits and the cause of this is being investigated and rectified.
This does not invalidate the data but our quality policy specifies that you will be kept informed when this happens.
* denotes the accreditation has been removed by the laboratory for this result only

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	Skip 1	**Job Number:**	W05_5934
LIMS ID Number:	EX0525749	**Date Booked In:**	14-Dec-05
QC Batch Number:	60001	**Date Extracted:**	03-Jan-06
Quantitation File:	0127ccc2.D	**Date Analysed:**	28-Jan-06
Directory:	0127PAH.GC5\	**Matrix:**	Leachate
Dilution:	1.0	**Ext Method:**	Sep. Funnel

UKAS accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration ug/l	% Fit
Naphthalene	91-20-3	5.57	0.023	93
Acenaphthylene	208-96-8	-	< 0.010	-
Acenaphthene	83-32-9	7.30	0.026	M
Fluorene	86-73-7	-	< 0.010	-
Phenanthrene	85-01-8	-	< 0.010	-
Anthracene	120-12-7	-	< 0.010	-
Fluoranthene	206-44-0	-	< 0.010	-
Pyrene	129-00-0	-	< 0.010	-
Benzo[a]anthracene	56-55-3	-	< 0.010	-
Chrysene	218-01-9	-	< 0.010	-
Benzo[b]fluoranthene	205-99-2	-	< 0.010	-
Benzo[k]fluoranthene	207-08-9	-	< 0.010	-
Benzo[a]pyrene	50-32-8	-	< 0.010	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.010	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.010	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.010	-
Total (USEPA16) PAHs	-	-	< 0.189	-

Internal Standards	% Area
1,4-Dichlorobenzene-d4	132
Naphthalene-d8	123
Acenaphthene-d10	128
Phenanthrene-d10	123
Chrysene-d12	121
Perylene-d12	114

Surrogates	% Rec
Nitrobenzene-d5	62
2-Fluorobiphenyl	59
Terphenyl-d14	54

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Units :		mg/l	mg/l	ug/l	mg/l	mg/l												
Method Codes :		ISESW24	WSLM11	SVOCSWSIN	KONECN	SFAPI												
Method Reporting Limits :		0.2	5	0.04	0.01	0.05												
UKAS Accredited :		yes	yes	yes	no	no												
TES ID Number EXJ	Client Sample Description	Sulphide (Free) as S	Chemical Oxygen Demand	PAH by MS	Cyanide (Free) as CN	Phenol Index as C6H5OH												
0525749	Skip 1	<0.2	<5	Req	<0.01	<0.05												

TES Bretby
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Burton-on-Trent, Staffordshire, DE15 0XD
Tel +44 (0) 1283 554400
Fax +44 (0) 1283 554422

Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Leachate Sample Analysis

Date Printed	31-Jan-06
Report Number	EXR/055934
Table Number	1

TES Bretby

Units :			uS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Method Codes :		WSLM3	WSLM2	KONENS	ICPWATER	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPWATER	ICPMSW	ICPWATER	ICPMSW	ICPMSW	KONENS
Method Reporting Limits :			100	1	0.06	0.001	0.001	0.0001	0.001	0.001	0.002	0.01	0.001	0.05	0.0001	0.001	0.01
UKAS Accredited :		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
TES ID Number EXJ	Client Sample Description	pH units	Conductivity uS/cm @ 25C	Chloride as Cl w	Total Sulphur as SO4 (Dissolved)	Nickel as Ni (Dissolved)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Iron as Fe (Dissolved)	Arsenic as As (Dissolved)	Boron as B (Dissolved)	Mercury as Hg (Dissolved)	Selenium as Se (Dissolved)	Ammoniacal Nitrogen as N
0525749	Skip 1	7.4	<100	2	4.11	0.001	0.001	<0.0001	0.006	0.009	0.035	0.01	<0.001	<0.05	<0.0001	<0.001	0.01

TES Bretby
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Burton-on-Trent, Staffordshire, DE15 0XD
Tel +44 (0) 1283 554400
Fax +44 (0) 1283 554422

Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Leachate Sample Analysis

Date Printed	31-Jan-06
Report Number	EXR/055934
Table Number	1

TES Bretby

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
SO4 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample
co-eluted with benzo(b)fluoranthene
co-eluted with indeno(123-cd)pyrene
BTEX analysis expressed as ug/kg As Received
Phenol HPLC results expressed as mg/kg As Received

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3 @ 15°C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed
T Trace
L Low (2-15%)
M Medium (15-50%)
H High (>50%)

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S Insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
▷ Raised detection limit due to nature of sample
? Denotes that an element of the quality control system is currently exhibiting sustained bias from its normal working pattern. The QC has not failed action limits and the cause of this is being investigated and rectified.
This does not invalidate the data but our quality policy specifies that you will be kept informed when this happens.
* denotes the accreditation has been removed by the laboratory for this result only
Accreditation Codes:
N - Not Accredited, U - UKAS, UM - UKAS & MCERTS
If 'Accredited? = No' then the accreditation has been removed for the entire dataset
'Accreditation Code' or 'Accr. Code' indicates the status of the accreditation held by the laboratory

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Sample Chain of Custody and Test Scheduling Form

Client:	Enfec UK Ltd	Status:	New job / continuation
Address 1:	Shrewsbury Office	Turnaround:	10 days / hrs
Address 2:		TES Estimate Ref No:	CLOS_0555/35
Contact Phone No:	Fax	Cold Box No(s):	2 x boxes soils.
Project Location / ID:	17275 - HMS Daedalus	Project Manager:	Nigel Keyworth.
Project Ref No:	17275	Purchase Order No:	69825

Sheet: 2 of 2

Lab Use Only
TES Job Number:
Consignment No: GE7972
Ice Packs? Yes / No

MCERTS: Yes / No
Email: Keyworn@enfec.co.uk

NB Completion of all requested information will assist in reducing delays

USE EITHER: 1 line per sample for brevity OR 1 line per container for full custody

Lab Ref No.	Date (dd)	Date (mm)	Time (hh) (24 hr)	mm	Client ID / Hole ID: TP / BH etc	Sample Ref	Sample Type	Depth Range or SAMP TOP (m)-(m)	Container ID eg 12/02/12345 or Total number of containers Type / y y - # # # # #	Matrix: Groundwater/Wastewater	Soil / sediment	Other ( )	pH	Metals*	TPH (CWG) band	Total Phenols	Water Sol. SO4	Sulphide	TOC	SVOC	VOC	Spec PAH	Leach (EA)	Comment	Sample Disposal
52	9	12			E-TP 312			0.1-	T / 0 -				X	X	X	X	X	X				X			
					"			0.4	T / 0 -																
60					E-TP 311			0.5	T / 0 -				✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		
					"			0.9	T / 0 -				✓	✓	✓	✓	✓	✓				✓			
57					E-TP 322			0.2	T / 0 -																
58					"			0.5	T / 0 -				✓	✓	✓	✓	✓	✓	✓			✓			
59					"			LOK3	T / 0 -				✓	✓	✓	✓	✓	✓				✓			
60					E-TP 315			0.2	T / 0 -																
61					"			LOK4	T / 0 -				✓	✓	✓	✓	✓	✓	✓			✓			
					"			1.0	T / 0 -				✓	✓	✓	✓	✓	✓	✓			✓			
62					E-TP 321			0.2	T / 0 -				✓	✓	✓	✓	✓	✓				✓			
					"			1.0	T / 0 -																
63					"			2.5	T / 0 -				✓	✓	✓	✓	✓	✓				✓			
64	8	12			E-TP 314			0.2	T / 0 -																
65					"			0.5	T / 0 -				✓	✓	✓	✓	✓	✓	✓						
66					"			LOK2	T / 0 -				✓	✓	✓	✓	✓	✓	✓						
									T / 0 -																
									T / 0 -																
									T / 0 -																
									T / 0 -																

Chain of Custody:

Prepared and packaged by	Intermediate Transfer	Received by Laboratory	Lab Use Only: Custody seals intact?	Consignment
Sign:	Received (sign):	Received by:	Cooler temp:	Checked off by:
Date / Time:	Date / Time:	Date / Time: 24/2/08	Temperature:	Date / Time:

White TOP Copy - to be returned in a sealed bag with samples Yellow Copy - to be retained by client Blue copy - post or fax to TES Bretby Laboratories

TES Bretby Business Park, Burton-on-Trent, Staffs DE15 0XD. 01283 554400 Fax: 01283 554549

02/02 2008 15:43 FAX 01283554549 TES BRETBY 018

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP315 1.0	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533276	**Date Booked in:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.7	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	90
Naphthalene-d8	88
Acenaphthene-d10	85
Phenanthrene-d10	78
Chrysene-d12	64
Perylene-d12	54

Surrogates	% Rec
Nitrobenzene-d5	64
2-Fluorobiphenyl	68
Terphenyl-d14	108

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP321 0.2	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533277	**Date Booked in:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	86
Naphthalene-d8	87
Acenaphthene-d10	85
Phenanthrene-d10	84
Chrysene-d12	82
Perylene-d12	83

Surrogates	% Rec
Nitrobenzene-d5	61
2-Fluorobiphenyl	63
Terphenyl-d14	82

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP321 2.5	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533278	**Date Booked In:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC5.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	91
Naphthalene-d8	91
Acenaphthene-d10	88
Phenanthrene-d10	83
Chrysene-d12	72
Perylene-d12	69

Surrogates	% Rec
Nitrobenzene-d5	72
2-Fluorobiphenyl	75
Terphenyl-d14	95

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	0175
Sample Details:	E-TP311 0.5	**Date Booked in:**	12-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.33333
LIMS ID Number:	CL0533271	**Date Extracted:**	26-Jan-06	**Operator:**	AB	**Dilution Factor:**	5
Job Number:	S05_4716M	**Date Analysed:**	30-Jan-06	**Directory/Quant File:**	0130ABN.MS6\ 0130CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 14.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 3.4	-	U
2-Chlorophenol	95-57-8	-	< 14.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 3.4	-	U
1,4-Dichlorobenzene	106-46-7	-	< 3.4	-	U
Benzyl alcohol	100-51-6	-	< 3.4	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 3.4	-	U
2-Methylphenol	95-48-7	-	< 3.4	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 3.4	-	U
Hexachloroethane	67-72-1	-	< 3.4	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 3.4	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 14.0	-	UM
Nitrobenzene	98-95-3	-	< 3.4	-	UM
Isophorone	78-59-1	-	< 3.4	-	UM
2-Nitrophenol	88-75-5	-	< 14.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 14.0	-	UM
Benzoic Acid	65-85-0 *	-	< 68.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 3.4	-	U
2,4-Dichlorophenol	120-83-2	-	< 14.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 3.4	-	UM
Naphthalene	91-20-3	-	< 1.0	-	UM
4-Chlorophenol	106-48-9	-	< 14.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 3.4	-	U
Hexachlorobutadiene	87-68-3	-	< 3.4	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 3.4	-	UM
2-Methylnaphthalene	91-57-6	-	< 1.0	-	UM
1-Methylnaphthalene	90-12-0	-	< 1.0	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 3.4	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 14.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 14.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 1.0	-	U
Biphenyl	92-52-4	-	< 1.0	-	UM
Diphenyl ether	101-84-8	-	< 1.0	-	UM
2-Nitroaniline	88-74-4	-	< 3.4	-	UM
Acenaphthylene	208-96-8	-	< 1.0	-	UM
Dimethylphthalate	131-11-3	-	< 3.4	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 3.4	-	UM
Acenaphthene	83-32-9	-	< 1.0	-	UM
3-Nitroaniline	99-09-2	-	< 3.4	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 7.0	-	U
Dibenzofuran	132-64-9	-	< 3.4	-	UM
4-Nitrophenol	100-02-7	-	< 34.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 3.4	-	UM
Fluorene	86-73-7	-	< 1.0	-	UM
Diethylphthalate	84-66-2	-	< 3.4	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 3.4	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 34.0	-	U
4-Nitroaniline	100-01-6	-	< 3.4	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 3.4	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 3.4	-	UM
Hexachlorobenzene	118-74-1	-	< 3.4	-	UM
Pentachlorophenol	87-86-5	-	< 34.0	-	U
Phenanthrene	85-01-8	15.43	1.5	96	UM
Anthracene	120-12-7	-	< 1.0	-	UM
Di-n-butylphthalate	84-74-2	-	< 3.4	-	UM
Fluoranthene	206-44-0	17.95	15.0	89	UM
Pyrene	129-00-0	18.41	16.8	90	UM
Butylbenzylphthalate	85-68-7	-	< 3.4	-	UM
Benzo[a]anthracene	56-55-3	20.98	7.3	94	UM
Chrysene	218-01-9	21.04	7.0	97	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 14.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 3.4	-	U
Di-n-octylphthalate	117-84-0	-	< 1.0	-	UM
Benzo[b]fluoranthene	205-99-2	23.19	7.7	97	U
Benzo[k]fluoranthene	207-08-9	23.25	2.8	95	UM
Benzo[a]pyrene	50-32-8	23.96	6.4	98	UM
Indeno[1,2,3-cd]pyrene	193-39-5	27.27	4.0	85	U
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-	UM
Benzo[g,h,i]perylene	191-24-2	27.78	4.0	93	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	86
Naphthalene-d8	82
Acenaphthene-d10	85
Phenanthrene-d10	83
Chrysene-d12	72
Perylene-d12	86

Surrogates	% Rec
2-Fluorophenol	90
Phenol-d5	76
Nitrobenzene-d5	87
2-Fluorobiphenyl	77
2,4,6-Tribromophenol	72
Terphenyl-d14	97

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

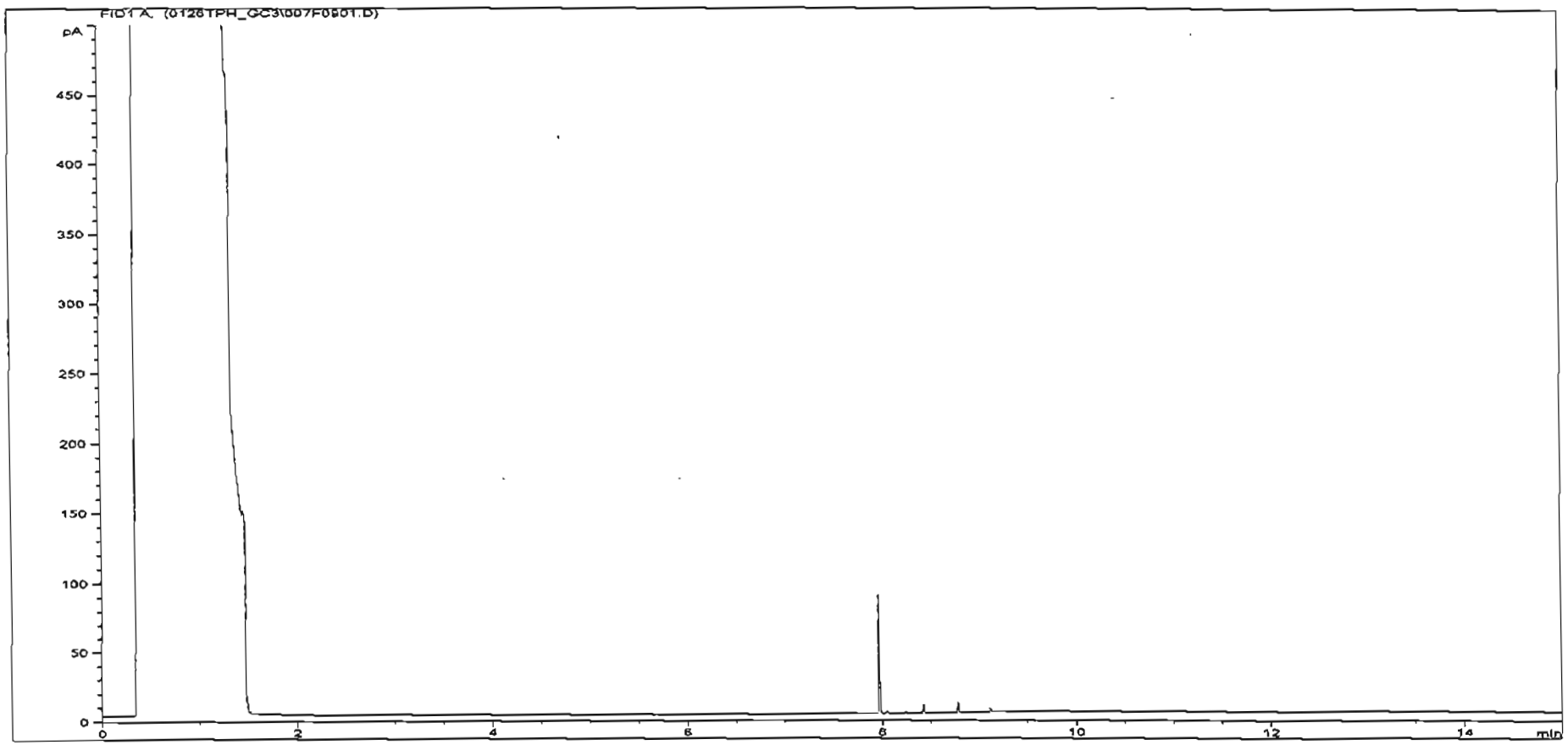
Customer and Site Details:	Entec UK Ltd : HMS Daedalus (E)			Matrix:	Soil
Job Number:	S05_4716	Separation:	Silica gel	Date Booked Ir	12-Dec-05
QC Batch Number:	60132	Eluents:	Pentane, DCM	Date Extracted	23-Jan-06
Directory:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\066B2101.D			Date Analysed:	26-Jan-06
Method:	ASE				

This sample data is not accredited.

		Concentration, (mg/kg) - as dry weight.									
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35	
Sample ID	Client ID	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics
CL0533270	E-TP312 0.1	<0.88	<0.88	<0.88	<0.88	<1.76	<1.76	<2.20	<2.20	<6.16	<6.16
CL0533271	E-TP311 0.5	<0.93	<0.93	<0.93	<0.93	<1.86	1.86	<2.32	16.5	9.04	86.4
CL0533272	E-TP311 0.9	<0.85	<0.85	<0.85	<0.85	<1.69	<1.69	<2.11	<2.11	<5.91	<5.91
CL0533273	E-TP322 0.5	<0.86	<0.86	<0.86	<0.86	<1.73	<1.73	<2.15	<2.15	<6.03	<6.03
CL0533274	E-TP322 LOK 3	<0.76	<0.76	<0.76	<0.76	<1.52	<1.52	<1.89	<1.89	<5.31	<5.31
CL0533275	E-TP315 LOK 4	<0.86	<0.86	<0.86	<0.86	<1.71	<1.71	<2.14	<2.14	<5.99	<5.99
CL0533276	E-TP315 1.0	<0.79	<0.79	<0.79	<0.79	<1.58	<1.58	<1.96	<1.96	<5.50	<5.50
CL0533277	E-TP321 0.2	<0.86	<0.86	<0.86	<0.86	<1.71	<1.71	<2.13	<2.13	<5.97	<5.97
CL0533278	E-TP321 2.5	<0.84	<0.84	<0.84	<0.84	<1.67	<1.67	<2.08	<2.08	<5.84	<5.84
CL0533279	E-TP314 0.5	<0.86	<0.86	<0.86	<0.86	<1.73	<1.73	<2.15	<2.15	<6.03	<6.03
CL0533280	E-TP314 LOK 2	<0.86	<0.86	<0.86	<0.86	<1.72	<1.72	<2.14	<2.14	<6.00	<6.00

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

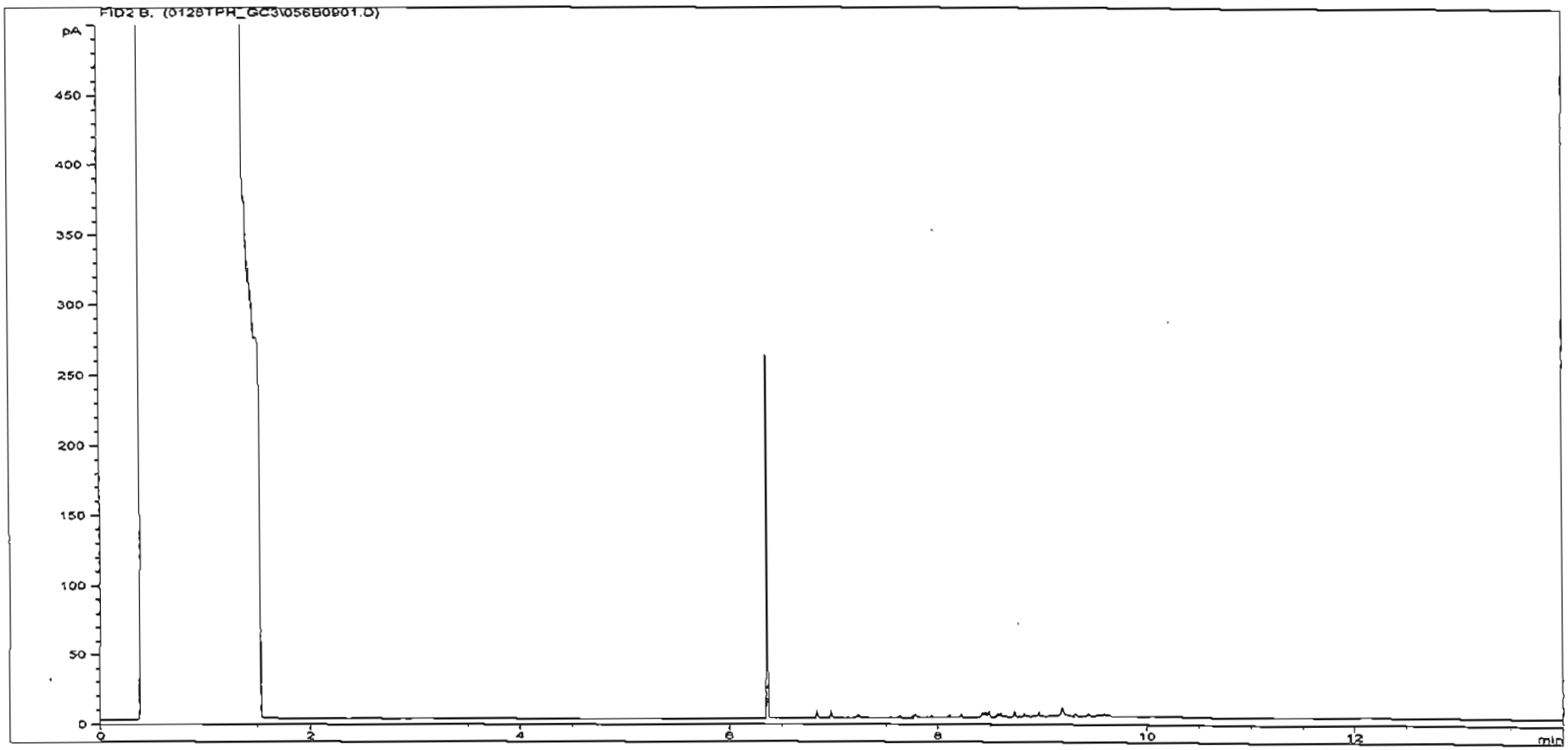
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0533270ALI	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP312 0.1
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\007F0901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

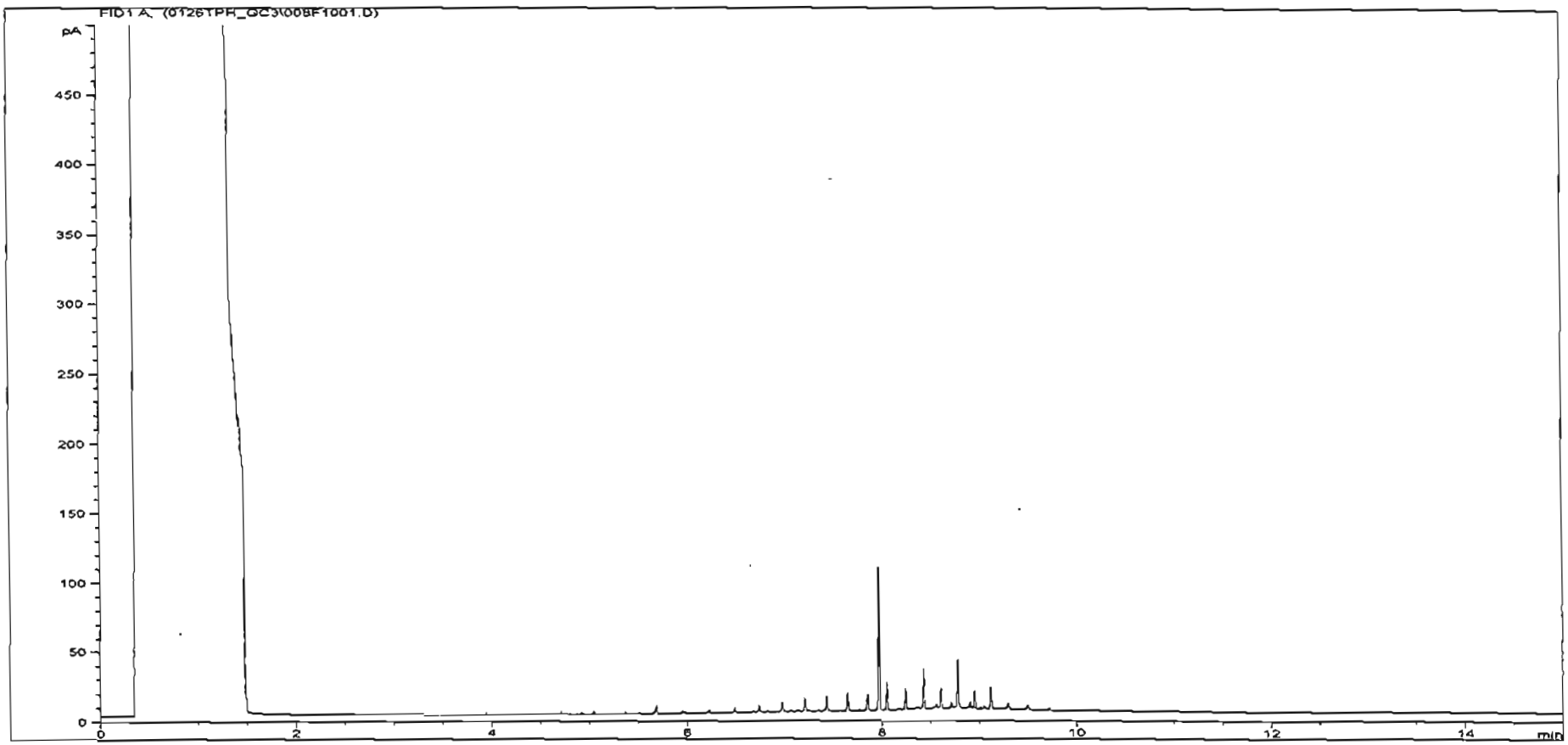
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0533270ARO	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP312 0.1
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\056B0901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

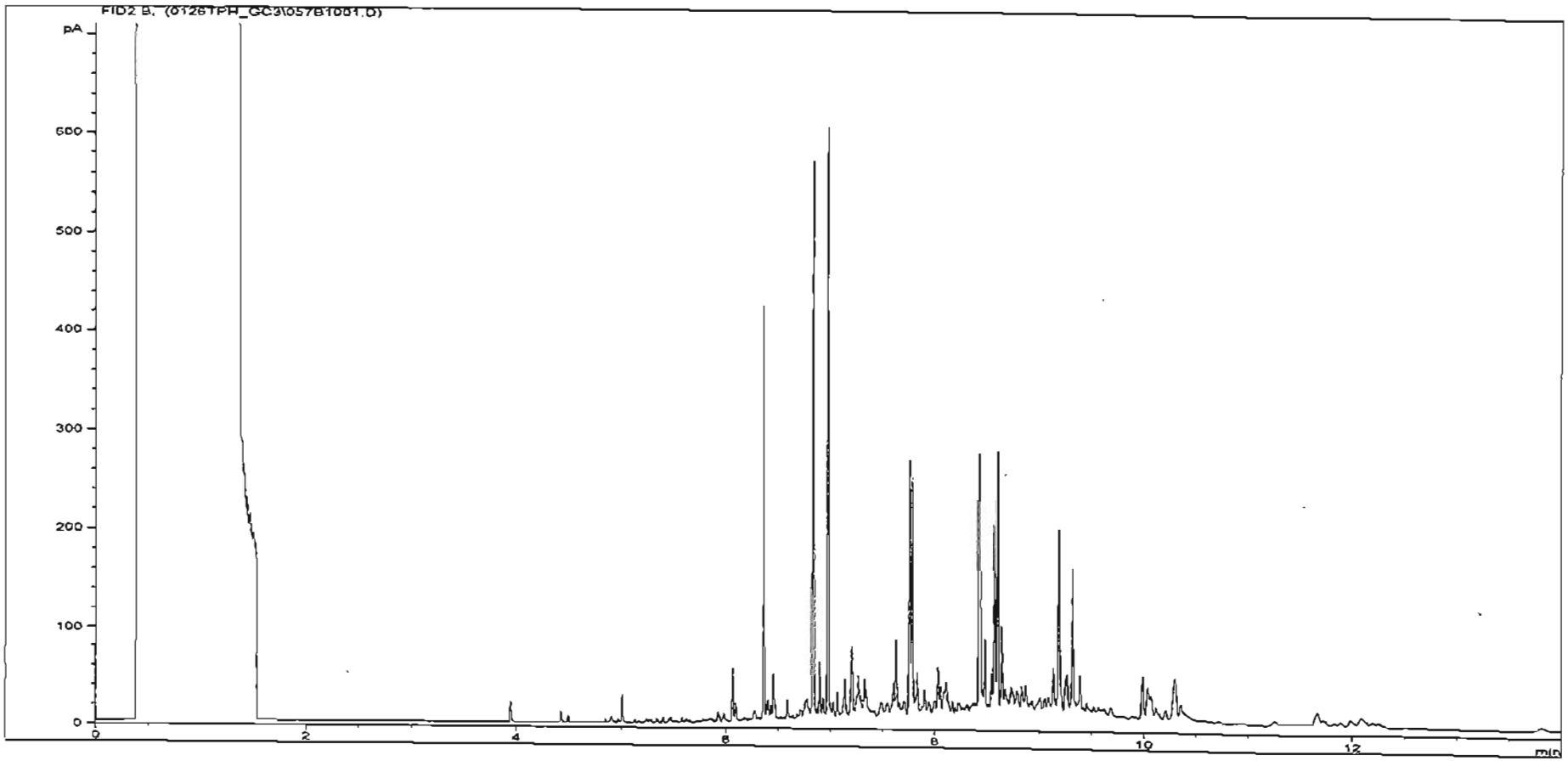
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0533271ALI	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP311 0.5
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\008F1001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

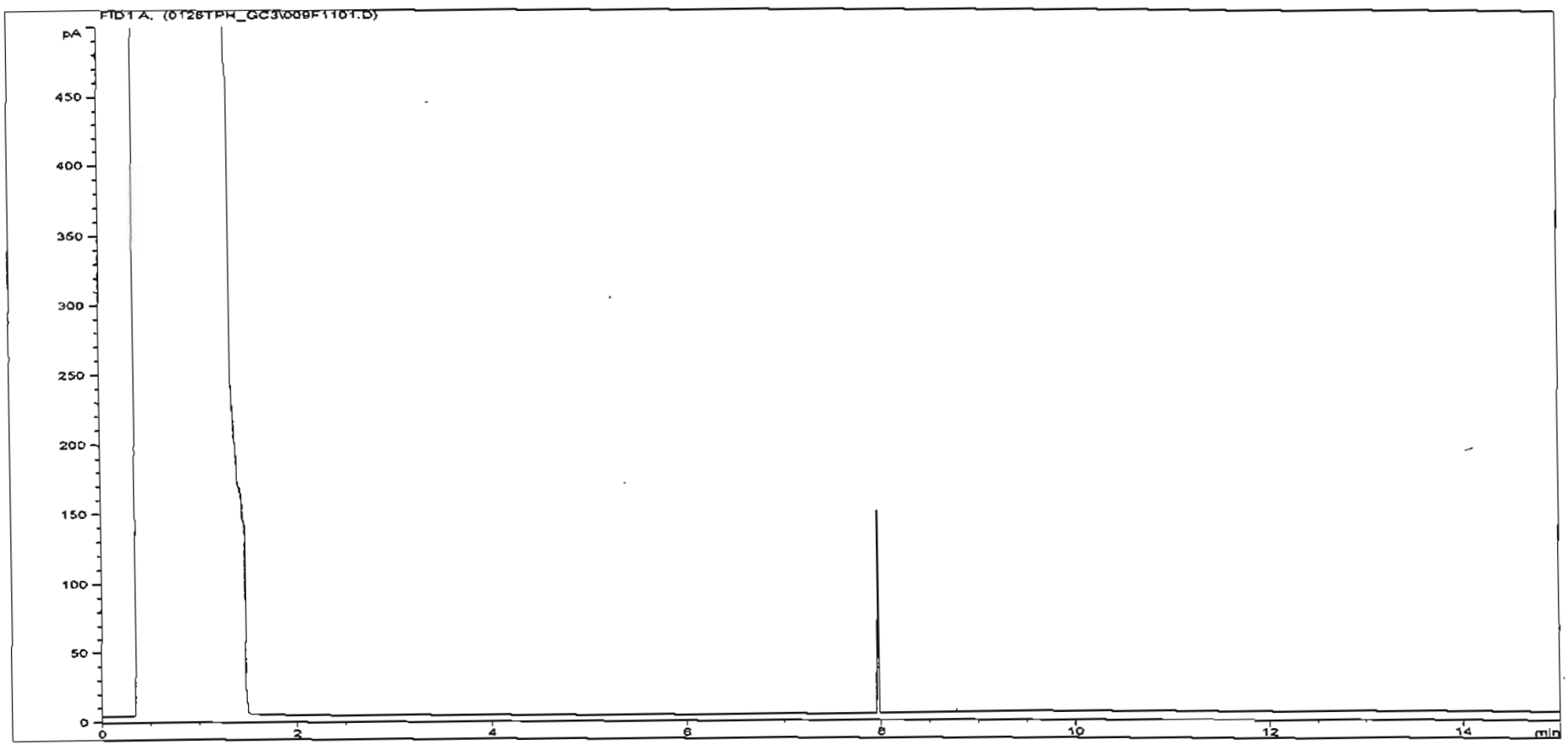
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0533271ARO	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP311 0.5
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\057B1001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

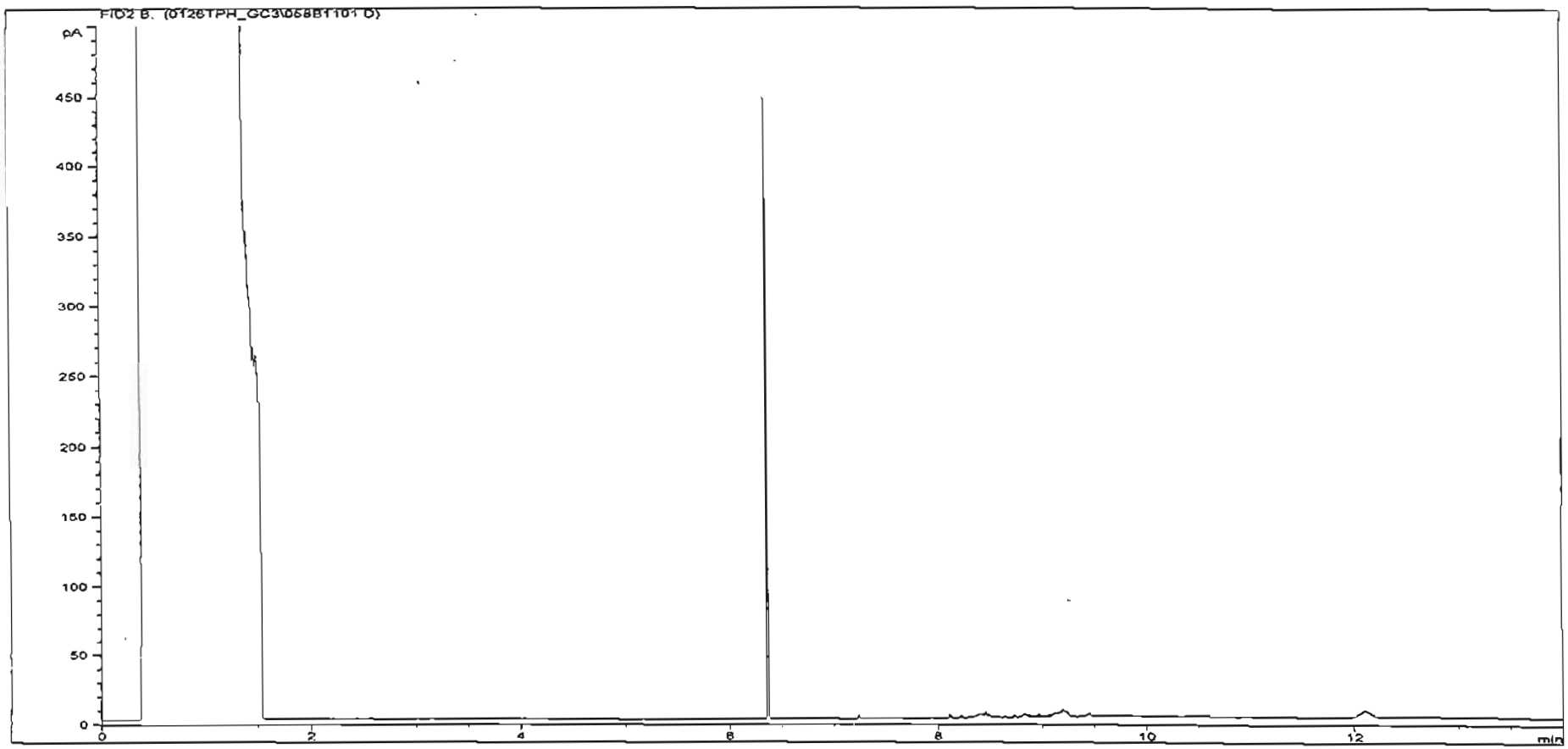
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0533272ALI	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP311 0.9
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\009F1101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

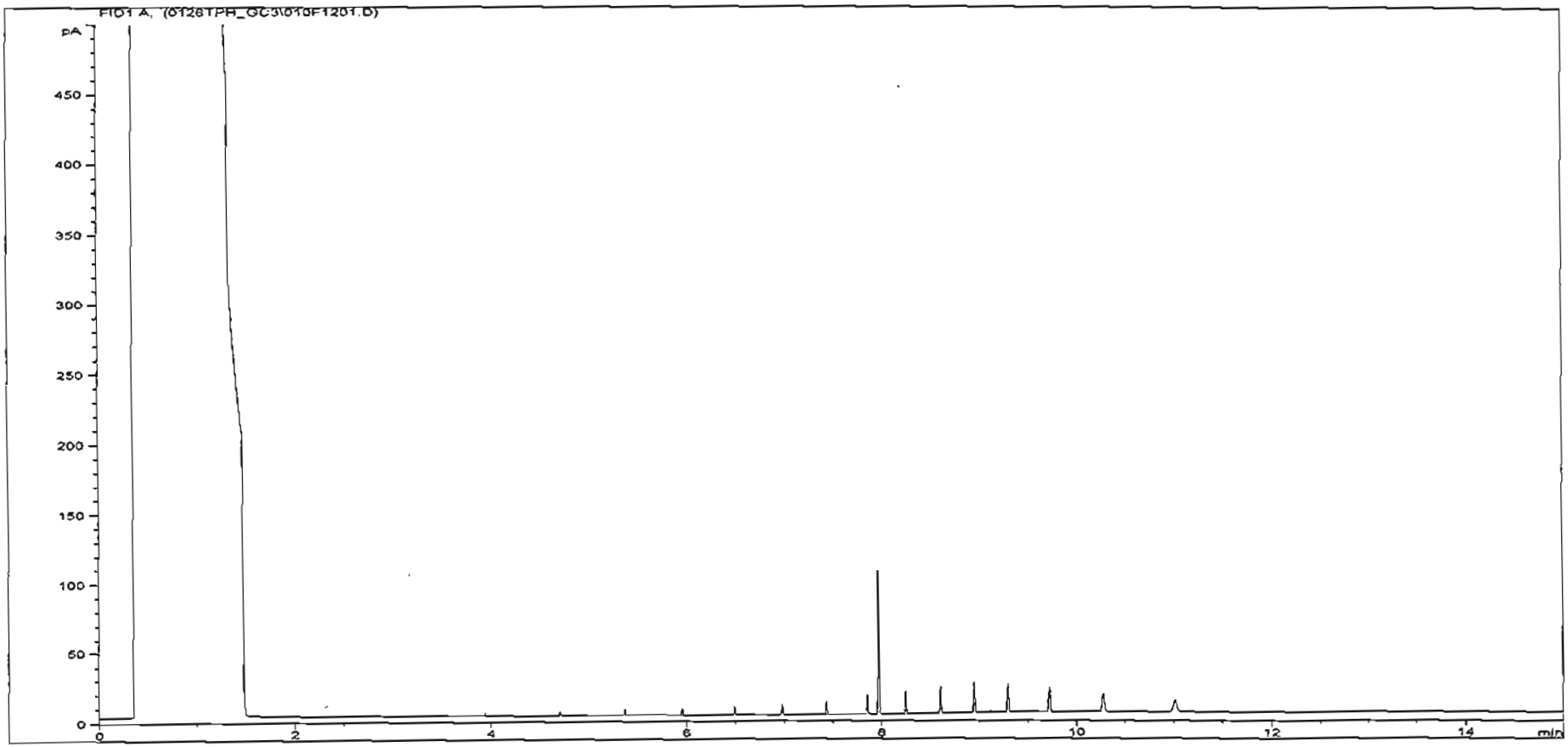
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0533272ARO	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP311 0.9
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\058B1101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

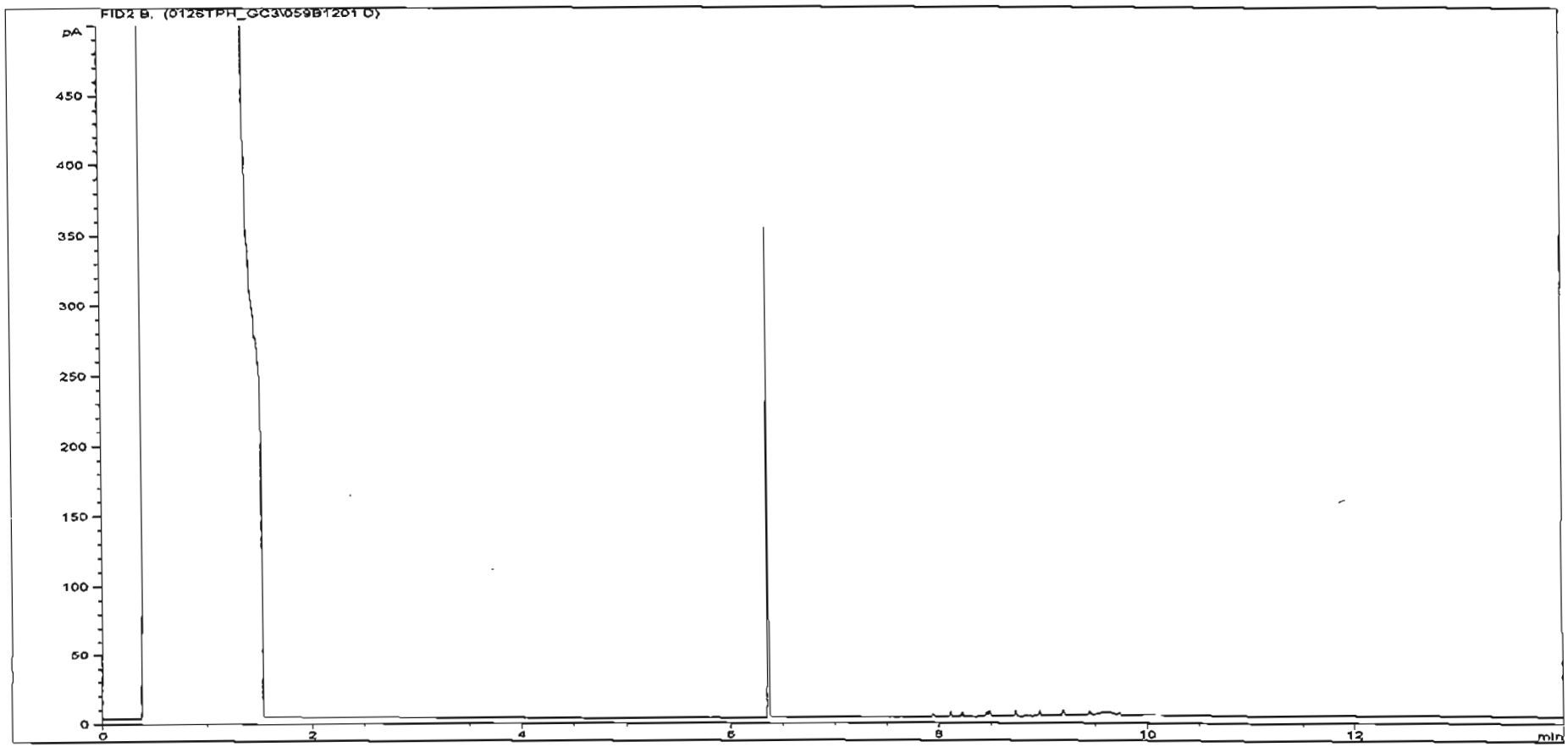
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0533273ALI	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP322 0.5
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\010F1201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

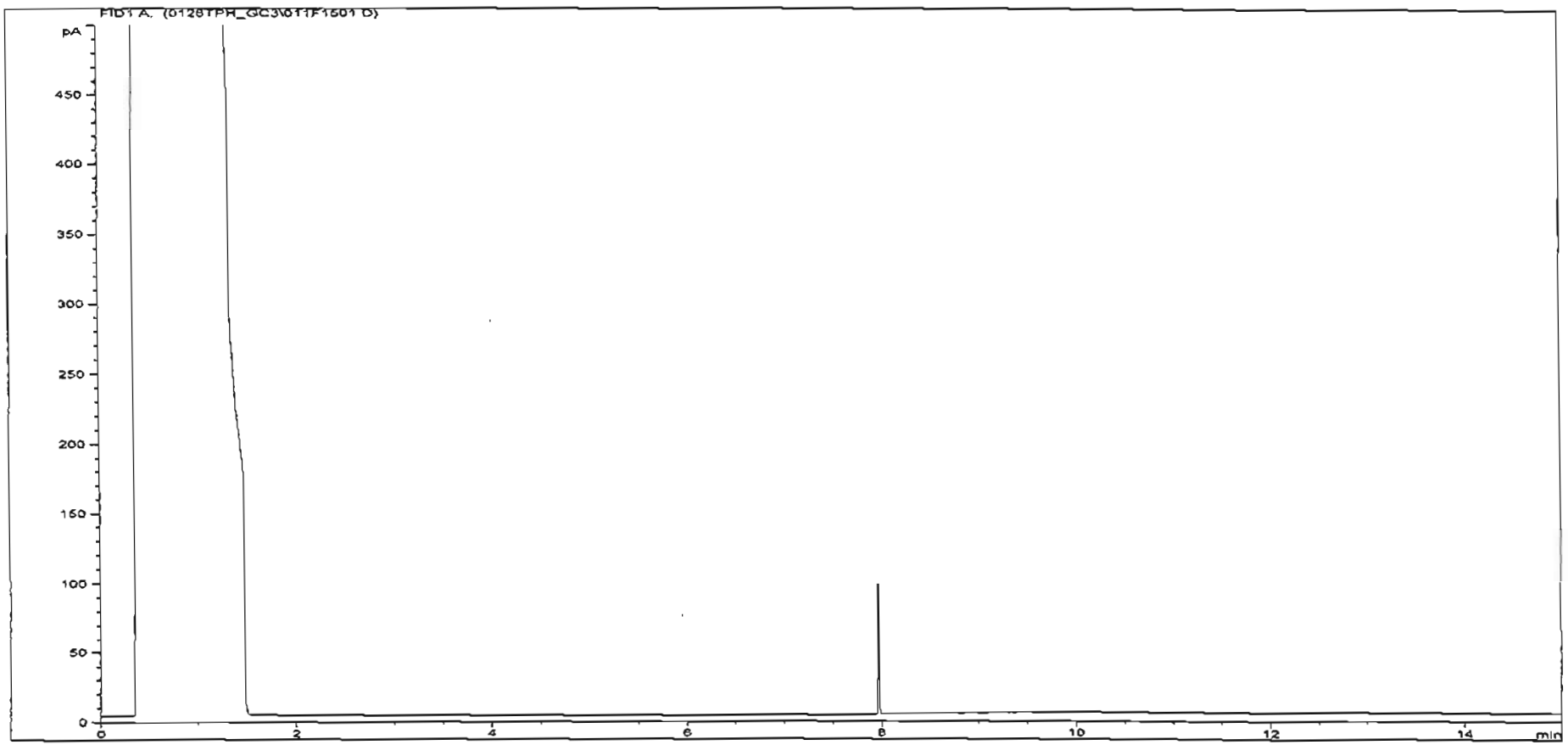
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0533273ARO	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP322 0.5
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\059B1201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

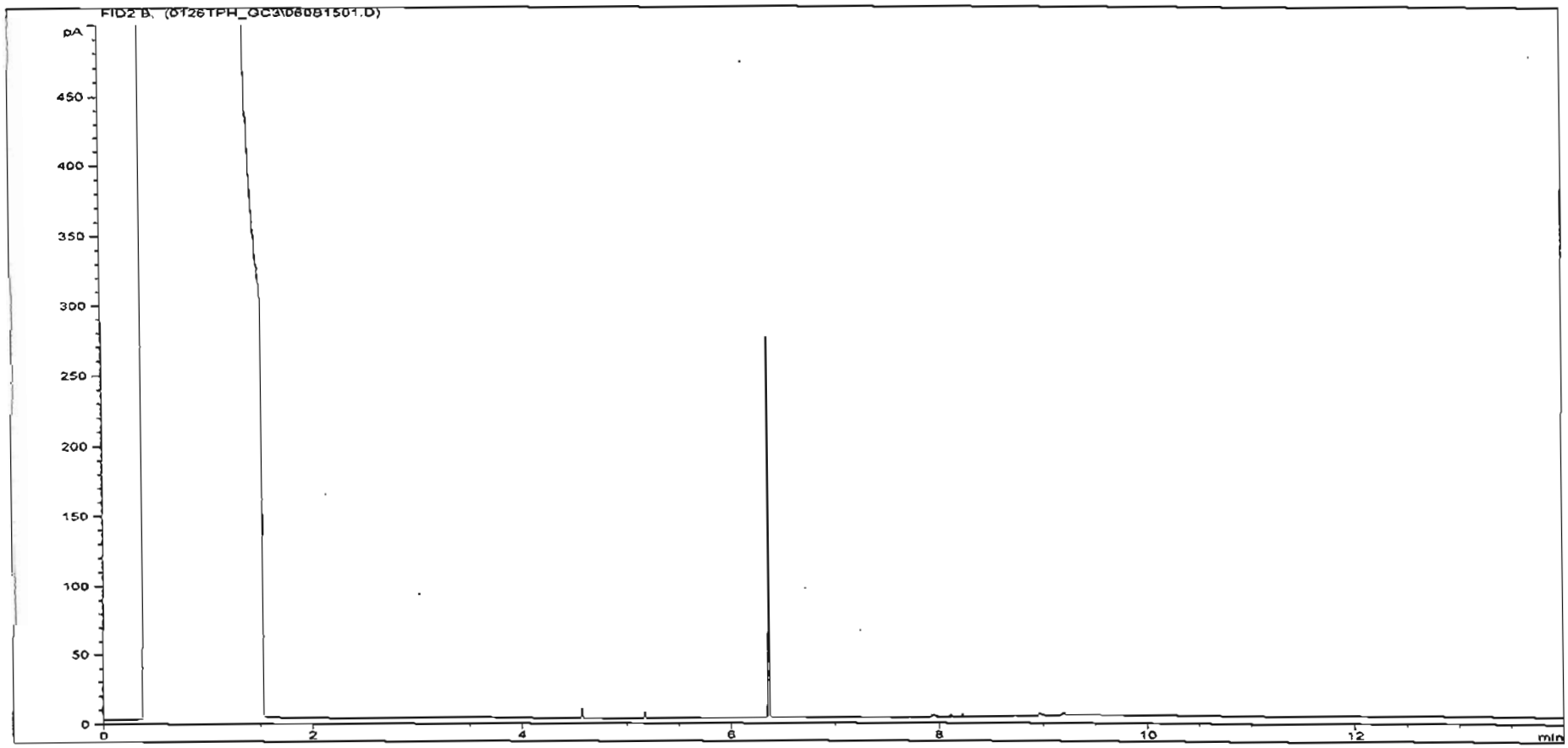
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0533274ALI	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP322 LOK 3
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\011F1501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

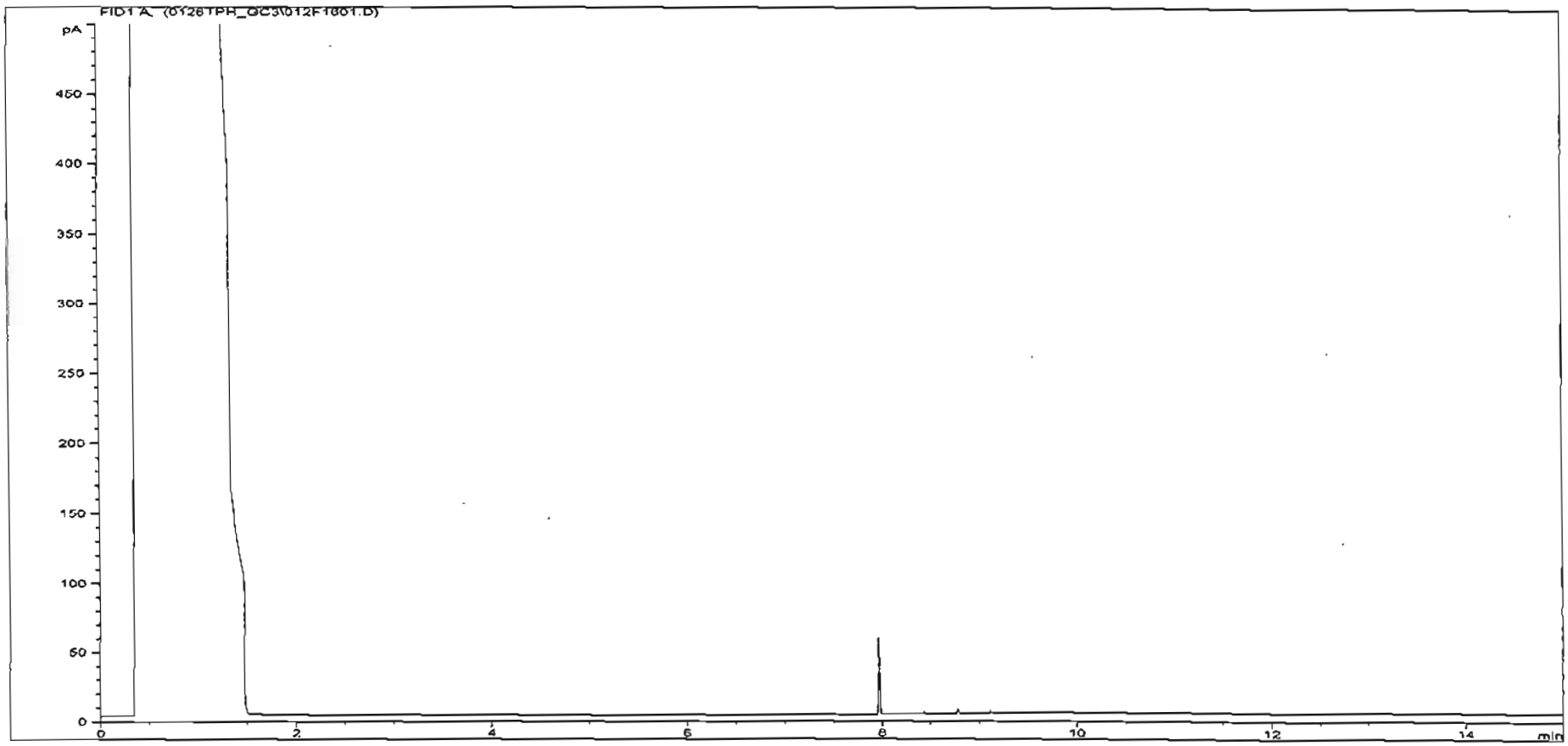
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0533274ARO	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP322 LOK 3
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\060B1501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

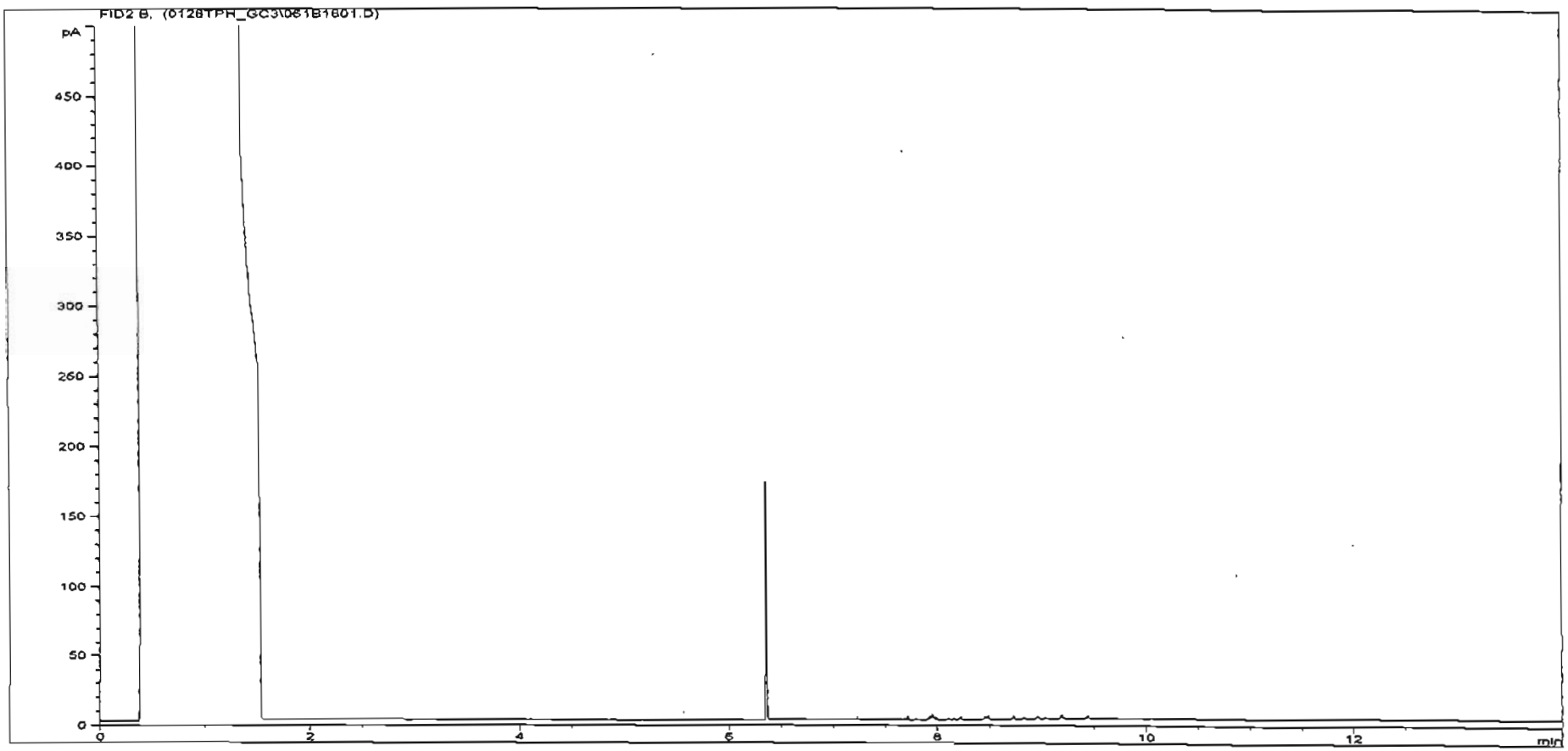
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0533275ALI	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP315 LOK 4
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\012F1601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

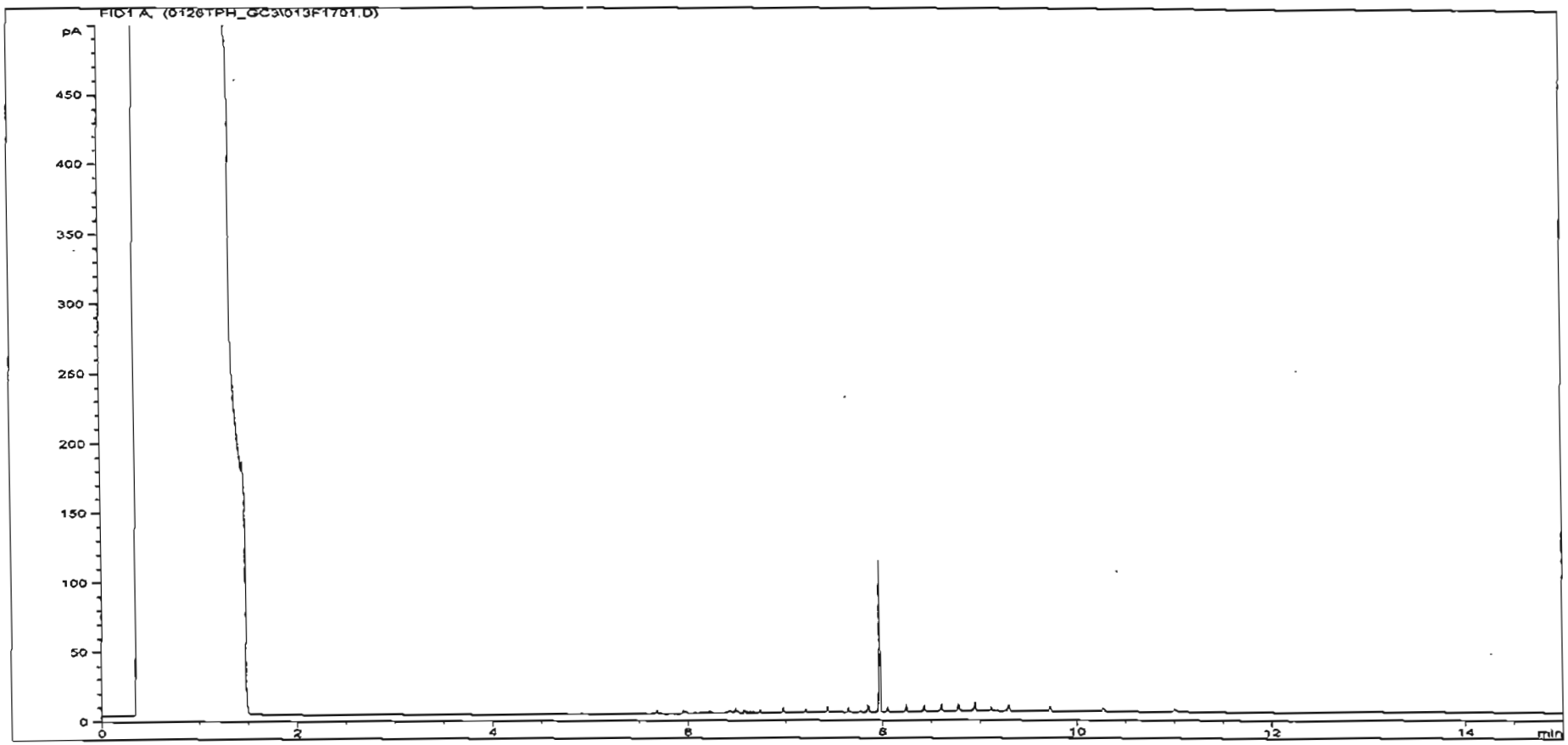
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0533275ARO	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP315 LOK 4
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\061B1601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

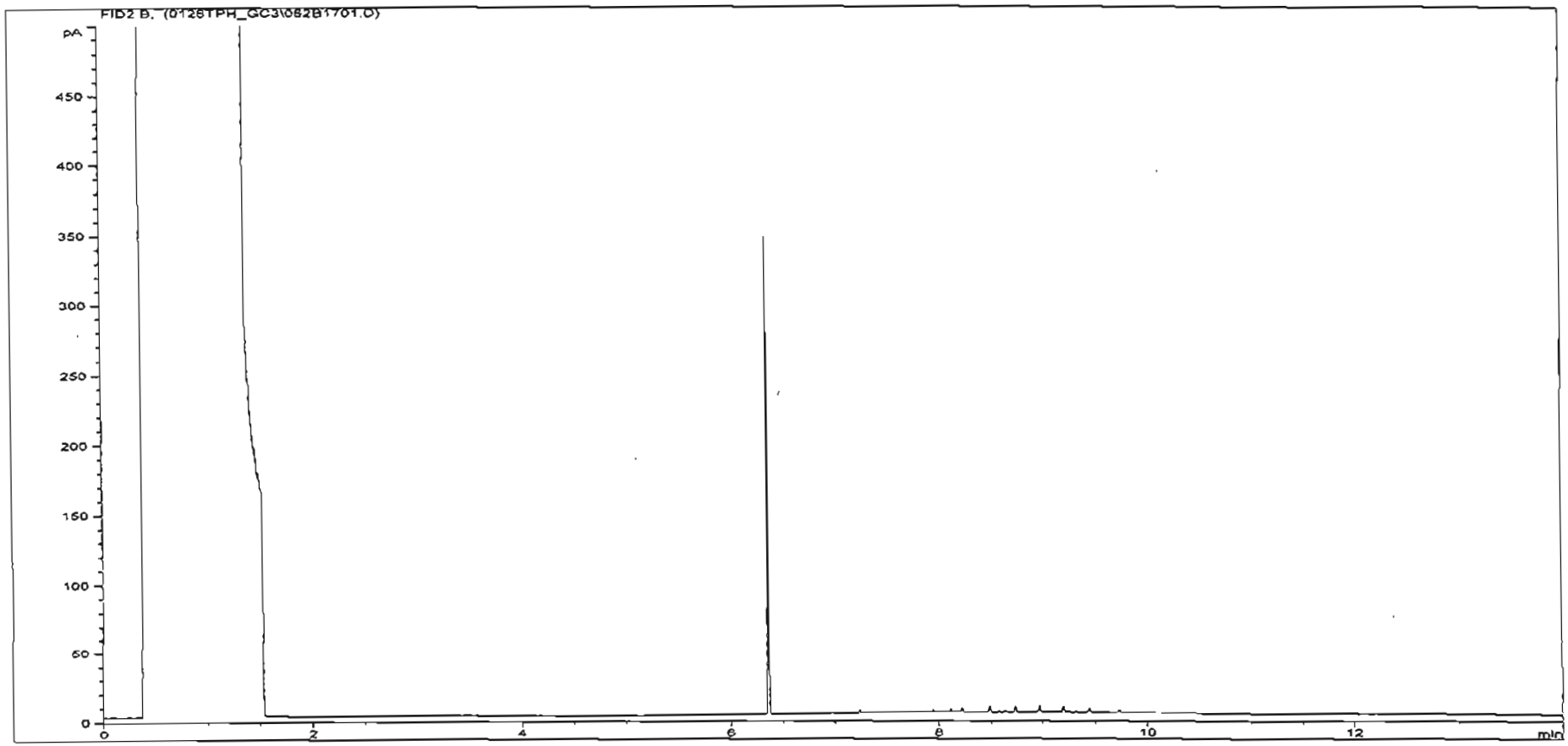
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0533276ALI	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP315 1.0
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\013F1701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

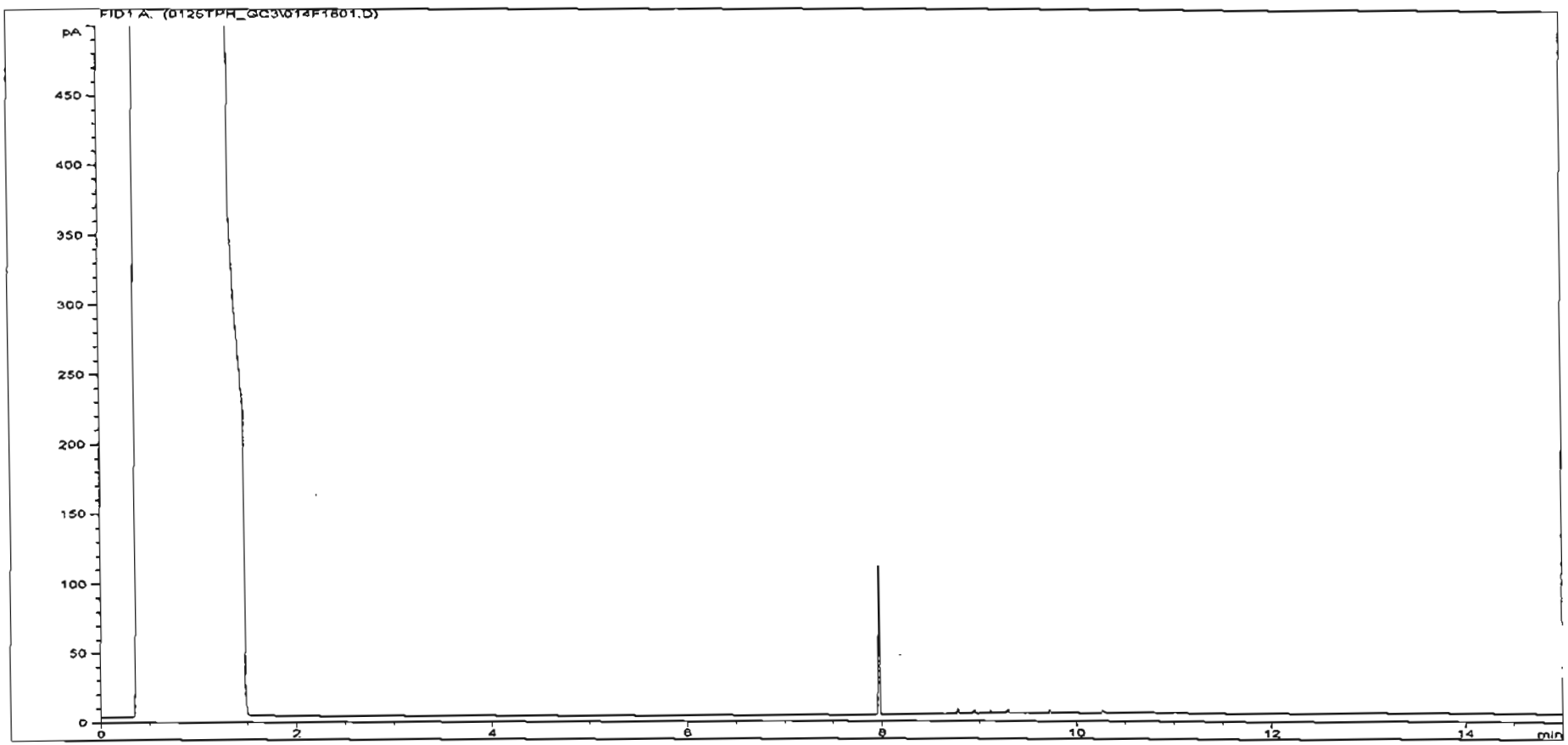
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0533276ARO	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP315 1.0
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\062B1701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

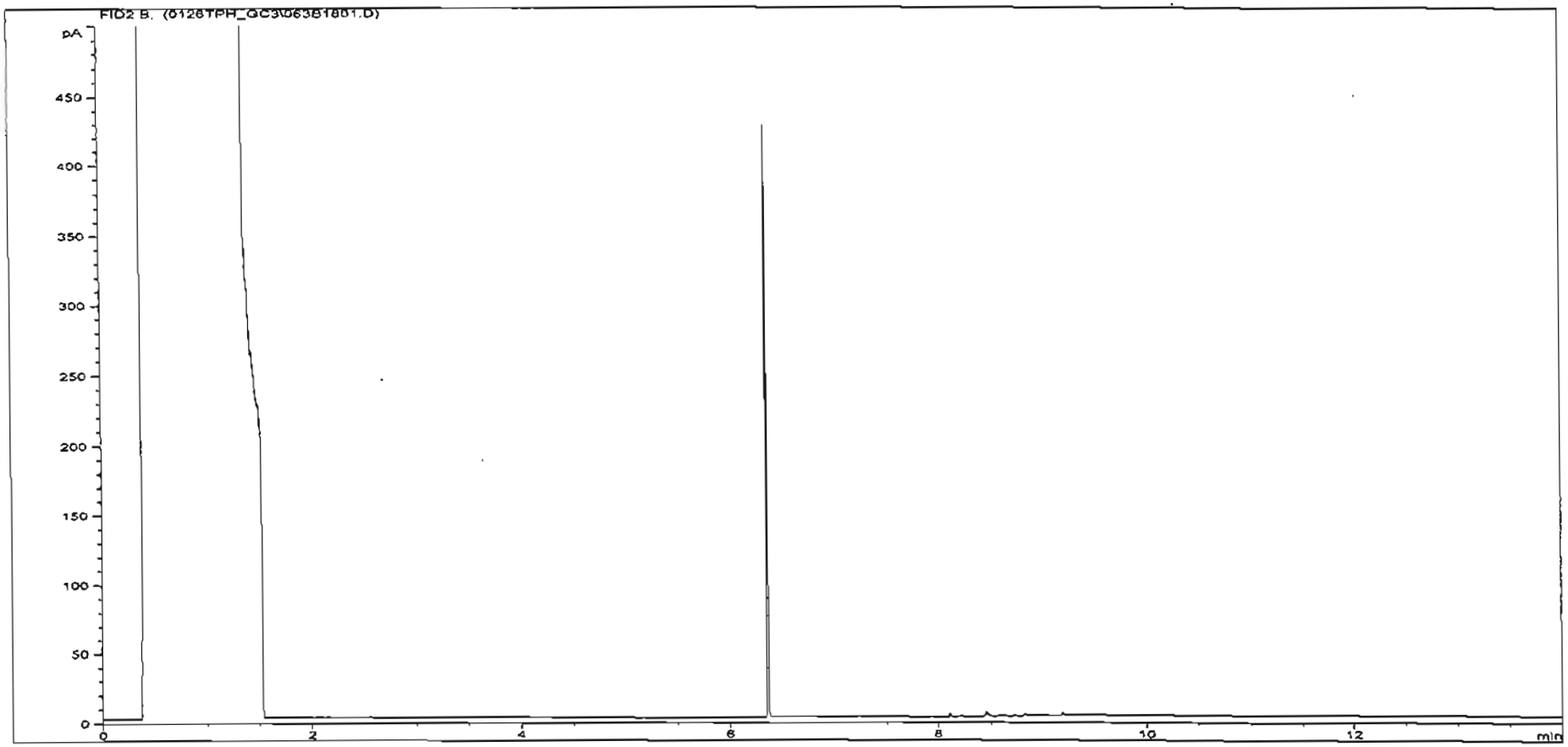
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0533277ALI	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP321 0.2
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\014F1801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

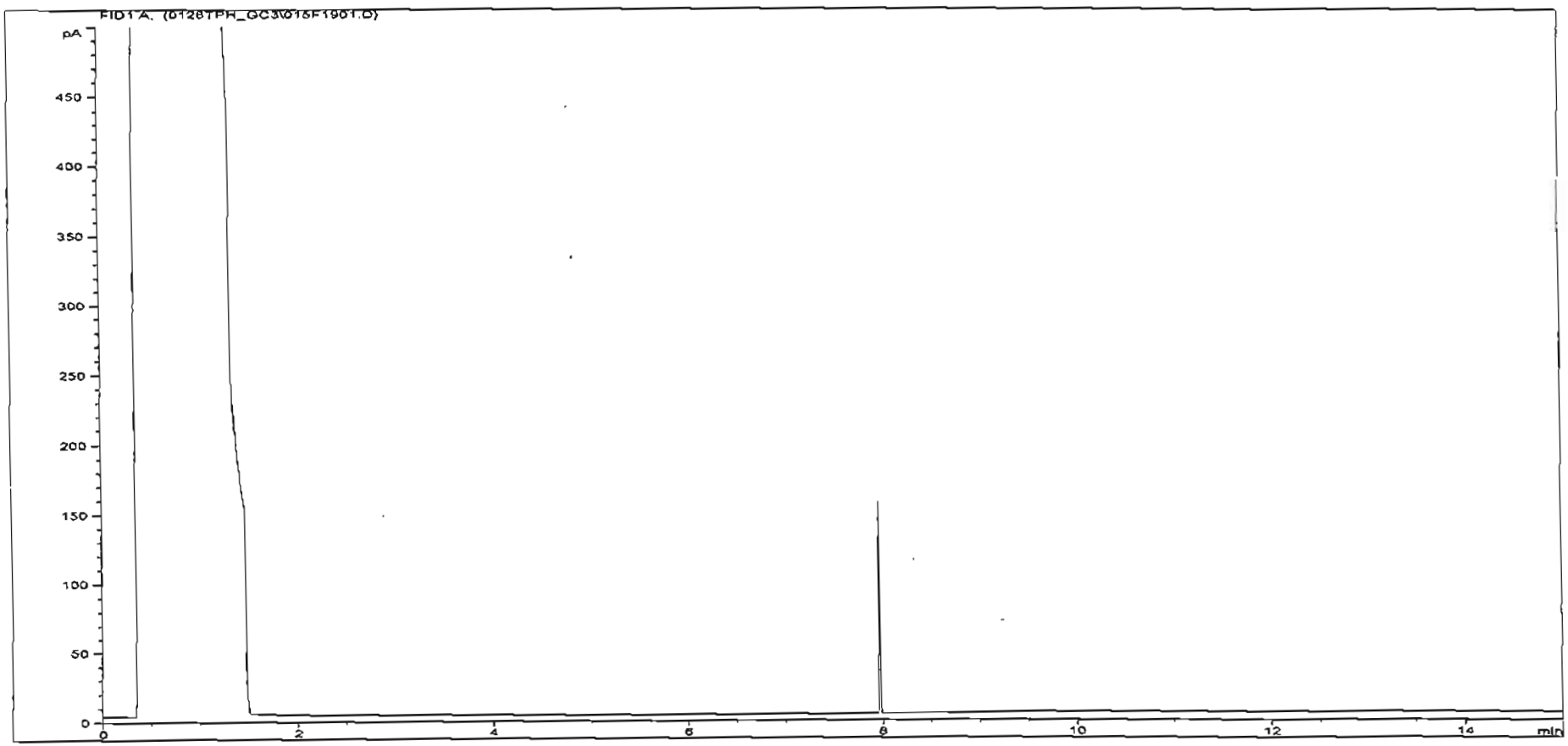
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0533277ARO	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP321 0.2
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\063B1801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

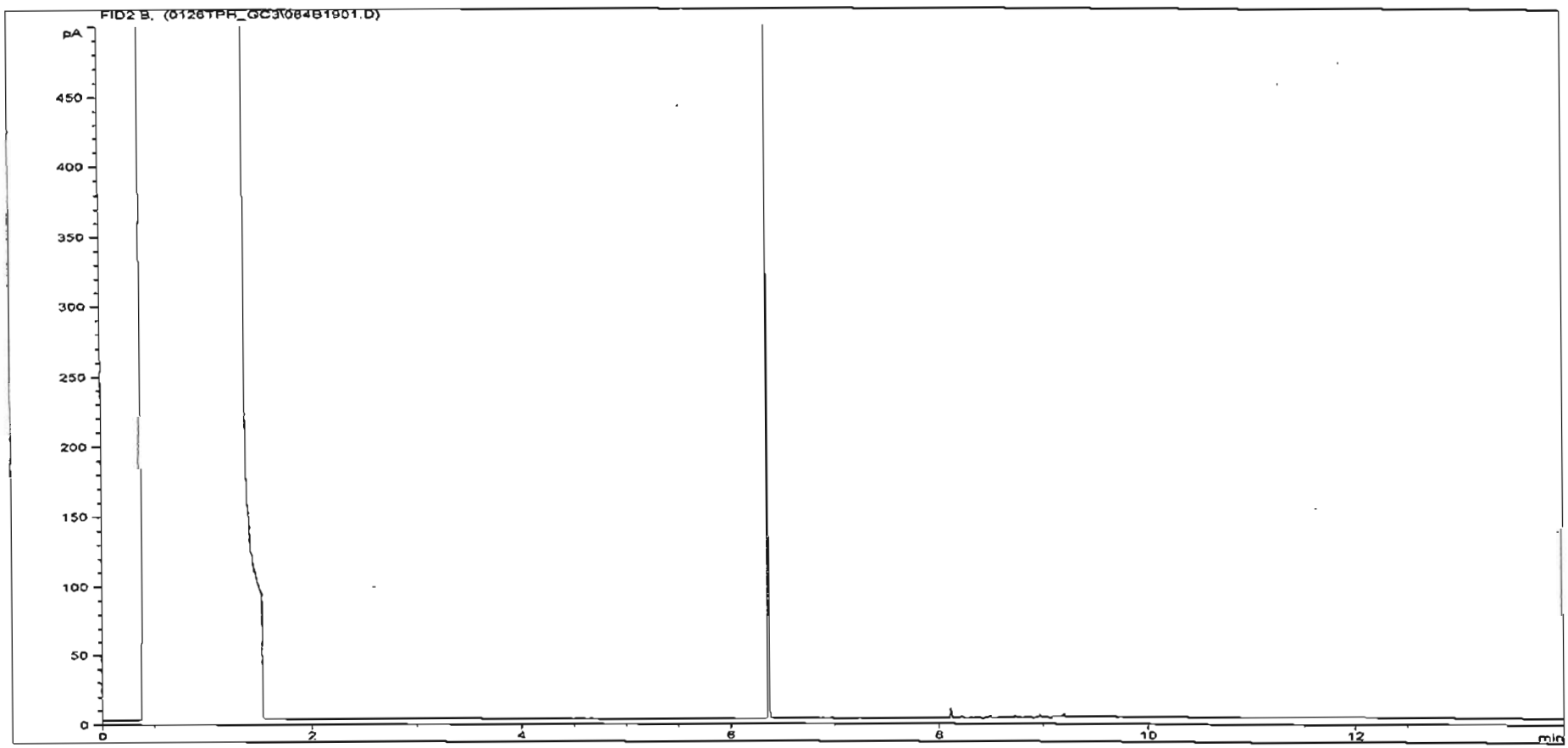
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0533278ALI	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP321 2.5
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\015F1901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

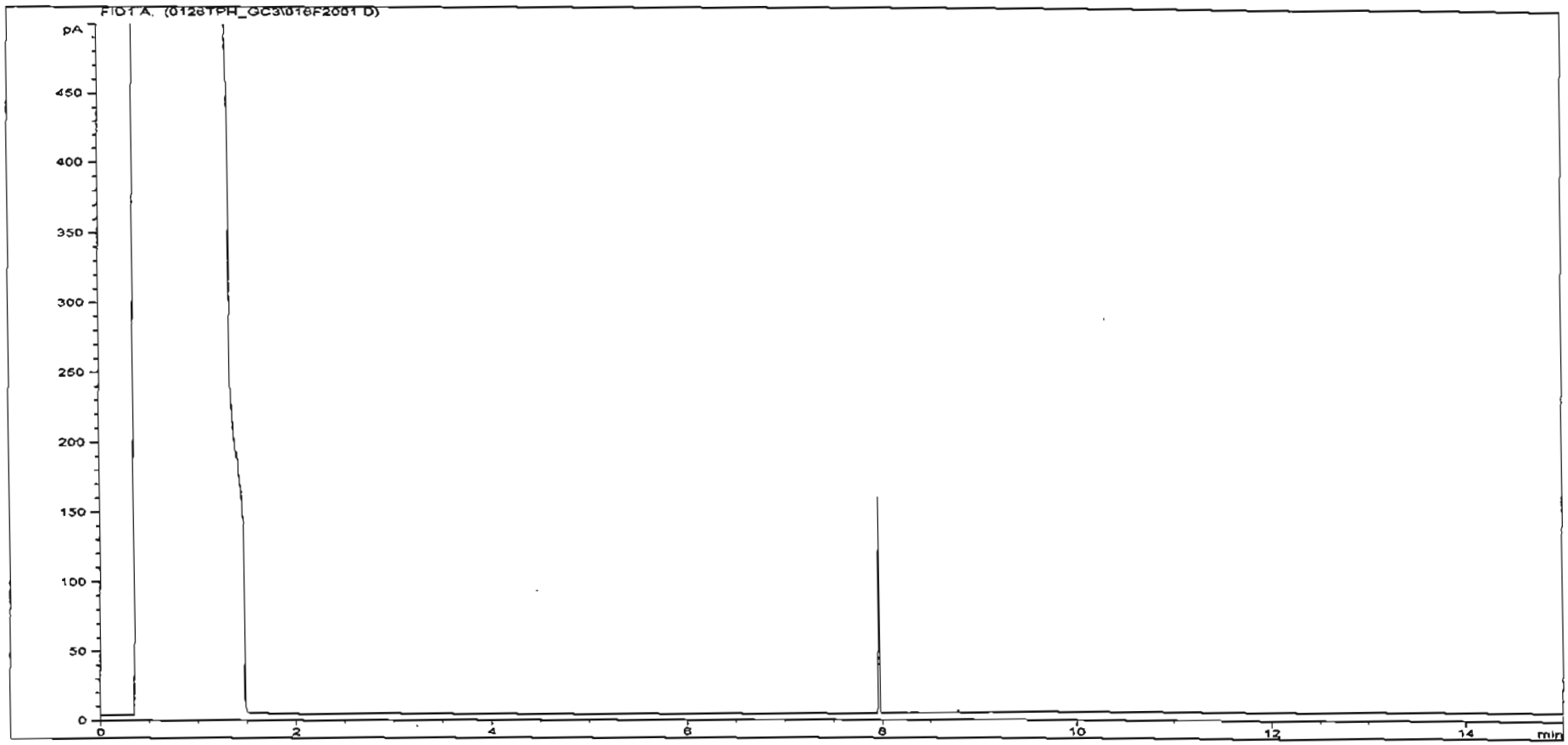
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0533278ARO	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP321 2.5
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\064B1901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

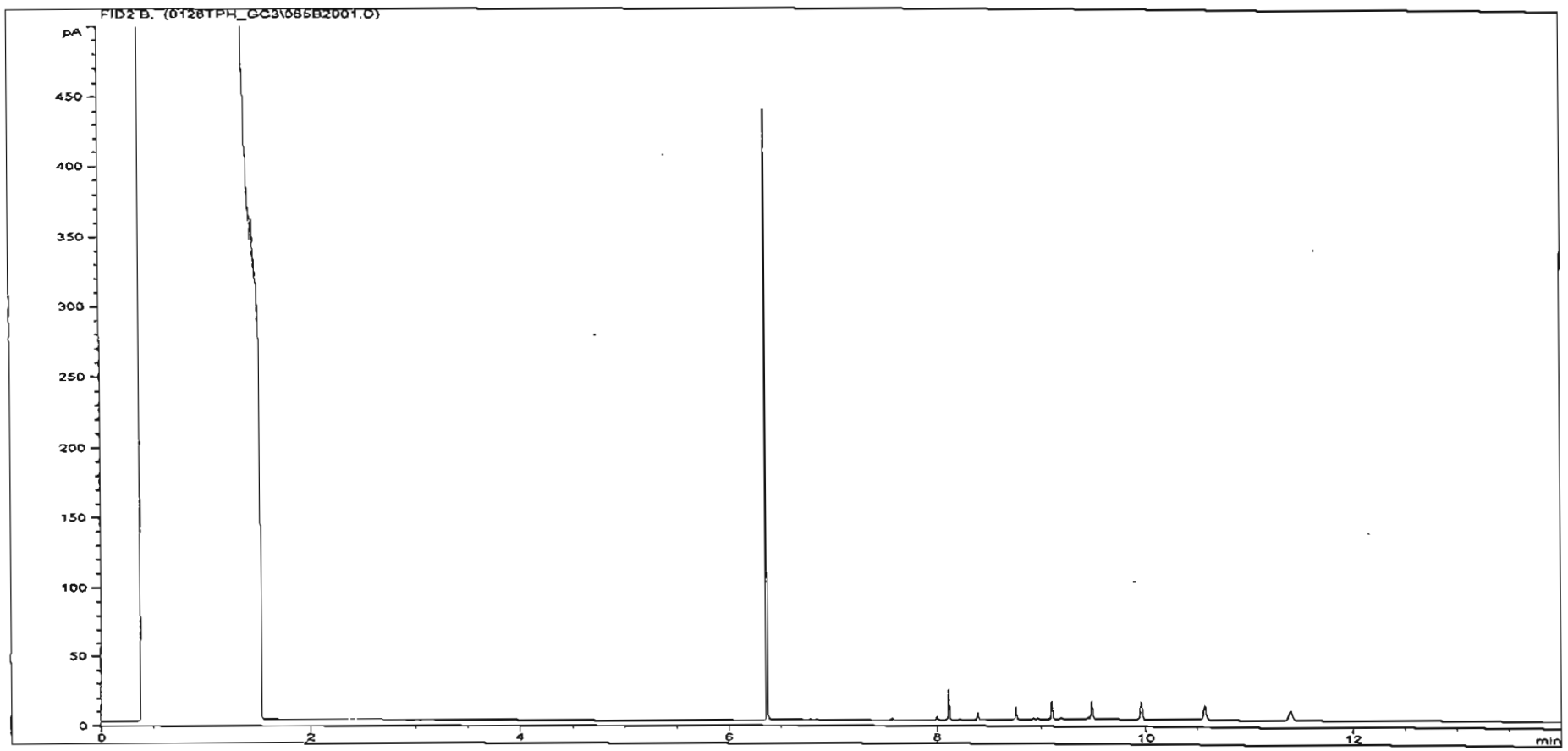
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0533279ALI	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP314 0.5
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\016F2001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

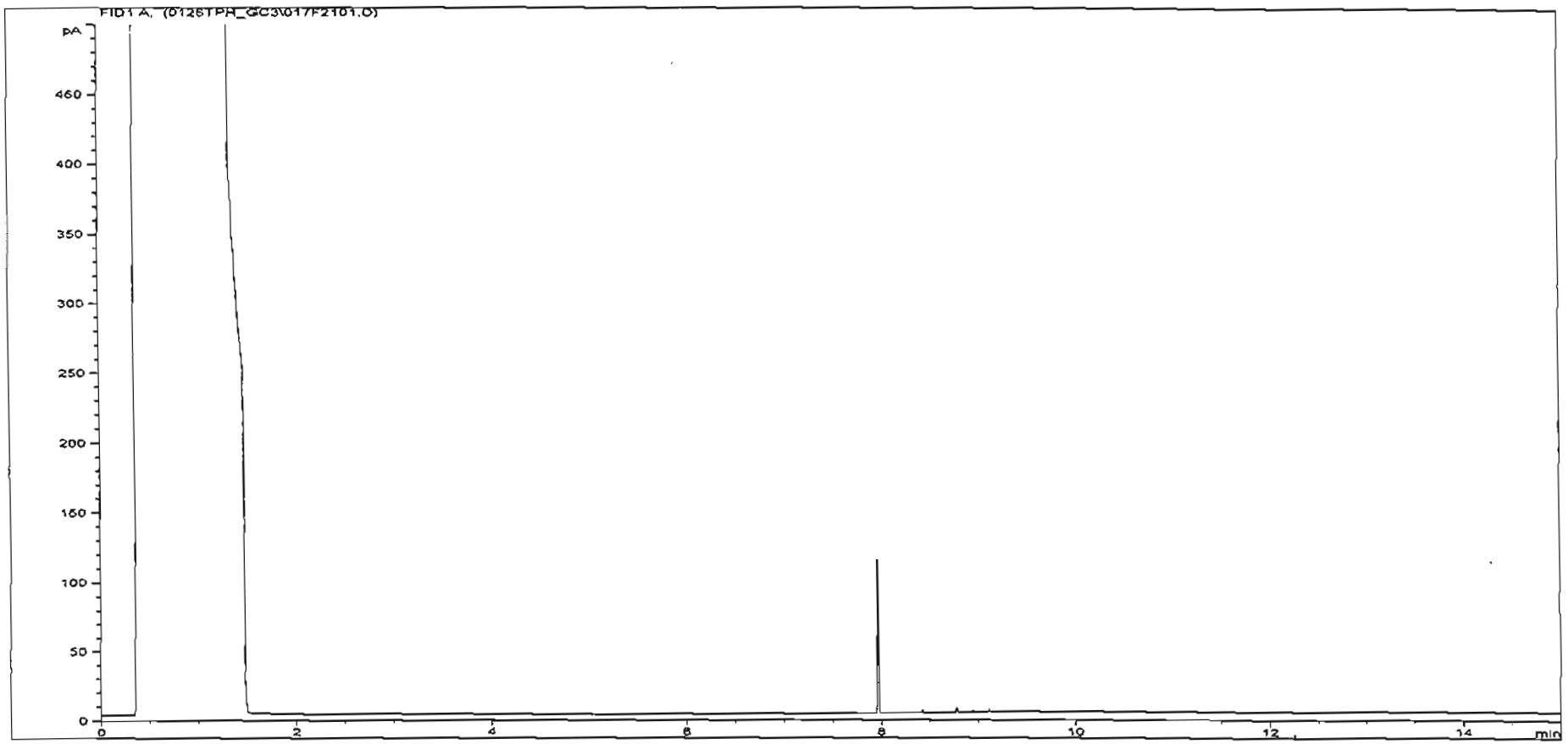
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0533279ARO	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP314 0.5
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\065B2001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

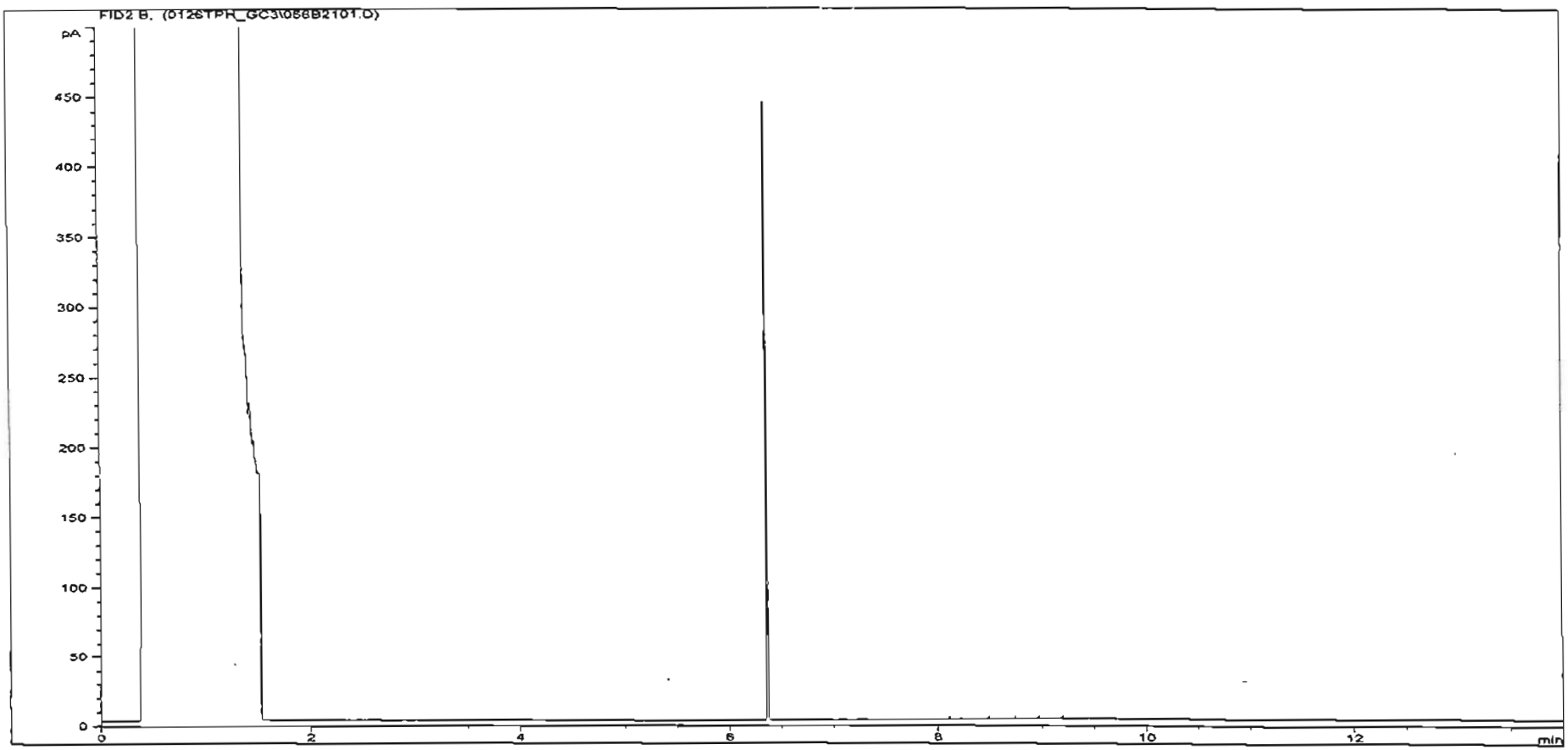
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0533280ALI	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP314 LOK 2
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\017F2101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0533280ARO	**Job Number:**	S05_4716M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP314 LOK 2
Acquisition Date/Time:	26/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\066B2101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

		Accredited?:	**No**		
Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1220VOC.MS1\ 1220CCC3.D	**Matrix:**	Soil
Sample Details:	E-TP311 0.5	**Date Booked In:**	12-Dec-05	**Method:**	Purge & trap
LIMS ID Number:	CL0533271	**Date Analysed:**	21-Dec-05	**Multiplier:**	5
Job Number:	S05_4716M	**Operator:**	SH/AH	**Position:**	16

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 7	-	U
Chloromethane	74-87-3	-	< 7	-	UM
Vinyl Chloride	75-01-4	-	< 7	-	UM
Bromomethane	74-83-9 *	-	< 34	-	U
Chloroethane	75-00-3 *	-	< 34	-	U
Trichlorofluoromethane	75-69-4	-	< 7	-	U
1,1-Dichloroethene	75-35-4 ?	-	< 7	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 7	-	UM
1,1-Dichloroethane	75-34-3	-	< 7	-	UM
2,2-Dichloropropane	594-20-7	-	< 7	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 7	-	UM
Bromochloromethane	74-97-5	-	< 7	-	UM
Chloroform	67-66-3	-	< 7	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 7	-	UM
Carbon Tetrachloride	56-23-5	-	< 7	-	UM
1,1-Dichloropropene	563-58-6	-	< 7	-	UM
Benzene	71-43-2	-	< 7	-	UM
1,2-Dichloroethane	107-06-2	-	< 7	-	UM
Trichloroethene	79-01-6	-	< 7	-	UM
1,2-Dichloropropane	78-87-5	-	< 7	-	UM
Dibromomethane	74-95-3	-	< 7	-	UM
Bromodichloromethane	75-27-4	-	< 7	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 7	-	UM
Toluene	108-88-3	-	< 7	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 7	-	U
1,1,2-Trichloroethane	79-00-5	-	< 7	-	UM
Tetrachloroethene	127-18-4	-	< 34	-	UM
1,3-Dichloropropane	142-28-9	-	< 7	-	U
Dibromochloromethane	124-48-1	-	< 7	-	U
1,2-Dibromoethane	106-93-4	-	< 7	-	U
Chlorobenzene	108-90-7	-	< 7	-	UM
Ethylbenzene	100-41-4	-	< 7	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 7	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 7	-	UM
o-Xylene	95-47-6	-	< 7	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 7	-	UM
Bromoform	75-25-2	-	< 7	-	U
iso-Propylbenzene	98-82-8	-	< 7	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 7	-	U
Propylbenzene	103-65-1	-	< 7	-	UM
Bromobenzene	108-86-1	-	< 7	-	U
1,2,3-Trichloropropane	96-18-4	-	< 7	-	U
2-Chlorotoluene	95-49-8	-	< 7	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 7	-	UM
4-Chlorotoluene	106-43-4	-	< 7	-	UM
tert-Butylbenzene	98-06-6	-	< 7	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 7	-	UM
sec-Butylbenzene	135-98-8	-	< 7	-	UM
p-Isopropyltoluene	99-87-6	-	< 7	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 7	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 7	-	U
n-Butylbenzene	104-51-8	-	< 7	-	U
1,2-Dichlorobenzene	95-50-1	-	< 7	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 34	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 34	-	U
Hexachlorobutadiene	87-68-3	-	< 34	-	U
Naphthalene	91-20-3	-	< 34	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 34	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.84	70	Dibromofluoromethane	105
1,4-Difluorobenzene	13.13	61	Toluene-d8	96
Chlorobenzene-d5	18.07	42	Bromofluorobenzene	72
1,4-Dichlorobenzene-d4	22.05	23		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

TES Report No. EFS/054548M

Entec UK Ltd
Cannon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
SY2 5DE

Site: HMS Daedalus (E)

The 16 samples described in this report were logged for analysis by TES Bretby on 01-Dec-2005.
Analysis was completed by: 13-Jan-2006

Tests marked as 'not accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS or MCERTS accreditation held by TES Bretby Laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of GRO Results (Page 4)
Table of PAH (MS) Results (Pages 5 to 20)
Table of SVOC Results (Pages 21 to 27)
GC-FID Chromatograms (Pages 28 to 59)
Table of VOC Results (Pages 60 to 66)
Sample Chain of Custody Record (Pages 67 to 68)
Table of Report Notes (Page 69)

On behalf of
TES Bretby :
J Hannah

J Hannah

Project Co-ordinator

Date of Issue: 13-Jan-2006

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)
Tests marked '^' have been subcontracted to another laboratory.
(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.
All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)
TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Sample Descriptions

Client : Entec UK Ltd

Site : HMS Daedalus (E)

Report Number : S05_4548M

Lab ID Number	Client ID	Description
CL/0531829	E-TP302 0.3	Brown Gravel SILT
CL/0531830	E-TP301 0.3	Brown Gravel SILT
CL/0531831	E-TP301 0.6	Brown Gravel CLAY
CL/0531832	E-TP303 0.3	Brown Gravel SILT
CL/0531833	E-WS309 1.2-1.4	Brown SILT
CL/0531834	E-WS309 2.6-2.8	Brown Gravel CLAY
CL/0531835	E-WS311 0.9-1.2 (NVM)	Brown MADE GROUND
CL/0531836	E-WS311 1.4-1.6	Brown Gravel CLAY
CL/0531837	E-WS310 1.1-1.4 (NVM)	Brown MADE GROUND
CL/0531838	E-WS310 1.5-1.7	Brown Gravel CLAY
CL/0531839	E-BH305 0.2-0.4	Brown Gravel SILT
CL/0531841	E-BH305 5.5-6.0	Brown SILT
CL/0531842	E-BH301 1.2-1.4	Brown Gravel CLAY
CL/0531843	E-BH301 7.8-8.0 (NVM)	Brown/White GRAVEL
CL/0531844	E-BH312 0.3-0.5	Grey Gravel CLAY
CL/0531845	E-WS312 2.7-2.9	Orange/Brown Stone SILT

Units :	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	ug/kg
Method Codes :	GROHSA	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPWSS	ICTSCN28	SVOCSW	SVOCSW	TMSS	VOCSW
Method Reporting Limits :	0.1	0.5	0.1	0.5	0.5	0.5	0.10	0.5	0.5	3.0	0.3	5	0.2-10.0	0.2-10.0	0.2	5
Accreditation Code:		UM	U	U	U	U	U	U	U	U	UM	U			U	

TES ID Number CLI	Client Sample Description	GRO (AA)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SO4-- (H2O sol) mg/l	Sulphide	PAH by MS	SVOC	TotMoisture @ 105eC	VOC
0531842	E-BH301 1.2-1.4	Req	9.5	<0.1	24.1	15.0*	14.0*	<0.1	13.6?	<0.5	47.2?	187.1	<5		Req	19.0	Req
0531843	E-BH301 7.8-8.0 (NVM)	Req	3.5	<0.1	6.9	2.1*	3.4*	<0.1	10.5?	<0.5	20.8?	15.52	<5	Req		11.1	
0531839	E-BH305 0.2-0.4	Req	8.8	0.82	17	41.3*	142.0*	0.12	13.1?	0.63	110.8?	96.1	<5	Req		14.3	
0531841	E-BH305 5.5-6.0	Req	5.5	<0.1	10	3.8*	5.6*	<0.1	8.2?	<0.5	21.0?	12.17	<5		Req	23.2	Req
0531844	E-BH312 0.3-0.5	Req	9.2	0.36	20.5	12.0*	34.7*	<0.1	15.3?	0.85	71.1?	18.97	<5		Req	18.1	Req
0531830	E-TP301 0.3	Req	9.8	0.17	19.1	40.9*	1570*	<0.1	11.1?	0.6	77.9?	56.2	<5	Req		21.2	
0531831	E-TP301 0.6	Req	9.5	<0.1	27.3	6.2*	37.6*	<0.1	9.8?	<0.5	34.1?	3.36	<5	Req		17.7	
0531829	E-TP302 0.3	Req	8.2	0.15	15.1	16.9*	47.8*	<0.1	9.3?	<0.5	44.6?	75.1	<5	Req		17.0	
0531832	E-TP303 0.3	Req	5.9	<0.1	11.1	7.6*	19.5*	<0.1	6.6?	0.6	43?	16.03	<5	Req		12.9	
0531833	E-WS309 1.2-1.4	Req	10.3	0.1	26.9	12.9*	16.3*	<0.1	19.3?	0.79	60.0?	12.01	<5		Req	15.1	Req
0531834	E-WS309 2.6-2.8	Req	14.8	<0.1	29.2	13.0*	23.1*	<0.1	19.7?	0.78	87.0?	65.9			Req	14.4	Req
0531837	E-WS310 1.1-1.4 (NVM)	Req	10	1.68	28.2	23.9*	151.0*	0.16	16.9?	0.79	595.7?	306	<5	Req		13.4	
0531838	E-WS310 1.5-1.7	Req	6	0.21	12.8	767.5*	1100*	0.13	49.6?	<0.5	141.6?	112.4	<5	Req		18.5	
0531835	E-WS311 0.9-1.2 (NVM)	Req	6.6	1.3	16	46.5*	542*	0.3	21.7?	0.84	162.5?	251	<5		Req	10.3	Req
0531836	E-WS311 1.4-1.6	Req	13.9	0.28	27.1	31.2*	104.3*	<0.1	37.9?	0.97	117.9?	42.7			Req	16.4	Req
0531845	E-WS312 2.7-2.9	Req	8.9	<0.1	18.6	7.2*	10.0*	<0.1	17.3?	0.53	51.1?	9.52	<5	Req		18.4	

TES Bretby
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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	13-Jan-06
Report Number	EFS/064548M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Units :	pH Units	mg/kg	mg/kg	% M/M
Method Codes :	WSLM3	WSLM4	TPHFID	WSLM59
Method Reporting Limits :		0.5	10.0	0.02
Accreditation Code:	U	U		N

TES ID Number CU	Client Sample Description	pH units	Phenol Index	TPH GCFID (AR) (SI)	F.O.C. %
0531842	E-BH301 1.2-1.4	10.2	<0.5	Req	0.18
0531843	E-BH301 7.8-8.0 (NVM)	8.4	<0.5	Req	
0531839	E-BH305 0.2-0.4	8.8	<0.5	Req	
0531841	E-BH305 5.5-6.0	8.3	<0.5	Req	0.08
0531844	E-BH312 0.3-0.5	7.5	<0.5	Req	1.11
0531830	E-TP301 0.3	6.7	<0.5	Req	
0531831	E-TP301 0.6	7.3	<0.5	Req	
0531829	E-TP302 0.3	7.6	<0.5	Req	
0531832	E-TP303 0.3	6.9	<0.5	Req	
0531833	E-WS309 1.2-1.4	7.8	<0.5	Req	0.35
0531834	E-WS309 2.6-2.8	7.8	<0.5	Req	0.13
0531837	E-WS310 1.1-1.4 (NVM)	9.8	<0.5	Req	
0531838	E-WS310 1.5-1.7	8.3	<0.5	Req	
0531835	E-WS311 0.9-1.2 (NVM)	10.8	<0.5	Req	4.39
0531836	E-WS311 1.4-1.6	8.3	<0.5	Req	0.35
0531845	E-WS312 2.7-2.9	8.0	<0.5	Req	

TES Bretby
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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	13-Jan-06
Report Number	EFS/064648M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Job Number: S05_4548
Directory: 1220HSA1_GC6
Method: Headspace GCFID
Accreditation Code: U

Matrix: SOIL
Date Booked in: 01-Dec-05
Date extracted: 20-Dec-05
Date Analysed: 21-Dec-05

*** denotes the accreditation has been removed by the laboratory for this result only**

		Concentration, (mg/kg) - as dry weight.					Aliphatics				
Sample ID	Client ID	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	C5 - C6	>C6 - C7	>C7 - C8	>C8 - C10	Total GRO
CL0531829	E-TP302 0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL0531830	E-TP301 0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
* CL0531831	E-TP301 0.6	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531832	E-TP303 0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	0.3
CL0531833	E-WS309 1.2-1.4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531834	E-WS309 2.6-2.8	<0.01	0.020	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531835	E-WS311 0.9-1.2 (NVM)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531836	E-WS311 1.4-1.6	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL0531837	E-WS310 1.1-1.4 (NVM)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531838	E-WS310 1.5-1.7	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL0531839	E-BH305 0.2-0.4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531841	E-BH305 5.5-6.0	<0.01	<0.01	<0.01	0.165	<0.01	<0.3	<0.3	<0.3	0.3	0.6
* CL0531842	E-BH301 1.2-1.4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531843	E-BH301 7.8-8.0 (NVM)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL0531844	E-BH312 0.3-0.5	<0.01	<0.01	0.038	0.045	0.048	<0.2	<0.2	<0.2	1.1	1.3
CL0531845	E-WS312 2.7-2.9	<0.01	<0.01	0.045	0.036	0.043	<0.2	<0.2	<0.2	1.7	1.9

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP302 0.3	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531829	**Date Booked In:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	9.21	0.4	97	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	77
Naphthalene-d8	82
Acenaphthene-d10	79
Phenanthrene-d10	80
Chrysene-d12	92
Perylene-d12	89

Surrogates	% Rec
Nitrobenzene-d5	57
2-Fluorobiphenyl	76
Terphenyl-d14	73

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP301 0.3	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531830	**Date Booked In:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	8.16	0.3	92	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	9.21	0.6	98	U
Pyrene	129-00-0	9.41	0.5	95	U
Benzo[a]anthracene	56-55-3	10.47	0.3	92	U
Chrysene	218-01-9	10.50	0.4	96	U
Benzo[b]fluoranthene	205-99-2	11.37	0.4	93	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	11.66	0.3	90	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	80
Acenaphthene-d10	76
Phenanthrene-d10	75
Chrysene-d12	84
Perylene-d12	80

Surrogates	% Rec
Nitrobenzene-d5	73
2-Fluorobiphenyl	92
Terphenyl-d14	89

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP301 0.6	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531831	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	8.16	0.4	96	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	9.21	0.7	97	U
Pyrene	129-00-0	9.41	0.6	97	U
Benzo[a]anthracene	56-55-3	10.47	0.4	92	U
Chrysene	218-01-9	10.50	0.4	98	U
Benzo[b]fluoranthene	205-99-2	11.38	0.4	98	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	11.66	0.4	92	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 5.3	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	81
Acenaphthene-d10	76
Phenanthrene-d10	78
Chrysene-d12	91
Perylene-d12	87

Surrogates	% Rec
Nitrobenzene-d5	64
2-Fluorobiphenyl	87
Terphenyl-d14	82

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP303 0.3	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531832	**Date Booked In:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.7	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	78
Acenaphthene-d10	77
Phenanthrene-d10	76
Chrysene-d12	85
Perylene-d12	85

Surrogates	% Rec
Nitrobenzene-d5	73
2-Fluorobiphenyl	90
Terphenyl-d14	89

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS309 1.2-1.4	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531833	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.8	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	77
Naphthalene-d8	81
Acenaphthene-d10	77
Phenanthrene-d10	75
Chrysene-d12	85
Perylene-d12	82

Surrogates	% Rec
Nitrobenzene-d5	44
2-Fluorobiphenyl	61
Terphenyl-d14	75

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS309 2.6-2.8	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531834	**Date Booked In:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	8.17	0.4	94	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	74
Naphthalene-d8	77
Acenaphthene-d10	75
Phenanthrene-d10	74
Chrysene-d12	80
Perylene-d12	78

Surrogates	% Rec
Nitrobenzene-d5	52
2-Fluorobiphenyl	68
Terphenyl-d14	79

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS311 0.9-1.2 (NVM)	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531835	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC5.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	5.33	0.2	92	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	6.87	0.4	96	U
Fluorene	86-73-7	7.32	0.3	95	U
Phenanthrene	85-01-8	8.17	6.5	96	U
Anthracene	120-12-7	8.21	2.0	93	U
Fluoranthene	206-44-0	9.24	11.7	99	U
Pyrene	129-00-0	9.43	10.1	97	U
Benzo[a]anthracene	56-55-3	10.49	6.4	90	U
Chrysene	218-01-9	10.52	6.0	97	U
Benzo[b]fluoranthene	205-99-2	11.41	8.1	97	U
Benzo[k]fluoranthene	207-08-9	11.42	2.7	93	U
Benzo[a]pyrene	50-32-8	11.64	4.7	92	U
Indeno[1,2,3-cd]pyrene	193-39-5	12.83	2.0	75	U
Dibenzo[a,h]anthracene	53-70-3	12.88	0.3	85	U
Benzo[g,h,i]perylene	191-24-2	13.15	2.5	91	U
Total (USEPA16) PAHs	-	-	< 64.2	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	65
Naphthalene-d8	70
Acenaphthene-d10	67
Phenanthrene-d10	65
Chrysene-d12	66
Perylene-d12	51

Surrogates	% Rec
Nitrobenzene-d5	75
2-Fluorobiphenyl	94
Terphenyl-d14	88

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS311 1.4-1.6	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531836	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.8	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	77
Naphthalene-d8	82
Acenaphthene-d10	79
Phenanthrene-d10	79
Chrysene-d12	89
Perylene-d12	88

Surrogates	% Rec
Nitrobenzene-d5	42
2-Fluorobiphenyl	61
Terphenyl-d14	83

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS310 1.1-1.4 (NVM)	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531837	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC5.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	6.86	0.5	99	U
Fluorene	86-73-7	7.32	0.5	95	U
Phenanthrene	85-01-8	8.17	9.4	96	U
Anthracene	120-12-7	8.21	3.0	92	U
Fluoranthene	206-44-0	9.23	11.9	98	U
Pyrene	129-00-0	9.43	8.9	97	U
Benzo[a]anthracene	56-55-3	10.49	5.3	91	U
Chrysene	218-01-9	10.52	4.8	97	U
Benzo[b]fluoranthene	205-99-2	11.40	5.4	98	U
Benzo[k]fluoranthene	207-08-9	11.41	2.2	95	U
Benzo[a]pyrene	50-32-8	11.68	5.0	94	U
Indeno[1,2,3-cd]pyrene	193-39-5	12.82	2.1	74	U
Dibenzo[a,h]anthracene	53-70-3	12.82	0.8	90	U
Benzo[g,h,i]perylene	191-24-2	13.14	2.5	91	U
Total (USEPA16) PAHs	-	-	< 62.7	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	65
Naphthalene-d8	71
Acenaphthene-d10	68
Phenanthrene-d10	62
Chrysene-d12	68
Perylene-d12	62

Surrogates	% Rec
Nitrobenzene-d5	68
2-Fluorobiphenyl	93
Terphenyl-d14	89

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS310 1.5-1.7	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531838	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC5.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	8.16	0.9	94	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	9.22	2.1	98	U
Pyrene	129-00-0	9.42	1.6	97	U
Benzo[a]anthracene	56-55-3	10.48	1.0	92	U
Chrysene	218-01-9	10.51	1.0	97	U
Benzo[b]fluoranthene	205-99-2	11.38	1.1	93	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	11.66	1.1	95	U
Indeno[1,2,3-cd]pyrene	193-39-5	12.79	0.5	83	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	13.11	0.6	91	U
Total (USEPA16) PAHs	-	-	< 11.5	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	80
Naphthalene-d8	86
Acenaphthene-d10	80
Phenanthrene-d10	75
Chrysene-d12	85
Perylene-d12	75

Surrogates	% Rec
Nitrobenzene-d5	63
2-Fluorobiphenyl	88
Terphenyl-d14	89

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH305 0.2-0.4	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531839	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC5.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	5.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 1.0	-	U
Acenaphthylene	208-96-8	-	< 1.0	-	U
Acenaphthene	83-32-9	-	< 1.0	-	U
Fluorene	86-73-7	-	< 1.0	-	U
Phenanthrene	85-01-8	8.17	7.4	94	U
Anthracene	120-12-7	8.21	2.2	92	U
Fluoranthene	206-44-0	9.21	13.7	98	U
Pyrene	129-00-0	9.41	9.5	95	U
Benzo[a]anthracene	56-55-3	10.48	5.7	94	U
Chrysene	218-01-9	10.50	6.0	96	U
Benzo[b]fluoranthene	205-99-2	11.37	6.0	94	U
Benzo[k]fluoranthene	207-08-9	11.39	3.0	92	U
Benzo[a]pyrene	50-32-8	11.66	5.3	96	U
Indeno[1,2,3-cd]pyrene	193-39-5	12.79	2.0	54	U
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-	U
Benzo[g,h,i]perylene	191-24-2	13.11	2.7	91	U
Total (USEPA16) PAHs	-	-	< 69.3	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	67
Naphthalene-d8	72
Acenaphthene-d10	68
Phenanthrene-d10	64
Chrysene-d12	73
Perylene-d12	65

Surrogates	% Rec
Nitrobenzene-d5	83
2-Fluorobiphenyl	110
Terphenyl-d14	95

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH305 5.5-6.0	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531841	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC2.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.2	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	78
Acenaphthene-d10	73
Phenanthrene-d10	72
Chrysene-d12	80
Perylene-d12	81

Surrogates	% Rec
Nitrobenzene-d5	31
2-Fluorobiphenyl	46
Terphenyl-d14	68

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH301 1.2-1.4	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531842	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC2.D	**Date Analysed:**	04-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	72
Naphthalene-d8	77
Acenaphthene-d10	72
Phenanthrene-d10	70
Chrysene-d12	75
Perylene-d12	73

Surrogates	% Rec
Nitrobenzene-d5	56
2-Fluorobiphenyl	74
Terphenyl-d14	94

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH301 7.8-8.0 (NVM)	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531843	**Date Booked In:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC2.D	**Date Analysed:**	04-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.6	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	66
Naphthalene-d8	71
Acenaphthene-d10	66
Phenanthrene-d10	65
Chrysene-d12	73
Perylene-d12	70

Surrogates	% Rec
Nitrobenzene-d5	63
2-Fluorobiphenyl	81
Terphenyl-d14	83

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH312 0.3-0.5	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531844	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0109CCC5.D	**Date Analysed:**	10-Jan-06
Directory:	0109ABN.MS4\	**Matrix:**	Soil
Dilution:	50.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 12.0	-	U
Acenaphthylene	208-96-8	-	< 12.0	-	U
Acenaphthene	83-32-9	-	< 12.0	-	U
Fluorene	86-73-7	-	< 12.0	-	U
Phenanthrene	85-01-8	8.17	21.4	97	U
Anthracene	120-12-7	-	< 12.0	-	U
Fluoranthene	206-44-0	-	< 12.0	-	U
Pyrene	129-00-0	-	< 12.0	-	U
Benzo[a]anthracene	56-55-3	-	< 12.0	-	U
Chrysene	218-01-9	-	< 12.0	-	U
Benzo[b]fluoranthene	205-99-2	-	< 12.0	-	U
Benzo[k]fluoranthene	207-08-9	-	< 12.0	-	U
Benzo[a]pyrene	50-32-8	-	< 12.0	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 12.0	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 12.0	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 12.0	-	U
Total (USEPA16) PAHs	-	-	< 204.5	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	123
Naphthalene-d8	115
Acenaphthene-d10	117
Phenanthrene-d10	114
Chrysene-d12	120
Perylene-d12	104

Surrogates	% Rec
Nitrobenzene-d5	30
2-Fluorobiphenyl	67
Terphenyl-d14	54

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS312 2.7-2.9	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531845	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC2.D	**Date Analysed:**	04-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	8.17	1.0	94	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.7	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	66
Naphthalene-d8	70
Acenaphthene-d10	64
Phenanthrene-d10	60
Chrysene-d12	61
Perylene-d12	56

Surrogates	% Rec
Nitrobenzene-d5	63
2-Fluorobiphenyl	79
Terphenyl-d14	83

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2700
Sample Details:	E-WS309 1.2-1.4	**Date Booked In:**	01-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0531833	**Date Extracted:**	22-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4548M	**Date Analysed:**	05-Jan-06	**Directory/Quant File:**	0104ABN.MS4\ 0104CCC3.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 12.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	-	< 0.2	-	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	10.50	1.0	98	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.2	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	77
Naphthalene-d8	81
Acenaphthene-d10	77
Phenanthrene-d10	75
Chrysene-d12	85
Perylene-d12	82

Surrogates	% Rec
2-Fluorophenol	51
Phenol-d5	52
Nitrobenzene-d5	44
2-Fluorobiphenyl	61
2,4,6-Tribromophenol	70
Terphenyl-d14	75

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2700
Sample Details:	E-WS309 2.6-2.8	**Date Booked in:**	01-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0531834	**Date Extracted:**	22-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4548M	**Date Analysed:**	05-Jan-06	**Directory/Quant File:**	0104ABN.MS4\ 0104CCC3.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 12.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	8.17	0.4	94	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	10.50	1.1	98	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.2	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	74
Naphthalene-d8	77
Acenaphthene-d10	75
Phenanthrene-d10	74
Chrysene-d12	80
Perylene-d12	78

Surrogates	% Rec
2-Fluorophenol	62
Phenol-d5	58
Nitrobenzene-d5	52
2-Fluorobiphenyl	68
2,4,6-Tribromophenol	72
Terphenyl-d14	79

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2700
Sample Details:	E-WS311 0.9-1.2 (NVM)	**Date Booked In:**	01-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0531835	**Date Extracted:**	22-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4548M	**Date Analysed:**	05-Jan-06	**Directory/Quant File:**	0104ABN.MS4\ 0104CCC5.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 11.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	5.33	0.2	92	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	5.93	0.3	93	UM
1-Methylnaphthalene	90-12-0	6.02	0.2	99	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	6.87	0.4	96	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	7.32	0.3	95	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	8.17	6.5	96	UM
Anthracene	120-12-7	8.21	2.0	93	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	9.24	11.7	99	UM
Pyrene	129-00-0	9.43	10.1	97	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	10.49	6.4	90	UM
Chrysene	218-01-9	10.52	6.0	97	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	11.41	8.1	97	U
Benzo[k]fluoranthene	207-08-9	11.42	2.7	93	UM
Benzo[a]pyrene	50-32-8	11.64	4.7	92	UM
Indeno[1,2,3-cd]pyrene	193-39-5	12.83	2.0	75	U
Dibenzo[a,h]anthracene	53-70-3	12.88	0.3	85	UM
Benzo[g,h,i]perylene	191-24-2	13.15	2.5	91	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	65
Naphthalene-d8	70
Acenaphthene-d10	67
Phenanthrene-d10	65
Chrysene-d12	66
Perylene-d12	51

Surrogates	% Rec
2-Fluorophenol	90
Phenol-d5	87
Nitrobenzene-d5	75
2-Fluorobiphenyl	94
2,4,6-Tribromophenol	88
Terphenyl-d14	88

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2700
Sample Details:	E-WS311 1.4-1.6	**Date Booked In:**	01-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0531836	**Date Extracted:**	22-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4548M	**Date Analysed:**	05-Jan-06	**Directory/Quant File:**	0104ABN.MS4\ .0104CCC3.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 12.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	-	< 0.2	-	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.2	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	77
Naphthalene-d8	82
Acenaphthene-d10	79
Phenanthrene-d10	79
Chrysene-d12	89
Perylene-d12	88

Surrogates	% Rec
2-Fluorophenol	50
Phenol-d5	52
Nitrobenzene-d5	42
2-Fluorobiphenyl	61
2,4,6-Tribromophenol	87
Terphenyl-d14	83

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2700
Sample Details:	E-BH305 5.5-6.0	**Date Booked In:**	01-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0531841	**Date Extracted:**	22-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4548M	**Date Analysed:**	05-Jan-06	**Directory/Quant File:**	0104ABN.MS4\ 0104CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 3.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.7	-	U
2-Chlorophenol	95-57-8	-	< 3.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.7	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.7	-	U
Benzyl alcohol	100-51-6	-	< 0.7	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.7	-	U
2-Methylphenol	95-48-7	-	< 0.7	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.7	-	U
Hexachloroethane	67-72-1	-	< 0.7	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.7	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 3.0	-	UM
Nitrobenzene	98-95-3	-	< 0.7	-	UM
Isophorone	78-59-1	-	< 0.7	-	UM
2-Nitrophenol	88-75-5	-	< 3.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 3.0	-	UM
Benzoic Acid	65-85-0 *	-	< 13.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.7	-	U
2,4-Dichlorophenol	120-83-2	-	< 3.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.7	-	UM
Naphthalene	91-20-3	-	< 0.3	-	UM
4-Chlorophenol	106-48-9	-	< 3.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.7	-	U
Hexachlorobutadiene	87-68-3	-	< 0.7	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.7	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.3	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.3	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.7	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 3.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 3.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.3	-	U
Biphenyl	92-52-4	-	< 0.3	-	UM
Diphenyl ether	101-84-8	-	< 0.3	-	UM
2-Nitroaniline	88-74-4	-	< 0.7	-	UM
Acenaphthylene	208-96-8	-	< 0.3	-	UM
Dimethylphthalate	131-11-3	-	< 0.7	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.7	-	UM
Acenaphthene	83-32-9	-	< 0.3	-	UM
3-Nitroaniline	99-09-2	-	< 0.7	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.7	-	UM
4-Nitrophenol	100-02-7	-	< 7.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.7	-	UM
Fluorene	86-73-7	-	< 0.3	-	UM
Diethylphthalate	84-66-2	-	< 0.7	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.7	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 7.0	-	U
4-Nitroaniline	100-01-6	-	< 0.7	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.7	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.7	-	UM
Hexachlorobenzene	118-74-1	-	< 0.7	-	UM
Pentachlorophenol	87-86-5	-	< 7.0	-	U
Phenanthrene	85-01-8	-	< 0.3	-	UM
Anthracene	120-12-7	-	< 0.3	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.7	-	UM
Fluoranthene	206-44-0	-	< 0.3	-	UM
Pyrene	129-00-0	-	< 0.3	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.7	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.3	-	UM
Chrysene	218-01-9	-	< 0.3	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 3.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.7	-	U
Di-n-octylphthalate	117-84-0	-	< 0.3	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.3	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	78
Acenaphthene-d10	73
Phenanthrene-d10	72
Chrysene-d12	80
Perylene-d12	81

Surrogates	% Rec
2-Fluorophenol	41
Phenol-d5	41
Nitrobenzene-d5	31
2-Fluorobiphenyl	46
2,4,6-Tribromophenol	51
Terphenyl-d14	68

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2700
Sample Details:	E-BH301 1.2-1.4	**Date Booked in:**	01-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0531842	**Date Extracted:**	22-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4548M	**Date Analysed:**	04-Jan-06	**Directory/Quant File:**	0104ABN.MS4\ 0104CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 12.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	-	< 0.2	-	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.2	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	72
Naphthalene-d8	77
Acenaphthene-d10	72
Phenanthrene-d10	70
Chrysene-d12	75
Perylene-d12	73

Surrogates	% Rec
2-Fluorophenol	73
Phenol-d5	68
Nitrobenzene-d5	56
2-Fluorobiphenyl	74
2,4,6-Tribromophenol	66
Terphenyl-d14	94

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil		
Sample Details:	E-BH312 0.3-0.5	**Date Booked In:**	01-Dec-05	**Ext Method:**	Soxhlet	**QC Batch Number:**	2700
LIMS ID Number:	CL0531844	**Date Extracted:**	22-Dec-05	**Operator:**	AB	**Multiplier:**	3.33333
Job Number:	S05_4548M	**Date Analysed:**	10-Jan-06	**Directory/Quant File:**	0109ABN.MS4\ 0109CCC5.D	**Dilution Factor:**	50
						GPC (Y/N)	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 122.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 31.0	-	U
2-Chlorophenol	95-57-8	-	< 122.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 31.0	-	U
1,4-Dichlorobenzene	106-46-7	-	< 31.0	-	U
Benzyl alcohol	100-51-6	-	< 31.0	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 31.0	-	U
2-Methylphenol	95-48-7	-	< 31.0	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 31.0	-	U
Hexachloroethane	67-72-1	-	< 31.0	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 31.0	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 122.0	-	UM
Nitrobenzene	98-95-3	-	< 31.0	-	UM
Isophorone	78-59-1	-	< 31.0	-	UM
2-Nitrophenol	88-75-5	-	< 122.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 122.0	-	UM
Benzoic Acid	65-85-0 *	-	< 611.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 31.0	-	U
2,4-Dichlorophenol	120-83-2	-	< 122.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 31.0	-	UM
Naphthalene	91-20-3	-	< 12.0	-	UM
4-Chlorophenol	106-48-9	-	< 122.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 31.0	-	U
Hexachlorobutadiene	87-68-3	-	< 31.0	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 31.0	-	UM
2-Methylnaphthalene	91-57-6	5.94	16.4	93	UM
1-Methylnaphthalene	90-12-0	6.02	13.0	99	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 31.0	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 122.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 122.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 12.0	-	U
Biphenyl	92-52-4	-	< 12.0	-	UM
Diphenyl ether	101-84-8	-	< 12.0	-	UM
2-Nitroaniline	88-74-4	-	< 31.0	-	UM
Acenaphthylene	208-96-8	-	< 12.0	-	UM
Dimethylphthalate	131-11-3	-	< 31.0	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 31.0	-	UM
Acenaphthene	83-32-9	-	< 12.0	-	UM
3-Nitroaniline	99-09-2	-	< 31.0	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 61.0	-	U
Dibenzofuran	132-64-9	-	< 31.0	-	UM
4-Nitrophenol	100-02-7	-	< 305.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 31.0	-	UM
Fluorene	86-73-7	-	< 12.0	-	UM
Diethylphthalate	84-66-2	-	< 31.0	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 31.0	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 305.0	-	U
4-Nitroaniline	100-01-6	-	< 31.0	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 31.0	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 31.0	-	UM
Hexachlorobenzene	118-74-1	-	< 31.0	-	UM
Pentachlorophenol	87-86-5	-	< 305.0	-	U
Phenanthrene	85-01-8	8.17	21.4	97	UM
Anthracene	120-12-7	-	< 12.0	-	UM
Di-n-butylphthalate	84-74-2	-	< 31.0	-	UM
Fluoranthene	206-44-0	-	< 12.0	-	UM
Pyrene	129-00-0	-	< 12.0	-	UM
Butylbenzylphthalate	85-68-7	-	< 31.0	-	UM
Benzo[a]anthracene	56-55-3	-	< 12.0	-	UM
Chrysene	218-01-9	-	< 12.0	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 122.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 31.0	-	U
Di-n-octylphthalate	117-84-0	-	< 12.0	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 12.0	-	U
Benzo[k]fluoranthene	207-08-9	-	< 12.0	-	UM
Benzo[a]pyrene	50-32-8	-	< 12.0	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 12.0	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 12.0	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 12.0	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	123
Naphthalene-d8	115
Acenaphthene-d10	117
Phenanthrene-d10	114
Chrysene-d12	120
Perylene-d12	104

Surrogates	% Rec
2-Fluorophenol	D
Phenol-d5	D
Nitrobenzene-d5	30
2-Fluorobiphenyl	67
2,4,6-Tribromophenol	30
Terphenyl-d14	54

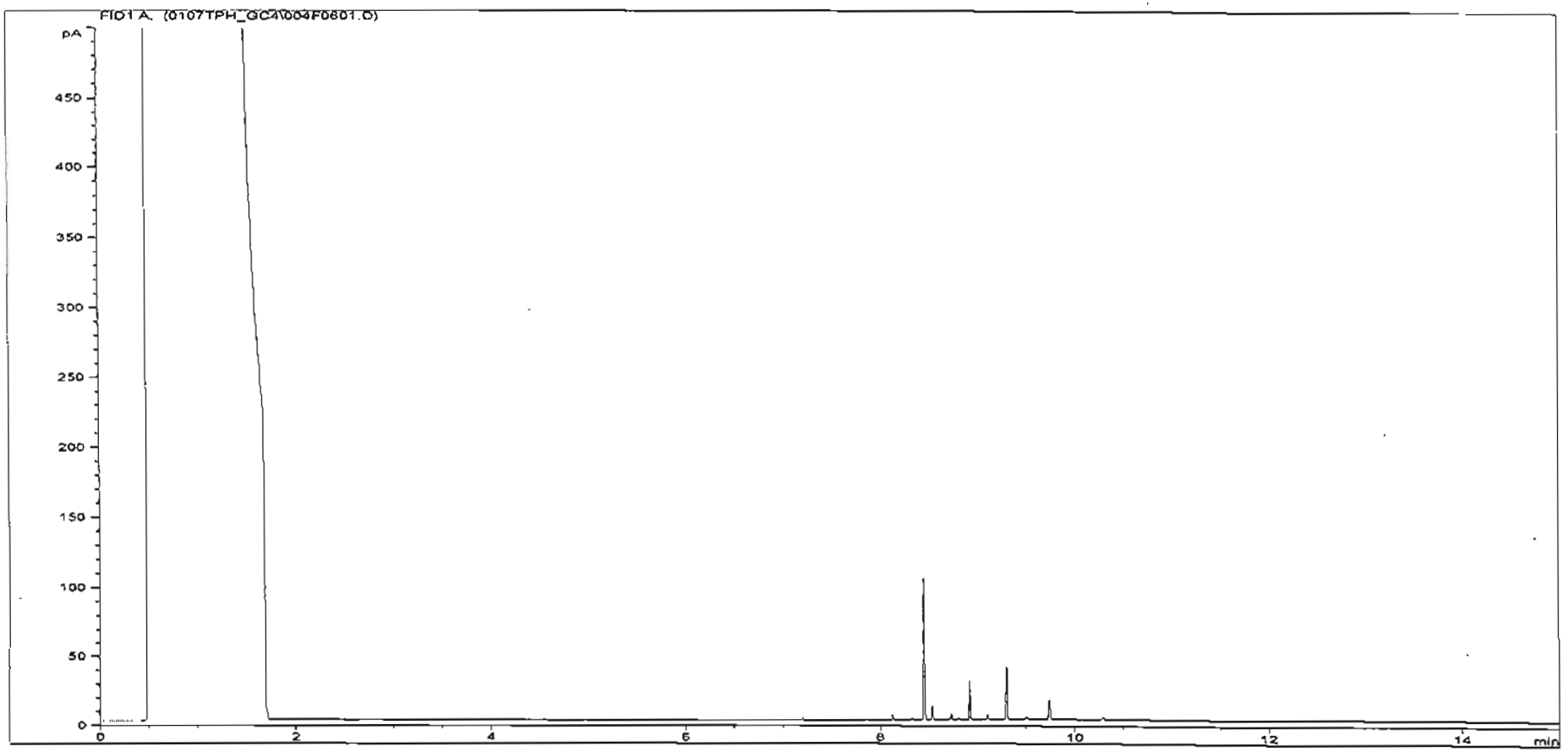
* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

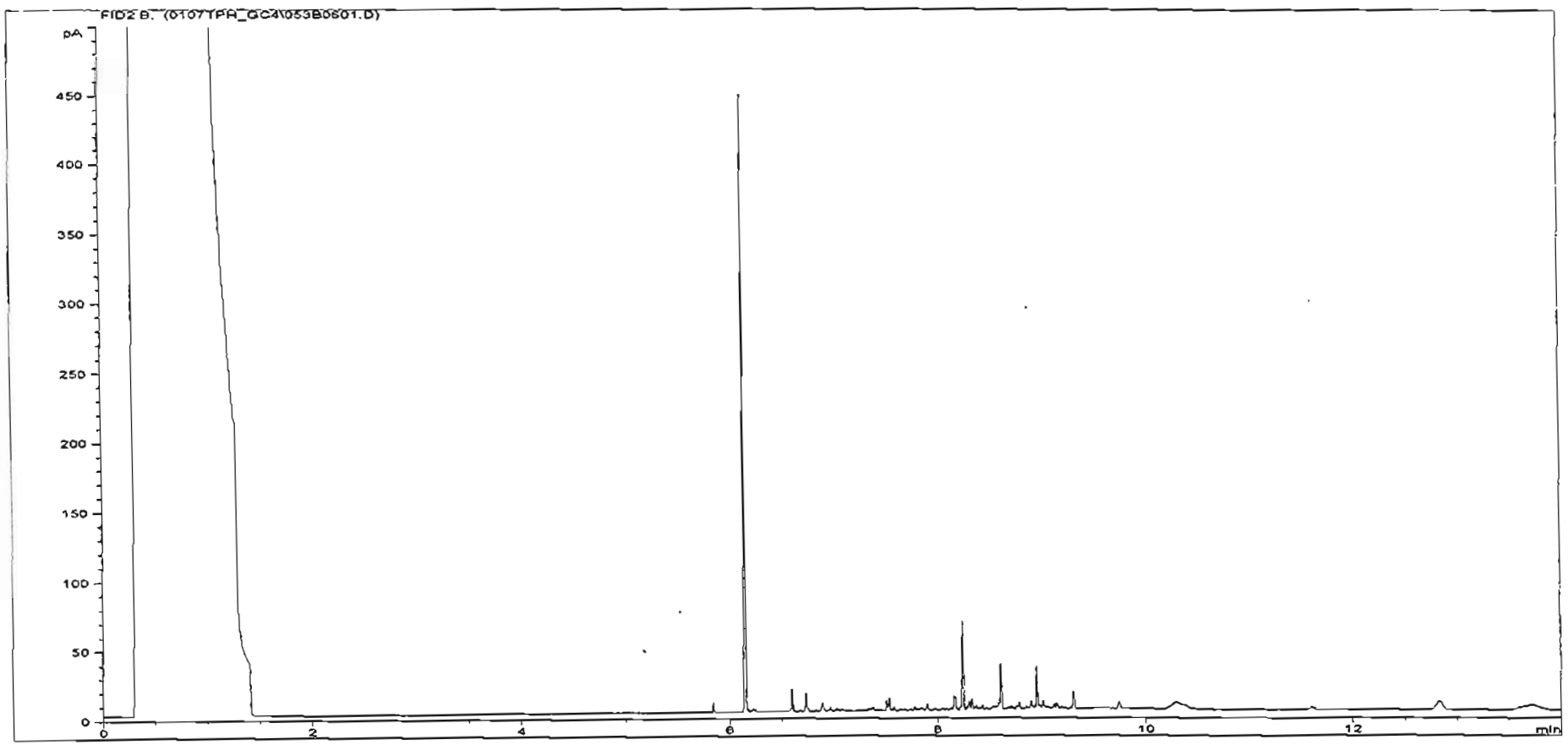
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531829ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP302 0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\004F0601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

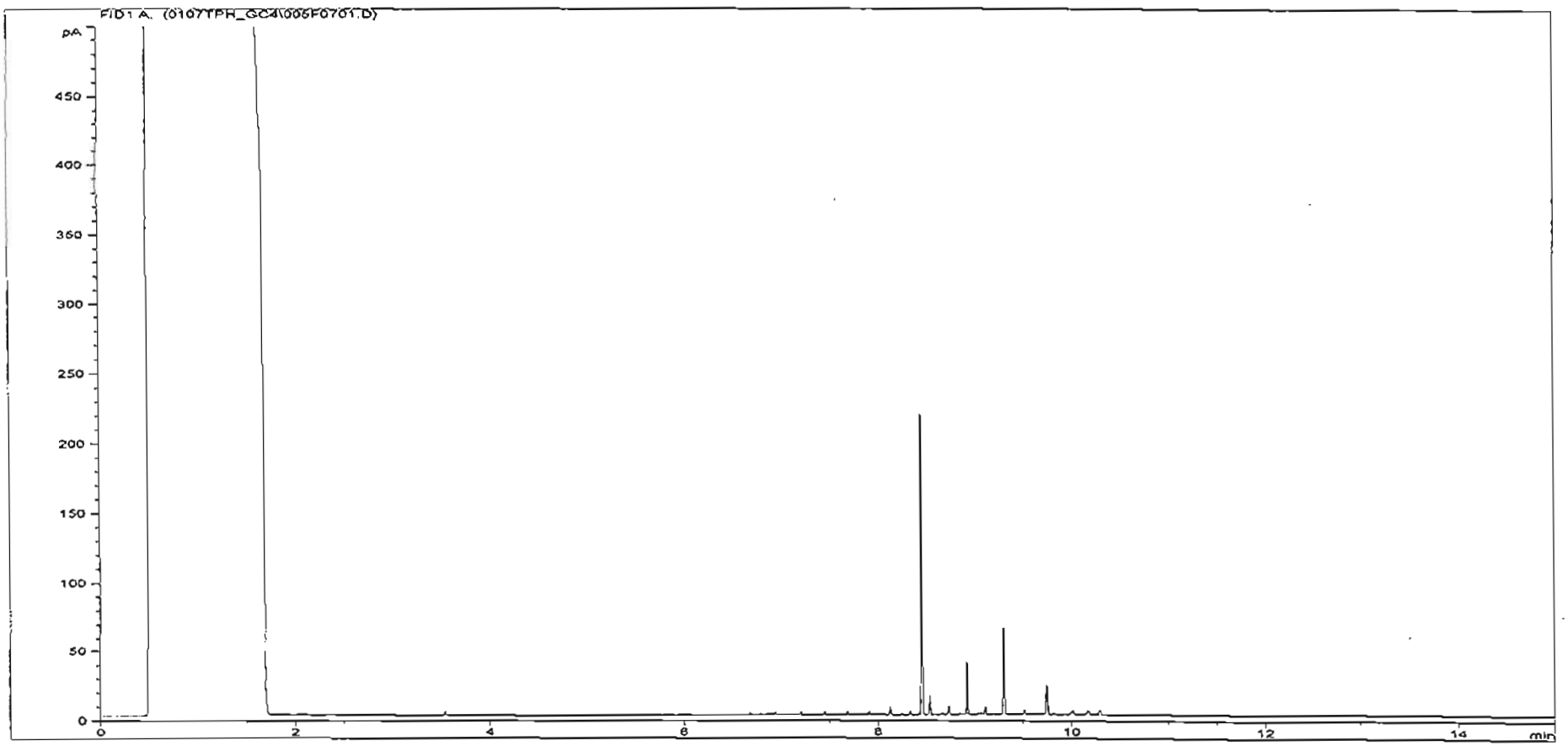
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531829ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP302 0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\053B0601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

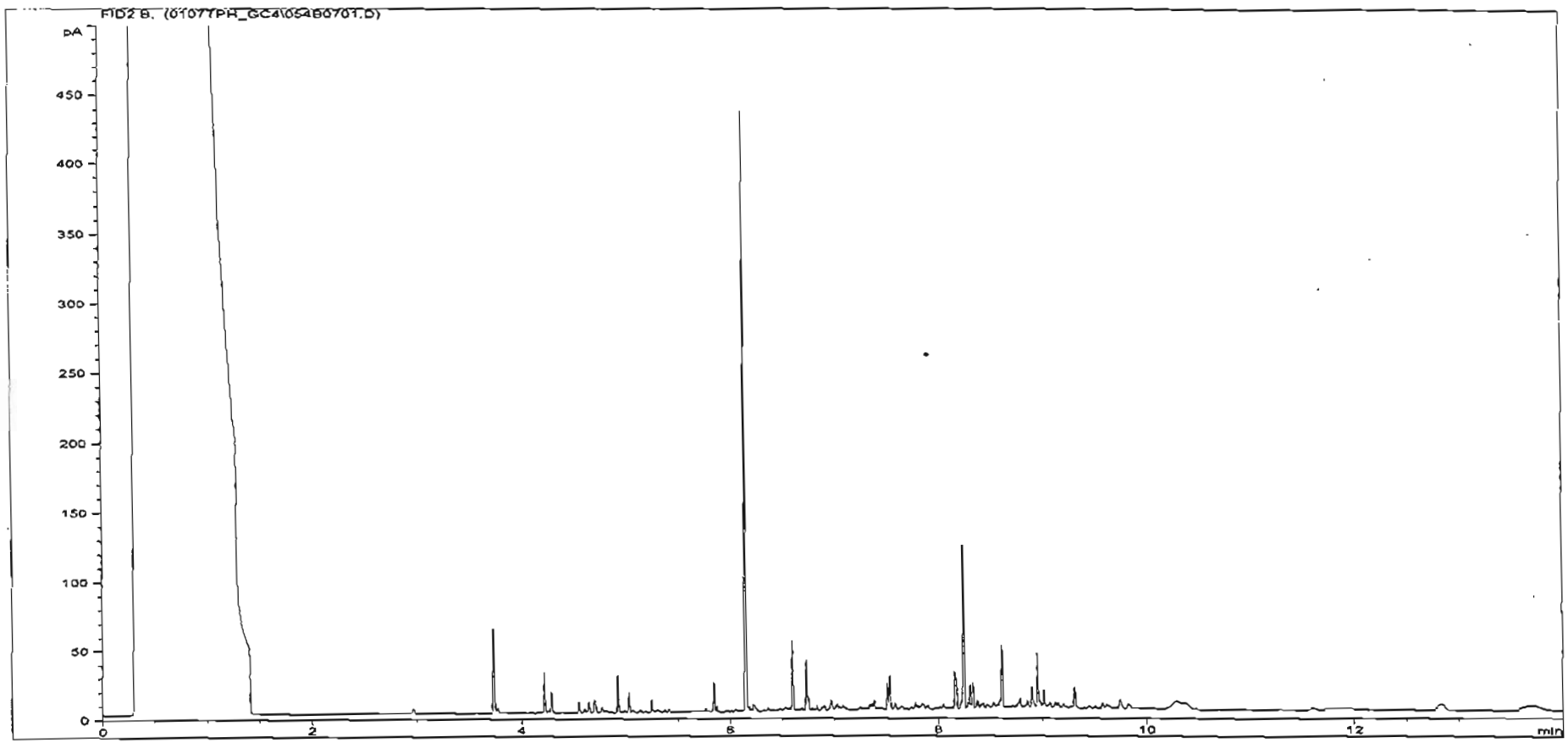
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531830ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP301 0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\005F0701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

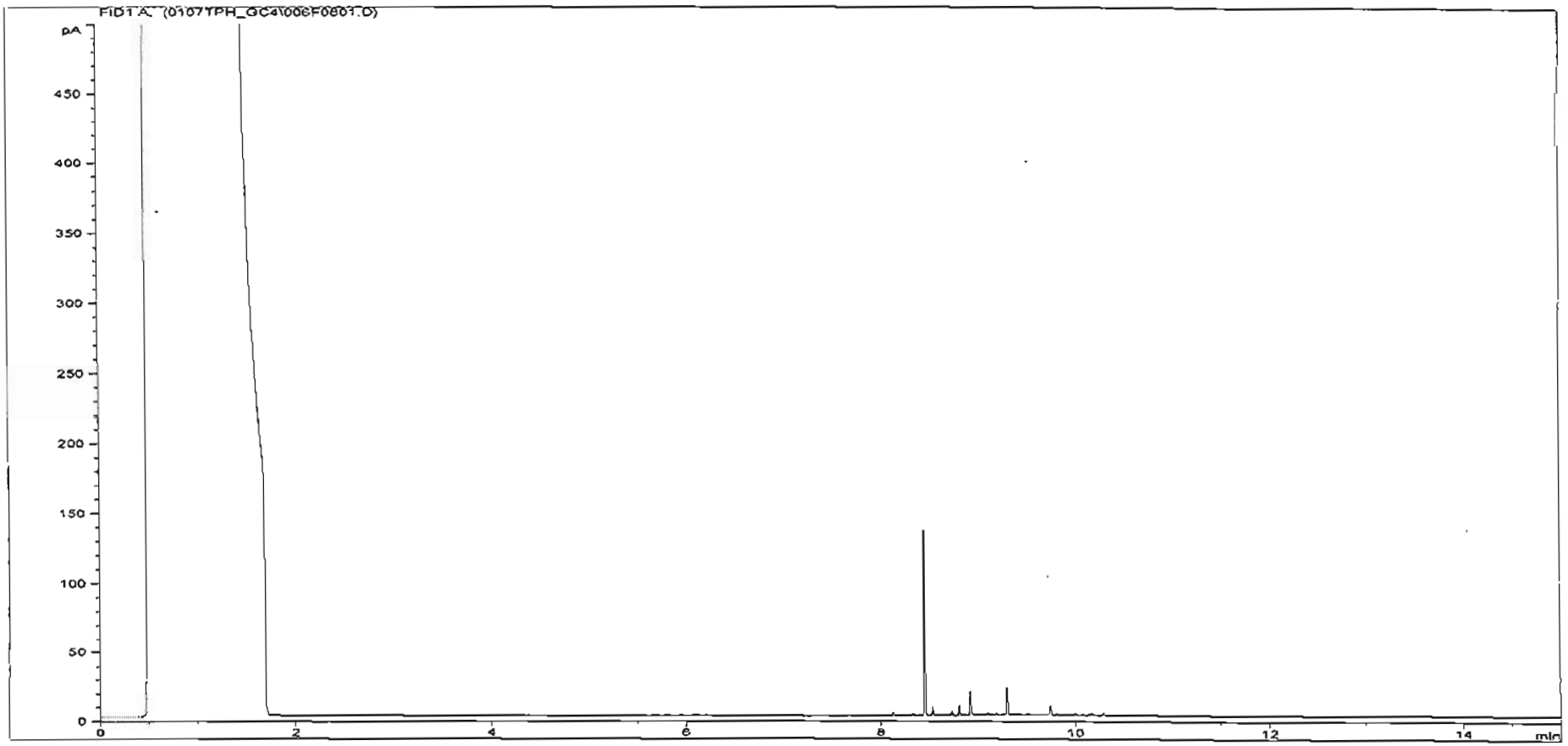
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531830ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP301 0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\054B0701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

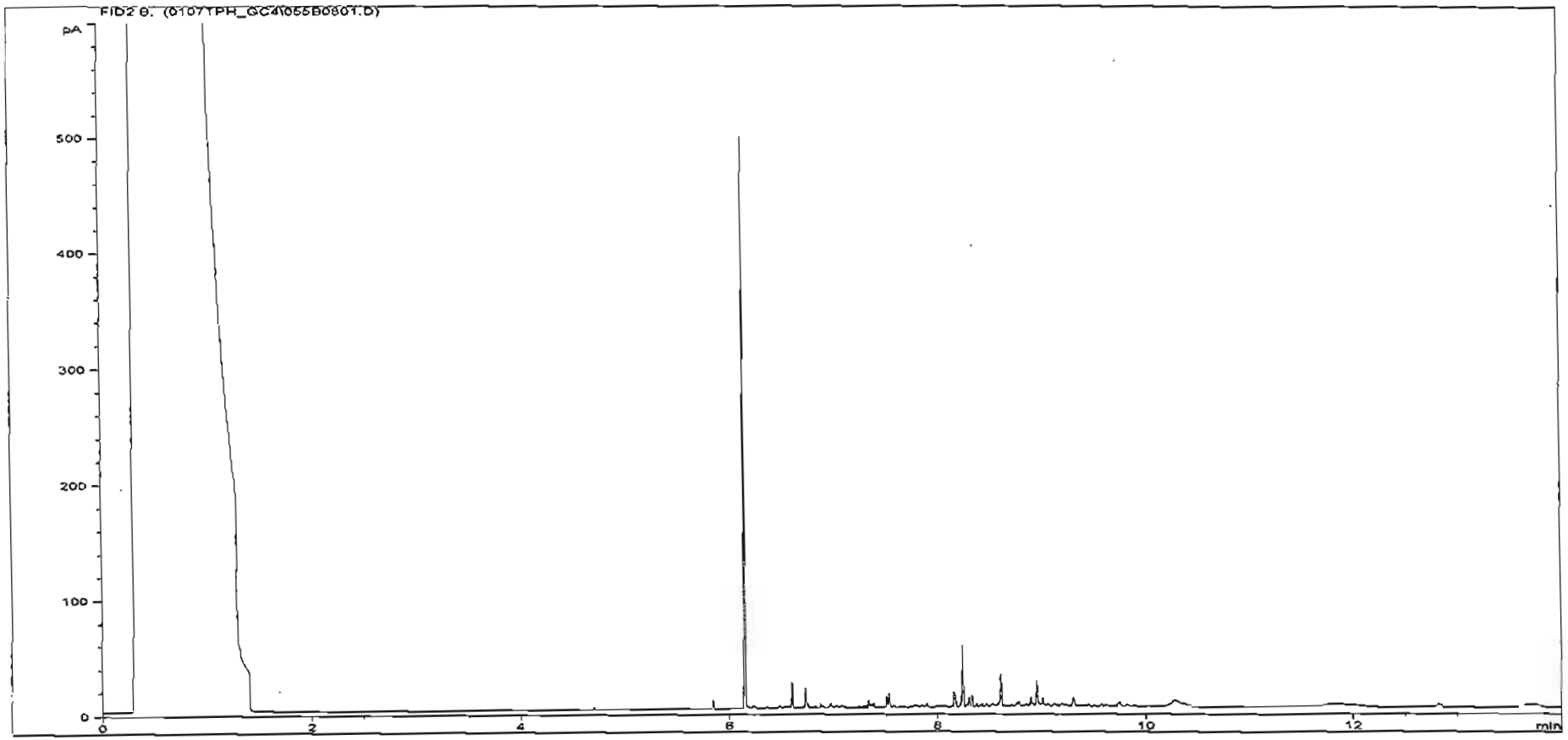
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531831ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP301 0.6
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\006F0801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

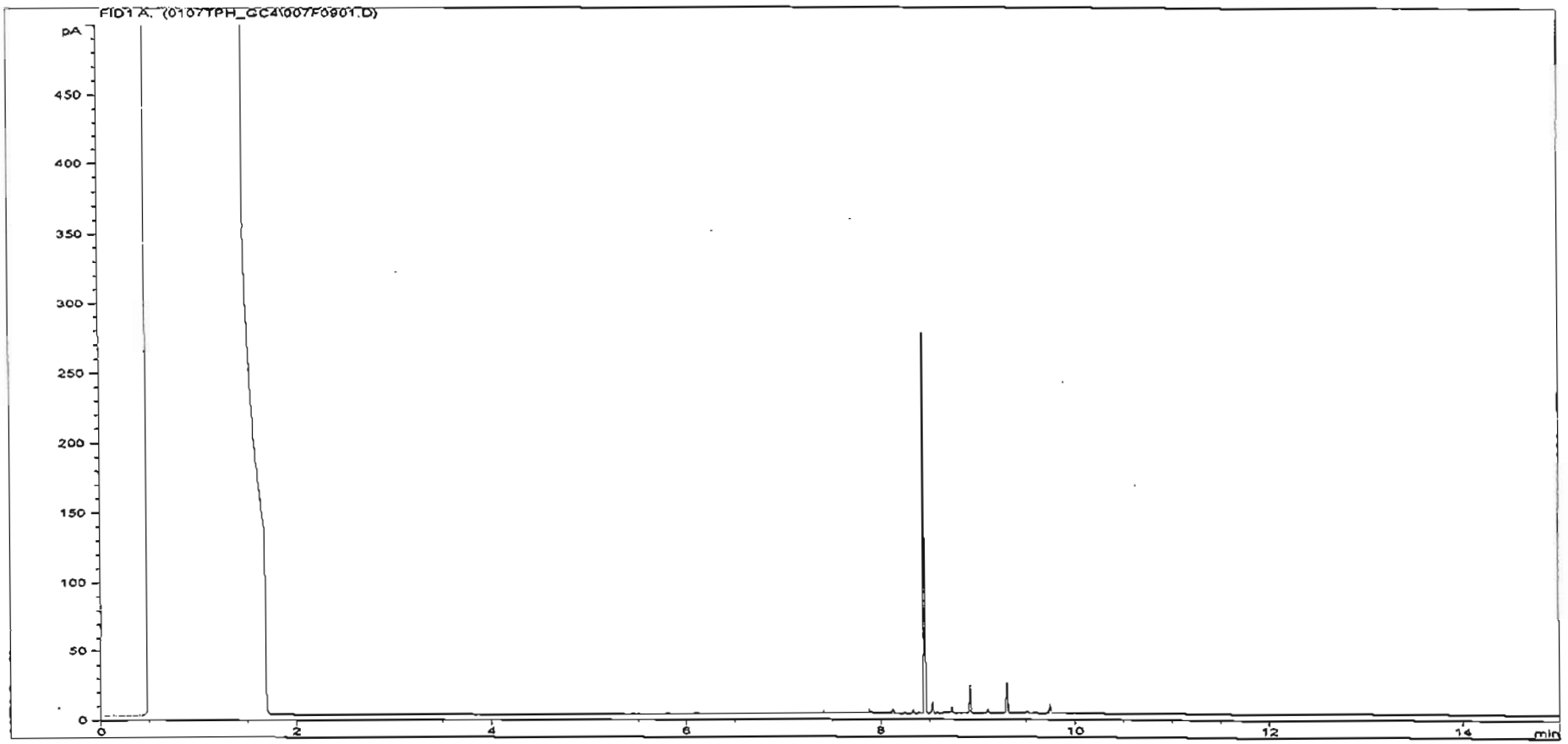
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531831ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP301 0.6
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\055B0801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

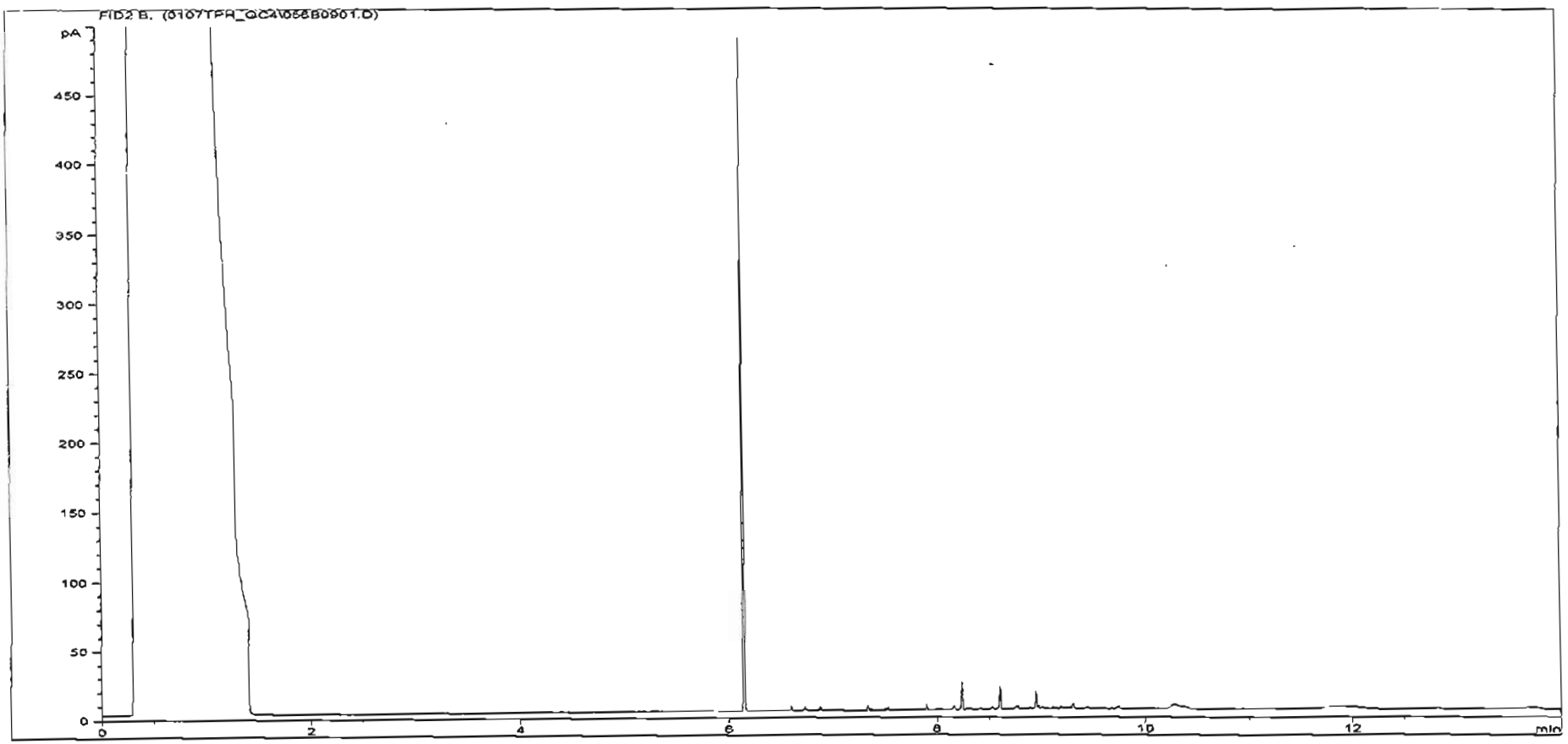
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531832ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP303 0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\007F0901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

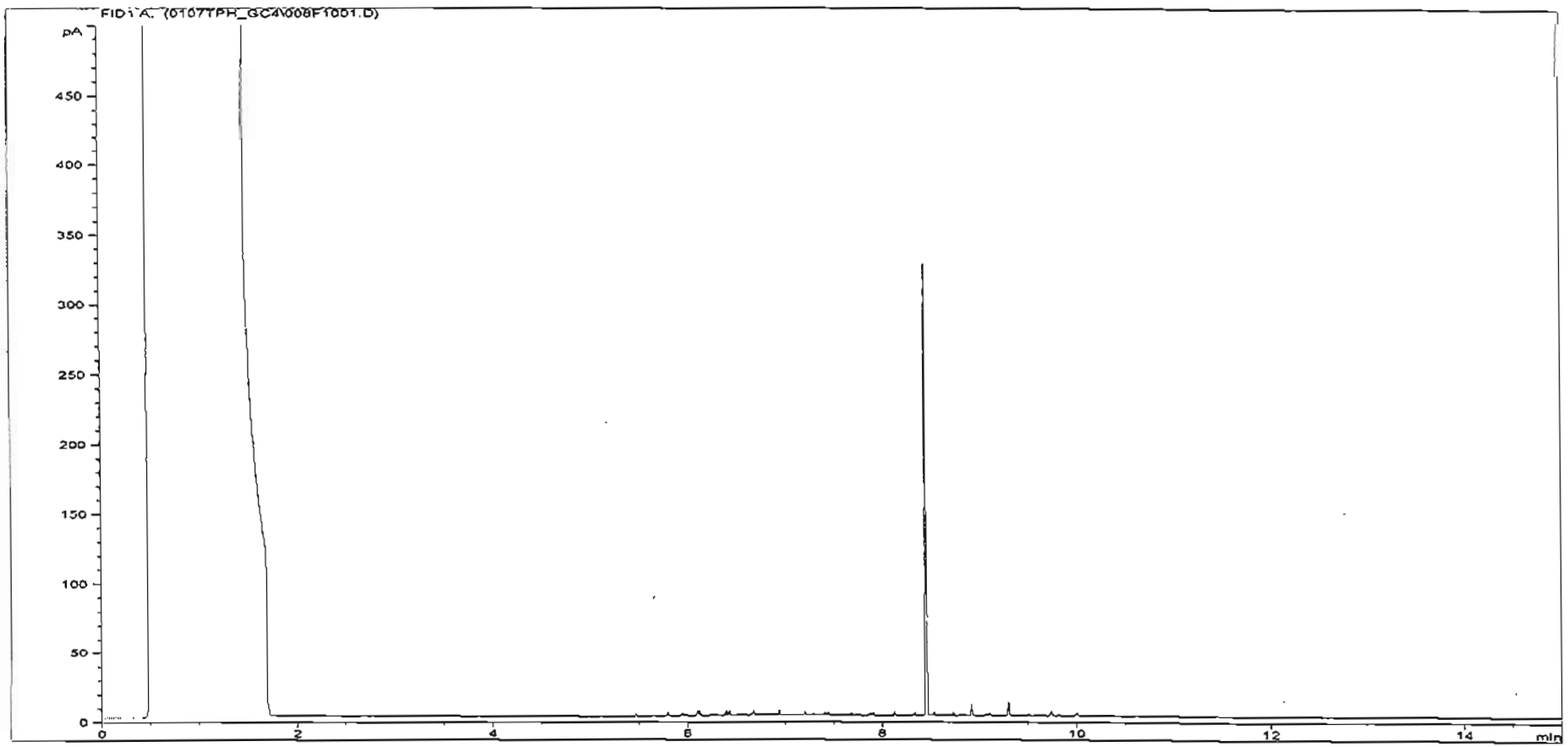
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531832ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP303 0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\056B0901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

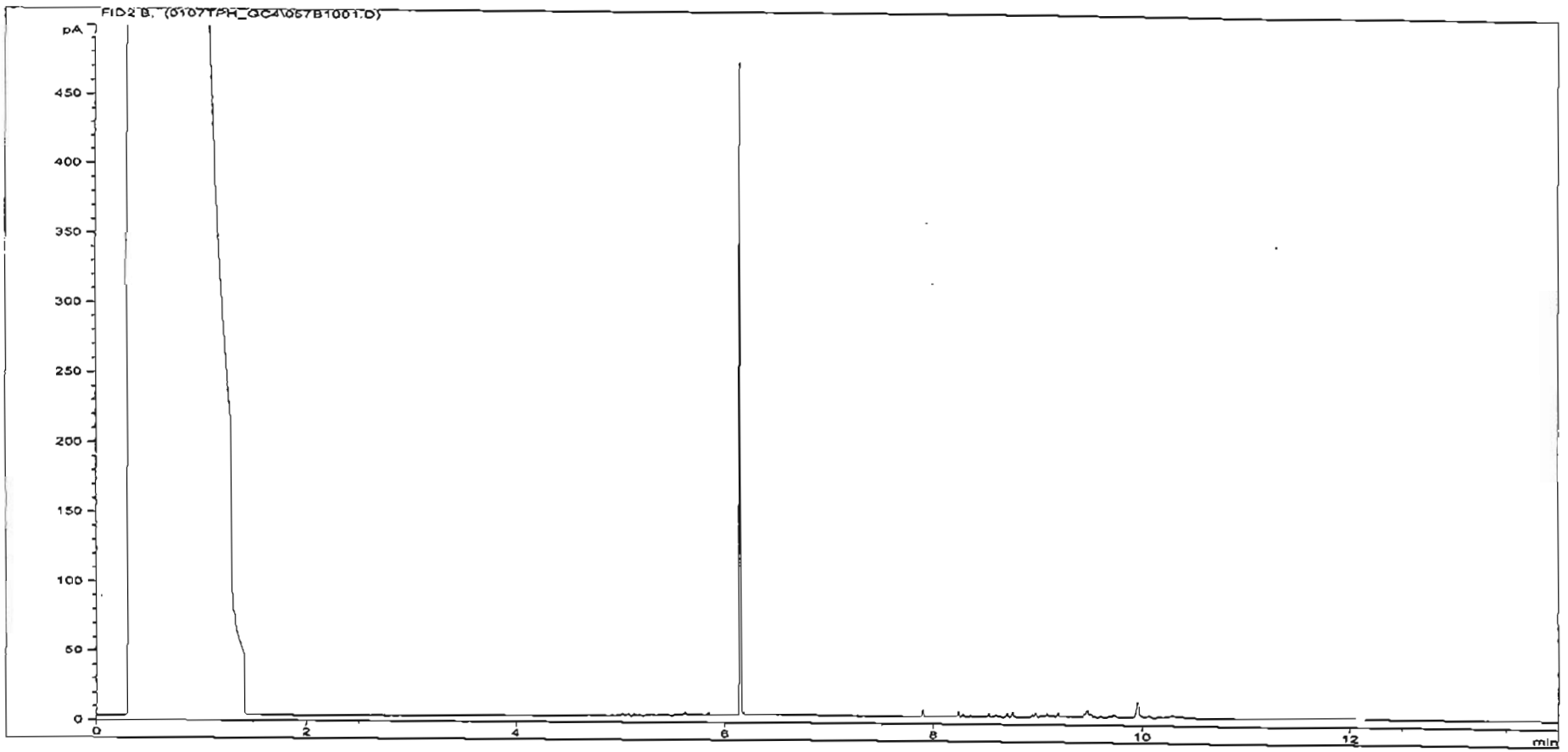
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531833ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS309 1.2-1.4
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\008F1001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

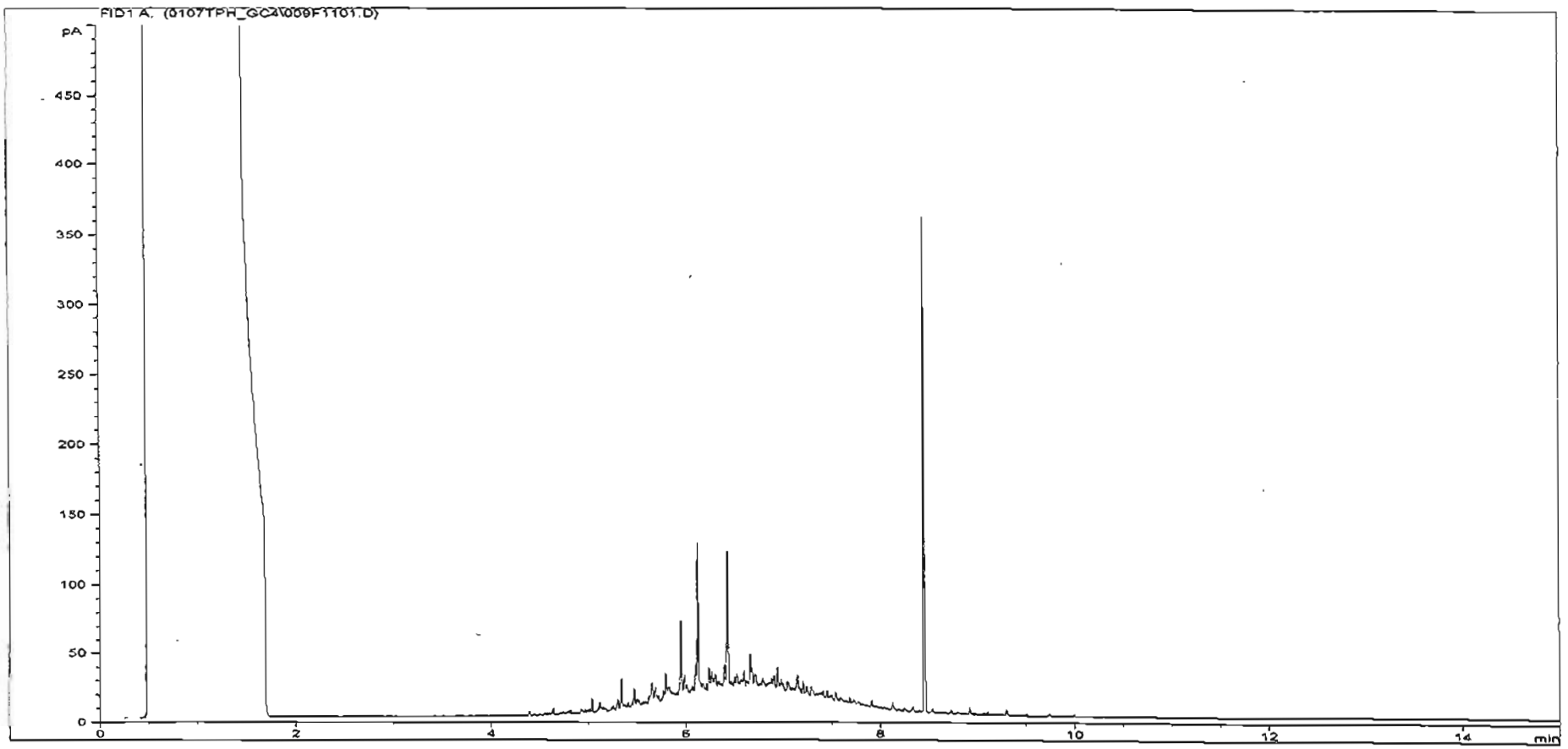
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531833ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS309 1.2-1.4
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\057B1001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

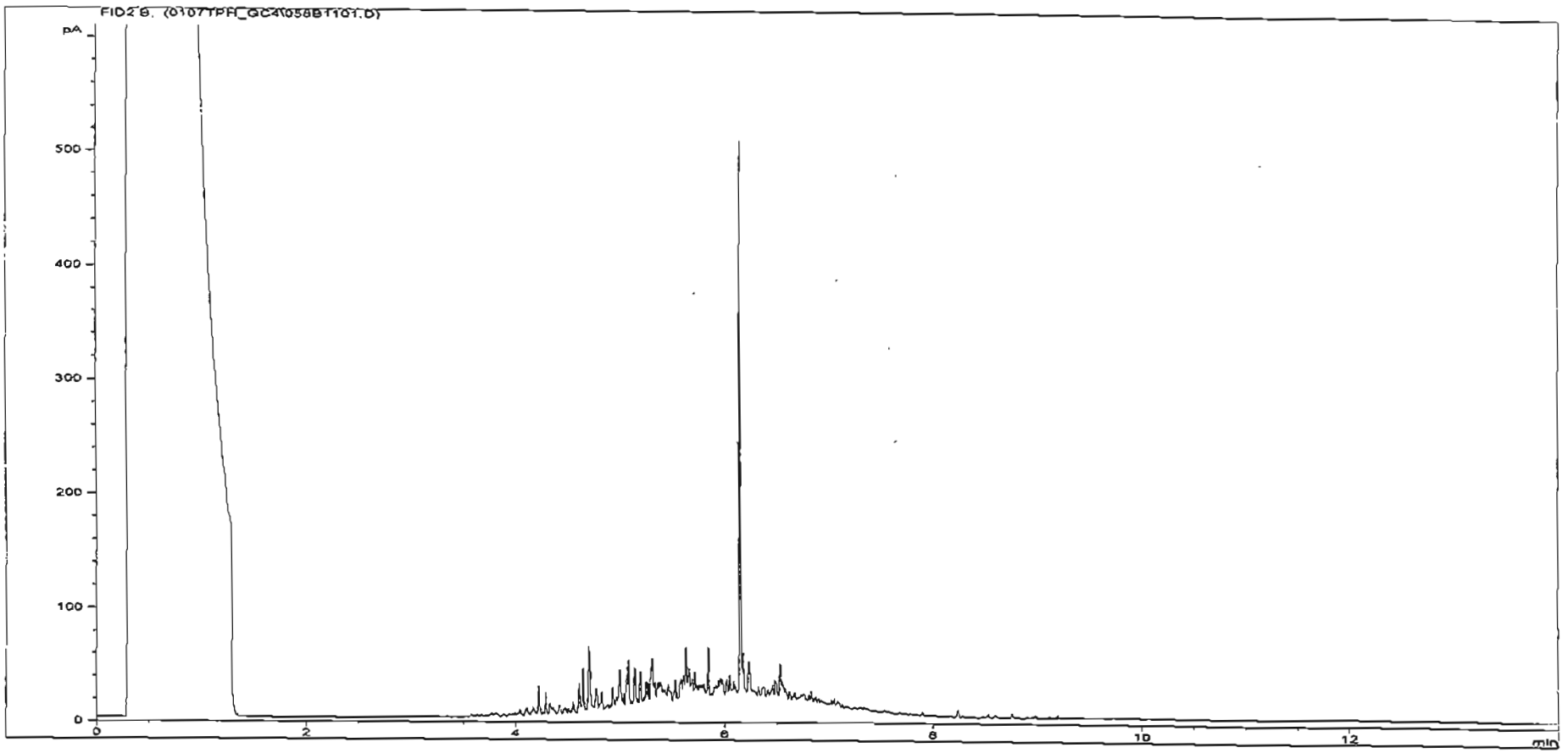
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531834ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS309 2.6-2.8
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\009F1101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

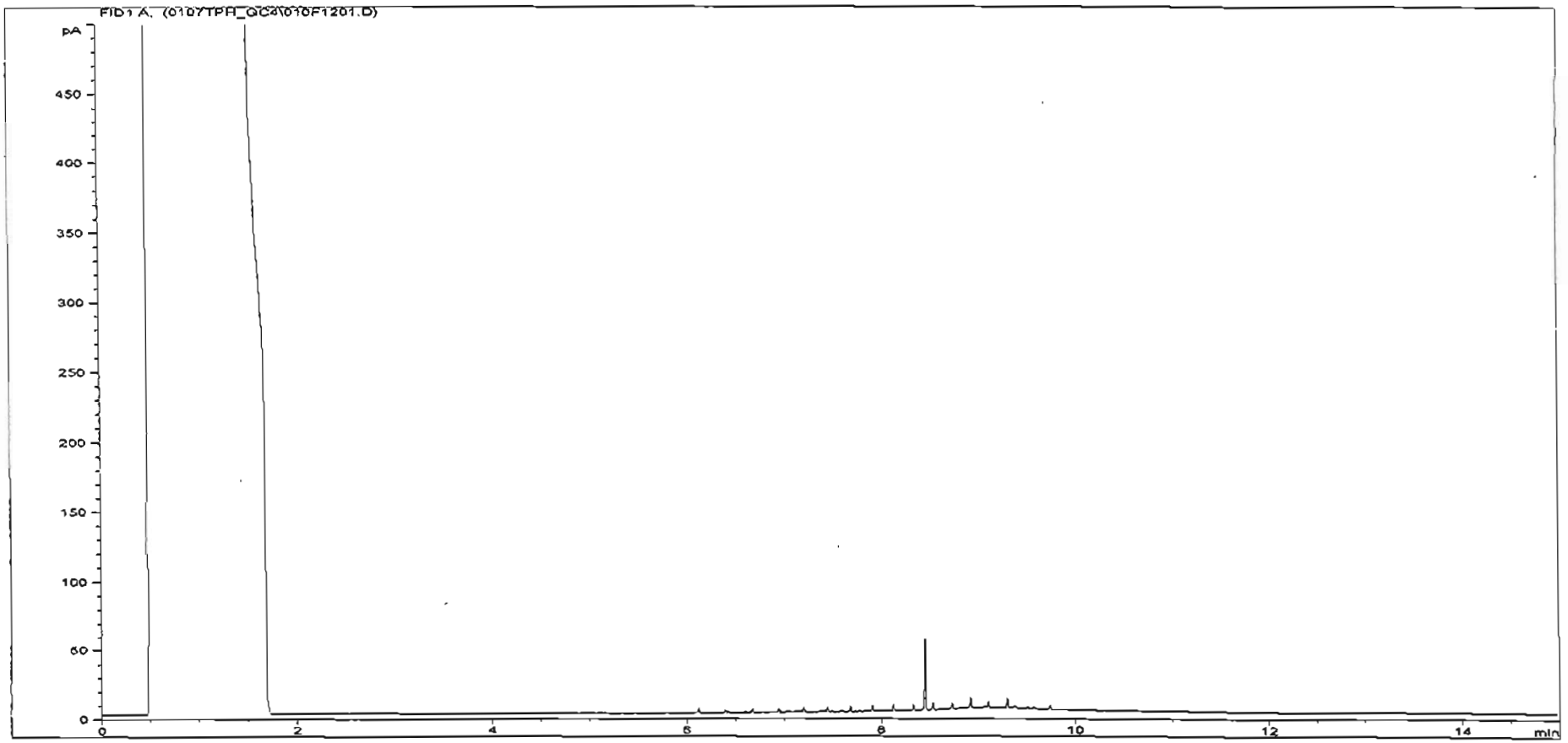
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531834ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS309 2.6-2.8
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\058B1101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

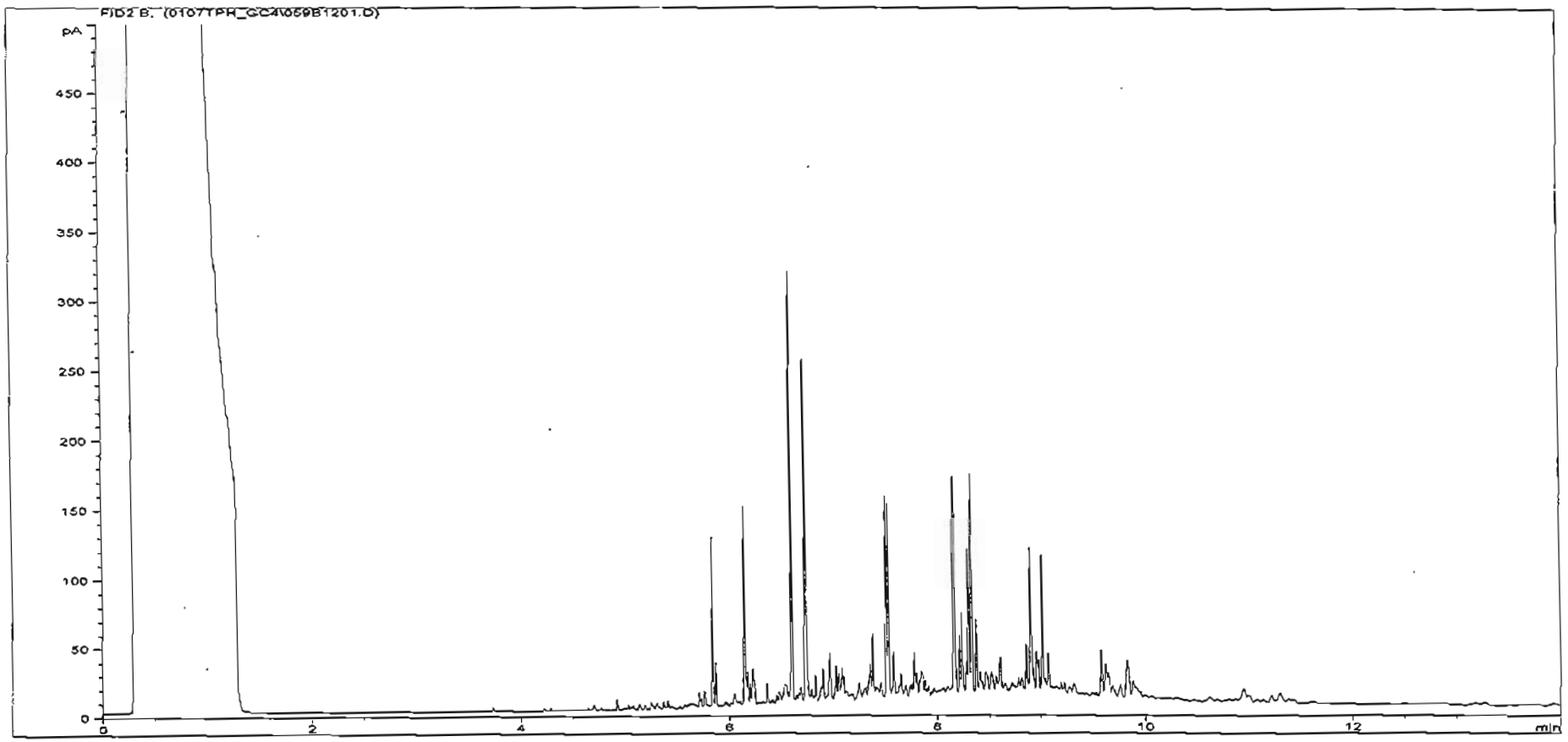
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531835ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	5	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS311 0.9-1.2 (NVM)
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\010F1201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

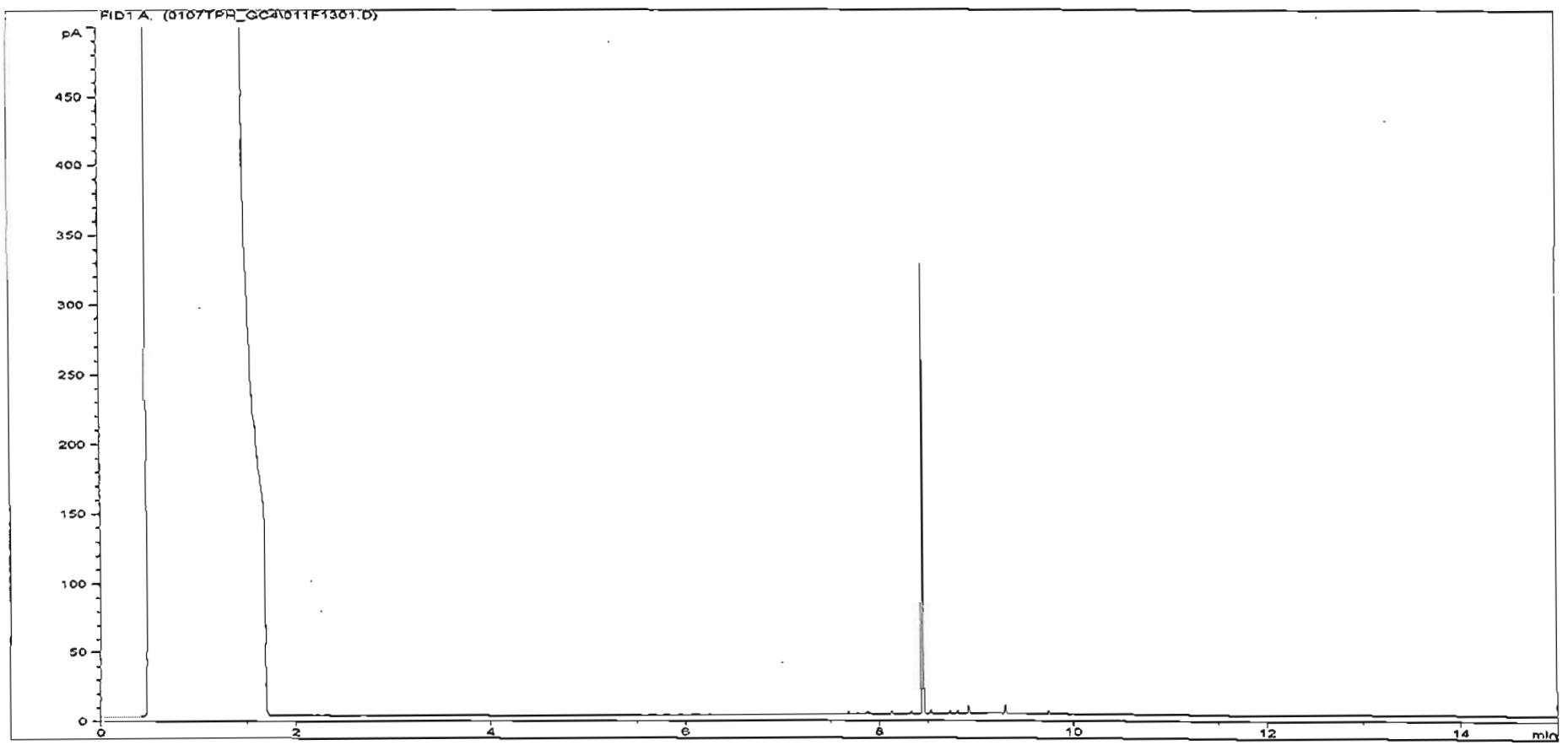
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531835ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	5	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS311 0.9-1.2 (NVM)
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\059B1201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

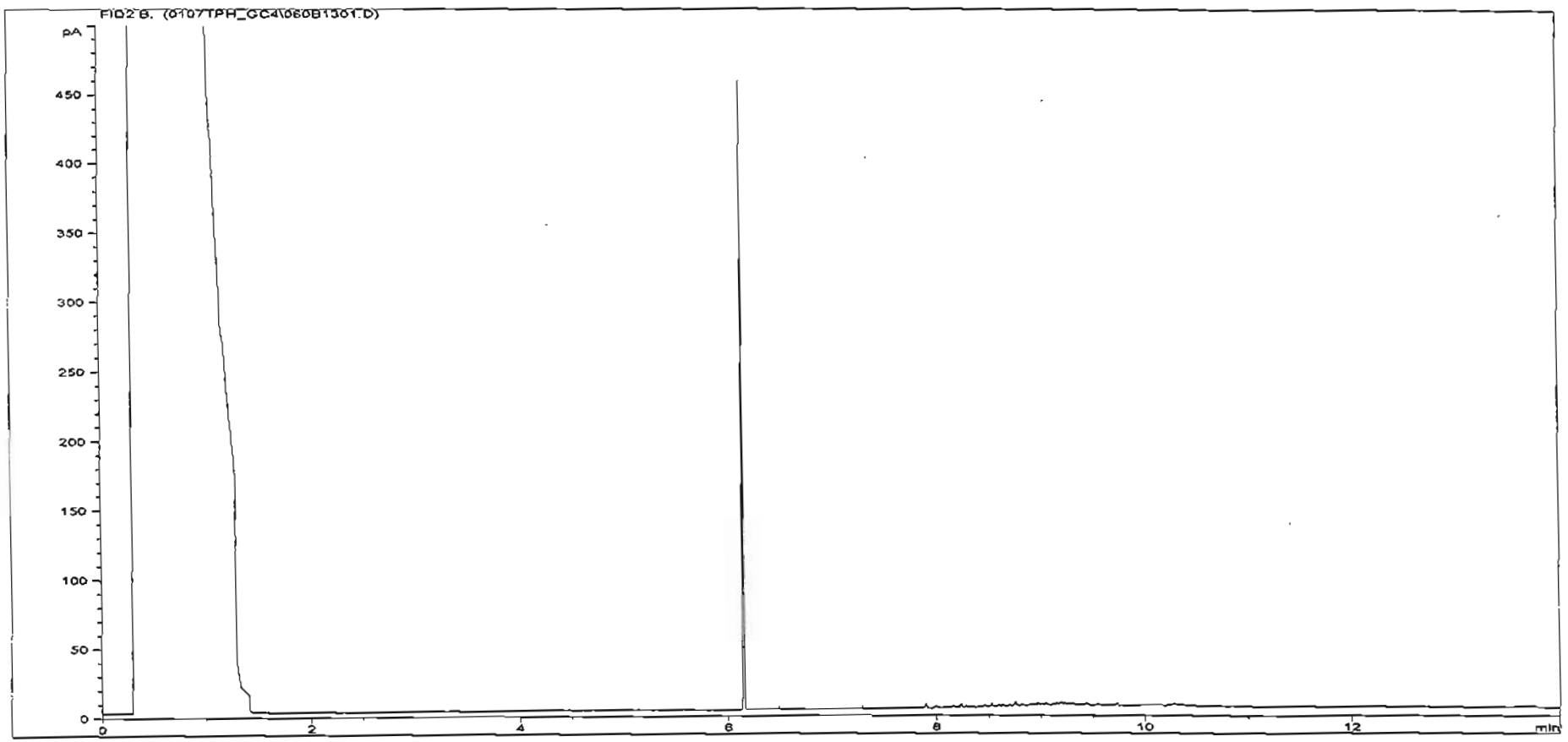
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531836ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS311 1.4-1.6
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\011F1301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

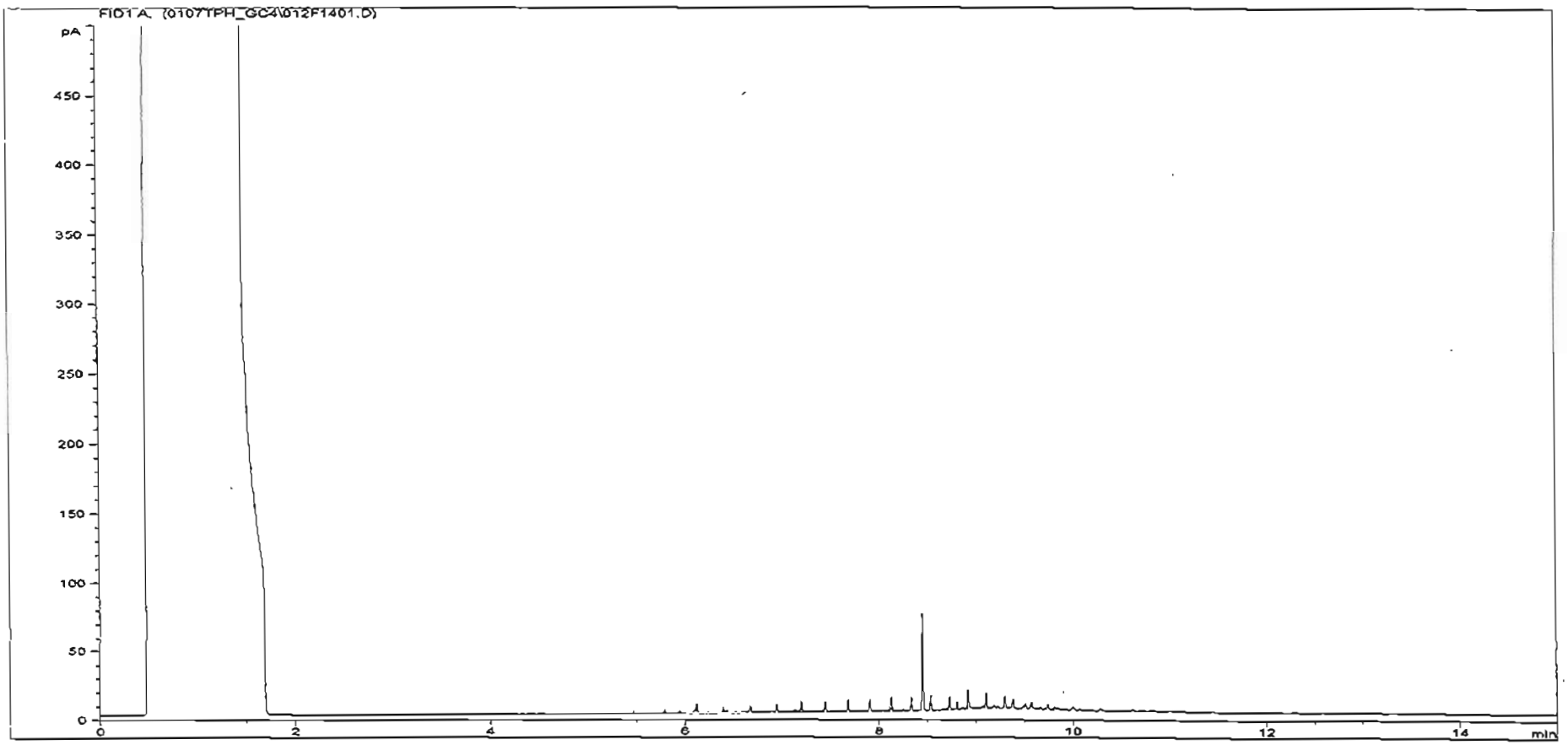
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531836ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS311 1.4-1.6
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\060B1301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

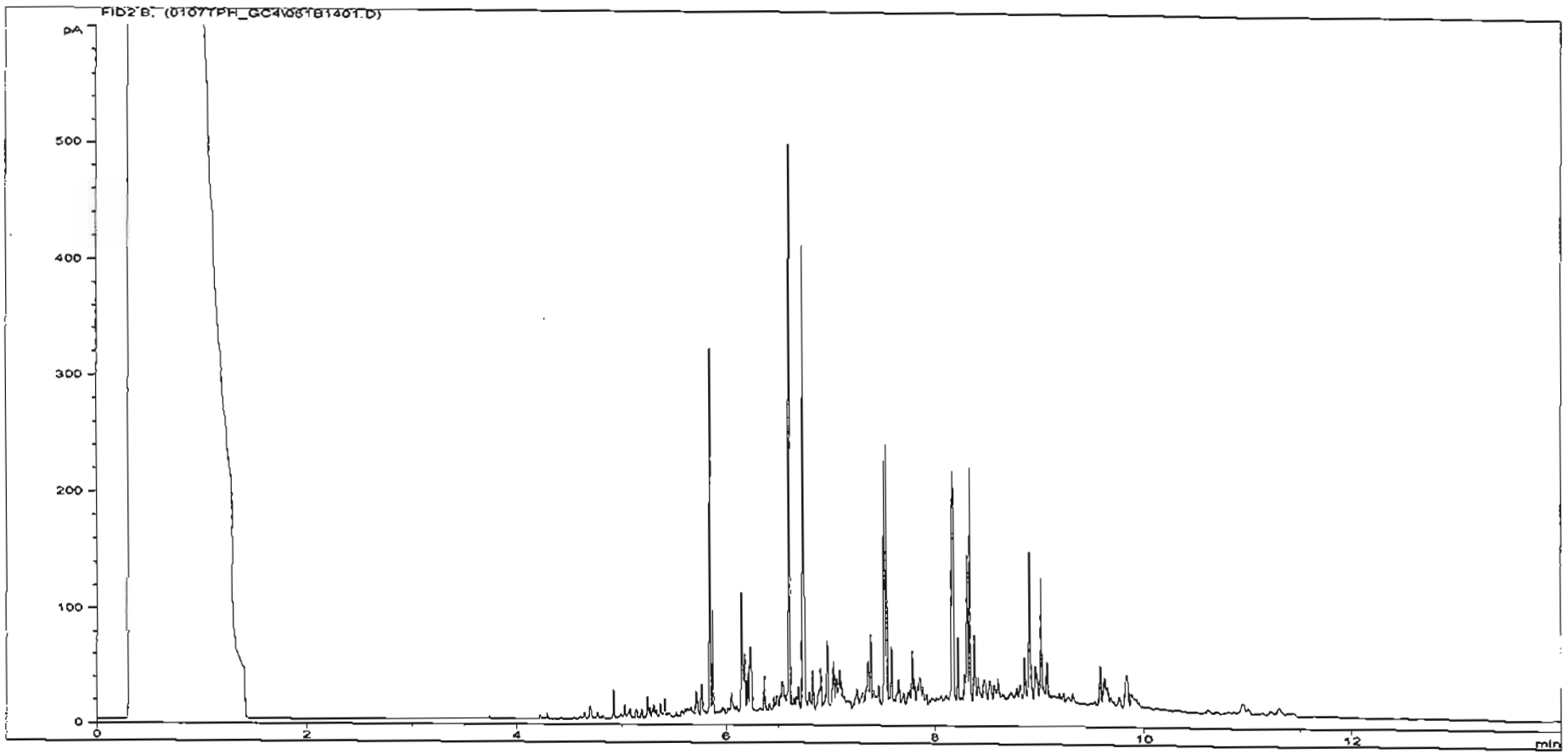
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531837ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	5	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS310 1.1-1.4 (NVM)
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\012F1401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

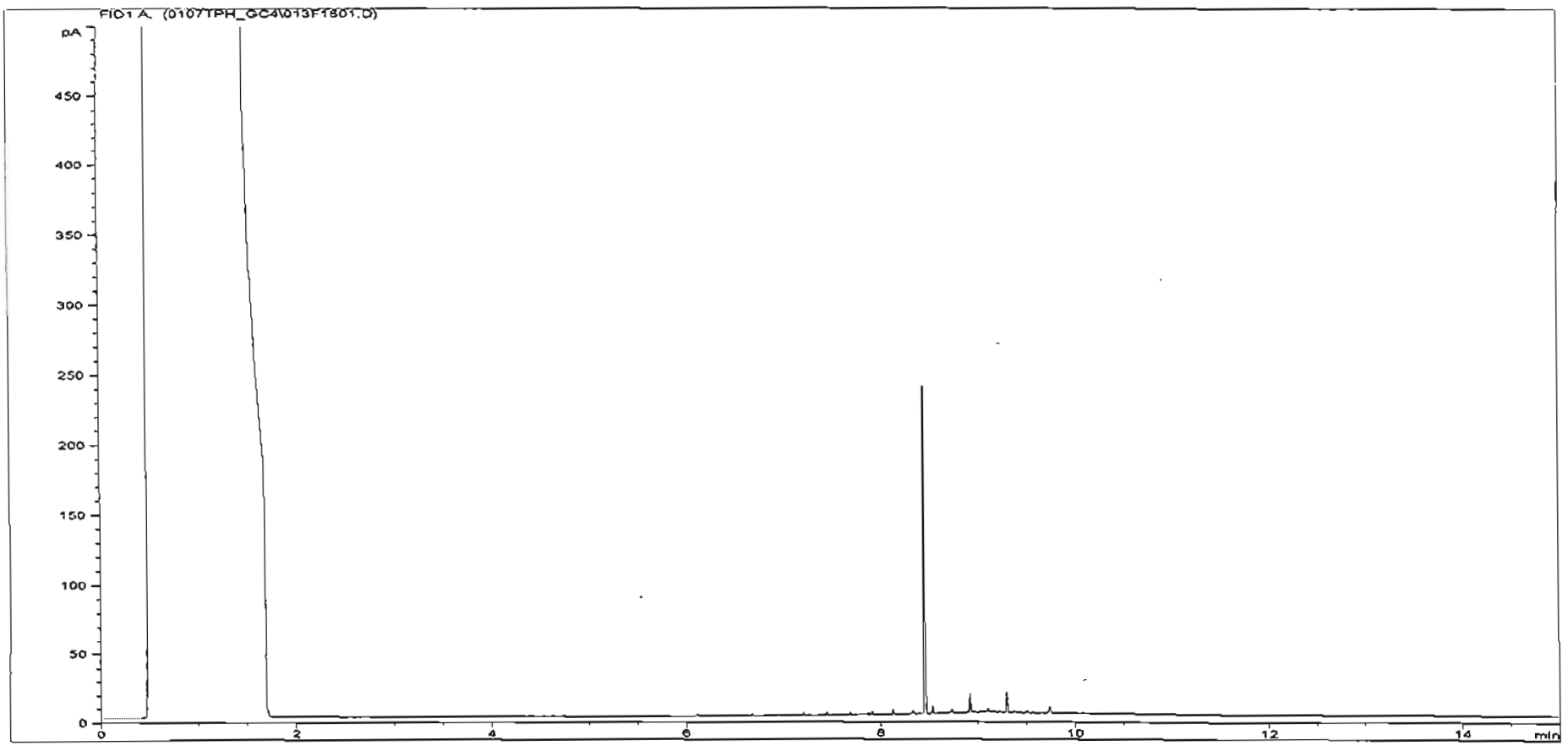
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531837ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	5	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS310 1.1-1.4 (NVM)
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\061B1401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

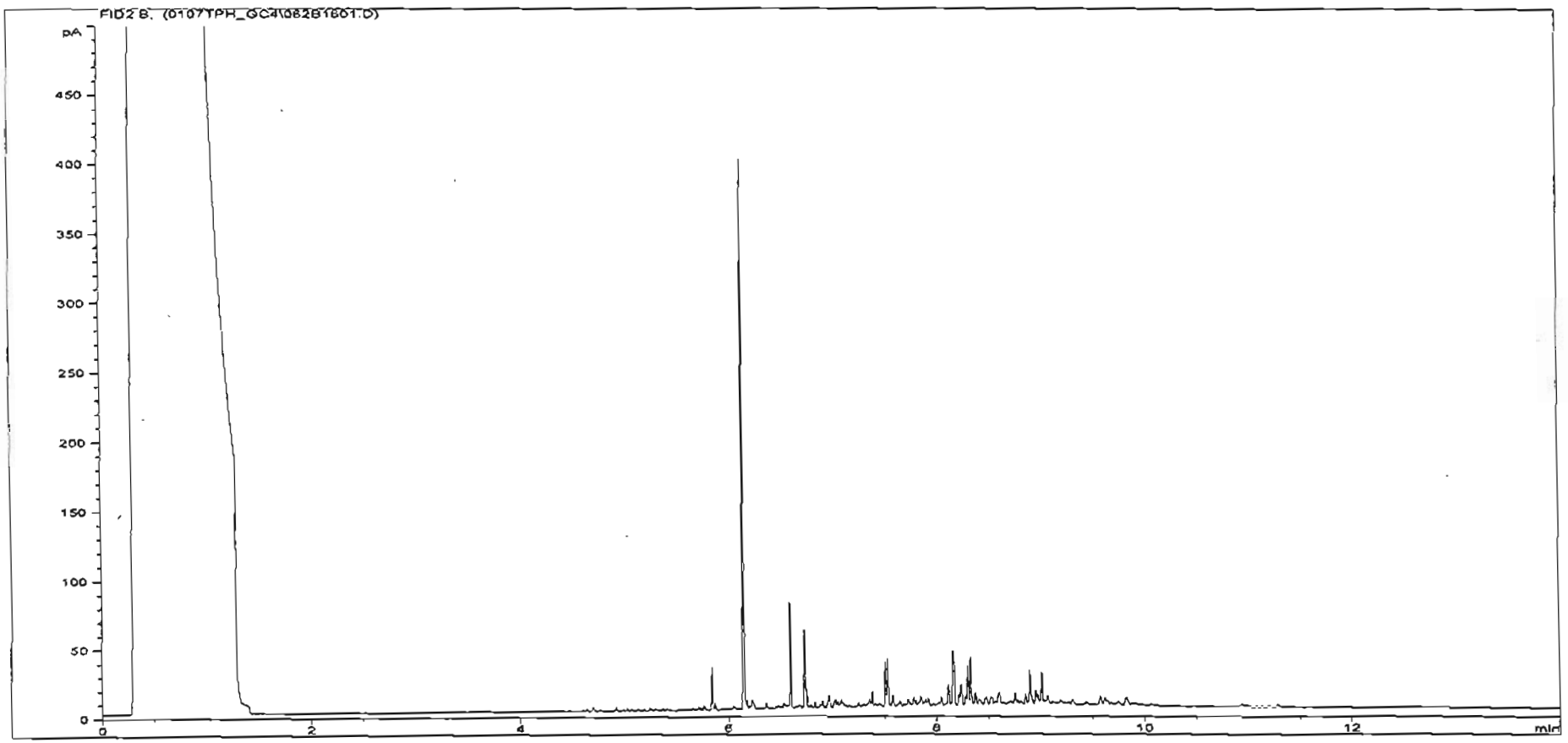
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531838ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS310 1.5-1.7
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\013F1601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

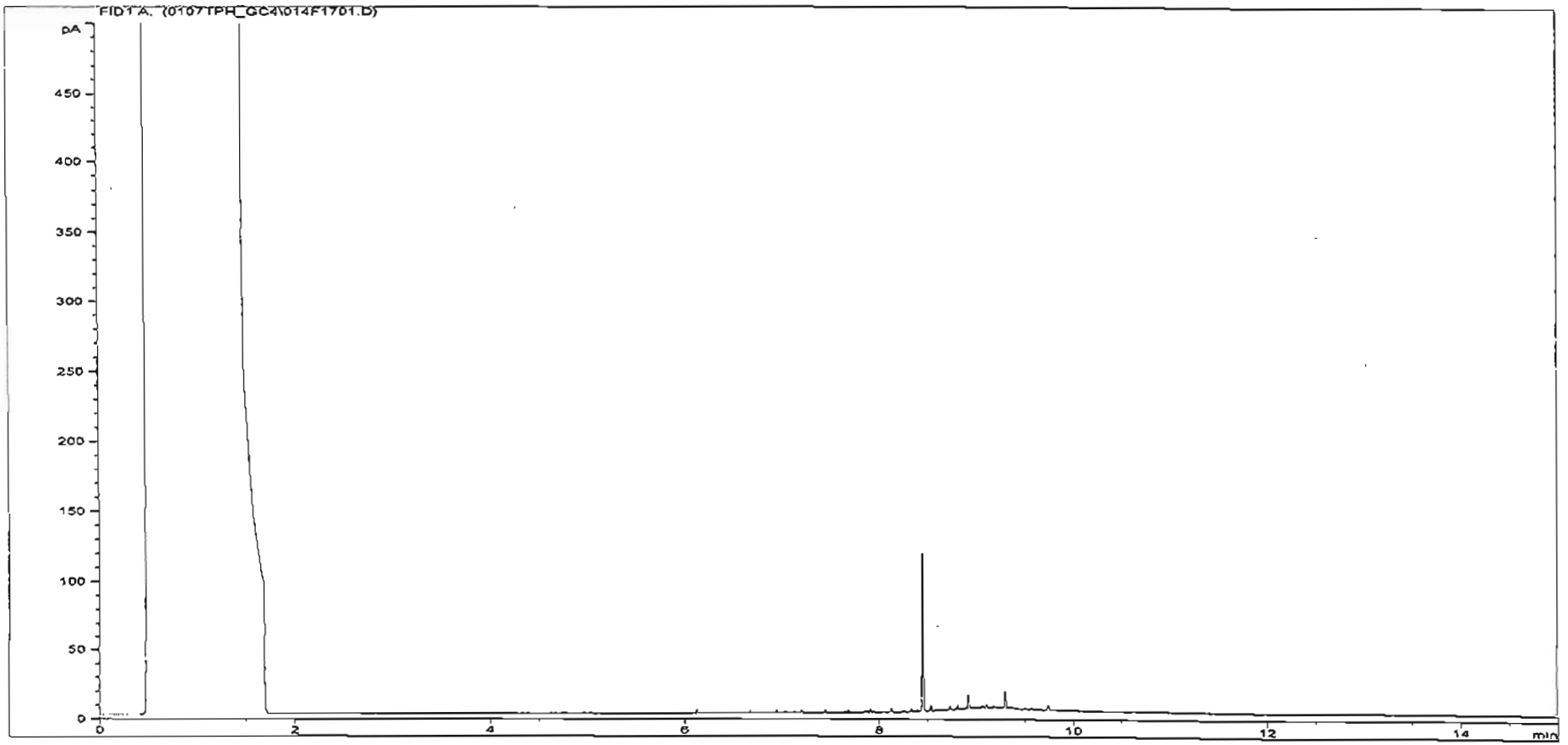
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531838ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS310 1.5-1.7
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\062B1601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

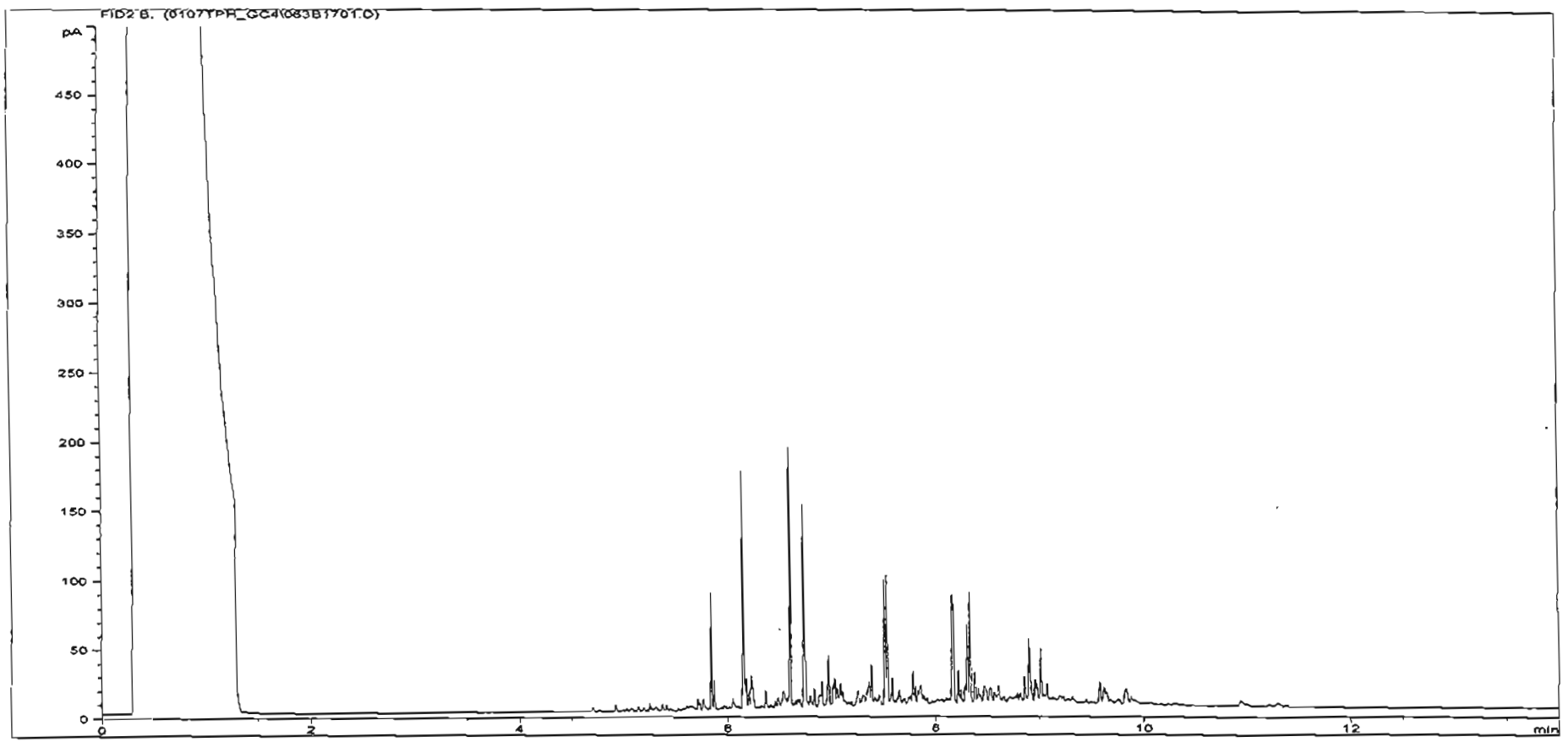
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531839ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH305 0.2-0.4
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\014F1701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

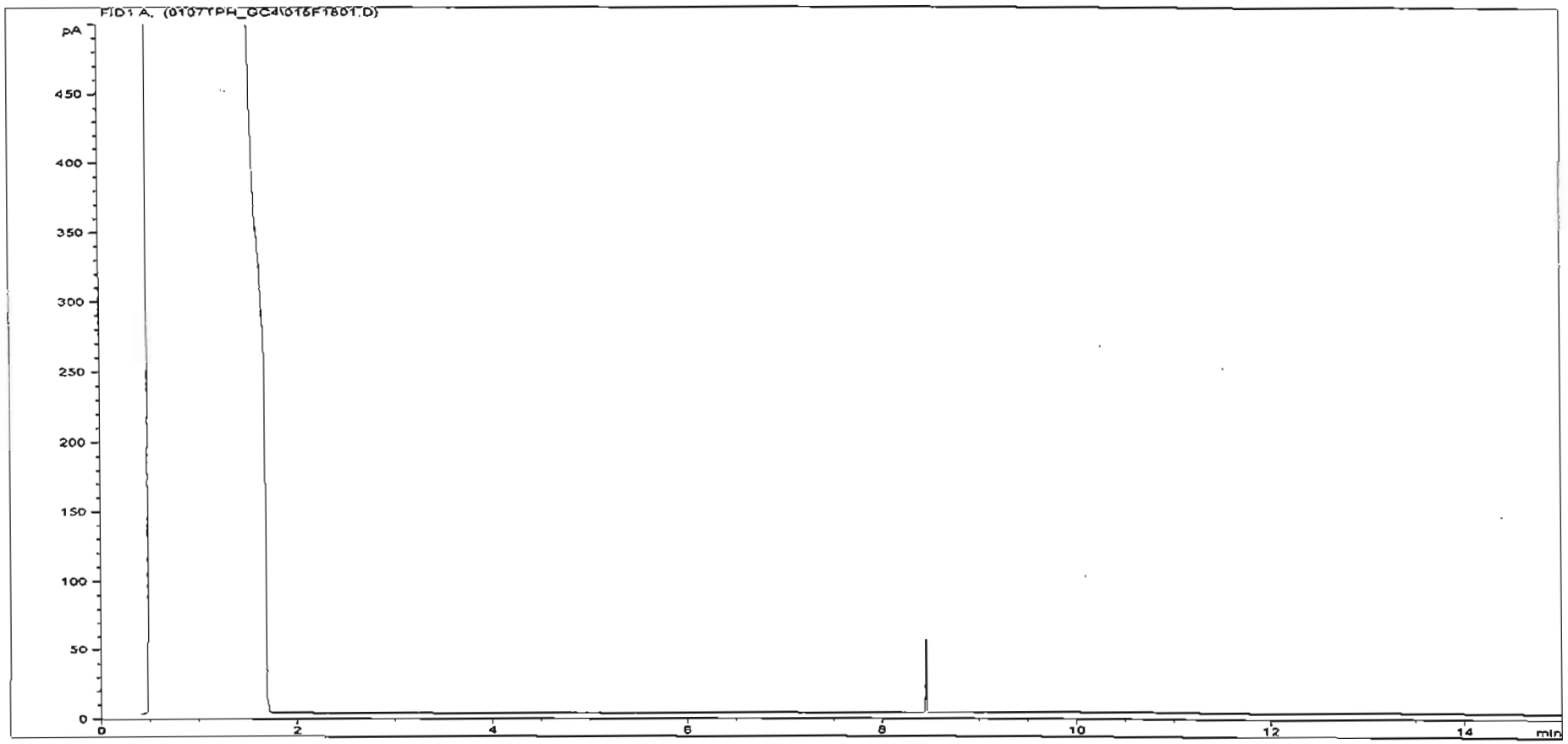
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531839ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH305 0.2-0.4
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\063B1701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

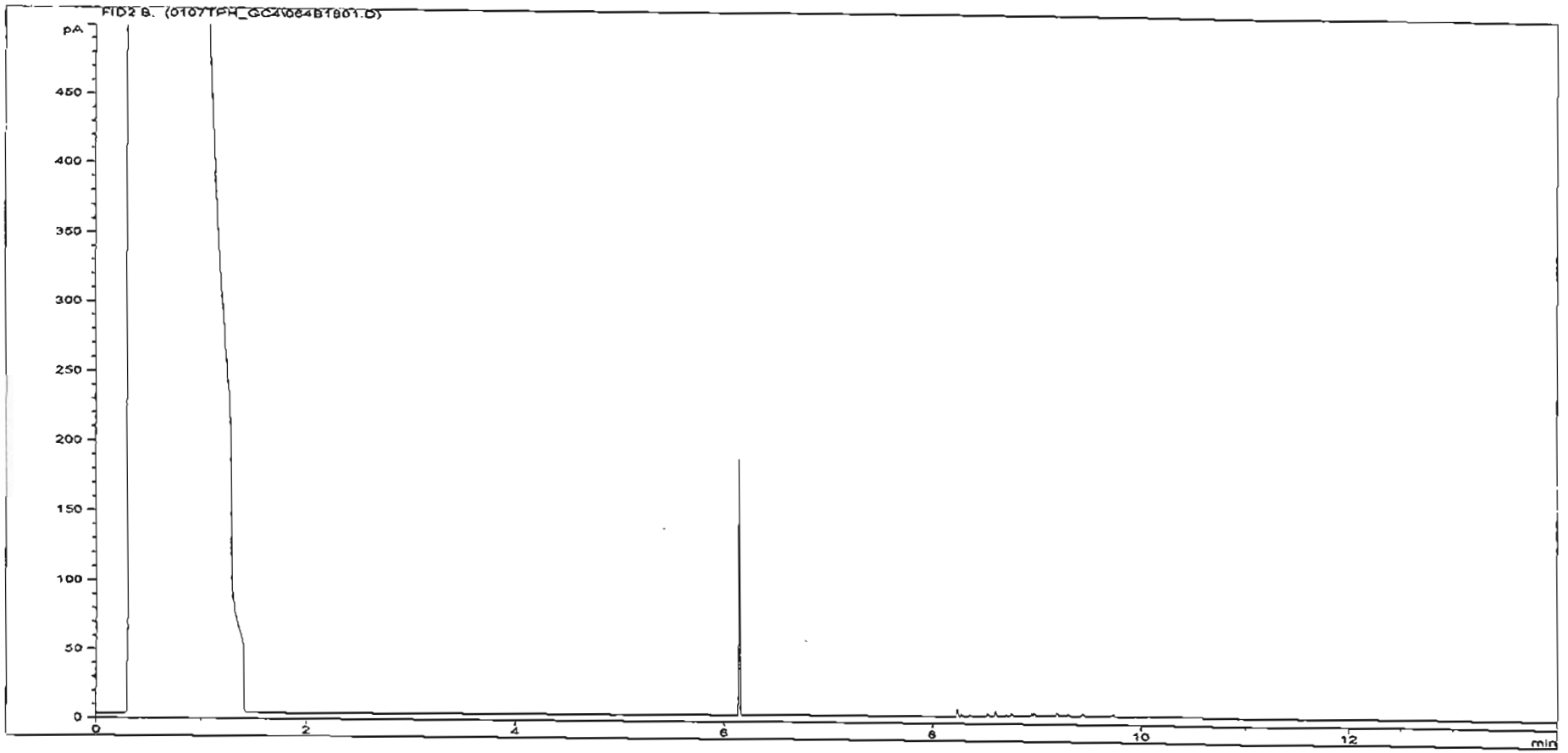
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531841ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH305 5.5-6.0
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\015F1801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

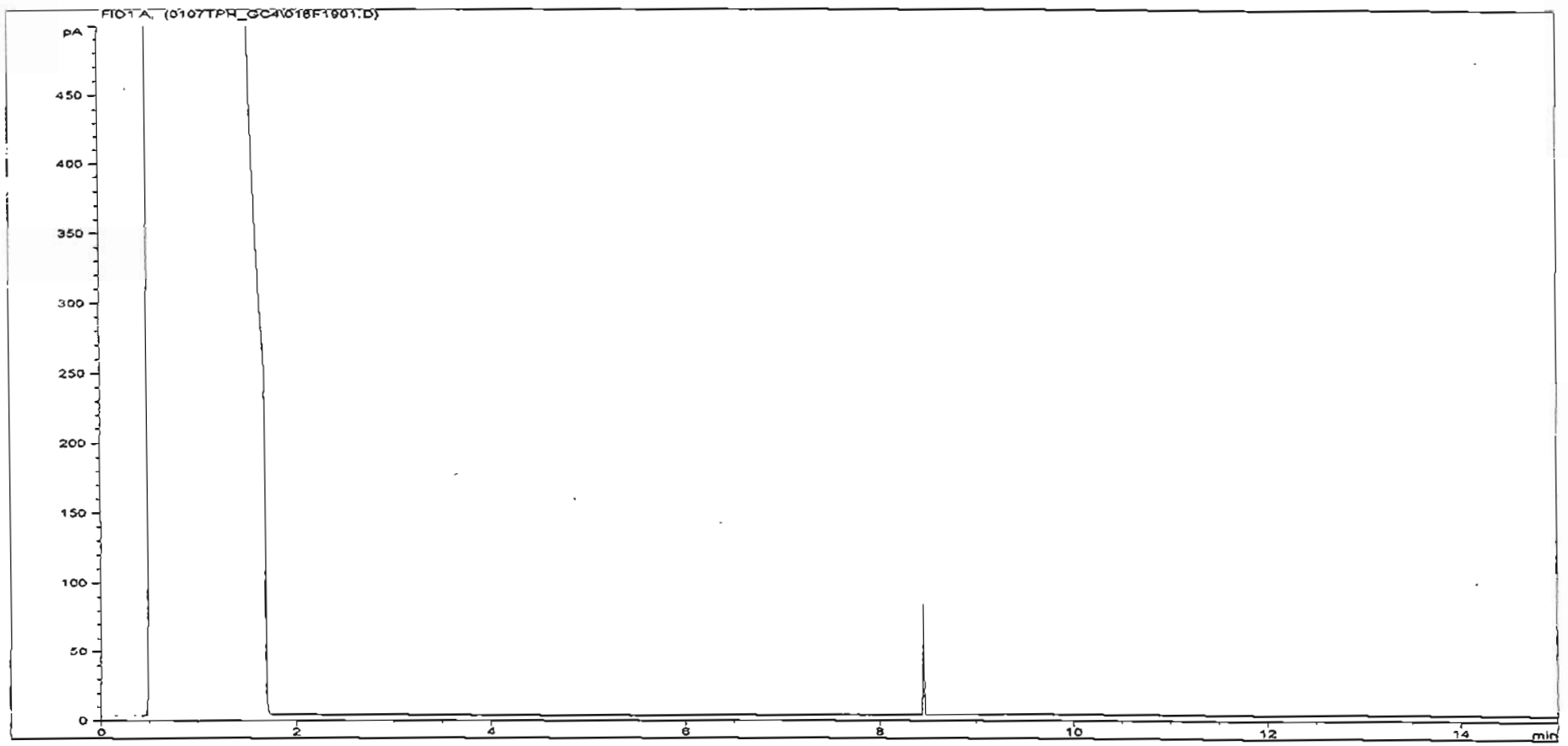
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531841ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH305 5.5-6.0
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\064B1801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531842ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH301 1.2-1.4
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\016F1901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

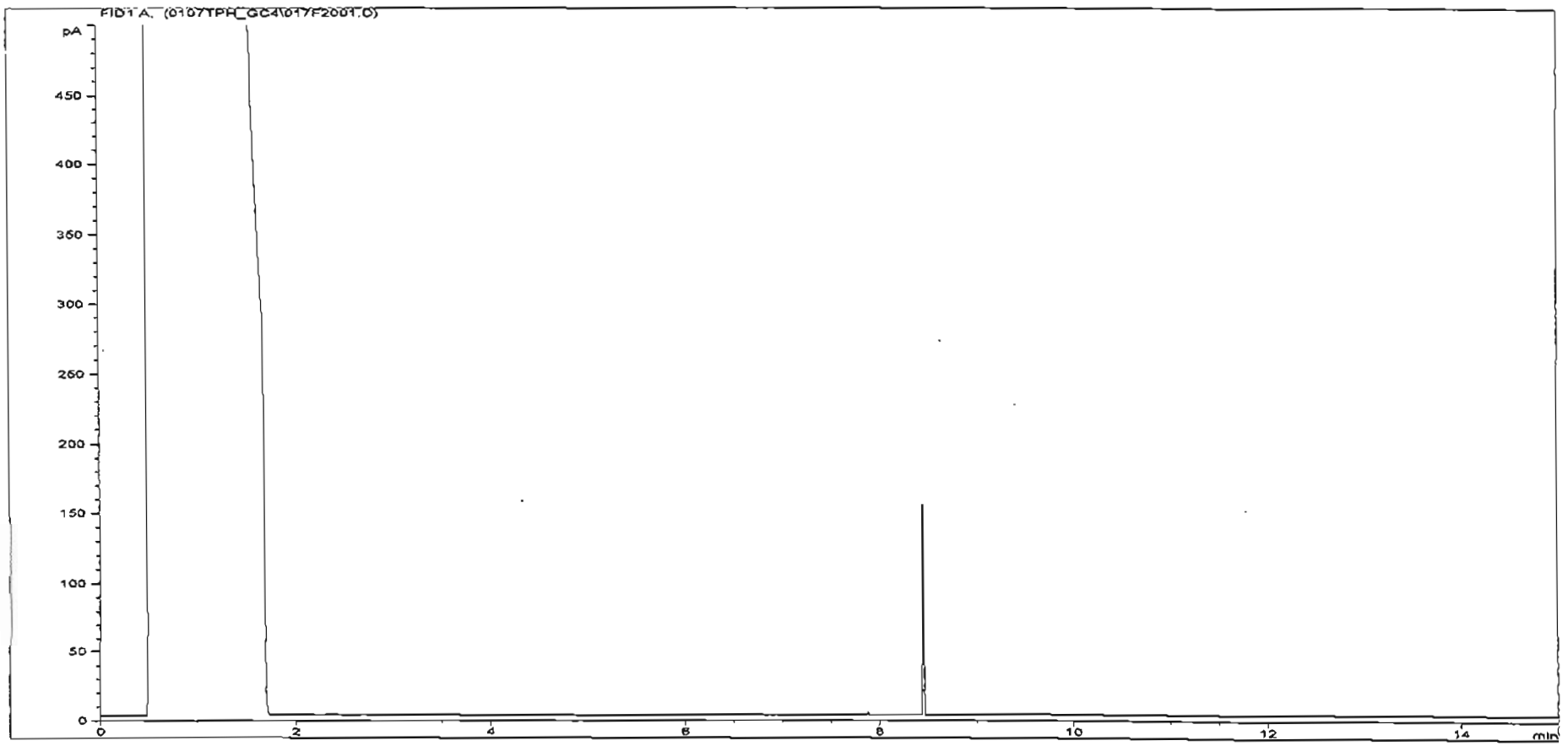
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531842ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH301 1.2-1.4
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\065B1901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

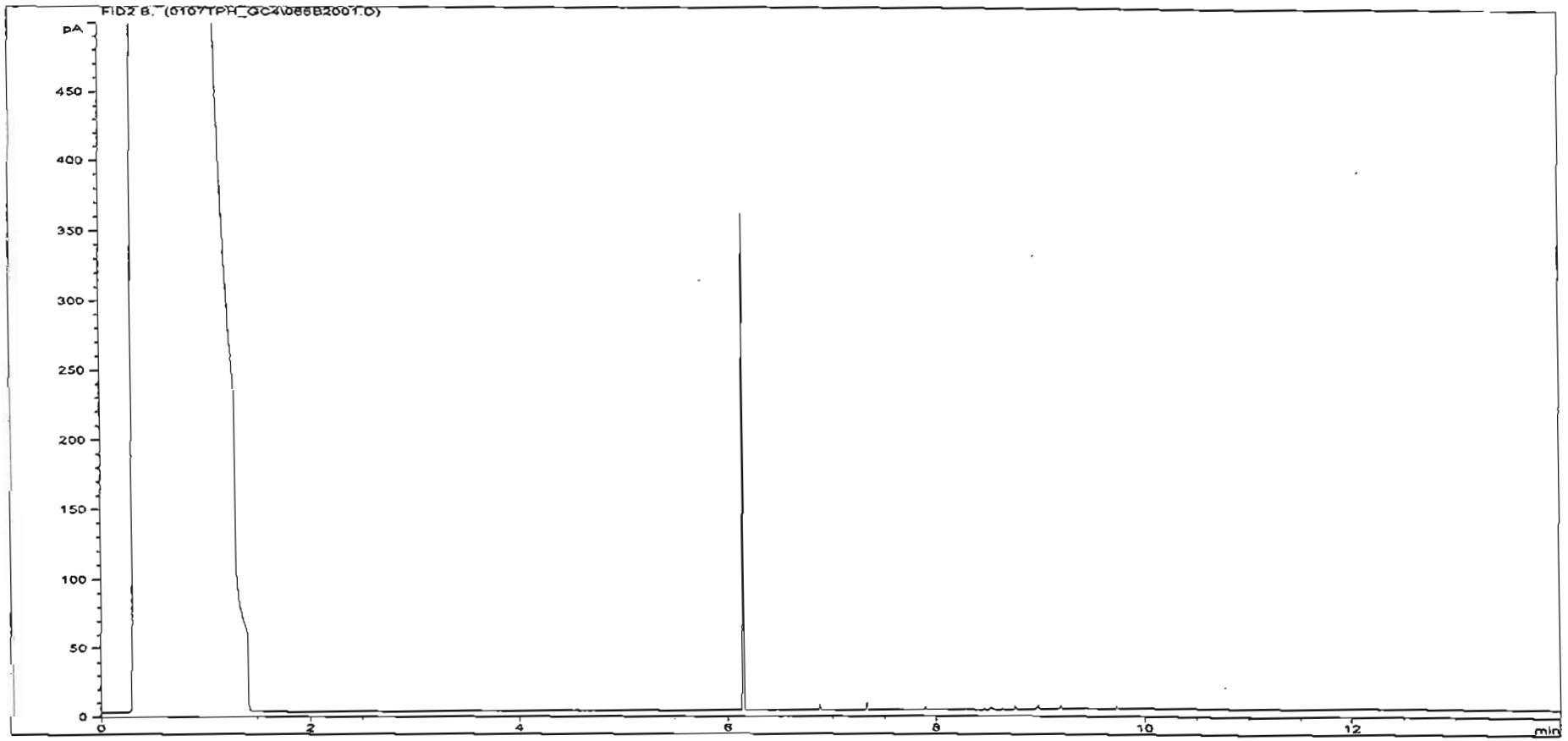
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531843ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH301 7.8-8.0 (NVM)
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\017F2001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

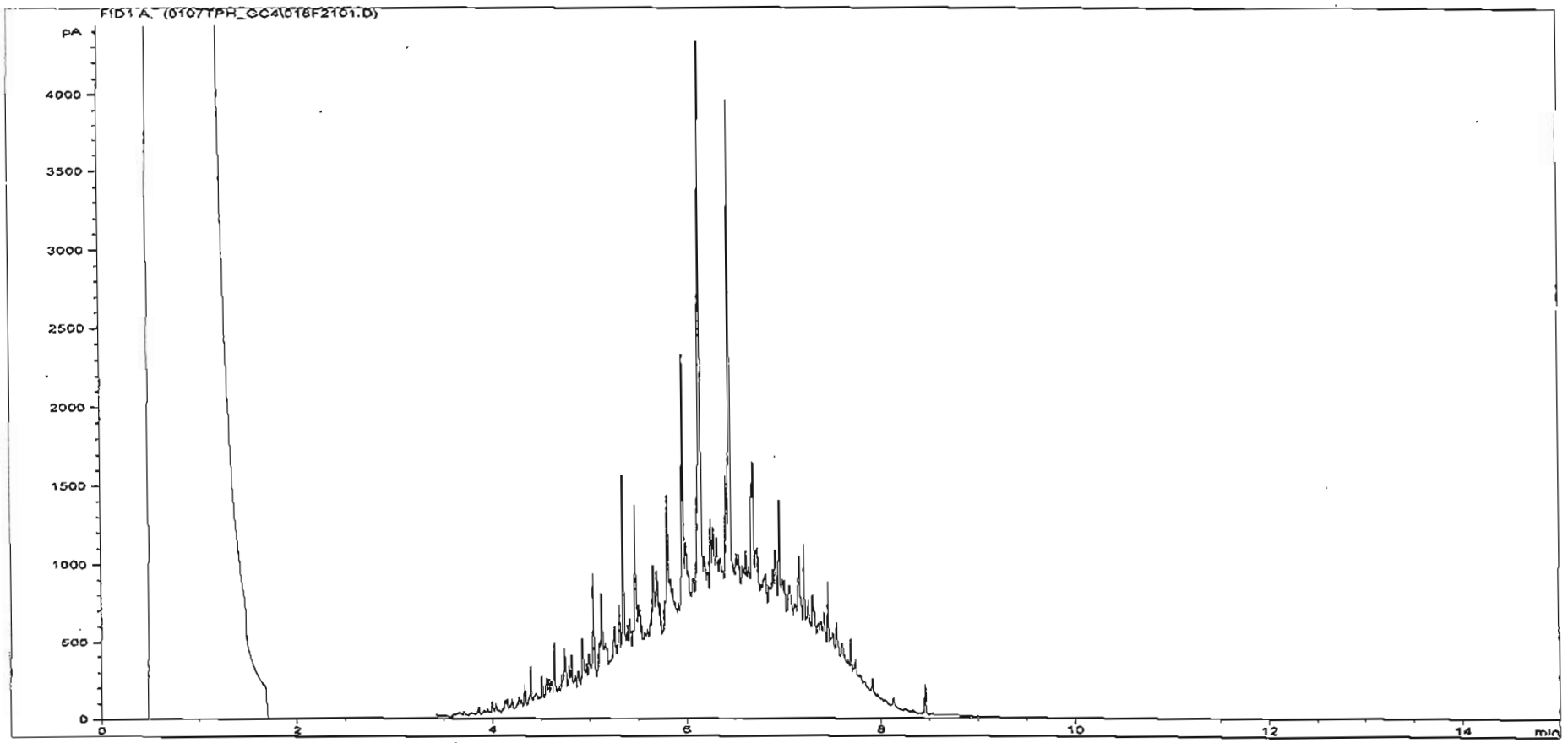
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531843ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH301 7.8-8.0 (NVM)
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\066B2001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

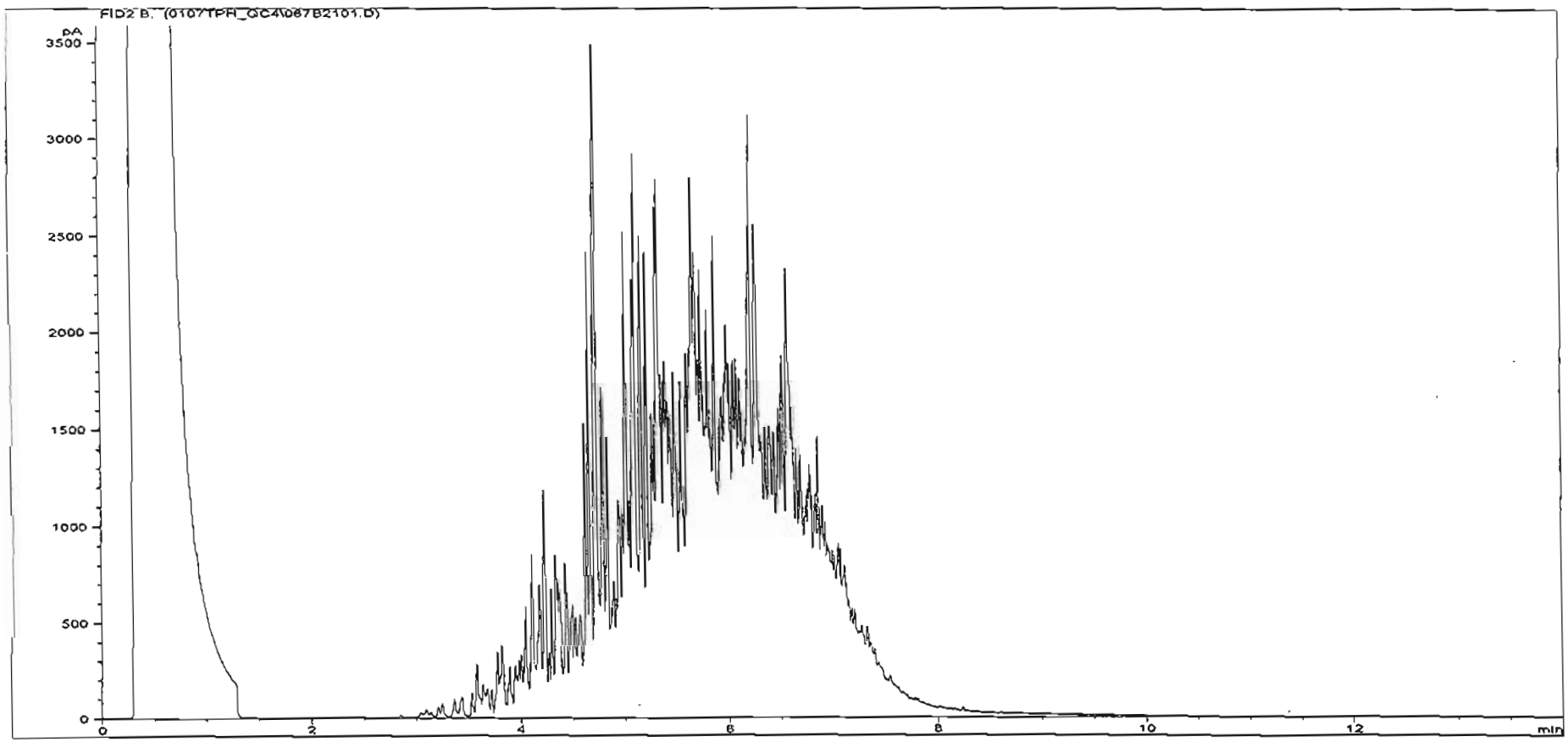
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531844ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH312 0.3-0.5
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\018F2101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

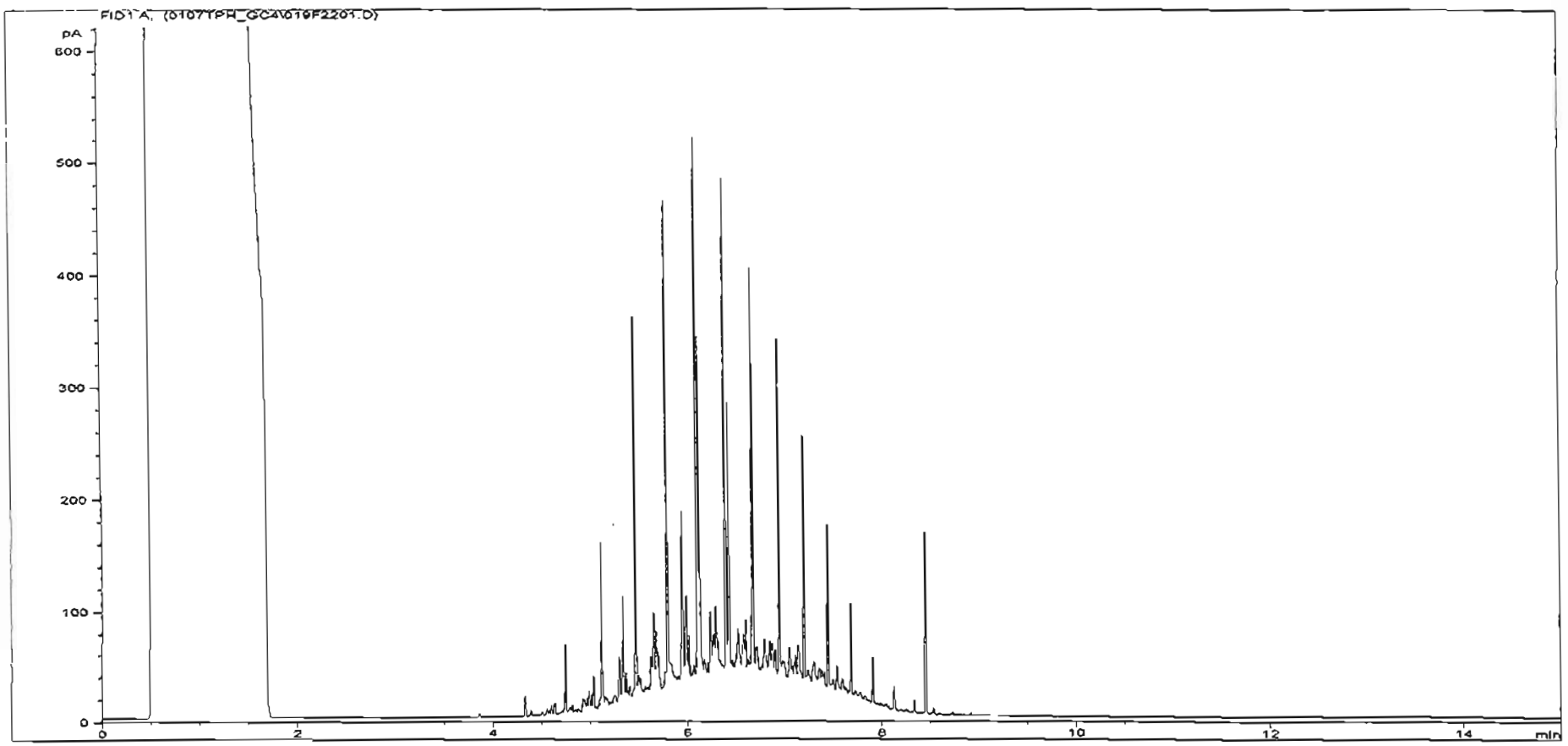
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531844ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH312 0.3-0.5
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\067B2101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

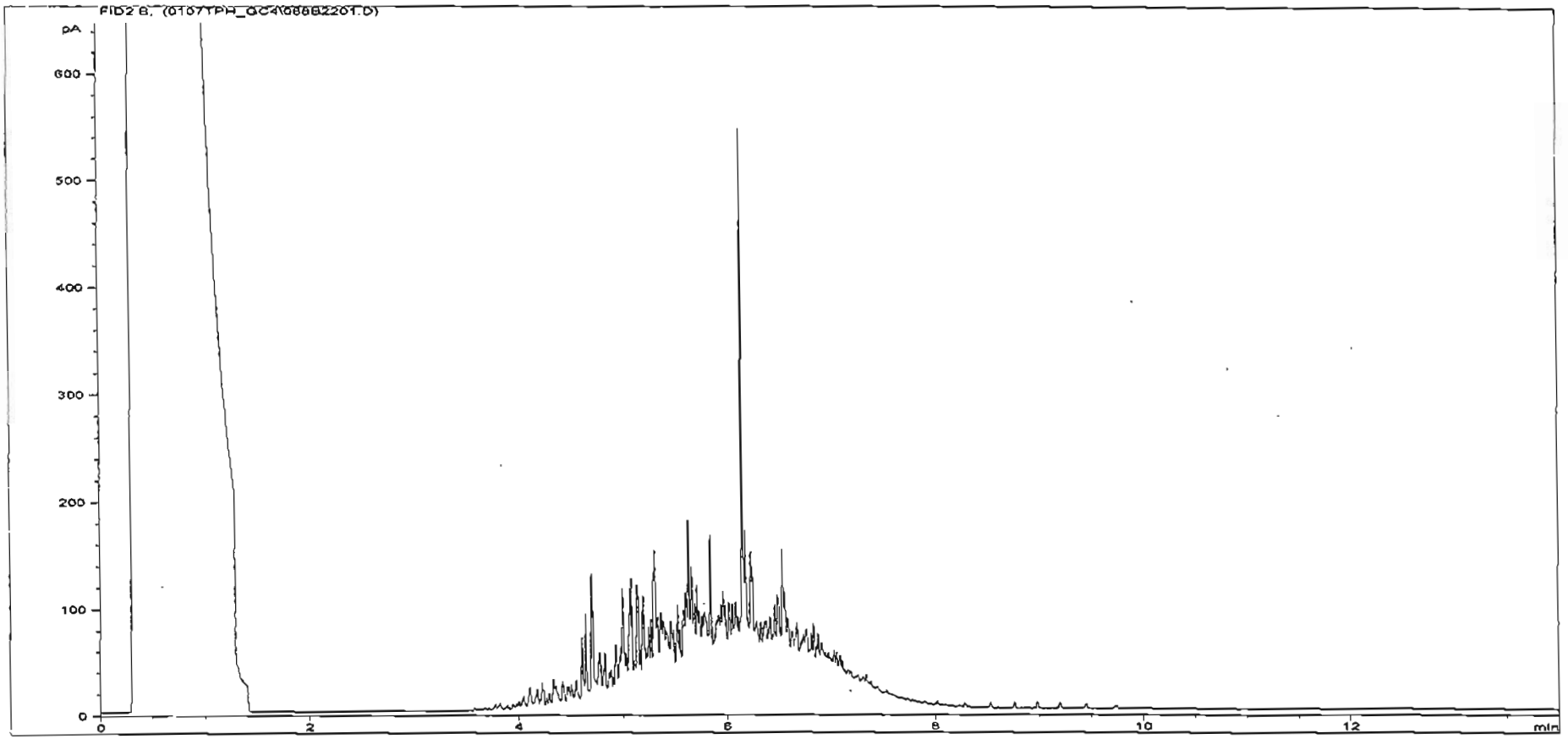
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531845ALI	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS312 2.7-2.9
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\019F2201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531845ARO	**Job Number:**	s05_4548M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS312 2.7-2.9
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0107TPH_GC4\068B2201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by TGCMS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Accredited?:**	Yes		
Sample Details:	E-WS309 1.2-1.4	**Directory/Quant file:**	1208VOC.MS2\ 1208CCC1.D	**Matrix:**	Soil
LIMS ID Number:	CL0531833	**Date Booked In:**	01-Dec-05	**Method:**	Purge & trap
Job Number:	S05_4548M	**Date Analysed:**	08-Dec-05	**Multiplier:**	5
		Operator:	SH	**Position:**	5

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8 ?	-	< 6	-	U
Chloromethane	74-87-3 ?	-	< 6	-	UM
Vinyl Chloride	75-01-4	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 29	-	U
Chloroethane	75-00-3 *	-	< 29	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 29	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
Iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 29	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 29	-	U
Hexachlorobutadiene	87-68-3	-	< 29	-	U
Naphthalene	91-20-3	-	< 29	-	U
1,2,3-Trichlorobenzene	87-61-6 ?	-	< 29	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	6.94	66	Dibromofluoromethane	94
1,4-Difluorobenzene	7.97	57	Toluene-d8	108
Chlorobenzene-d5	12.51	63	Bromofluorobenzene	103
1,4-Dichlorobenzene-d4	16.56	69		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Sample Details: E-WS309 2.6-2.8
LIMS ID Number: CL0531834
Job Number: S05_4548M

Directory/Quant file: 1208VOC.MS2\ 1208CCC1.D
Date Booked In: 01-Dec-05
Date Analysed: 08-Dec-05
Operator: SH

Matrix: Soil
Method: Purge & trap
Multiplier: 5
Position: 6

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8 ?	-	< 6	-	U
Chloromethane	74-87-3 ?	-	< 6	-	UM
Vinyl Chloride	75-01-4	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 29	-	U
Chloroethane	75-00-3 *	-	< 29	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 29	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
Iso-Propylbenzene	98-82-8	14.29	8	95	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	15.01	16	93	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	15.33	15	97	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	15.98	73	93	UM
sec-Butylbenzene	135-98-8	16.28	19	98	UM
p-Isopropyltoluene	99-87-6	16.47	17	96	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	17.29	21	66	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 29	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 29	-	U
Hexachlorobutadiene	87-68-3	-	< 29	-	U
Naphthalene	91-20-3	20.60	68	100	U
1,2,3-Trichlorobenzene	87-61-6 ?	-	< 29	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	6.93	63	Dibromofluoromethane	87
1,4-Difluorobenzene	7.97	58	Toluene-d8	106
Chlorobenzene-d5	12.50	62	Bromofluorobenzene	104
1,4-Dichlorobenzene-d4	16.55	65		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

TES Bretby

TEST REPORT
WATER SAMPLE ANALYSIS

UKAS TESTING
1252

TES Report No. EXR/055931

Entec UK Ltd
160-162 Abbey Foregate
Shrewsbury
Shropshire
SY2 6BZ

Site: HMS Daedalus (E)

The 3 samples described in this report were logged for analysis by TES Bretby on 13-Dec-2005.
The analysis was completed by: 08-Feb-2006

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby Laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of GRO Results (Page 4)
Table of SVOC Results (Pages 5 to 6)
Table of TPH (Si) banding (0.01) (Page 7)
GC-FID Chromatograms (Pages 8 to 13)
Table of VOC (HSA) Results (Pages 14 to 16)
Table of Report Notes (Page 17)

On behalf of
TES Bretby :
J Elstub

Date of Issue: 08-Feb-2006

Tests marked '^' have been subcontracted to another laboratory.

TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Units :				uS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Method Codes :				WSLM3	WSLM2	KONENS	ICPWATER	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	KONENS	ISESW24	WSLM13
Method Reporting Limits :					100	1	0.06	0.001	0.001	0.0001	0.001	0.001	0.002	0.001	0.0001	0.001	0.3	0.2	0.1
UKAS Accredited :				yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
TES ID Number EXR	Client Sample Description	Sample Date	pH units	Conductivity uS/cm @ 25C	Chloride as Cl w	Total Sulphur as SO4 (Dissolved)	Nickel as Ni (Dissolved)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Arsenic as As (Dissolved)	Mercury as Hg (Dissolved)	Selenium as Se (Dissolved)	Nitrate as N	Sulphide (Free) as S	Total Organic Carbon
0525734	E-BH302	08-Dec-05	8.6	1330	86	126	0.033	0.019	0.0006	0.043	0.018	0.307	0.013	<0.0001	0.032	0.4	<0.2	120
0525735	E-BH304	08-Dec-05	7.3	991	30	108	0.004	<0.001	<0.0001	<0.001	<0.001	0.012	0.001	<0.0001	0.005	0.4	<0.2	6.3
0525736	E-BH306	08-Dec-05	8.6	1690	91	109	0.016	0.015	0.0003	0.011	0.006	0.054	0.010	<0.0001	0.045	0.6	<0.2	200

TES Bretby
PO Box 100, Bretby Business Park,
Burton-on-Trent, Staffordshire, DE15 0XD
Tel +44 (0) 1283 554400
Fax +44 (0) 1283 554422

Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Water Sample Analysis

Date Printed	08-Feb-06
Report Number	EXR/055931
Table Number	1

TES Bretby

Units :			mg/l	mg/l	mg/l	ug/l	ug/l											
Method Codes :			SFAPI		TPHFID-SI	SVOCSWSIM	VOCSWHSA											
Method Reporting Limits :			0.05	0.01	0.01	0.04-0.8	1											
UKAS Accredited :			no	no	no	no	no											
TES ID Number EXJ	Client Sample Description	Sample Date	Phenol Index as C6H5OH	GRO-HSA (AA) (0.01)	TPH GC (AA)	Semi Volatile Organic Compounds	Volatile Organic Compounds											
0525734	E-BH302	08-Dec-05	<0.05	Req	Req	$$	Req											
0525735	E-BH304	08-Dec-05	<0.05	Req	Req	Req	Req											
0525736	E-BH306	08-Dec-05	$$	Req	Req	Req	Req											

TES Bretby
PO Box 100, Bretby Business Park,
Burton-on-Trent, Staffordshire, DE15 0XD
Tel +44 (0) 1283 554400
Fax +44 (0) 1283 554422

Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Water Sample Analysis

Date Printed	07-Feb-06
Report Number	EXR/055931
Table Number	1

TES Bretby

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Entec UK Ltd : HMS Daedalus
Job Number: W05_5931
Directory: 0113HSA1_GC6
Method: Headspace GCFID

Matrix: WATER
Date Booked in: 13-Dec-05
Date extracted: 13-Jan-06
Date Analysed: 13-Jan-06

*** Sample data with an asterisk are not UKAS accredited.**

		Concentration, (mg/l)					Aliphatics				
Sample ID	Client ID	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	C5 - C6	>C6 - C7	>C7 - C8	>C8 - C10	Total GRO
EX0525734	E-BH302	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	0.01
EX0525735	E-BH304	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01
EX0525736	E-BH306	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Water	**QC Batch Number:**	0217
Sample Details:	E-BH304	**Date Booked in:**	13-Dec-05	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.002
LIMS ID Number:	EX0525735	**Date Extracted:**	31-Jan-06	**Operator:**	SO	**Dilution Factor:**	1
Job Number:	W05_5931	**Date Analysed:**	04-Feb-06	**Directory/Quant File:**	0203ABN.GC8 0203CCC4.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration µg/l	% Fit
Phenol	108-95-2	-	< 0.400	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.100	-
2-Chlorophenol	95-57-8	-	< 0.400	-
1,3-Dichlorobenzene	541-73-1	-	< 0.100	-
1,4-Dichlorobenzene	106-46-7	-	< 0.100	-
Benzyl alcohol	100-51-6	-	< 50.000	-
1,2-Dichlorobenzene	95-50-1	-	< 0.100	-
2-Methylphenol	95-48-7	-	< 0.100	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.100	-
Hexachloroethane	67-72-1	-	< 0.100	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.100	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.400	-
Nitrobenzene	98-95-3	-	< 20.000	-
Isophorone	78-59-1	-	< 0.100	-
2-Nitrophenol	88-75-5	-	< 0.400	-
2,4-Dimethylphenol	105-67-9	-	< 0.400	-
Benzoic Acid	65-85-0	-	< 2.000	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.100	-
2,4-Dichlorophenol	120-83-2	-	< 0.400	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.100	-
Naphthalene	91-20-3	9.11	0.163	m
4-Chlorophenol	106-48-9	-	< 0.400	-
4-Chloroaniline	106-47-8	-	< 0.100	-
Hexachlorobutadiene	87-68-3	-	< 0.100	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.100	-
2-Methylnaphthalene	91-57-6	-	< 0.040	-
1-Methylnaphthalene	90-12-0	-	< 0.040	-
Hexachlorocyclopentadiene	77-47-4	-	< 50.000	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.400	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.400	-
2-Chloronaphthalene	91-58-7	-	< 0.040	-
Biphenyl	92-52-4	-	< 0.040	-
Diphenyl ether	101-84-8	-	< 0.040	-
2-Nitroaniline	88-74-4	-	< 20.000	-
Acenaphthylene	208-96-8	-	< 0.040	-
Dimethylphthalate	131-11-3	-	< 0.100	-
2,6-Dinitrotoluene	606-20-2	-	< 20.000	-
Acenaphthene	83-32-9	-	< 0.040	-
3-Nitroaniline	99-09-2	-	< 0.100	-

Target Compounds	CAS #	R.T.	Concentration µg/l	% Fit
2,4-Dinitrophenol	51-28-5	-	< 100.000	-
Dibenzofuran	132-64-9	-	< 0.100	-
4-Nitrophenol	100-02-7	-	< 1.000	-
2,4-Dinitrotoluene	121-14-2	-	< 0.100	-
Fluorene	86-73-7	-	< 0.040	-
Diethylphthalate	84-66-2	-	< 0.100	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.100	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 1.000	-
4-Nitroaniline	100-01-6	-	< 20.000	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.100	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.100	-
Hexachlorobenzene	118-74-1	-	< 0.100	-
Pentachlorophenol	87-86-5	-	< 1.000	-
Phenanthrene	85-01-8	-	< 0.040	-
Anthracene	120-12-7	-	< 0.040	-
Di-n-butylphthalate	84-74-2	17.33	0.246	m
Fluoranthene	206-44-0	-	< 0.040	-
Pyrene	129-00-0	18.82	0.047	m
Butylbenzylphthalate	85-68-7	-	< 20.000	-
Benzo[a]anthracene	56-55-3	-	< 0.040	-
Chrysene	218-01-9	-	< 0.040	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.400	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 20.000	-
Di-n-octylphthalate	117-84-0	-	< 40.000	-
Benzo[b]fluoranthene	205-99-2	-	< 8.000	-
Benzo[k]fluoranthene	207-08-9	-	< 0.040	-
Benzo[a]pyrene	50-32-8	-	< 0.040	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.040	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.040	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.040	-

Internal Standards	% Area
1,4-Dichlorobenzene-d4	72
Naphthalene-d8	69
Acenaphthene-d10	D
Phenanthrene-d10	71
Chrysene-d12	68
Perylene-d12	72

Surrogates	% Rec
2-Fluorophenol	61
Phenol-d5	43
Nitrobenzene-d5	80
2-Fluorobiphenyl	89
2,4,6-Tribromophenol	93
Terphenyl-d14	103

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			Matrix:	Water	QC Batch Number:	0217
Sample Details:	E-BH306	Date Booked in:	13-Dec-05	Ext Method:	Sep. Funnel	Multiplier:	0.002
LIMS ID Number:	EX0525736	Date Extracted:	31-Jan-06	Operator:	SO	Dilution Factor:	1
Job Number:	W05_5931	Date Analysed:	04-Feb-06	Directory/Quant File:	0203ABN.GC8 0203CCC4.D	GPC (Y/N)	N

Target Compounds	CAS #	R.T. (min)	Concentration µg/l	% Fit
Phenol	108-95-2	-	< 0.400	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.100	-
2-Chlorophenol	95-57-8	-	< 0.400	-
1,3-Dichlorobenzene	541-73-1	-	< 0.100	-
1,4-Dichlorobenzene	106-46-7	-	< 0.100	-
Benzyl alcohol	100-51-6	-	< 50.000	-
1,2-Dichlorobenzene	95-50-1	-	< 0.100	-
2-Methylphenol	95-48-7	-	< 0.100	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.100	-
Hexachloroethane	67-72-1	-	< 0.100	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.100	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.400	-
Nitrobenzene	98-95-3	-	< 20.000	-
Isophorone	78-59-1	-	< 0.100	-
2-Nitrophenol	88-75-5	-	< 0.400	-
2,4-Dimethylphenol	105-67-9	-	< 0.400	-
Benzoic Acid	65-85-0	-	< 2.000	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.100	-
2,4-Dichlorophenol	120-83-2	-	< 0.400	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.100	-
Naphthalene	91-20-3	-	< 0.040	-
4-Chlorophenol	106-48-9	-	< 0.400	-
4-Chloroaniline	106-47-8	-	< 0.100	-
Hexachlorobutadiene	87-68-3	-	< 0.100	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.100	-
2-Methylnaphthalene	91-57-6	-	< 0.040	-
1-Methylnaphthalene	90-12-0	-	< 0.040	-
Hexachlorocyclopentadiene	77-47-4	-	< 50.000	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.400	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.400	-
2-Chloronaphthalene	91-58-7	-	< 0.040	-
Biphenyl	92-52-4	-	< 0.040	-
Diphenyl ether	101-84-8	-	< 0.040	-
2-Nitroaniline	88-74-4	-	< 20.000	-
Acenaphthylene	208-96-8	-	< 0.040	-
Dimethylphthalate	131-11-3	-	< 0.100	-
2,6-Dinitrotoluene	606-20-2	-	< 20.000	-
Acenaphthene	83-32-9	-	< 0.040	-
3-Nitroaniline	99-09-2	-	< 0.100	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration µg/l	% Fit
2,4-Dinitrophenol	51-28-5	-	< 100.000	-
Dibenzofuran	132-64-9	-	< 0.100	-
4-Nitrophenol	100-02-7	-	< 1.000	-
2,4-Dinitrotoluene	121-14-2	-	< 0.100	-
Fluorene	86-73-7	-	< 0.040	-
Diethylphthalate	84-66-2	-	< 0.100	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.100	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 1.000	-
4-Nitroaniline	100-01-6	-	< 20.000	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.100	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.100	-
Hexachlorobenzene	118-74-1	-	< 0.100	-
Pentachlorophenol	87-86-5	-	< 1.000	-
Phenanthrene	85-01-8	-	< 0.040	-
Anthracene	120-12-7	-	< 0.040	-
Di-n-butylphthalate	84-74-2	17.33	0.533	m
Fluoranthene	206-44-0	-	< 0.040	-
Pyrene	129-00-0	18.82	0.128	m
Butylbenzylphthalate	85-68-7	-	< 20.000	-
Benzo[a]anthracene	56-55-3	-	< 0.040	-
Chrysene	218-01-9	-	< 0.040	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.400	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 20.000	-
Di-n-octylphthalate	117-84-0	-	< 40.000	-
Benzo[b]fluoranthene	205-99-2	-	< 8.000	-
Benzo[k]fluoranthene	207-08-9	-	< 0.040	-
Benzo[a]pyrene	50-32-8	-	< 0.040	-
Indeno(1,2,3-cd)pyrene	193-39-5	-	< 0.040	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.040	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.040	-

Internal Standards	% Area
1,4-Dichlorobenzene-d4	78
Naphthalene-d8	74
Acenaphthene-d10	D
Phenanthrene-d10	76
Chrysene-d12	73
Perylene-d12	86

Surrogates	% Rec
2-Fluorophenol	50
Phenol-d5	35
Nitrobenzene-d5	64
2-Fluorobiphenyl	70
2,4,6-Tribromophenol	82
Terphenyl-d14	97

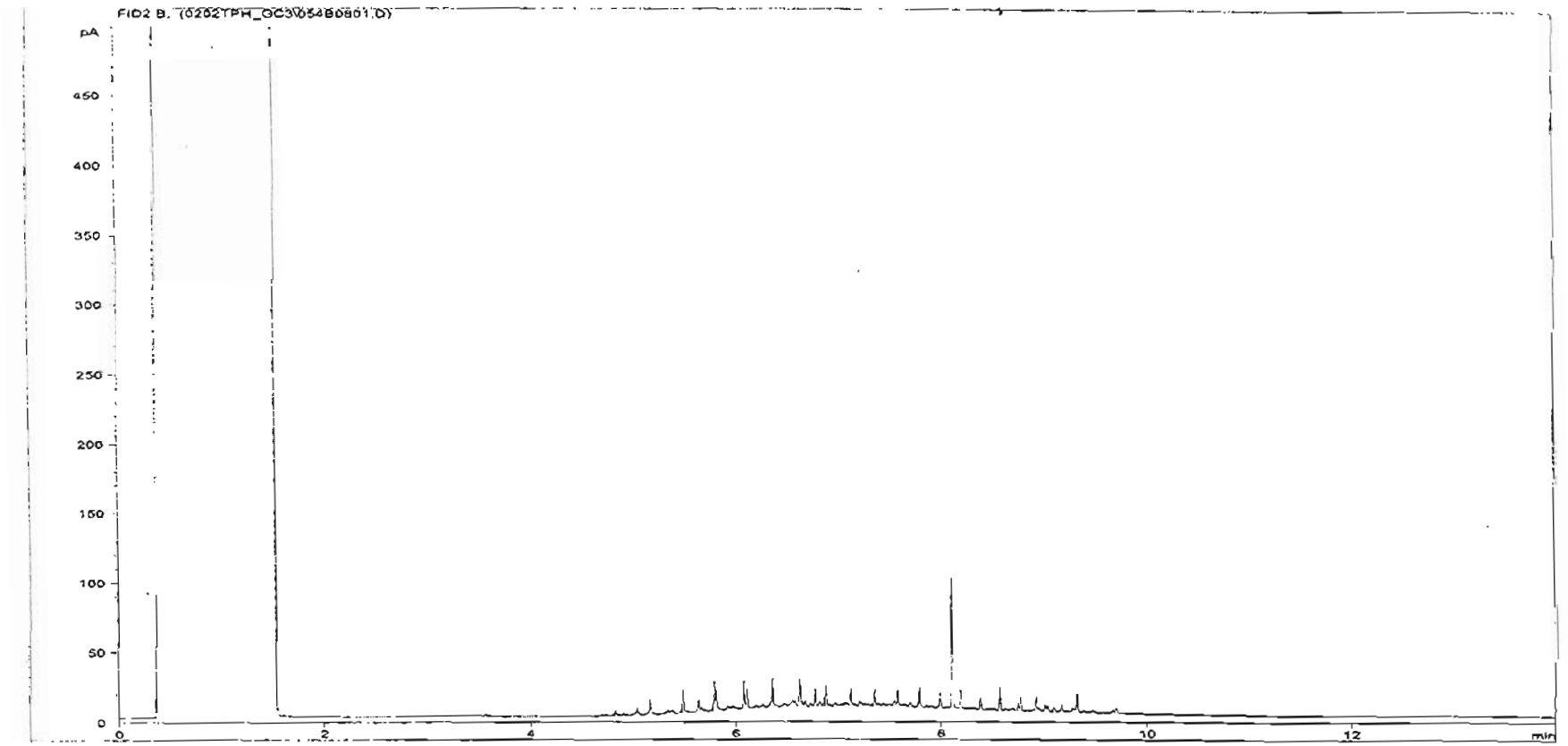
ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details:	Entec UK Ltd : HMS Daedalus (E)			**Matrix:**	Water
Job Number:	W05_5931	**Separation:**	Silica gel	**Date Booked in**	13-Dec-05
QC Batch Number:	60230	**Eluents:**	Pentane, DCM	**Date Extracted**	01-Feb-06
Directory:	E:\GC\TES\DATA\Y2006\0202TPH_GC3\077B2701.D			**Date Analysed:**	03-Feb-06
Method:	Separating Funnel				

This sample data is not UKAS accredited.

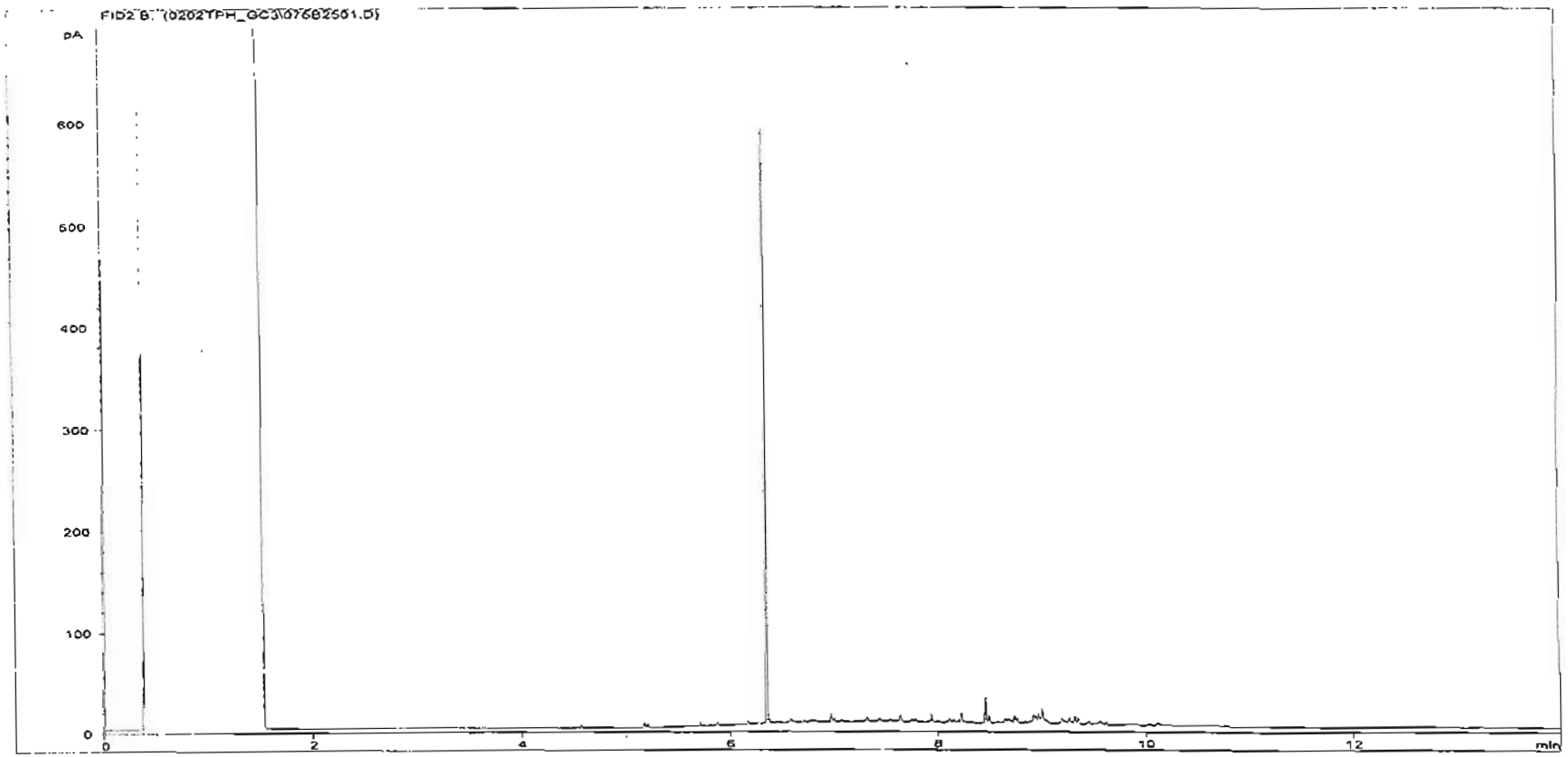
		Concentration, (mg/l)									
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35	
Sample ID	**Client ID**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**
EX0525734	E-BH302	0.0035	0.0051	0.0049	0.0057	0.0204	0.0068	0.0995	0.0485	0.159	0.149
EX0525735	E-BH304	0.0022	0.0012	0.0022	0.0022	<0.0014	<0.0014	<0.0017	0.0024	<0.0048	0.0067
EX0525736	E-BH306	0.0047	0.0033	0.0064	0.0052	0.0655	0.0269	0.187	0.152	0.198	0.202

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



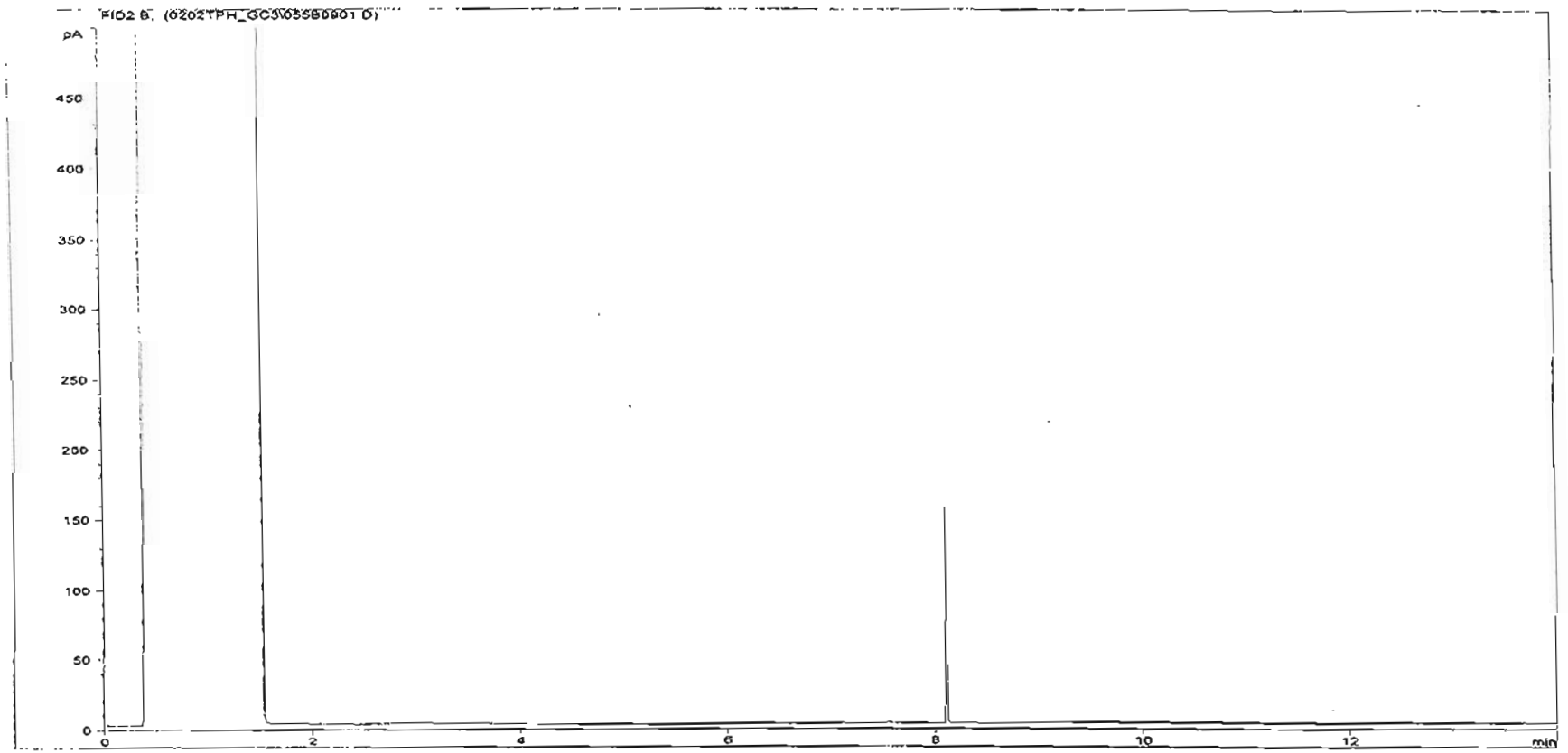
Sample ID:	EX0525734ALI	**Job Number:**	W05_5931
Multiplier:	0.0025	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH302
Acquisition Date/Time:	02/02/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0202TPH_GC3\054B0801.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



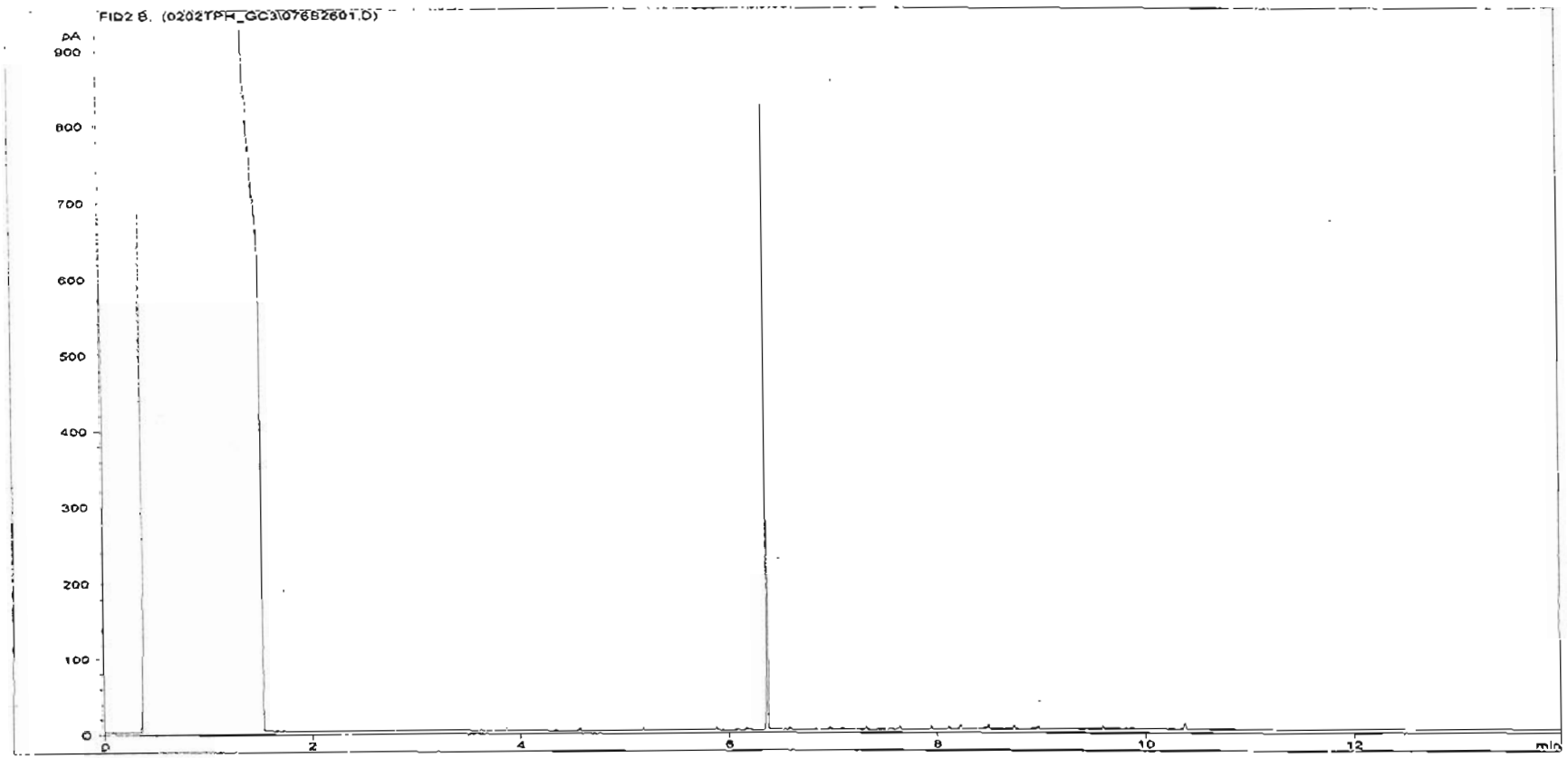
Sample ID:	EX0525734ARO	**Job Number:**	W05_5931
Multiplier:	0.0025	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH302
Acquisition Date/Time:	02/03/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0202TPH_GC3\075B2501.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



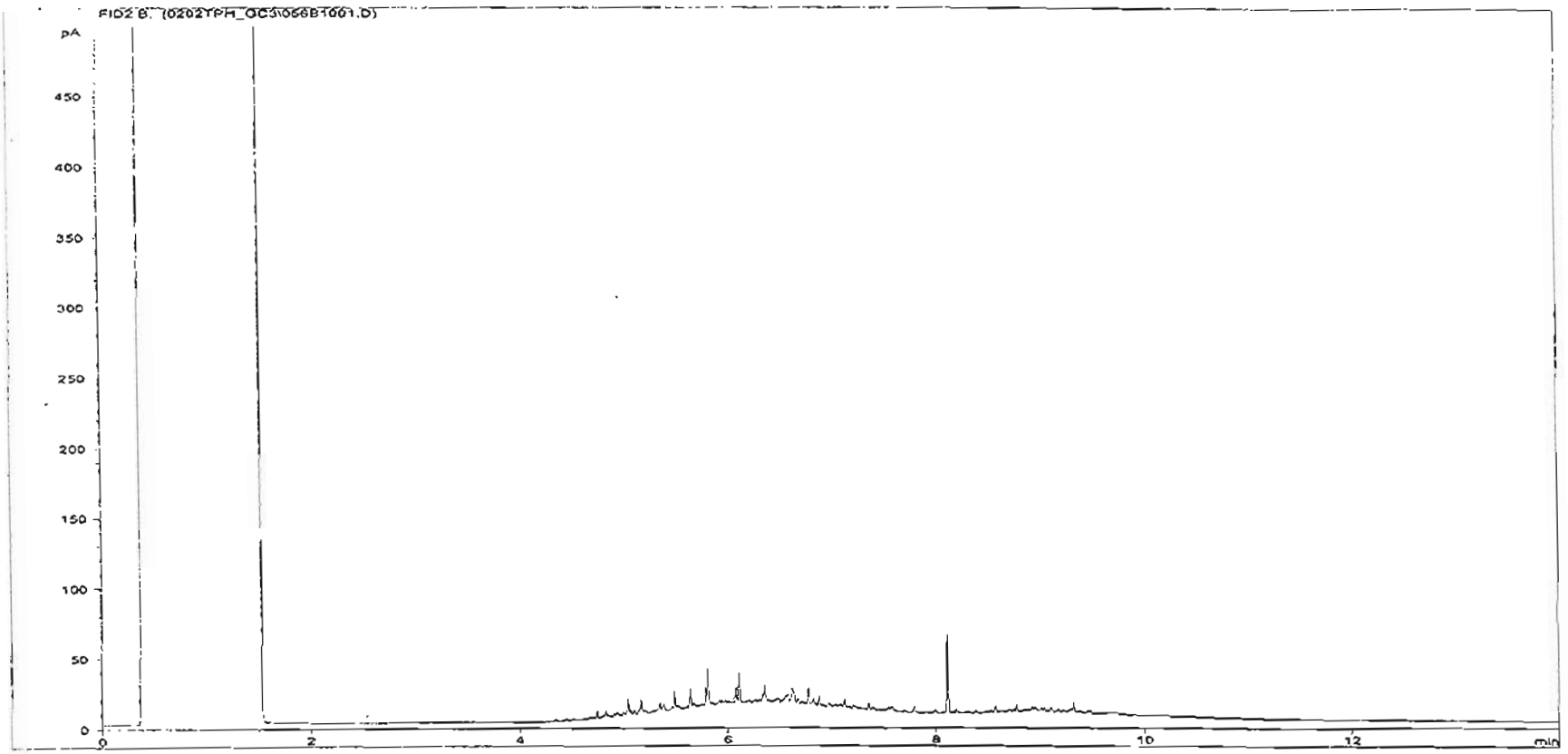
Sample ID:	EX0525735ALI	**Job Number:**	W05_5931
Multiplier:	0.001	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH304
Acquisition Date/Time:	02/02/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0202TPH_GC3\055B0901.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



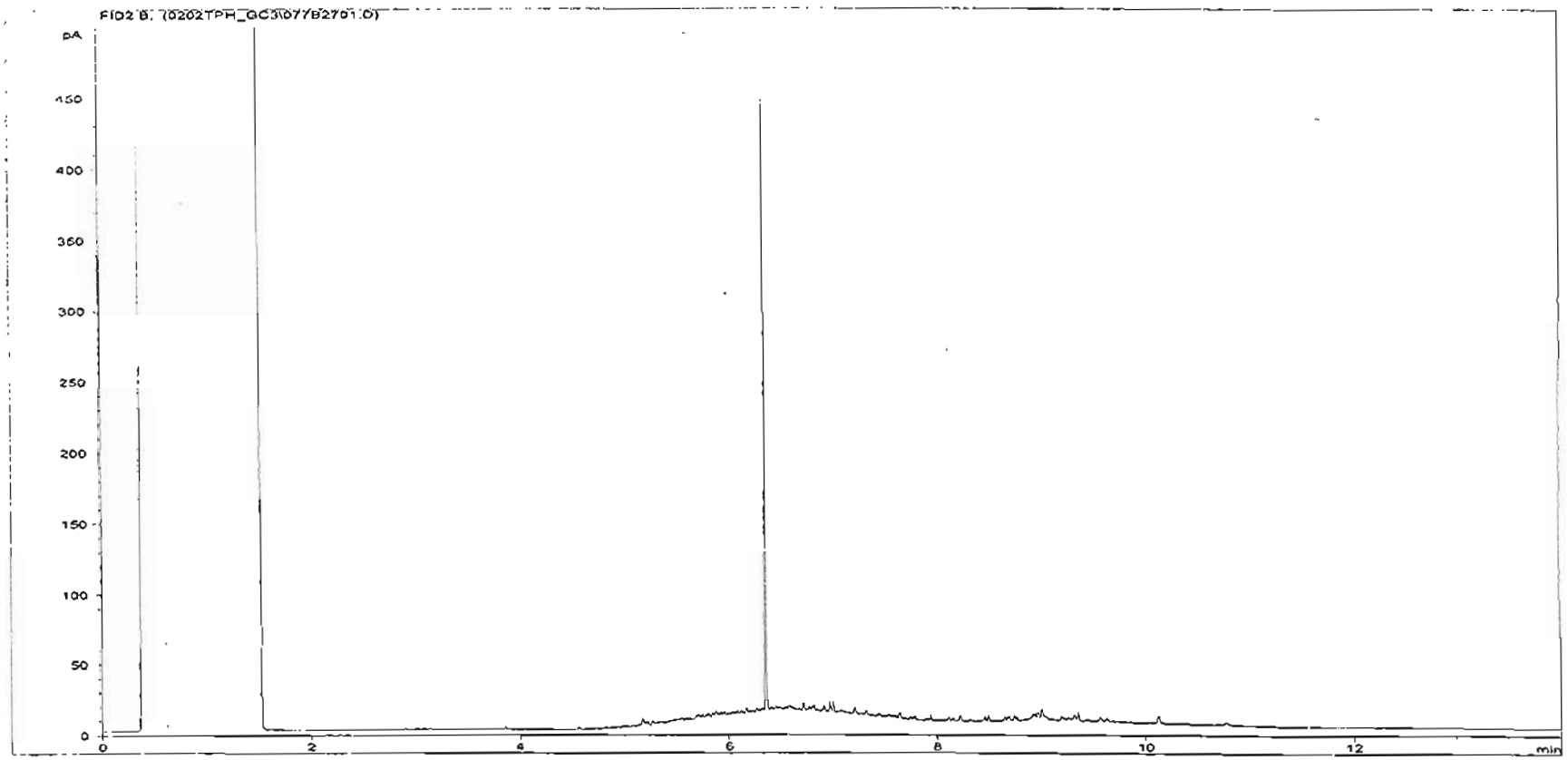
Sample ID:	EX0525735ARO	**Job Number:**	W05_5931
Multiplier:	0.001	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH304
Acquisition Date/Time:	02/03/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0202TPH_GC3\076B2601.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	EX0525736ALI	**Job Number:**	W05_5931
Multiplier:	0.0025	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH306
Acquisition Date/Time:	02/02/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0202TPH_GC3\056B1001.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	EX0525736ARO	**Job Number:**	W05_5931
Multiplier:	0.0025	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH306
Acquisition Date/Time:	02/03/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0202TPH_GC3\077B2701.D		

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1218voc.ms8\ 1218CCC4.D	**Matrix:**	Water
Sample Details:	E-BH302	**Date Booked in:**	13-Dec-05	**Method:**	Headspace
LIMS ID Number:	EX0525734	**Date Analysed:**	19-Dec-05	**Multiplier:**	1
Job Number:	W05_5931	**Operator:**	SH	**Position:**	7

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	5.10	43	88
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1	-
Hexachlorobutadiene	87-68-3	-	< 1	-
Naphthalene	91-20-3	-	< 1	-
1,2,3-Trichlorobenzene	87-61-6	-	< 1	-

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.95	70	Dibromofluoromethane	117
1,4-Difluorobenzene	4.28	71	Toluene-d8	109
Chlorobenzene-d5	5.39	80	Bromofluorobenzene	75
1,4-Dichlorobenzene-d4	6.19	59		

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1218voc.ms8\	1218CCC4.D	**Matrix:** Water
Sample Details:	E-BH304	**Date Booked in:**	13-Dec-05		**Method:** Headspace
LIMS ID Number:	EX0525735	**Date Analysed:**	19-Dec-05		**Multiplier:** 1
Job Number:	W05_5931	**Operator:**	SH		**Position:** 8

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 1	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1	-
Hexachlorobutadiene	87-68-3	-	< 1	-
Naphthalene	91-20-3	-	< 1	-
1,2,3-Trichlorobenzene	87-61-6	-	< 1	-

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.96	71	Dibromofluoromethane	120
1,4-Difluorobenzene	4.29	70	Toluene-d8	109
Chlorobenzene-d5	5.39	81	Bromofluorobenzene	76
1,4-Dichlorobenzene-d4	6.19	64		

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	0104voc.ms8\ 0104CCC1.D	**Matrix:**	Water
Sample Details:	E-BH306	**Date Booked in:**	13-Dec-05	**Method:**	Headspace
LIMS ID Number:	EX0525736	**Date Analysed:**	04-Jan-06	**Multiplier:**	1
Job Number:	W05_5931	**Operator:**	SH	**Position:**	6

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 1	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1	-
Hexachlorobutadiene	87-68-3	-	< 1	-
Naphthalene	91-20-3	-	< 1	-
1,2,3-Trichlorobenzene	87-61-6	-	< 1	-

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.95	84	Dibromofluoromethane	114
1,4-Difluorobenzene	4.29	83	Toluene-d8	108
Chlorobenzene-d5	5.39	86	Bromofluorobenzene	71
1,4-Dichlorobenzene-d4	6.19	65		

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample
co-eluted with benzo(b)fluoranthene
co-eluted with Indeno(123-cd)pyrene
BTEX analysis expressed as ug/kg As Received
Phenol HPLC results expressed as mg/kg As Received

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15°C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed
T Trace
L Low (2-15%)
M Medium (15-50%)
H High (>50%)

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
? Denotes that an element of the quality control system is currently exhibiting sustained bias from its normal working pattern. The QC has not failed action limits and the cause of this is being investigated and rectified.
This does not invalidate the data but our quality policy specifies that you will be kept informed when this happens.
* denotes the accreditation has been removed by the laboratory for this result only

Units :	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/kg	mg/kg	mg/kg	%	ug/kg
Method Codes :	GROMSA	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPWSS	ICTSCN28	SVOCSW	SVOCSW	TMSS	VOCSW
Method Reporting Limits :	0.1	0.5	0.1	0.5	0.5	0.5	0.10	0.5	0.5	3.0	0.3	5	0.2-10.0	0.2-10.0	0.2	5
Accreditation Code:		U&A	U	U	U	U	U	U	U	U	U,M	U			U	

TES ID Number CLJ	Client Sample Description	GRO (AA)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SO4 (H2O ext) mg/l	Sulphide	PAH by MS	SVOC	Tot.Moisture @ 105oC	VOC
0531842	E-BH301 1.2-1.4	Req	9.5	<0.1	24.1	16.0*	14.0*	<0.1	13.87	<0.5	47.27	187.1	<5		Req	19.0	Req
0531843	E-BH301 7.8-8.0 (NVM)	Req	3.5	<0.1	6.8	2.1*	3.4*	<0.1	10.57	<0.5	20.87	16.82	<5	Req		11.1	
0531839	E-BH305 0.2-0.4	Req	8.8	0.82	17	41.3*	142.0*	0.12	13.17	0.83	110.67	98.1	<5	Req		14.3	
0531841	E-BH305 5.5-6.0	Req	5.5	<0.1	10	3.6*	5.6*	<0.1	8.27	<0.5	21.07	12.17	<5		Req	23.2	Req
0531844	E-BH312 0.3-0.5	Req	9.2	0.38	20.5	12.0*	34.7*	<0.1	15.37	0.55	71.17	18.97	<5		Req	18.1	Req
0531830	E-TP301 0.3	Req	9.8	0.17	19.1	40.9*	1570*	<0.1	11.17	0.6	77.97	55.2	<5	Req		21.2	
0531831	E-TP301 0.8	Req	9.5	<0.1	27.3	8.2*	37.6*	<0.1	9.87	<0.5	34.17	3.36	<5	Req		17.7	
0531829	E-TP302 0.3	Req	8.2	0.15	15.1	16.9*	47.8*	<0.1	9.37	<0.5	44.67	75.1	<5	Req		17.0	
0531832	E-TP303 0.3	Req	5.9	<0.1	11.1	7.6*	19.5*	<0.1	6.67	0.6	437	16.05	<5	Req		12.9	
0531833	E-WS309 1.2-1.4	Req	10.3	0.1	26.9	12.9*	18.3*	<0.1	19.37	0.78	80.07	12.01	<5		Req	15.1	Req
0531834	E-WS309 2.6-2.8	Req	14.8	<0.1	29.2	13.0*	23.1*	<0.1	19.77	0.78	87.07	65.9			Req	14.4	Req
0531837	E-WS310 1.1-1.4 (NVM)	Req	10	1.68	28.2	23.9*	151.0*	0.16	16.97	0.79	585.77	306	<5	Req		13.4	
0531838	E-WS310 1.5-1.7	Req	8	0.21	12.8	787.5*	1100*	0.13	49.67	<0.5	141.67	112.4	<5	Req		18.5	
0531835	E-WS311 0.9-1.2 (NVM)	Req	8.6	1.3	18	46.6*	542*	0.3	21.77	0.84	162.57	251	<5		Req	10.3	Req
0531836	E-WS311 1.4-1.6	Req	13.9	0.28	27.1	31.2*	104.3*	<0.1	37.97	0.87	117.97	42.7			Req	16.4	Req
0531845	E-WS312 2.7-2.9	Req	8.9	<0.1	18.8	7.2*	10.0*	<0.1	17.37	0.63	61.17	9.62	<5	Req		18.4	

TES Bretby

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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	13-Jan-06
Report Number	EFS/054548M
Table Number	1

TES Bretby

13/01 2008 15:22 FAX 01283554549 TES BRETBY 004

Units :	pH Units	mg/kg	mg/kg	% M/M												
Method Codes :	WSLM3	WSLM4	TPHFID	WSLM59												
Method Reporting Limits :		0.5	10.0	0.02												
Accreditation Code:	U	U		N												

TES ID Number CL/	Client Sample Description	pH units	Phenol Index	TPH GCFID (AR) (SI)	F.O.C. %
0531842	E-BH301 1.2-1.4	10.2	<0.5	Req	0.18
0531843	E-BH301 7.8-8.0 (NVM)	8.4	<0.5	Req	
0531839	E-BH305 0.2-0.4	8.8	<0.5	Req	
0531841	E-BH305 6.5-6.8	8.3	<0.5	Req	0.08
0531844	E-BH312 0.3-0.5	7.6	<0.5	Req	1.11
0531830	E-TP301 0.3	8.7	<0.5	Req	
0531831	E-TP301 0.8	7.9	<0.5	Req	
0531829	E-TP302 0.3	7.8	<0.5	Req	
0531832	E-TP303 0.3	8.9	<0.5	Req	
0531833	E-WS309 1.2-1.4	7.8	<0.5	Req	0.35
0531834	E-WS309 2.6-2.8	7.8	<0.5	Req	0.13
0531837	E-WS310 1.1-1.4 (NVM)	9.8	<0.5	Req	
0531838	E-WS310 1.6-1.7	8.3	<0.5	Req	
0531835	E-WS311 0.9-1.2 (NVM)	10.8	<0.5	Req	4.39
0531836	E-WS311 1.4-1.6	8.8	<0.5	Req	0.35
0531845	E-WS312 2.7-2.8	8.0	<0.5	Req	

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Client Name Entec UK Ltd

Contact Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	13-Jan-08
Report Number	EFB/054648M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Job Number: S05_4548
Directory: 1220HSA1_GC6
Method: Headspace GCFID
Accreditation Code: U

Matrix: SOIL
Date Booked In: 01-Dec-05
Date extracted: 20-Dec-05
Date Analysed: 21-Dec-05

*** denotes the accreditation has been removed by the laboratory for this result only**

		Concentration, (mg/kg) - as dry weight.					Aliphatics				
Sample ID	Client ID	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	C5 - C6	>C6 - C7	>C7 - C8	>C8 - C10	Total GRO
CL0531829	E-TP302 0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL0531830	E-TP301 0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
* CL0531831	E-TP301 0.6	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531832	E-TP303 0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	0.3
CL0531833	E-WS309 1.2-1.4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531834	E-WS309 2.6-2.8	<0.01	0.020	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531835	E-WS311 0.9-1.2 (NVM)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531836	E-WS311 1.4-1.6	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL0531837	E-WS310 1.1-1.4 (NVM)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531838	E-WS310 1.5-1.7	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL0531839	E-BH305 0.2-0.4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531841	E-BH305 5.5-6.0	<0.01	<0.01	<0.01	0.165	<0.01	<0.3	<0.3	<0.3	0.3	0.6
* CL0531842	E-BH301 1.2-1.4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531843	E-BH301 7.8-8.0 (NVM)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL0531844	E-BH312 0.3-0.5	<0.01	<0.01	0.038	0.045	0.048	<0.2	<0.2	<0.2	1.1	1.3
CL0531845	E-WS312 2.7-2.9	<0.01	<0.01	0.045	0.036	0.043	<0.2	<0.2	<0.2	1.7	1.9

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP302 0.3	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531829	**Date Booked In:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	06-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	9.21	0.4	97	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	77
Naphthalene-d8	82
Acenaphthene-d10	79
Phenanthrene-d10	80
Chrysene-d12	92
Perylene-d12	89

Surrogates	% Rec
Nitrobenzene-d5	57
2-Fluorobiphenyl	76
Terphenyl-d14	73

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP301 0.3	**Job Number:**	S05_4648M
LIMS ID Number:	CL0531830	**Date Booked In:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	8.16	0.3	92	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	9.21	0.6	98	U
Pyrene	129-00-0	9.41	0.5	95	U
Benzo[a]anthracene	56-55-3	10.47	0.3	92	U
Chrysene	218-01-9	10.50	0.4	96	U
Benzo[b]fluoranthene	205-99-2	11.37	0.4	93	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	11.66	0.3	90	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	80
Acenaphthene-d10	76
Phenanthrene-d10	75
Chrysene-d12	84
Perylene-d12	80

Surrogates	% Rec
Nitrobenzene-d5	73
2-Fluorobiphenyl	92
Terphenyl-d14	89

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP301 0.6	**Job Number:**	S05_4548M
LIMS ID Number:	CL0631831	**Date Booked In:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	8.16	0.4	96	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	9.21	0.7	97	U
Pyrene	129-00-0	9.41	0.6	97	U
Benzo[a]anthracene	56-55-3	10.47	0.4	92	U
Chrysene	218-01-9	10.50	0.4	98	U
Benzo[b]fluoranthene	205-99-2	11.38	0.4	98	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	11.66	0.4	92	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 5.3	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	81
Acenaphthene-d10	78
Phenanthrene-d10	78
Chrysene-d12	91
Perylene-d12	87

Surrogates	% Rec
Nitrobenzene-d5	84
2-Fluorobiphenyl	87
Terphenyl-d14	82

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP303 0.3	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531832	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.7	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	78
Acenaphthene-d10	77
Phenanthrene-d10	76
Chrysene-d12	85
Perylene-d12	85

Surrogates	% Rec
Nitrobenzene-d5	73
2-Fluorobiphenyl	90
Terphenyl-d14	89

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS309 1.2-1.4	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531833	**Date Booked In:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.8	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	77
Naphthalene-d8	81
Acenaphthene-d10	77
Phenanthrene-d10	75
Chrysene-d12	85
Perylene-d12	82

Surrogates	% Rec
Nitrobenzene-d5	44
2-Fluorobiphenyl	61
Terphenyl-d14	75

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS309 2.6-2.8	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531834	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	8.17	0.4	94	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	74
Naphthalene-d8	77
Acenaphthene-d10	75
Phenanthrene-d10	74
Chrysene-d12	80
Perylene-d12	78

Surrogates	% Rec
Nitrobenzene-d5	52
2-Fluorobiphenyl	68
Terphenyl-d14	79

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS311 0.9-1.2 (NVM)	**Job Number:**	S05_4546M
LIMS ID Number:	CL0531835	**Date Booked In:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC5.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	5.33	0.2	92	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	6.87	0.4	96	U
Fluorene	86-73-7	7.32	0.3	95	U
Phenanthrene	85-01-8	8.17	6.5	96	U
Anthracene	120-12-7	8.21	2.0	93	U
Fluoranthene	206-44-0	9.24	11.7	99	U
Pyrene	129-00-0	9.43	10.1	97	U
Benzo[a]anthracene	56-55-3	10.49	6.4	90	U
Chrysene	218-01-9	10.52	6.0	97	U
Benzo[b]fluoranthene	205-99-2	11.41	8.1	97	U
Benzo[k]fluoranthene	207-08-9	11.42	2.7	93	U
Benzo[a]pyrene	50-32-8	11.64	4.7	92	U
Indeno[1,2,3-cd]pyrene	193-39-5	12.83	2.0	75	U
Dibenzo[a,h]anthracene	53-70-3	12.88	0.3	85	U
Benzo[g,h,i]perylene	191-24-2	13.15	2.5	91	U
Total (USEPA16) PAHs	-	-	< 64.2	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	65
Naphthalene-d8	70
Acenaphthene-d10	67
Phenanthrene-d10	65
Chrysene-d12	66
Perylene-d12	51

Surrogates	% Rec
Nitrobenzene-d5	75
2-Fluorobiphenyl	94
Terphenyl-d14	88

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS311 1.4-1.6	**Job Number:**	S05_4648M
LIMS ID Number:	CL0531836	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.8	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	77
Naphthalene-d8	82
Acenaphthene-d10	79
Phenanthrene-d10	79
Chrysene-d12	89
Perylene-d12	88

Surrogates	% Rec
Nitrobenzene-d5	42
2-Fluorobiphenyl	61
Terphenyl-d14	83

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS310 1.1-1.4 (NVM)	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531837	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC5.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	6.86	0.5	99	U
Fluorene	86-73-7	7.32	0.6	95	U
Phenanthrene	85-01-8	8.17	9.4	96	U
Anthracene	120-12-7	8.21	3.0	92	U
Fluoranthene	206-44-0	9.23	11.9	98	U
Pyrene	129-00-0	9.43	8.9	97	U
Benzo[a]anthracene	56-55-3	10.49	5.3	91	U
Chrysene	218-01-9	10.52	4.8	97	U
Benzo[b]fluoranthene	205-99-2	11.40	5.4	98	U
Benzo[k]fluoranthene	207-08-9	11.41	2.2	96	U
Benzo[a]pyrene	50-32-8	11.68	5.0	94	U
Indeno[1,2,3-cd]pyrene	193-39-5	12.82	2.1	74	U
Dibenzo[a,h]anthracene	53-70-3	12.82	0.8	90	U
Benzo[g,h,i]perylene	191-24-2	13.14	2.5	91	U
Total (USEPA16) PAHs	-	-	< 62.7	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	65
Naphthalene-d8	71
Acenaphthene-d10	68
Phenanthrene-d10	62
Chrysene-d12	68
Perylene-d12	62

Surrogates	% Rec
Nitrobenzene-d5	68
2-Fluorobiphenyl	93
Terphenyl-d14	89

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS310 1.5-1.7	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531638	**Date Booked In:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC5.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	8.16	0.9	94	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	9.22	2.1	98	U
Pyrene	129-00-0	9.42	1.6	97	U
Benzo[a]anthracene	56-55-3	10.48	1.0	92	U
Chrysene	218-01-9	10.51	1.0	97	U
Benzo[b]fluoranthene	205-99-2	11.38	1.1	93	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	11.66	1.1	95	U
Indeno[1,2,3-cd]pyrene	193-39-5	12.79	0.5	83	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	13.11	0.6	91	U
Total (USEPA16) PAHs	-	-	< 11.5	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	80
Naphthalene-d8	86
Acenaphthene-d10	80
Phenanthrene-d10	75
Chrysene-d12	86
Perylene-d12	75

Surrogates	% Rec
Nitrobenzene-d5	63
2-Fluorobiphenyl	88
Terphenyl-d14	89

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH305 0.2-0.4	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531839	**Date Booked In:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC5.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	5.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 1.0	-	U
Acenaphthylene	208-96-8	-	< 1.0	-	U
Acenaphthene	83-32-9	-	< 1.0	-	U
Fluorene	86-73-7	-	< 1.0	-	U
Phenanthrene	85-01-8	8.17	7.4	94	U
Anthracene	120-12-7	8.21	2.2	92	U
Fluoranthene	206-44-0	9.21	13.7	98	U
Pyrene	129-00-0	9.41	9.5	96	U
Benzo[a]anthracene	56-55-3	10.48	5.7	94	U
Chrysene	218-01-9	10.50	6.0	96	U
Benzo[b]fluoranthene	205-99-2	11.37	6.0	94	U
Benzo[k]fluoranthene	207-08-9	11.39	3.0	92	U
Benzo[a]pyrene	50-32-8	11.66	5.3	96	U
Indeno[1,2,3-cd]pyrene	193-39-5	12.79	2.0	64	U
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-	U
Benzo[g,h,i]perylene	191-24-2	13.11	2.7	91	U
Total (USEPA16) PAHs	-	-	< 69.3	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	67
Naphthalene-d8	72
Acenaphthene-d10	68
Phenanthrene-d10	64
Chrysene-d12	73
Perylene-d12	65

Surrogates	% Rec
Nitrobenzene-d5	83
2-Fluorobiphenyl	110
Terphenyl-d14	95

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH305 5.5-6.0	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531841	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC2.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.2	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	78
Acenaphthene-d10	73
Phenanthrene-d10	72
Chrysene-d12	80
Perylene-d12	81

Surrogates	% Rec
Nitrobenzene-d5	31
2-Fluorobiphenyl	46
Terphenyl-d14	68

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH301 1.2-1.4	**Job Number:**	S06_4548M
LIMS ID Number:	CL0531842	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC2.D	**Date Analysed:**	04-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	72
Naphthalene-d8	77
Acenaphthene-d10	72
Phenanthrene-d10	70
Chrysene-d12	75
Perylene-d12	73

Surrogates	% Rec
Nitrobenzene-d5	66
2-Fluorobiphenyl	74
Terphenyl-d14	94

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH301 7.8-8.0 (NVM)	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531843	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC2.D	**Date Analysed:**	04-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.6	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	66
Naphthalene-d8	71
Acenaphthene-d10	66
Phenanthrene-d10	65
Chrysene-d12	73
Perylene-d12	70

Surrogates	% Rec
Nitrobenzene-d5	63
2-Fluorobiphenyl	81
Terphenyl-d14	83

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH312 0.3-0.5	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531844	**Date Booked in:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0109CCC5.D	**Date Analysed:**	10-Jan-06
Directory:	0109ABN.MS4\	**Matrix:**	Soil
Dilution:	50.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 12.0	-	U
Acenaphthylene	208-96-8	-	< 12.0	-	U
Acenaphthene	83-32-9	-	< 12.0	-	U
Fluorene	86-73-7	-	< 12.0	-	U
Phenanthrene	85-01-8	8.17	21.4	97	U
Anthracene	120-12-7	-	< 12.0	-	U
Fluoranthene	206-44-0	-	< 12.0	-	U
Pyrene	129-00-0	-	< 12.0	-	U
Benzo[a]anthracene	56-55-3	-	< 12.0	-	U
Chrysene	218-01-9	-	< 12.0	-	U
Benzo[b]fluoranthene	205-99-2	-	< 12.0	-	U
Benzo[k]fluoranthene	207-08-9	-	< 12.0	-	U
Benzo[a]pyrene	50-32-8	-	< 12.0	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 12.0	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 12.0	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 12.0	-	U
Total (USEPA16) PAHs	-	-	< 204.5	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	123
Naphthalene-d8	115
Acenaphthene-d10	117
Phenanthrene-d10	114
Chrysene-d12	120
Perylene-d12	104

Surrogates	% Rec
Nitrobenzene-d5	30
2-Fluorobiphenyl	67
Terphenyl-d14	54

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS312 2.7-2.9	**Job Number:**	S05_4548M
LIMS ID Number:	CL0531845	**Date Booked In:**	01-Dec-05
QC Batch Number:	2700	**Date Extracted:**	22-Dec-05
Quantitation File:	0104CCC2.D	**Date Analysed:**	04-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	8.17	1.0	94	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.7	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	66
Naphthalene-d8	70
Acenaphthene-d10	64
Phenanthrene-d10	60
Chrysene-d12	61
Perylene-d12	56

Surrogates	% Rec
Nitrobenzene-d5	63
2-Fluorobiphenyl	79
Terphenyl-d14	83

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2700
Sample Details:	E-WS309 1.2-1.4	**Date Booked In:**	01-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0531833	**Date Extracted:**	22-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4548M	**Date Analysed:**	05-Jan-06	**Directory/Quant File:**	0104ABN.MS4\ 0104CCC3.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.8	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.8	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.8	-	U
Benzyl alcohol	100-51-6	-	< 0.8	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.8	-	U
2-Methylphenol	95-48-7	-	< 0.8	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.8	-	U
Hexachloroethane	67-72-1	-	< 0.8	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.8	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.8	-	UM
Isophorone	78-59-1	-	< 0.8	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 12.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.8	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.8	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.8	-	U
Hexachlorobutadiene	87-68-3	-	< 0.8	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.8	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.8	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.8	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.8	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.8	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.8	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 8.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.8	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.8	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.8	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.8	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	-	< 0.2	-	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	10.50	1.0	98	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.2	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	77
Naphthalene-d8	81
Acenaphthene-d10	77
Phenanthrene-d10	75
Chrysene-d12	85
Perylene-d12	82

Surrogates	% Rec
2-Fluorophenol	51
Phenol-d5	52
Nitrobenzene-d5	44
2-Fluorobiphenyl	81
2,4,6-Tribromophenol	70
Terphenyl-d14	75

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

13/01 2006 15:28 FAX 01283554548 TES BRSTBY 022

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2700
Sample Details:	E-WS309 2.6-2.8	**Date Booked In:**	01-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0531834	**Date Extracted:**	22-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4548M	**Date Analysed:**	05-Jan-06	**Directory/Quant File:**	0104ABN.MS4\ 0104CCC3.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 12.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	8.17	0.4	94	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	10.50	1.1	98	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.2	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	74
Naphthalene-d8	77
Acenaphthene-d10	75
Phenanthrene-d10	74
Chrysene-d12	80
Perylene-d12	78

Surrogates	% Rec
2-Fluorophenol	62
Phenol-d6	58
Nitrobenzene-d5	52
2-Fluorobiphenyl	68
2,4,6-Tribromophenol	72
Terphenyl-d14	79

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

13/01 2006 15:30 FAX 01235534649 TES BRISTOL 023

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	Z700
Sample Details:	E-WS311 0.9-1.2 (NVM)	**Date Booked In:**	01-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066567
LIMS ID Number:	CL0531835	**Date Extracted:**	22-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4548M	**Date Analysed:**	05-Jan-06	**Directory\Quant File:**	0104ABN.MS4\ 0104CCC5.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 11.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	5.33	0.2	82	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	5.93	0.3	93	UM
1-Methylnaphthalene	90-12-0	6.02	0.2	99	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	6.67	0.4	98	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	7.32	0.3	95	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	8.17	6.5	96	UM
Anthracene	120-12-7	8.21	2.0	93	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	9.24	11.7	99	UM
Pyrene	129-00-0	9.43	10.1	97	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	10.49	6.4	90	UM
Chrysene	218-01-9	10.52	6.0	97	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	11.41	8.1	97	U
Benzo[k]fluoranthene	207-08-9	11.42	2.7	93	UM
Benzo[a]pyrene	50-32-8	11.64	4.7	92	UM
Indeno[1,2,3-cd]pyrene	193-39-5	12.83	2.0	75	U
Dibenzo[a,h]anthracene	53-70-3	12.88	0.3	85	UM
Benzo[g,h,i]perylene	191-24-2	13.15	2.5	91	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	65
Naphthalene-d8	70
Acenaphthene-d10	67
Phenanthrene-d10	65
Chrysene-d12	66
Perylene-d12	51

Surrogates	% Rec
2-Fluorophenol	90
Phenol-d5	87
Nitrobenzene-d5	75
2-Fluorobiphenyl	94
2,4,6-Tribromophenol	88
Terphenyl-d14	88

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

13/01 2006 15:30 FAX 01283554649 TBS BRETBY 024

13/01 2008 15:31 FAX 01283554549 TES BRETBY 025

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			Matrix:	Soil	QC Batch Number:	2700
Sample Details:	E-WS311 1.4-1.6	Date Booked in:	01-Dec-05	Ext Method:	Soxtrel	Multiplier:	0.056667
LIMS ID Number:	CL0531838	Date Extracted:	22-Dec-05	Operator:	AB	Dilution Factor:	1
Job Number:	SD5_4548M	Date Analysed:	05-Jan-06	Directory/Quant File:	0104ABNLMS4\ 0104CCCC3.D	GPC (Y/N)	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.8	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.8	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.8	-	U
Benzyl alcohol	100-51-6	-	< 0.8	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.8	-	U
2-Methylphenol	95-48-7	-	< 0.8	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.8	-	U
Hexachloroethane	67-72-1	-	< 0.8	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.8	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.8	-	UM
Isophorone	78-59-1	-	< 0.8	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 12.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.8	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.8	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.8	-	U
Hexachlorobutadiene	87-68-3	-	< 0.8	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.8	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.8	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.8	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.8	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.8	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.8	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.8	-	UM
4-Nitrophenol	100-02-7	-	< 8.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.8	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.8	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.8	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 8.0	-	U
4-Nitroaniline	100-01-6	-	< 0.8	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.8	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.8	-	UM
Hexachlorobenzene	118-74-1	-	< 0.8	-	UM
Pentachlorophenol	87-86-5	-	< 8.0	-	U
Phenanthrene	85-01-8	-	< 0.2	-	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.8	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.8	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.8	-	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.2	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	77
Naphthalene-d8	82
Acenaphthene-d10	79
Phenanthrene-d10	79
Chrysene-d12	89
Perylene-d12	88

Surrogates	% Rec
2-Fluorophenol	50
Phenol-d5	52
Nitrobenzene-d5	42
2-Fluorobiphenyl	61
2,4,6-Tribromophenol	87
Terphenyl-d14	83

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2709
Sample Details:	E-BH305 3.5-8.0	**Date Booked In:**	01-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.058867
LIMS ID Number:	CL05331841	**Date Extracted:**	22-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4546M	**Date Analysed:**	05-Jan-06	**Directory/Quant File:**	0104ABN.MS4\ 0104CCCZ.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 3.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.7	-	U
2-Chlorophenol	95-57-8	-	< 3.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.7	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.7	-	U
Benzyl alcohol	100-51-6	-	< 0.7	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.7	-	U
2-Methylphenol	95-48-7	-	< 0.7	-	UM
bis(2-Chloro)isopropyl)ether	108-60-1	-	< 0.7	-	U
Hexachloroethane	67-72-1	-	< 0.7	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.7	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 3.0	-	UM
Nitrobenzene	98-95-3	-	< 0.7	-	UM
Isophorone	78-59-1	-	< 0.7	-	UM
2-Nitrophenol	88-75-5	-	< 3.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 3.0	-	UM
Benzoic Acid	65-85-0 *	-	< 13.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.7	-	U
2,4-Dichlorophenol	120-83-2	-	< 3.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.7	-	UM
Naphthalene	91-20-3	-	< 0.3	-	UM
4-Chlorophenol	106-48-9	-	< 3.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.7	-	U
Hexachlorobutadiene	87-68-3	-	< 0.7	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.7	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.3	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.3	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.7	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 3.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 3.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.3	-	U
Biphenyl	92-52-4	-	< 0.3	-	UM
Diphenyl ether	101-84-8	-	< 0.3	-	UM
2-Nitroaniline	88-74-4	-	< 0.7	-	UM
Acenaphthylene	208-96-8	-	< 0.3	-	UM
Dimethylphthalate	131-11-3	-	< 0.7	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.7	-	UM
Acenaphthene	83-32-9	-	< 0.3	-	UM
3-Nitroaniline	99-09-2	-	< 0.7	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.7	-	UM
4-Nitrophenol	100-02-7	-	< 7.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.7	-	UM
Fluorene	86-73-7	-	< 0.3	-	UM
Diethylphthalate	84-66-2	-	< 0.7	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.7	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 7.0	-	U
4-Nitroaniline	100-01-6	-	< 0.7	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.7	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.7	-	UM
Hexachlorobenzene	118-74-1	-	< 0.7	-	UM
Pentachlorophenol	87-86-5	-	< 7.0	-	U
Phenanthrene	85-01-8	-	< 0.3	-	UM
Anthracene	120-12-7	-	< 0.3	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.7	-	UM
Fluoranthene	206-44-0	-	< 0.3	-	UM
Pyrene	129-00-0	-	< 0.3	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.7	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.3	-	UM
Chrysene	218-01-9	-	< 0.3	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 3.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.7	-	U
Di-n-octylphthalate	117-84-0	-	< 0.3	-	UM
Benzo(b)fluoranthene	205-99-2	-	< 0.3	-	U
Benzo(k)fluoranthene	207-08-9	-	< 0.3	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.3	-	UM
Indeno(1,2,3-cd)pyrene	193-39-5	-	< 0.3	-	U
Dibenz[a,h]anthracene	53-70-3	-	< 0.3	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	78
Acenaphthene-d10	73
Phenanthrene-d10	72
Chrysene-d12	80
Perylene-d12	81

Surrogates	% Rec
2-Fluorophenol	41
Phenol-d5	41
Nitrobenzene-d5	31
2-Fluorobiphenyl	68
2,4,6-Tribromophenol	51
Terphenyl-d14	58

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Received' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			Matrix:	Soil	QC Batch Number:	2700
Sample Details:	E-BH301 1.2-1.4	Date Booked In:	01-Dec-05	Ext Method:	Soxhlet	Multiplier:	0.086557
LIMS ID Number:	CL0531842	Date Extracted:	22-Dec-05	Operator:	AB	Dilution Factor:	1
Job Number:	SDS_4548M	Date Analysed:	04-Jan-06	Directory/Quant File:	0104ABN\MS4\ 0104CCC2.D	GPC (Y/N)	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.8	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.8	-	U
Hexachloroethane	67-72-1	-	< 0.8	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.8	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 12.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.8	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.8	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.8	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.8	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.8	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.8	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	-	< 0.2	-	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.8	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.8	-	UM
Benzo(a)anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.8	-	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo(b)fluoranthene	205-99-2	-	< 0.2	-	U
Benzo(k)fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo(a)pyrene	50-32-8	-	< 0.2	-	UM
Indeno(1,2,3-cd)pyrene	193-39-5	-	< 0.2	-	U
Dibenzo(a,h)anthracene	53-70-3	-	< 0.2	-	UM
Benzo(g,h,i)perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	72
Naphthalene-d8	77
Acenaphthene-d10	72
Phenanthrene-d10	70
Chrysene-d12	75
Perylene-d12	73

Surrogates	% Rec
2-Fluorophenol	73
Phenol-d5	68
Nitrobenzene-d5	63
2-Fluorobiphenyl	74
2,4,6-Tribromophenol	66
Terphenyl-d14	94

* denotes the accreditation has been removed by the laboratory for this result only
Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

13/01 2006 15:33 FAX 01283554549 TES BRETBY 028

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2700
Sample Details:	E-BH312 0.3-0.5	**Date Booked in:**	01-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	3.33333
LIMS ID Number:	CL0531844	**Date Extracted:**	22-Dec-05	**Operator:**	AB	**Dilution Factor:**	50
Job Number:	S05_4548M	**Date Analysed:**	10-Jan-06	**Directory\Quant File:**	0109ABN.MS4\ 0109CCC5.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 122.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 31.0	-	U
2-Chlorophenol	95-57-8	-	< 122.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 31.0	-	U
1,4-Dichlorobenzene	106-46-7	-	< 31.0	-	U
Benzyl alcohol	100-51-6	-	< 31.0	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 31.0	-	U
2-Methylphenol	95-48-7	-	< 31.0	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 31.0	-	U
Hexachloroethane	67-72-1	-	< 31.0	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 31.0	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 122.0	-	UM
Nitrobenzene	98-95-3	-	< 31.0	-	UM
Isophorone	78-59-1	-	< 31.0	-	UM
2-Nitrophenol	88-75-5	-	< 122.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 122.0	-	UM
Benzoic Acid	65-85-0 *	-	< 611.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 31.0	-	U
2,4-Dichlorophenol	120-83-2	-	< 122.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 31.0	-	UM
Naphthalene	91-20-3	-	< 12.0	-	UM
4-Chlorophenol	106-48-9	-	< 122.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 31.0	-	U
Hexachlorobutadiene	87-68-3	-	< 31.0	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 31.0	-	UM
2-Methylnaphthalene	91-57-6	5.94	16.4	93	UM
1-Methylnaphthalene	90-12-0	6.02	13.0	98	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 31.0	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 122.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 122.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 12.0	-	U
Biphenyl	92-52-4	-	< 12.0	-	UM
Diphenyl ether	101-84-8	-	< 12.0	-	UM
2-Nitroaniline	88-74-4	-	< 31.0	-	UM
Acenaphthylene	208-96-8	-	< 12.0	-	UM
Dimethylphthalate	131-11-3	-	< 31.0	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 31.0	-	UM
Acenaphthene	83-32-9	-	< 12.0	-	UM
3-Nitroaniline	99-09-2	-	< 31.0	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 61.0	-	U
Dibenzofuran	132-64-9	-	< 31.0	-	UM
4-Nitrophenol	100-02-7	-	< 305.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 31.0	-	UM
Fluorene	86-73-7	-	< 12.0	-	UM
Diethylphthalate	84-66-2	-	< 31.0	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 31.0	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 305.0	-	U
4-Nitroaniline	100-01-6	-	< 31.0	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 31.0	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 31.0	-	UM
Hexachlorobenzene	118-74-1	-	< 31.0	-	UM
Pentachlorophenol	87-86-5	-	< 305.0	-	U
Phenanthrene	85-01-8	8.17	21.4	97	UM
Anthracene	120-12-7	-	< 12.0	-	UM
Di-n-butylphthalate	84-74-2	-	< 31.0	-	UM
Fluoranthene	206-44-0	-	< 12.0	-	UM
Pyrene	129-00-0	-	< 12.0	-	UM
Butylbenzylphthalate	85-68-7	-	< 31.0	-	UM
Benzo[a]anthracene	56-55-3	-	< 12.0	-	UM
Chrysene	218-01-9	-	< 12.0	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 122.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 31.0	-	U
Di-n-octylphthalate	117-84-0	-	< 12.0	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 12.0	-	U
Benzo[k]fluoranthene	207-08-9	-	< 12.0	-	UM
Benzo[a]pyrene	50-32-8	-	< 12.0	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 12.0	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 12.0	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 12.0	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	123
Naphthalene-d8	115
Acenaphthene-d10	117
Phenanthrene-d10	114
Chrysene-d12	120
Perylene-d12	104

Surrogates	% Rec
2-Fluorophenol	D
Phenol-d5	D
Nitrobenzene-d5	30
2-Fluorobiphenyl	67
2,4,6-Tribromophenol	90
Terphenyl-d14	54

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details:	Enlec UK Ltd: HMS Daedalus (E)	Directory\Quant file:	1208VOC.M\S2\ 1208CCC1.D	Matrix:	Soil
Sample Details:	E-WS309 1.2-1.4	Data Booked in:	01-Dec-05	Method:	Purge & trap
LIMS ID Number:	CL0531833	Data Analysed:	08-Dec-05	Multiplier:	5
Job Number:	S05_4548M	Operator:	SH	Position:	5

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8 ?	-	< 8	-	U
Chloromethane	74-87-3 ?	-	< 8	-	UM
Vinyl Chloride	75-01-4	-	< 8	-	UM
Bromomethane	74-83-9 *	-	< 20	-	U
Chloroethane	75-00-3 *	-	< 20	-	U
Trichlorofluoromethane	75-69-4	-	< 8	-	U
1,1-Dichloroethene	75-35-4 *	-	< 8	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 8	-	UM
1,1-Dichloroethane	75-34-3	-	< 8	-	UM
2,2-Dichloropropane	594-20-7	-	< 8	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 8	-	UM
Bromochloromethane	74-97-5	-	< 8	-	UM
Chloroform	67-66-3	-	< 8	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 8	-	UM
Carbon Tetrachloride	56-23-5	-	< 8	-	UM
1,1-Dichloropropene	563-58-6	-	< 8	-	UM
Benzene	71-43-2	-	< 8	-	UM
1,2-Dichloroethane	107-06-2	-	< 8	-	UM
Trichloroethene	79-01-6	-	< 8	-	UM
1,2-Dichloropropane	78-87-5	-	< 8	-	UM
Dibromomethane	74-95-3	-	< 8	-	UM
Bromodichloromethane	75-27-4	-	< 8	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 8	-	UM
Toluene	108-88-3	-	< 8	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 8	-	U
1,1,2-Trichloroethane	79-00-5	-	< 8	-	UM
Tetrachloroethene	127-18-4	-	< 20	-	UM
1,3-Dichloropropane	142-28-9	-	< 8	-	U
Dibromochloromethane	124-48-1	-	< 8	-	U
1,2-Dibromoethane	106-93-4	-	< 8	-	U
Chlorobenzene	108-90-7	-	< 8	-	UM
Ethylbenzene	100-41-4	-	< 8	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 8	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 8	-	UM
o-Xylene	95-47-6	-	< 8	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 8	-	UM
Bromoform	75-25-2	-	< 8	-	U
Iso-Propylbenzene	98-82-8	-	< 8	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 8	-	U
Propylbenzene	103-65-1	-	< 8	-	UM
Bromobenzene	108-86-1	-	< 8	-	U
1,2,3-Trichloropropane	96-18-4	-	< 8	-	U
2-Chlorotoluene	95-49-8	-	< 8	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 8	-	UM
4-Chlorotoluene	106-43-4	-	< 8	-	UM
tert-Butylbenzene	98-06-6	-	< 8	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 8	-	UM
sec-Butylbenzene	135-98-8	-	< 8	-	UM
p-Isopropyltoluene	99-87-6	-	< 8	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 8	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 8	-	U
n-Butylbenzene	104-51-8	-	< 8	-	U
1,2-Dichlorobenzene	95-50-1	-	< 8	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 20	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 20	-	U
Hexachlorobutadiene	87-68-3	-	< 20	-	U
Naphthalene	91-20-3	-	< 20	-	U
1,2,3-Trichlorobenzene	87-61-6 ?	-	< 20	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	8.94	66	Dibromofluoromethane	94
1,4-Difluorobenzene	7.97	57	Toluene-d8	108
Chlorobenzene-d5	12.61	63	Bromofluorobenzene	103
1,4-Dichlorobenzene-d4	16.56	69		

This analysis was conducted on an 'As Received' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

13/01 2006 15:33 FAX 01283554542 TES BRETBY 002

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1208VOC.MS2\	1208CCC1.D	**Matrix:** Soil
Sample Details:	E-WS309 2.6-2.8	**Date Booked In:**	01-Dec-05		**Method:** Purge & trap
LIMS ID Number:	CL05/31834	**Date Analysed:**	08-Dec-05		**Multiplier:** 5
Job Number:	S05_4548M	**Operator:**	SH		**Position:** 6

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8 7	-	< 6	-	U
Chloromethane	74-87-3 7	-	< 6	-	UM
Vinyl Chloride	75-01-4	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 29	-	U
Chloroethane	75-00-3 *	-	< 29	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 29	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
Iso-Propylbenzene	98-82-8	14.29	8	95	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	15.01	18	93	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	15.33	15	97	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	15.98	73	93	UM
sec-Butylbenzene	135-98-8	16.26	19	98	UM
p-Isopropyltoluene	99-87-6	16.47	17	98	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	17.29	21	88	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 29	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 29	-	U
Hexachlorobutadiene	87-68-3	-	< 29	-	U
Naphthalene	91-20-3	20.80	88	100	U
1,2,3-Trichlorobenzene	87-61-6 7	-	< 29	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %
Pentafluorobenzene	6.93	83
1,4-Difluorobenzene	7.87	58
Chlorobenzene-d5	12.50	62
1,4-Dichlorobenzene-d4	18.55	66

Surrogates	% Rec
Dibromofluoromethane	87
Toluene-d8	105
Bromofluorobenzene	104

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

13/01 2006 15:34 FAX 01283554549 TES BRETBY 030

Volatile Organic Compounds by PTGCMS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	Accredited?:	Yes		
Sample Details:	E-WS311 0.9-1.2 (NVM)	Directory/Quant file:	1209VOC.MS\ 1209CCC3.D	Matrix:	Soil
LIMB ID Number:	CL0631835	Date Booked In:	01-Dec-05	Method:	Purge & trap
Job Number:	S05_4548M	Date Analysed:	09-Dec-05	Multiplier:	5
		Operator:	SH	Position:	3

Target Compounds	CAS #	R.T. (min.)	Concentration ug/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 5	-	U
Chloromethane	74-87-3	-	< 5	-	UM
Vinyl Chloride	75-01-4 ?	-	< 5	-	UM
Bromomethane	74-83-9 *	-	< 28	-	U
Chloroethane	75-00-3 *	-	< 28	-	U
Trichlorofluoromethane	75-69-4	-	< 5	-	U
1,1-Dichloroethene	75-35-4 *	-	< 5	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 5	-	UM
1,1-Dichloroethane	75-34-3	-	< 5	-	UM
2,2-Dichloropropane	594-20-7	-	< 5	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 5	-	UM
Bromochloromethane	74-97-5	-	< 5	-	UM
Chloroform	67-66-3	-	< 5	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 5	-	UM
Carbon Tetrachloride	56-23-5	-	< 5	-	UM
1,1-Dichloropropene	563-58-6	-	< 5	-	UM
Benzene	71-43-2	-	< 5	-	UM
1,2-Dichloroethane	107-06-2	-	< 5	-	UM
Trichloroethene	79-01-6	-	< 5	-	UM
1,2-Dichloropropane	78-87-5	-	< 5	-	UM
Dibromomethane	74-95-3	-	< 5	-	UM
Bromodichloromethane	75-27-4	-	< 5	-	UM
cis 1,3-Dichloropropene	10061-01-5 ?	-	< 5	-	UM
Toluene	108-88-3	-	< 5	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-	U
1,1,2-Trichloroethane	79-00-5	-	< 5	-	UM
Tetrachloroethene	127-18-4	-	< 28	-	UM
1,3-Dichloropropane	142-28-9	-	< 5	-	U
Dibromochloromethane	124-48-1	-	< 5	-	U
1,2-Dibromoethane	106-93-4	-	< 5	-	U
Chlorobenzene	108-90-7	-	< 5	-	UM
Ethylbenzene	100-41-4	-	< 5	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 5	-	UM
o-Xylene	95-47-6	-	< 5	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration ug/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 5	-	UM
Bromoform	75-25-2	-	< 5	-	U
Iso-Propylbenzene	98-82-8	-	< 5	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-	U
Propylbenzene	103-65-1	-	< 5	-	UM
Bromobenzene	108-86-1	-	< 5	-	U
1,2,3-Trichloropropane	96-18-4	-	< 5	-	U
2-Chlorotoluene	95-49-8	-	< 5	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-	UM
4-Chlorotoluene	106-43-4	-	< 5	-	UM
tert-Butylbenzene	98-06-6	-	< 5	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-	UM
sec-Butylbenzene	135-98-8	-	< 5	-	UM
p-Isopropyltoluene	99-87-6	-	< 5	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 5	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 5	-	U
n-Butylbenzene	104-51-8	-	< 5	-	U
1,2-Dichlorobenzene	95-50-1	-	< 5	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 28	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 28	-	U
Hexachlorobutadiene	87-68-3	-	< 28	-	U
Naphthalene	91-20-3	-	< 28	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 28	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.98	100	Dibromofluoromethane	101
1,4-Difluorobenzene	14.13	89	Toluene-d8	96
Chlorobenzene-d5	18.48	86	Bromofluorobenzene	85
1,4-Dichlorobenzene-d4	21.97	63		

This analysis was conducted on an 'As Received' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the [illegible] standard.

13/01 2006 15:35 FAX 01223556049 TES BRETBY 001/031

Volatile Organic Compounds by PTGCMS

Accredited?:	Yes				
Customer and Site Details:	Emac UK Ltd: HMS Daedalus (E)	**Directory\Quant file:**	1209VOC.MS3\ 1209CCC3.D	**Matrix:**	Soil
Sample Details:	E-WS311 1.4-1.6	**Date Booked In:**	01-Dec-05	**Method:**	Purge & trap
LIMS ID Number:	CL0581838	**Date Analysed:**	09-Dec-05	**Multiplier:**	5
Job Number:	S05_4548M	**Operator:**	SH	**Position:**	4

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 5	-	U
Chloromethane	74-87-3	-	< 5	-	UM
Vinyl Chloride	75-01-4 ?	-	< 5	-	UM
Bromomethane	74-83-9 *	-	< 30	-	U
Chloroethane	75-00-3 *	-	< 30	-	U
Trichlorofluoromethane	75-69-4	-	< 5	-	U
1,1-Dichloroethene	75-35-4 *	-	< 5	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 5	-	UM
1,1-Dichloroethane	75-34-3	-	< 5	-	UM
2,2-Dichloropropane	594-20-7	-	< 5	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 5	-	UM
Bromochloromethane	74-97-5	-	< 5	-	UM
Chloroform	67-66-3	-	< 5	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 5	-	UM
Carbon Tetrachloride	56-23-5	-	< 5	-	UM
1,1-Dichloropropene	563-58-6	-	< 5	-	UM
Benzene	71-43-2	-	< 5	-	UM
1,2-Dichloroethane	107-06-2	-	< 5	-	UM
Trichloroethene	79-01-6	-	< 5	-	UM
1,2-Dichloropropane	78-87-5	-	< 5	-	UM
Dibromomethane	74-95-3	-	< 5	-	UM
Bromodichloromethane	75-27-4	-	< 5	-	UM
cis 1,3-Dichloropropene	10061-01-5 ?	-	< 5	-	UM
Toluene	108-88-3	-	< 5	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-	U
1,1,2-Trichloroethane	79-00-5	-	< 5	-	UM
Tetrachloroethene	127-18-4	-	< 30	-	UM
1,3-Dichloropropane	142-28-9	-	< 5	-	U
Dibromochloromethane	124-48-1	-	< 5	-	U
1,2-Dibromoethane	106-93-4	-	< 5	-	U
Chlorobenzene	108-90-7	-	< 5	-	UM
Ethylbenzene	100-41-4	-	< 5	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 5	-	UM
o-Xylene	95-47-6	-	< 5	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 5	-	UM
Bromoform	75-25-2	-	< 5	-	U
iso-Propylbenzene	98-82-8	-	< 5	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-	U
Propylbenzene	103-65-1	-	< 5	-	UM
Bromobenzene	108-86-1	-	< 5	-	U
1,2,3-Trichloropropane	96-18-4	-	< 5	-	U
2-Chlorotoluene	95-49-8	-	< 5	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-	UM
4-Chlorotoluene	106-43-4	-	< 5	-	UM
tert-Butylbenzene	98-06-6	-	< 5	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-	UM
sec-Butylbenzene	135-98-8	-	< 5	-	UM
p-Isopropyltoluene	99-87-6	-	< 5	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 5	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 5	-	U
n-Butylbenzene	104-51-8	-	< 5	-	U
1,2-Dichlorobenzene	95-50-1	-	< 5	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 30	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 30	-	U
Hexachlorobutadiene	87-68-3	-	< 30	-	U
Naphthalene	91-20-3	-	< 30	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 30	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.96	88	Dibromofluoromethane	100
1,4-Difluorobenzene	14.13	90	Toluene-d8	96
Chlorobenzene-d5	18.48	84	Bromofluorobenzene	90
1,4-Dichlorobenzene-d4	21.97	69		

This analysis was conducted on an 'As Recieved' basis.

13/01 2006 15:35 FAX 01283564849 TES BRETBY 032

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	Directory/Dsamt file:	1205VOC.MS1\ 1205CCC2.D	Matrix:	Soil
Sample Details:	E-BH305 5.5-6.0	Date Booked In:	01-Dec-05	Method:	Purge & trap
LIMS ID Number:	CL0531841	Date Analysed:	09-Dec-05	Multiplier:	5
Job Number:	S05_6548M	Operator:	SH	Position:	13

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 7	-	U
Chloromethane	74-87-3	-	< 7	-	UM
Vinyl Chloride	75-01-4	-	< 7	-	UM
Bromoethane	74-83-9 *	-	< 33	-	U
Chloroethane	75-00-3 *	-	< 33	-	U
Trichlorofluoromethane	75-69-4 ?	-	< 7	-	U
1,1-Dichloroethene	75-35-4 *	-	< 7	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 7	-	UM
1,1-Dichloroethane	75-34-3	-	< 7	-	UM
2,2-Dichloropropane	594-20-7	-	< 7	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 7	-	UM
Bromochloromethane	74-97-5	-	< 7	-	UM
Chloroform	67-66-3	-	< 7	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 7	-	UM
Carbon Tetrachloride	56-23-5	-	< 7	-	UM
1,1-Dichloropropene	563-58-6	-	< 7	-	UM
Benzene	71-43-2	-	< 7	-	UM
1,2-Dichloroethane	107-06-2	-	< 7	-	UM
Trichloroethene	79-01-6	-	< 7	-	UM
1,2-Dichloropropane	78-87-5	-	< 7	-	UM
Dibromomethane	74-95-3	-	< 7	-	UM
Bromodichloromethane	75-27-4	-	< 7	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 7	-	UM
Toluene	108-88-3	-	< 7	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 7	-	U
1,1,2-Trichloroethane	79-00-5	-	< 7	-	UM
Tetrachloroethene	127-18-4	16.87	177	95	UM
1,3-Dichloropropane	142-28-9 ?	-	< 7	-	U
Dibromochloromethane	124-48-1 ?	-	< 7	-	U
1,2-Dibromoethane	106-93-4	-	< 7	-	U
Chlorobenzene	108-90-7	-	< 7	-	UM
Ethylbenzene	100-41-4	-	< 7	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 7	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 7	-	UM
o-Xylene	95-47-6	-	< 7	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 7	-	UM
Bromoform	75-25-2	-	< 7	-	U
Iso-Propylbenzene	98-82-8	-	< 7	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 7	-	U
Propylbenzene	103-65-1	-	< 7	-	UM
Bromobenzene	108-86-1	-	< 7	-	U
1,2,3-Trichloropropane	96-18-4	-	< 7	-	U
2-Chlorotoluene	95-49-8	-	< 7	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 7	-	UM
4-Chlorotoluene	106-43-4	-	< 7	-	UM
tert-Butylbenzene	98-06-6	-	< 7	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 7	-	UM
sec-Butylbenzene	135-98-8	-	< 7	-	UM
p-Isopropyltoluene	99-87-6	-	< 7	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 7	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 7	-	U
n-Butylbenzene	104-51-8	-	< 7	-	U
1,2-Dichlorobenzene	95-50-1	-	< 7	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 33	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 33	-	U
Hexachlorobutadiene	87-68-3	-	< 33	-	U
Naphthalene	91-20-3	-	< 33	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 33	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.83	92	Dibromofluoromethane	106
1,4-Difluorobenzene	13.12	93	Toluene-d8	100
Chlorobenzene-d5	18.05	98	Bromofluorobenzene	101
1,4-Dichlorobenzene-d4	22.03	101		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

13/01 2006 15:36 FAX 01283564546 TES BRETBY 033

13/01 2008 15:36 FAX 01283554548 TES BRETBY 034

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory\Quant file:**	1208VOC.MS1\ 1208CCC2.D	**Matrix:**	Soil
Sample Details:	E-SH301 1.2-1.4	**Date Booked In:**	01-Dec-05	**Method:**	Purge & trap
LIMS ID Number:	CL0631842	**Date Analysed:**	09-Dec-05	**Multiplier:**	5
Job Number:	506_4548M	**Operator:**	SH	**Position:**	14

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 31	-	U
Chloroethane	75-00-3 *	-	< 31	-	U
Trichlorofluoromethane	75-69-4 ?	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 31	-	UM
1,3-Dichloropropane	142-28-9 ?	-	< 6	-	U
Dibromochloromethane	124-48-1 ?	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
Iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 31	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 31	-	U
Hexachlorobutadiene	87-68-3	-	< 31	-	U
Naphthalene	91-20-3	-	< 31	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 31	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.82	87	Dibromofluoromethane	108
1,4-Difluorobenzene	13.12	89	Toluene-d8	100
Chlorobenzene-d5	18.06	92	Bromofluorobenzene	102
1,4-Dichlorobenzene-d4	22.03	88		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

Accredited?:	Yes				
Customer and Site Details:	Enlec UK Ltd: HMS Daedalus (E)	Directory\Quant file:	1212VOC.MS\ 1212CCC2.D	Matrix:	Soil
Sample Details:	E-BH312 0.3-0.5	Date Booked In:	01-Dec-05	Method:	Purge & trap
LIMS ID Number:	CLD691844	Date Analysed:	12-Dec-05	Multiplier:	5
Job Number:	S05_4648M	Operator:	SH	Position:	2

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 5	-	U
Chloromethane	74-87-3	-	< 8	-	UM
Vinyl Chloride	75-01-4 ?	-	< 8	-	UM
Bromomethane	74-83-9 *	-	< 31	-	U
Chloroethane	75-00-3 *	-	< 31	-	U
Trichlorofluoromethane	75-69-4	-	< 8	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 8	-	UM
1,1-Dichloroethane	75-34-3 ?	-	< 8	-	UM
2,2-Dichloropropane	594-20-7	-	< 8	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 8	-	UM
Bromochloromethane	74-97-5	-	< 8	-	UM
Chloroform	67-66-3	-	< 5	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 8	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 8	-	UM
Benzene	71-43-2	-	< 8	-	UM
1,2-Dichloroethane	107-06-2	-	< 8	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5 ?	-	< 8	-	UM
Dibromomethane	74-95-3	-	< 8	-	UM
Bromodichloromethane	75-27-4 ?	-	< 8	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 6	-	UM
Toluene	108-88-3	-	< 8	-	UM
trans 1,3-Dichloropropene	10061-02-6 ?	-	< 8	-	U
1,1,2-Trichloroethane	79-00-5	-	< 8	-	UM
Tetrachloroethene	127-18-4	-	< 81	-	UM
1,3-Dichloropropane	142-28-9	-	< 8	-	U
Dibromochloromethane	124-48-1	-	< 8	-	U
1,2-Dibromoethane	106-93-4	-	< 8	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	18.60	48	97	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	18.76	88	97	UM
o-Xylene	95-47-6	19.38	58	94	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 8	-	UM
Bromoform	75-25-2	-	< 8	-	U
Iso-Propylbenzene	98-82-8	19.89	58	99	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 8	-	U
Propylbenzene	103-65-1	20.51	111	93	UM
Bromobenzene	108-86-1	-	< 5	-	U
1,2,3-Trichloropropane	96-18-4	-	< 8	-	U
2-Chlorotoluene	95-49-8	-	< 8	-	UM
1,3,5-Trimethylbenzene	108-67-8	20.73	349	99	UM
4-Chlorotoluene	106-43-4	-	< 8	-	UM
tert-Butylbenzene	98-06-6	-	< 8	-	U
1,2,4-Trimethylbenzene	95-63-6	21.34	908	99	UM
sec-Butylbenzene	135-98-8	21.59	251	98	UM
p-Isopropyltoluene	99-87-6	21.78	154	98	UM
1,3-Dichlorobenzene	541-73-1	-	< 8	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 8	-	U
n-Butylbenzene	104-51-8	-	< 5	-	U
1,2-Dichlorobenzene	95-50-1	-	< 8	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 31	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 31	-	U
Hexachlorobutadiene	87-68-3	-	< 31	-	U
Naphthalene	91-20-3	25.81	613	97	U
1,2,3-Trichlorobenzene	87-61-6	-	< 31	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.98	88	Dibromofluoromethane	112
1,4-Difluorobenzene	14.12	96	Toluene-d8	96
Chlorobenzene-d5	18.48	95	Bromofluorobenzene	93
1,4-Dichlorobenzene-d4	21.97	84		

This analysis was conducted on an 'As Received' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the UKAS/TGS standard.

Sample Chain of Custody and Test Scheduling Form

Client:	ENTEC UK LTD
Address 1:	Shrewsbury Office
Address 2:	
Contact Phone No:	01743 342000 Fax: 01743 342010
Project Location / ID:	17225 - HMS DAEDALUS
Project Ref No:	17225

Status:	new job / continuation
Turnaround:	10 days / hrs
TES Estimate Ref No:	CLOS_0855/35
Cold Box Req'd:	
Project Manager:	Nigel Keywood
Purchase Order No:	69825.

Sheet:

MCERTS: Yes / No

Email: keywoin@entecuk.com

NB Completion of all requested information will assist in reducing delays

USE EITHER: 1 line per sample for brevity OR 1 line per container for full custody

Depth 1 dd	Depth 1 mm	hh	mm	TP / BH etc	(m)-(m)	Type / y y - # # # # #	Matrix: Groundwater/Wastewater	Matrix: Soil / sediment	Matrix: Other ( )	Analysis: specify codes and/or suite no. see over for details: pH (BS6)	Metals (8)	Speciated PAHs	TPH (CWG) banded	Total Phenol (Spec)	Water Sol. SO4 (2:1)	Sulphide (B33)	TOC (S58)	SVOC (S27)	VOC (S65)	Asbestos ID (S4)	
24	11			E-WS310	0.4-0.6	T / 0 -		✓													
24	11			E-WS310	1.1-1.4	T / 0 -		✓		✓	✓											* As, Cd, Cr, Pb, Hg, Se, Cu, Ni, Zn
24	11			E-WS310	1.5-1.7	T / 0 -		✓		✓	✓	✓	✓	✓	✓	✓	✓					
				E-BH305	0.2-0.4	T / 0 -		✓		✓	✓	✓	✓	✓	✓	✓	✓					
				E-BH305	0.4-0.65	T / 0 -		✓														
				E-BH305	1.0-1.3	T / 0 -		✓													✓	
				E-BH305	2.3-2.5	T / 0 -		✓														
				E-BH305	5.5-6.0	T / 0 -		✓														
				E-BH305	6.0-6.5	T / 0 -		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
30	11			E-BH301	0.3-0.9	T / 0 -		✓														
				E-BH301	1.2-1.4	T / 0 -		✓														
				E-BH301	1.8-2.2	T / 0 -		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
				E-BH301	3.0-3.2	T / 0 -		✓														
				E-BH301	3.7-4.0	T / 0 -		✓														
				E-BH301	7.8-8.0	T / 0 -		✓														
				E-BH301	10.5-10.8	T / 0 -		✓		✓	✓	✓	✓	✓	✓	✓	✓					
30	12			E-WS312	3.3-3.5	T / 0 -		✓														
				E-WS312	1.4-1.6	T / 0 -		✓														
				E-WS312	0.3-0.5	T / 0 -		✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		
				E-WS312	0.1-0.2	T / 0 -		✓														
				E-WS312	2.7-2.9	T / 0 -		✓		✓	✓	✓	✓	✓	✓	✓	✓					

Chain of Custody:

Prepared and packaged by	Intermediate Transfer
Sign:	Received (by):
Date / Time:	Date / Time:

White: TOP Copy – pack in a sealed bag with samples Yellow Copy – to be retained by client Blue copy – post or fax to TES Bretby Laboratories

TES Bretby, PO Box 100, Bretby Business Park, Burton-on-Trent, Staffs DE15 0XD. Tel: 01283 554400 Fax: 01283 554549

Note: Entec Site Sheet E3

13/01 2000 16:37 FAX 01283554440 TES BRETBY 036

Sample Chain of Custody and Test Scheduling Form

Client :	ENTEC	Status :	new job / continuation
Address 1 :	ABBEY LAWN, ABBEY FOREGATE	Turnaround :	10 days / hrs
Address 2 :	SHREWSBURY SY2 5DE	TES Estimate Ref No :	CLOS-0855/35
Contact Phone/ Tel :	01743 342000 Fax: 01743 342010	Cold Box No(s) :	
Project Location / ID :	HMS DARWIN 17275	Project Manager :	Nigel Keyworth
Project Ref No :	17275	Purchase Order No :	69825

Client : | MCERTS : Yes / No | Email : keywin@entecuk.co.uk

NB Completion of all requested information will assist in reducing delays

USE EITHER: 1 line per sample for brevity OR 1 line per container for full custody

(D) dd	(D) mm	hh	mm	TP / BH etc	(m)-(m)	Type	Matrix: Groundwater/Wastewater	Matrix: Soil / sediment	Matrix: Other ( )	Analysis: specify code and/or suite no. see over for details												
										S36 pH	Metals	S42 PAH	S67 TPH	S38 Phenols	S53 Sulphate	S223 TOC	S47 SVOC	S65 $ VOC	SSS Sulphide	SS Asbestos	
30	11			TPE302	0.3	T		✓		✓	✓	✓	✓	✓	✓				✓			As, Cd, Cr, Pb, Hg, Se, Cu, Ni, Zn
30	11			TPE302	1.0	T		✓														
30	11			TPE302	2.7	T		✓														
30	11			TPE302	3.0	T		✓														
30	11			TPE301	0.3	T		✓		✓	✓	✓	✓	✓	✓				✓			
30	11			TPE 301	0.6	T		✓		✓	✓	✓	✓	✓	✓				✓			
30	11			TPE 301	3.0	T		✓														
30	11			TPE 303	0.3	T		✓		✓	✓	✓	✓	✓	✓				✓			
30	11			TPE 303	0.8	T		✓														
30	11			TPE 303	3.0	T		✓														
30	11			E-WS309	0.2-0.4	T		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
30	11			E-WS309	1.2-1.4	T		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
30	11			E-WS309	2.6-2.8	T		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
30	11			E-WS309	2.8-3.0	T		✓														
30	11			E-WS311	0.9-1.2	T		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
30	11			E-WS311	1.8-2.2	T		✓														
30	11			E-WS311	1.4-1.6	T		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
29	11			E-WS311	0.4-0.6	T		✓														
						T																
						T																

Chain of Custody:

Prepared and packaged by	Intermediate Transfer
Sign:	Received (sign):
Date / Time:	Date / Time:

White TOP Copy – pack in a sealed bag with samples Yellow Copy – to be retained by client Blue copy – post or fax to TES Shelby Laboratories

TES Bretby, PO B[illegible]00, Brelby Business Park, Burton-on-Trent, Staffs DE15 0XD[illegible]t: 01283 554400 Fax: 01283 554549

13/01 2006 15:38 FAX 01283554549 TES BRETBY 003

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
SO4 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample
co-eluted with benzo(b)fluoranthene
co-eluted with indeno(123-cd)pyrene
BTEX analysis expressed as ug/kg As Received
Phenol HPLC results expressed as mg/kg As Received

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3 @ 15°C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADNS denotes No Asbestos Detected in Sample
NBPO denotes No Bulk fibres Observed
T Trace
L Low (2-16%)
M Medium (16-50%)
H High (>50%)

General notes:
^ this analysis was subcontracted to another laboratory
§ Within laboratory tolerances
§§ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S Insufficient sample for analysis
Inf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
b Raised detection limit due to nature of sample
? Denotes that an element of the quality control system is currently exhibiting sustained bias from its normal working pattern. The QC has not failed action limits and the cause of this is being investigated and rectified.
This does not invalidate the data but our quality policy specifies that you will be kept informed when this happens.
* denotes the accreditation has been removed by the laboratory for this result only
Accreditation Codes:
N - Not Accredited, U - UKAS, UM - UKAS & MCERTS
If 'Accredited? = No' then the accreditation has been removed for the entire dataset
'Accreditation Code:' or 'Accr. Code' indicates the status of the accreditation held by the laboratory

 Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

TEST REPORT
WATER SAMPLE ANALYSIS

1252

TES Report No. EXR/055869

Entec UK Ltd
160-162 Abbey Foregate
Shrewsbury
Shropshire
SY2 6BZ

Site: HMS Daedalus (E)

The 7 samples described in this report were logged for analysis by TES Bretby on 12-Dec-2005.
The analysis was completed by: 07-Feb-2006

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby Laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of GRO Results (Page 4)
Table of SVOC Results (Pages 5 to 11)
Table of TPH (SI) banding (0.01) (Page 12)
GC-FID Chromatograms (Pages 13 to 26)
Table of VOC (HSA) Results (Pages 27 to 33)
Table of Report Notes (Page 34)

On behalf of
TES Bretby :
J Elstub

Date of Issue: 07-Feb-2006

Tests marked '^' have been subcontracted to another laboratory.

TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Units :			uS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Method Codes :		WSLM3	WSLM2	KONENS	ICPWATER	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	KONENS	ISESW24	WSLM13
Method Reporting Limits :			100	1	0.06	0.001	0.001	0.0001	0.001	0.001	0.002	0.001	0.0001	0.001	0.3	0.2	0.1
UKAS Accredited :		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
TES ID Number EXR	Client Sample Description	Sample Date	pH units	Conductivity uS/cm @ 25C	Chloride as Cl w	Total Sulphur as SO4 (Dissolved)	Nickel as Ni (Dissolved)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Arsenic as As (Dissolved)	Mercury as Hg (Dissolved)	Selenium as Se (Dissolved)	Nitrate as N	Sulphide (Free) as S	Total Organic Carbon
0525443	E-BH305	08-Dec-05	7.1	576	25	33.3	0.004	0.003	<0.0001	<0.001	<0.001	0.016	<0.001	<0.0001	0.002	3.8	<0.2	3.2
0525444	E-BH301	08-Dec-05	7.0	438	26	39.8	0.005	0.002	<0.0001	<0.001	<0.001	0.028	<0.001	<0.0001	0.002	2.3	<0.2	2.5
0525445	E-BH308	08-Dec-05	7.0	1340	217	93.0	0.008	0.003	<0.0001	<0.001	<0.001	0.022	0.001	<0.0001	0.001	<0.2	<0.2	4.3
0525446	E-BH303	08-Dec-05	7.4	797	28	151	0.004	0.003	0.0001	<0.001	<0.001	0.071	<0.001	<0.0001	0.002	5.9	<0.2	4.6
0525447	E-BH310	08-Dec-05	6.2	533	25	39.9	0.008	0.002	<0.0001	<0.001	<0.001	0.019	<0.001	<0.0001	0.006	0.7	<0.2	5.5
0525448	E-BH307	08-Dec-05	7.0	920	100	37.3	0.003	0.002	0.0002	<0.001	0.002	0.032	<0.001	<0.0001	<0.001	<0.2	2.1	7.7
0525449	E-BH309	08-Dec-05	9.8	616	68	41.7	0.004	0.001	<0.0001	<0.001	<0.001	0.033	0.028	<0.0001	0.002	<0.2	1.3	13

TES Bretby
PO Box 100, Bretby Business Park,
Burton-on-Trent, Staffordshire, DE15 0XD
Tel +44 (0) 1283 554400
Fax +44 (0) 1283 554422

Client Name: Entec UK Ltd

Contact: Mr N Keyworth

HMS Daedalus (E)

Water Sample Analysis

Date Printed	07-Feb-06
Report Number	EXR/055869
Table Number	1

TES Bretby

Units :			mg/l	mg/l	mg/l	µg/l	ug/l												
Method Codes :			SFAPI		TPHFID-SI	SVOCSWSIM	VOCSWHSA												
Method Reporting Limits :			0.05	0.01	0.01	0.04-0.8	1												
UKAS Accredited :			no	no	no	no	no												
TES ID Number EXR	Client Sample Description	Sample Date	Phenol Index as C6H5OH	GRO-HSA (AA) (0.01)	TPH GC (AA)	Semi Volatile Organic Compounds	Volatile Organic Compounds												
0525443	E-BH305	08-Dec-05	<0.05	Req	Req	Req	Req												
0525444	E-BH301	08-Dec-05	<0.05	Req	Req	Req	Req												
0525445	E-BH308	08-Dec-05	<0.05	Req	Req	Req	Req												
0525446	E-BH303	08-Dec-05	<0.05	Req	Req	Req	Req												
0525447	E-BH310	08-Dec-05	<0.05	Req	Req	Req	Req												
0525448	E-BH307	08-Dec-05	<0.05	Req	Req	Req	Req												
0525449	E-BH309	08-Dec-05	<0.05	Req	Req	Req	Req												

TES Bretby
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Client Name: Entec UK Ltd

Contact: Mr N Keyworth

HMS Daedalus (E)

Water Sample Analysis

Date Printed	07-Feb-06
Report Number	EXR/055869
Table Number	1

TES Bretby

Ver. 1

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Entec UK Ltd : HMS Daedalus (E)
Job Number: W05_5869
Directory: 0115HSA1_GC6
Method: Headspace GCFID

Matrix: WATER
Date Booked in: 12-Dec-05
Date extracted: 15-Jan-06
Date Analysed: 15-Jan-06

* Sample data with an asterisk are not UKAS accredited.

		Concentration, (mg/l)					Aliphatics				
Sample ID	Client ID	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	C5 - C6	>C6 - C7	>C7 - C8	>C8 - C10	Total GRO
EX0525443	E-BH305	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	0.02	<0.01	0.03
EX0525444	E-BH301	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01
EX0525445	E-BH308	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01
EX0525446	E-BH303	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	0.01
EX0525447	E-BH310	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01
EX0525448	E-BH307	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	0.02	0.13	0.16
EX0525449	E-BH309	0.005	0.018	0.005	<0.005	0.012	0.40	0.82	1.79	0.21	3.21

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Water	**QC Batch Number:**	0217
Sample Details:	E-BH305	**Date Booked In:**	12-Dec-05	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.002
LIMS ID Number:	EX0525443	**Date Extracted:**	31-Jan-06	**Operator:**	SO	**Dilution Factor:**	1
Job Number:	W05_5869	**Date Analysed:**	04-Feb-06	**Directory/Quant File:**	0203ABN.GC8 0203CCC3.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration µg/l	% Fit
Phenol	108-95-2	-	< 0.400	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.100	-
2-Chlorophenol	95-57-8	-	< 0.400	-
1,3-Dichlorobenzene	541-73-1	-	< 0.100	-
1,4-Dichlorobenzene	106-46-7	-	< 0.100	-
Benzyl alcohol	100-51-6	-	< 50.000	-
1,2-Dichlorobenzene	95-50-1	-	< 0.100	-
2-Methylphenol	95-48-7	-	< 0.100	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.100	-
Hexachloroethane	67-72-1	-	< 0.100	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.100	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.400	-
Nitrobenzene	98-95-3	-	< 20.000	-
Isophorone	78-59-1	-	< 0.100	-
2-Nitrophenol	88-75-5	-	< 0.400	-
2,4-Dimethylphenol	105-67-9	-	< 0.400	-
Benzoic Acid	65-85-0	-	< 2.000	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.100	-
2,4-Dichlorophenol	120-83-2	-	< 0.400	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.100	-
Naphthalene	91-20-3	-	< 0.040	-
4-Chlorophenol	106-48-9	-	< 0.400	-
4-Chloroaniline	106-47-8	-	< 0.100	-
Hexachlorobutadiene	87-68-3	-	< 0.100	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.100	-
2-Methylnaphthalene	91-57-6	-	< 0.040	-
1-Methylnaphthalene	90-12-0	-	< 0.040	-
Hexachlorocyclopentadiene	77-47-4	-	< 50.000	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.400	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.400	-
2-Chloronaphthalene	91-58-7	-	< 0.040	-
Biphenyl	92-52-4	-	< 0.040	-
Diphenyl ether	101-84-8	-	< 0.040	-
2-Nitroaniline	88-74-4	-	< 20.000	-
Acenaphthylene	208-96-8	-	< 0.040	-
Dimethylphthalate	131-11-3	-	< 0.100	-
2,6-Dinitrotoluene	606-20-2	-	< 20.000	-
Acenaphthene	83-32-9	-	< 0.040	-
3-Nitroaniline	99-09-2	-	< 0.100	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration µg/l	% Fit
2,4-Dinitrophenol	51-28-5	-	< 100.000	-
Dibenzofuran	132-64-9	-	< 0.100	-
4-Nitrophenol	100-02-7	-	< 1.000	-
2,4-Dinitrotoluene	121-14-2	-	< 0.100	-
Fluorene	86-73-7	-	< 0.040	-
Diethylphthalate	84-66-2	-	< 0.100	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.100	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 1.000	-
4-Nitroaniline	100-01-6	-	< 20.000	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.100	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.100	-
Hexachlorobenzene	118-74-1	-	< 0.100	-
Pentachlorophenol	87-86-5	-	< 1.000	-
Phenanthrene	85-01-8	-	< 0.040	-
Anthracene	120-12-7	-	< 0.040	-
Di-n-butylphthalate	84-74-2	-	< 0.100	-
Fluoranthene	206-44-0	-	< 0.040	-
Pyrene	129-00-0	-	< 0.040	-
Butylbenzylphthalate	85-68-7	-	< 20.000	-
Benzo[a]anthracene	56-55-3	-	< 0.040	-
Chrysene	218-01-9	-	< 0.040	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.400	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 20.000	-
Di-n-octylphthalate	117-84-0	-	< 40.000	-
Benzo[b]fluoranthene	205-99-2	-	< 8.000	-
Benzo[k]fluoranthene	207-08-9	-	< 0.040	-
Benzo[a]pyrene	50-32-8	-	< 0.040	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.040	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.040	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.040	-

Internal Standards	% Area
1,4-Dichlorobenzene-d4	79
Naphthalene-d8	76
Acenaphthene-d10	D
Phenanthrene-d10	79
Chrysene-d12	74
Perylene-d12	74

Surrogates	% Rec
2-Fluorophenol	45
Phenol-d5	28
Nitrobenzene-d5	78
2-Fluorobiphenyl	83
2,4,6-Tribromophenol	77
Terphenyl-d14	106

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			Matrix:	Water	QC Batch Number:	0217
Sample Details:	E-BH301	Date Booked In:	12-Dec-05	Ext Method:	Sep. Funnel	Multiplier:	0.002
LIMS ID Number:	EX0525444	Date Extracted:	31-Jan-06	Operator:	SO	Dilution Factor:	1
Job Number:	W05_5869	Date Analysed:	04-Feb-06	Directory/Quant File:	0203ABN.GC8 0203CCC3.D	GPC (Y/N)	N

Target Compounds	CAS #	R.T. (min)	Concentration µg/l	% Fit
Phenol	108-95-2	-	< 0.400	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.100	-
2-Chlorophenol	95-57-8	-	< 0.400	-
1,3-Dichlorobenzene	541-73-1	-	< 0.100	-
1,4-Dichlorobenzene	106-46-7	-	< 0.100	-
Benzyl alcohol	100-51-6	-	< 50.000	-
1,2-Dichlorobenzene	95-50-1	-	< 0.100	-
2-Methylphenol	95-48-7	-	< 0.100	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.100	-
Hexachloroethane	67-72-1	-	< 0.100	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.100	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.400	-
Nitrobenzene	98-95-3	-	< 20.000	-
Isophorone	78-59-1	-	< 0.100	-
2-Nitrophenol	88-75-5	-	< 0.400	-
2,4-Dimethylphenol	105-67-9	-	< 0.400	-
Benzoic Acid	65-85-0	-	< 2.000	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.100	-
2,4-Dichlorophenol	120-83-2	-	< 0.400	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.100	-
Naphthalene	91-20-3	-	< 0.040	-
4-Chlorophenol	106-48-9	-	< 0.400	-
4-Chloroaniline	106-47-8	-	< 0.100	-
Hexachlorobutadiene	87-68-3	-	< 0.100	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.100	-
2-Methylnaphthalene	91-57-6	-	< 0.040	-
1-Methylnaphthalene	90-12-0	-	< 0.040	-
Hexachlorocyclopentadiene	77-47-4	-	< 50.000	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.400	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.400	-
2-Chloronaphthalene	91-58-7	-	< 0.040	-
Biphenyl	92-52-4	-	< 0.040	-
Diphenyl ether	101-84-8	-	< 0.040	-
2-Nitroaniline	88-74-4	-	< 20.000	-
Acenaphthylene	208-96-8	-	< 0.040	-
Dimethylphthalate	131-11-3	-	< 0.100	-
2,6-Dinitrotoluene	606-20-2	-	< 20.000	-
Acenaphthene	83-32-9	-	< 0.040	-
3-Nitroaniline	99-09-2	-	< 0.100	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration µg/l	% Fit
2,4-Dinitrophenol	51-28-5	-	< 100.000	-
Dibenzofuran	132-64-9	-	< 0.100	-
4-Nitrophenol	100-02-7	-	< 1.000	-
2,4-Dinitrotoluene	121-14-2	-	< 0.100	-
Fluorene	86-73-7	-	< 0.040	-
Diethylphthalate	84-66-2	-	< 0.100	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.100	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 1.000	-
4-Nitroaniline	100-01-6	-	< 20.000	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.100	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.100	-
Hexachlorobenzene	118-74-1	-	< 0.100	-
Pentachlorophenol	87-86-5	-	< 1.000	-
Phenanthrene	85-01-8	-	< 0.040	-
Anthracene	120-12-7	-	< 0.040	-
Di-n-butylphthalate	84-74-2	-	< 0.100	-
Fluoranthene	206-44-0	-	< 0.040	-
Pyrene	129-00-0	-	< 0.040	-
Butylbenzylphthalate	85-68-7	-	< 20.000	-
Benzo[a]anthracene	56-55-3	-	< 0.040	-
Chrysene	218-01-9	-	< 0.040	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.400	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 20.000	-
Di-n-octylphthalate	117-84-0	-	< 40.000	-
Benzo[b]fluoranthene	205-99-2	-	< 8.000	-
Benzo[k]fluoranthene	207-08-9	-	< 0.040	-
Benzo[a]pyrene	50-32-8	-	< 0.040	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.040	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.040	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.040	-

Internal Standards	% Area
1,4-Dichlorobenzene-d4	152
Naphthalene-d8	144
Acenaphthene-d10	D
Phenanthrene-d10	146
Chrysene-d12	139
Perylene-d12	136

Surrogates	% Rec
2-Fluorophenol	33
Phenol-d5	19
Nitrobenzene-d5	38
2-Fluorobiphenyl	43
2,4,6-Tribromophenol	43
Terphenyl-d14	52

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			Matrix:	Water	QC Batch Number:	0217
Sample Details:	E-BH308	Date Booked in:	12-Dec-05	Ext Method:	Sep. Funnel	Multiplier:	0.002
LIMS ID Number:	EX0525445	Date Extracted:	31-Jan-06	Operator:	SO	Dilution Factor:	1
Job Number:	W05_5869	Date Analysed:	04-Feb-06	Directory/Quant File:	0203ABN.GC8 0203CCC3.D	GPC (Y/N)	N

Target Compounds	CAS #	R.T. (min)	Concentration µg/l	% Fit
Phenol	108-95-2	-	< 0.400	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.100	-
2-Chlorophenol	95-57-8	-	< 0.400	-
1,3-Dichlorobenzene	541-73-1	-	< 0.100	-
1,4-Dichlorobenzene	106-46-7	-	< 0.100	-
Benzyl alcohol	100-51-6	-	< 50.000	-
1,2-Dichlorobenzene	95-50-1	-	< 0.100	-
2-Methylphenol	95-48-7	-	< 0.100	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.100	-
Hexachloroethane	67-72-1	-	< 0.100	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.100	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.400	-
Nitrobenzene	98-95-3	-	< 20.000	-
Isophorone	78-59-1	-	< 0.100	-
2-Nitrophenol	88-75-5	-	< 0.400	-
2,4-Dimethylphenol	105-67-9	-	< 0.400	-
Benzoic Acid	65-85-0	-	< 2.000	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.100	-
2,4-Dichlorophenol	120-83-2	-	< 0.400	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.100	-
Naphthalene	91-20-3	-	< 0.040	-
4-Chlorophenol	106-48-9	-	< 0.400	-
4-Chloroaniline	106-47-8	-	< 0.100	-
Hexachlorobutadiene	87-68-3	-	< 0.100	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.100	-
2-Methylnaphthalene	91-57-6	-	< 0.040	-
1-Methylnaphthalene	90-12-0	-	< 0.040	-
Hexachlorocyclopentadiene	77-47-4	-	< 50.000	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.400	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.400	-
2-Chloronaphthalene	91-58-7	-	< 0.040	-
Biphenyl	92-52-4	-	< 0.040	-
Diphenyl ether	101-84-8	-	< 0.040	-
2-Nitroaniline	88-74-4	-	< 20.000	-
Acenaphthylene	208-96-8	-	< 0.040	-
Dimethylphthalate	131-11-3	-	< 0.100	-
2,6-Dinitrotoluene	606-20-2	-	< 20.000	-
Acenaphthene	83-32-9	-	< 0.040	-
3-Nitroaniline	99-09-2	-	< 0.100	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration µg/l	% Fit
2,4-Dinitrophenol	51-28-5	-	< 100.000	-
Dibenzofuran	132-64-9	-	< 0.100	-
4-Nitrophenol	100-02-7	-	< 1.000	-
2,4-Dinitrotoluene	121-14-2	-	< 0.100	-
Fluorene	86-73-7	-	< 0.040	-
Diethylphthalate	84-66-2	-	< 0.100	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.100	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 1.000	-
4-Nitroaniline	100-01-6	-	< 20.000	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.100	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.100	-
Hexachlorobenzene	118-74-1	-	< 0.100	-
Pentachlorophenol	87-86-5	-	< 1.000	-
Phenanthrene	85-01-8	-	< 0.040	-
Anthracene	120-12-7	-	< 0.040	-
Di-n-butylphthalate	84-74-2	-	< 0.100	-
Fluoranthene	206-44-0	-	< 0.040	-
Pyrene	129-00-0	-	< 0.040	-
Butylbenzylphthalate	85-68-7	-	< 20.000	-
Benzo[a]anthracene	56-55-3	-	< 0.040	-
Chrysene	218-01-9	-	< 0.040	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.400	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 20.000	-
Di-n-octylphthalate	117-84-0	-	< 40.000	-
Benzo[b]fluoranthene	205-99-2	-	< 8.000	-
Benzo[k]fluoranthene	207-08-9	-	< 0.040	-
Benzo[a]pyrene	50-32-8	-	< 0.040	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.040	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.040	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.040	-

Internal Standards	% Area
1,4-Dichlorobenzene-d4	74
Naphthalene-d8	67
Acenaphthene-d10	D
Phenanthrene-d10	68
Chrysene-d12	60
Perylene-d12	63

Surrogates	% Rec
2-Fluorophenol	69
Phenol-d5	48
Nitrobenzene-d5	77
2-Fluorobiphenyl	87
2,4,6-Tribromophenol	79
Terphenyl-d14	114

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Water	**QC Batch Number:**	217
Sample Details:	E-BH303	**Date Booked In:**	12-Dec-05	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.002
LIMS ID Number:	EX0525446	**Date Extracted:**	31-Jan-06	**Operator:**	SO	**Dilution Factor:**	1
Job Number:	W05_5869	**Date Analysed:**	04-Feb-06	**Directory/Quant File:**	0203ABN.GC8 0203CCC4.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration µg/l	% Fit
Phenol	108-95-2	-	< 0.400	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.100	-
2-Chlorophenol	95-57-8	-	< 0.400	-
1,3-Dichlorobenzene	541-73-1	-	< 0.100	-
1,4-Dichlorobenzene	106-46-7	-	< 0.100	-
Benzyl alcohol	100-51-6	-	< 50.000	-
1,2-Dichlorobenzene	95-50-1	-	< 0.100	-
2-Methylphenol	95-48-7	-	< 0.100	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.100	-
Hexachloroethane	67-72-1	-	< 0.100	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.100	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.400	-
Nitrobenzene	98-95-3	-	< 20.000	-
Isophorone	78-59-1	-	< 0.100	-
2-Nitrophenol	88-75-5	-	< 0.400	-
2,4-Dimethylphenol	105-67-9	-	< 0.400	-
Benzoic Acid	65-85-0	-	< 2.000	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.100	-
2,4-Dichlorophenol	120-83-2	-	< 0.400	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.100	-
Naphthalene	91-20-3	-	< 0.040	-
4-Chlorophenol	106-48-9	-	< 0.400	-
4-Chloroaniline	106-47-8	-	< 0.100	-
Hexachlorobutadiene	87-68-3	-	< 0.100	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.100	-
2-Methylnaphthalene	91-57-6	-	< 0.040	-
1-Methylnaphthalene	90-12-0	-	< 0.040	-
Hexachlorocyclopentadiene	77-47-4	-	< 50.000	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.400	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.400	-
2-Chloronaphthalene	91-58-7	-	< 0.040	-
Biphenyl	92-52-4	-	< 0.040	-
Diphenyl ether	101-84-8	-	< 0.040	-
2-Nitroaniline	88-74-4	-	< 20.000	-
Acenaphthylene	208-96-8	-	< 0.040	-
Dimethylphthalate	131-11-3	-	< 0.100	-
2,6-Dinitrotoluene	606-20-2	-	< 20.000	-
Acenaphthene	83-32-9	-	< 0.040	-
3-Nitroaniline	99-09-2	-	< 0.100	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration µg/l	% Fit
2,4-Dinitrophenol	51-28-5	-	< 100.000	-
Dibenzofuran	132-64-9	-	< 0.100	-
4-Nitrophenol	100-02-7	-	< 1.000	-
2,4-Dinitrotoluene	121-14-2	-	< 0.100	-
Fluorene	86-73-7	-	< 0.040	-
Diethylphthalate	84-66-2	-	< 0.100	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.100	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 1.000	-
4-Nitroaniline	100-01-6	-	< 20.000	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.100	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.100	-
Hexachlorobenzene	118-74-1	-	< 0.100	-
Pentachlorophenol	87-86-5	-	< 1.000	-
Phenanthrene	85-01-8	-	< 0.040	-
Anthracene	120-12-7	-	< 0.040	-
Di-n-butylphthalate	84-74-2	17.33	0.349	m
Fluoranthene	206-44-0	-	< 0.040	-
Pyrene	129-00-0	-	< 0.040	-
Butylbenzylphthalate	85-68-7	-	< 20.000	-
Benzo[a]anthracene	56-55-3	-	< 0.040	-
Chrysene	218-01-9	-	< 0.040	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.400	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 20.000	-
Di-n-octylphthalate	117-84-0	-	< 40.000	-
Benzo[b]fluoranthene	205-99-2	-	< 8.000	-
Benzo[k]fluoranthene	207-08-9	-	< 0.040	-
Benzo[a]pyrene	50-32-8	-	< 0.040	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.040	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.040	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.040	-

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	73
Acenaphthene-d10	D
Phenanthrene-d10	71
Chrysene-d12	66
Perylene-d12	64

Surrogates	% Rec
2-Fluorophenol	49
Phenol-d5	33
Nitrobenzene-d5	65
2-Fluorobiphenyl	73
2,4,6-Tribromophenol	80
Terphenyl-d14	113

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			Matrix:	Water	QC Batch Number:	217
Sample Details:	E-BH310	Date Booked In:	12-Dec-05	Ext Method:	Sep. Funnel	Multiplier:	0.002
LIMS ID Number:	EX0525447	Date Extracted:	31-Jan-06	Operator:	SO	Dilution Factor:	1
Job Number:	W0S_S869	Date Analysed:	04-Feb-06	Directory/Quant File:	0203ABN.GC8 0203CCC4.D	GPC (Y/N)	N

Target Compounds	CAS #	R.T. (min)	Concentration µg/l	% Fit
Phenol	108-95-2	-	< 0.400	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.100	-
2-Chlorophenol	95-57-8	-	< 0.400	-
1,3-Dichlorobenzene	541-73-1	-	< 0.100	-
1,4-Dichlorobenzene	106-46-7	-	< 0.100	-
Benzyl alcohol	100-51-6	-	< 50.000	-
1,2-Dichlorobenzene	95-50-1	-	< 0.100	-
2-Methylphenol	95-48-7	-	< 0.100	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.100	-
Hexachloroethane	67-72-1	-	< 0.100	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.100	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.400	-
Nitrobenzene	98-95-3	-	< 20.000	-
Isophorone	78-59-1	-	< 0.100	-
2-Nitrophenol	88-75-5	-	< 0.400	-
2,4-Dimethylphenol	105-67-9	-	< 0.400	-
Benzoic Acid	65-85-0	-	< 2.000	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.100	-
2,4-Dichlorophenol	120-83-2	-	< 0.400	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.100	-
Naphthalene	91-20-3	-	< 0.040	-
4-Chlorophenol	106-48-9	-	< 0.400	-
4-Chloroaniline	106-47-8	-	< 0.100	-
Hexachlorobutadiene	87-68-3	-	< 0.100	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.100	-
2-Methylnaphthalene	91-57-6	-	< 0.040	-
1-Methylnaphthalene	90-12-0	-	< 0.040	-
Hexachlorocyclopentadiene	77-47-4	-	< 50.000	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.400	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.400	-
2-Chloronaphthalene	91-58-7	-	< 0.040	-
Biphenyl	92-52-4	-	< 0.040	-
Diphenyl ether	101-84-8	-	< 0.040	-
2-Nitroaniline	88-74-4	-	< 20.000	-
Acenaphthylene	208-96-8	-	< 0.040	-
Dimethylphthalate	131-11-3	-	< 0.100	-
2,6-Dinitrotoluene	606-20-2	-	< 20.000	-
Acenaphthene	83-32-9	-	< 0.040	-
3-Nitroaniline	99-09-2	-	< 0.100	-

Target Compounds	CAS #	R.T.	Concentration µg/l	% Fit
2,4-Dinitrophenol	51-28-5	-	< 100.000	-
Dibenzofuran	132-64-9	-	< 0.100	-
4-Nitrophenol	100-02-7	-	< 1.000	-
2,4-Dinitrotoluene	121-14-2	-	< 0.100	-
Fluorene	86-73-7	-	< 0.040	-
Diethylphthalate	84-66-2	-	< 0.100	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.100	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 1.000	-
4-Nitroaniline	100-01-6	-	< 20.000	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.100	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.100	-
Hexachlorobenzene	118-74-1	-	< 0.100	-
Pentachlorophenol	87-86-5	-	< 1.000	-
Phenanthrene	85-01-8	15.85	1.955	m
Anthracene	120-12-7	15.96	0.313	m
Di-n-butylphthalate	84-74-2	17.34	2.412	m
Fluoranthene	206-44-0	18.38	1.373	m
Pyrene	129-00-0	18.83	0.124	m
Butylbenzylphthalate	85-68-7	-	< 20.000	-
Benzo[a]anthracene	56-55-3	-	< 0.040	-
Chrysene	218-01-9	21.47	0.042	m
3,3'-Dichlorobenzidine	91-94-1	-	< 0.400	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 20.000	-
Di-n-octylphthalate	117-84-0	-	< 40.000	-
Benzo[b]fluoranthene	205-99-2	-	< 8.000	-
Benzo[k]fluoranthene	207-08-9	-	< 0.040	-
Benzo[a]pyrene	50-32-8	-	< 0.040	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.040	-
Dibenz[a,h]anthracene	53-70-3	-	< 0.040	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.040	-

Internal Standards	% Area
1,4-Dichlorobenzene-d4	73
Naphthalene-d8	68
Acenaphthene-d10	108
Phenanthrene-d10	D
Chrysene-d12	69
Perylene-d12	70

Surrogates	% Rec
2-Fluorophenol	3
Phenol-d5	1
Nitrobenzene-d5	81
2-Fluorobiphenyl	29
2,4,6-Tribromophenol	205
Terphenyl-d14	100

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			Matrix:	Water	QC Batch Number:	0217
Sample Details:	E-BH307	Date Booked in:	12-Dec-05	Ext Method:	Sep. Funnel	Multiplier:	0.002
LIMS ID Number:	EX0525448	Date Extracted:	31-Jan-06	Operator:	SO	Dilution Factor:	1
Job Number:	W05_5869	Date Analysed:	04-Feb-06	Directory/Quant File:	0203ABN.GC8 0203CCC4.D	GPC (Y/N)	N

Target Compounds	CAS #	R.T. (min)	Concentration µg/l	% Fit
Phenol	108-95-2	-	< 0.400	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.100	-
2-Chlorophenol	95-57-8	-	< 0.400	-
1,3-Dichlorobenzene	541-73-1	-	< 0.100	-
1,4-Dichlorobenzene	106-46-7	-	< 0.100	-
Benzyl alcohol	100-51-6	-	< 50.000	-
1,2-Dichlorobenzene	95-50-1	-	< 0.100	-
2-Methylphenol	95-48-7	-	< 0.100	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.100	-
Hexachloroethane	67-72-1	-	< 0.100	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.100	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.400	-
Nitrobenzene	98-95-3	-	< 20.000	-
Isophorone	78-59-1	-	< 0.100	-
2-Nitrophenol	88-75-5	-	< 0.400	-
2,4-Dimethylphenol	105-67-9	-	< 0.400	-
Benzoic Acid	65-85-0	-	< 2.000	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.100	-
2,4-Dichlorophenol	120-83-2	-	< 0.400	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.100	-
Naphthalene	91-20-3	-	< 0.040	-
4-Chlorophenol	106-48-9	-	< 0.400	-
4-Chloroaniline	106-47-8	-	< 0.100	-
Hexachlorobutadiene	87-68-3	-	< 0.100	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.100	-
2-Methylnaphthalene	91-57-6	-	< 0.040	-
1-Methylnaphthalene	90-12-0	10.74	0.812	m
Hexachlorocyclopentadiene	77-47-4	-	< 50.000	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.400	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.400	-
2-Chloronaphthalene	91-58-7	-	< 0.040	-
Biphenyl	92-52-4	-	< 0.040	-
Diphenyl ether	101-84-8	-	< 0.040	-
2-Nitroaniline	88-74-4	-	< 20.000	-
Acenaphthylene	208-96-8	-	< 0.040	-
Dimethylphthalate	131-11-3	-	< 0.100	-
2,6-Dinitrotoluene	606-20-2	-	< 20.000	-
Acenaphthene	83-32-9	12.78	0.943	m
3-Nitroaniline	99-09-2	-	< 0.100	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration µg/l	% Fit
2,4-Dinitrophenol	51-28-5	-	< 100.000	-
Dibenzofuran	132-64-9	13.13	0.720	m
4-Nitrophenol	100-02-7	-	< 1.000	-
2,4-Dinitrotoluene	121-14-2	-	< 0.100	-
Fluorene	86-73-7	13.85	1.311	m
Diethylphthalate	84-66-2	-	< 0.100	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.100	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 1.000	-
4-Nitroaniline	100-01-6	-	< 20.000	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.100	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.100	-
Hexachlorobenzene	118-74-1	-	< 0.100	-
Pentachlorophenol	87-86-5	-	< 1.000	-
Phenanthrene	85-01-8	15.84	1.825	m
Anthracene	120-12-7	15.95	0.280	m
Di-n-butylphthalate	84-74-2	17.34	0.367	m
Fluoranthene	206-44-0	18.37	1.122	m
Pyrene	129-00-0	18.82	1.082	m
Butylbenzylphthalate	85-68-7	-	< 20.000	-
Benzo[a]anthracene	56-55-3	21.38	0.238	m
Chrysene	218-01-9	21.46	0.229	m
3,3'-Dichlorobenzidine	91-94-1	-	< 0.400	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 20.000	-
Di-n-octylphthalate	117-84-0	-	< 40.000	-
Benzo[b]fluoranthene	205-99-2	-	< 8.000	-
Benzo[k]fluoranthene	207-08-9	23.81	0.048	m
Benzo[a]pyrene	50-32-8	24.60	0.088	m
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.040	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.040	-
Benzo[g,h,i]perylene	191-24-2	28.62	0.048	m

Internal Standards	% Area
1,4-Dichlorobenzene-d4	76
Naphthalene-d8	74
Acenaphthene-d10	D
Phenanthrene-d10	74
Chrysene-d12	70
Perylene-d12	80

Surrogates	% Rec
2-Fluorophenol	3
Phenol-d5	1
Nitrobenzene-d5	65
2-Fluorobiphenyl	73
2,4,6-Tribromophenol	108
Terphenyl-d14	101

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Water	**QC Batch Number:**	0217
Sample Details:	E-BH309	**Date Booked In:**	12-Dec-05	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.002
LIMS ID Number:	EX0525449	**Date Extracted:**	31-Jan-06	**Operator:**	SO	**Dilution Factor:**	1
Job Number:	W05_5869	**Date Analysed:**	04-Feb-06	**Directory/Quant File:**	0203ABN.GC8 0203CCC4.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration µg/l	% Fit
Phenol	108-95-2	6.17	1.319	m
bis(2-Chloroethyl)ether	111-44-4	-	< 0.100	-
2-Chlorophenol	95-57-8	-	< 0.400	-
1,3-Dichlorobenzene	541-73-1	-	< 0.100	-
1,4-Dichlorobenzene	106-46-7	-	< 0.100	-
Benzyl alcohol	100-51-6	-	< 50.000	-
1,2-Dichlorobenzene	95-50-1	-	< 0.100	-
2-Methylphenol	95-48-7	-	< 0.100	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.100	-
Hexachloroethane	67-72-1	-	< 0.100	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.100	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.400	-
Nitrobenzene	98-95-3	-	< 20.000	-
Isophorone	78-59-1	-	< 0.100	-
2-Nitrophenol	88-75-5	-	< 0.400	-
2,4-Dimethylphenol	105-67-9	-	< 0.400	-
Benzoic Acid	65-85-0	-	< 2.000	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.100	-
2,4-Dichlorophenol	120-83-2	-	< 0.400	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.100	-
Naphthalene	91-20-3	9.10	0.420	m
4-Chlorophenol	106-48-9	-	< 0.400	-
4-Chloroaniline	106-47-8	-	< 0.100	-
Hexachlorobutadiene	87-68-3	-	< 0.100	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.100	-
2-Methylnaphthalene	91-57-6	10.53	0.643	m
1-Methylnaphthalene	90-12-0	10.74	0.864	m
Hexachlorocyclopentadiene	77-47-4	-	< 50.000	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.400	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.400	-
2-Chloronaphthalene	91-58-7	-	< 0.040	-
Biphenyl	92-52-4	-	< 0.040	-
Diphenyl ether	101-84-8	-	< 0.040	-
2-Nitroaniline	88-74-4	-	< 20.000	-
Acenaphthylene	208-96-8	12.39	0.076	m
Dimethylphthalate	131-11-3	-	< 0.100	-
2,6-Dinitrotoluene	606-20-2	-	< 20.000	-
Acenaphthene	83-32-9	12.78	0.817	m
3-Nitroaniline	99-09-2	-	< 0.100	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration µg/l	% Fit
2,4-Dinitrophenol	51-28-5	-	< 100.000	-
Dibenzofuran	132-64-9	13.13	0.236	m
4-Nitrophenol	100-02-7	-	< 1.000	-
2,4-Dinitrotoluene	121-14-2	-	< 0.100	-
Fluorene	86-73-7	13.85	0.476	m
Diethylphthalate	84-66-2	-	< 0.100	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.100	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 1.000	-
4-Nitroaniline	100-01-6	-	< 20.000	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.100	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.100	-
Hexachlorobenzene	118-74-1	-	< 0.100	-
Pentachlorophenol	87-86-5	-	< 1.000	-
Phenanthrene	85-01-8	15.85	1.748	m
Anthracene	120-12-7	15.95	0.574	m
Di-n-butylphthalate	84-74-2	17.34	0.503	m
Fluoranthene	206-44-0	18.37	2.728	m
Pyrene	129-00-0	18.82	3.026	m
Butylbenzylphthalate	85-68-7	-	< 20.000	-
Benzo[a]anthracene	56-55-3	21.38	1.136	m
Chrysene	218-01-9	21.46	1.098	m
3,3'-Dichlorobenzidine	91-94-1	-	< 0.400	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 20.000	-
Di-n-octylphthalate	117-84-0	-	< 40.000	-
Benzo[b]fluoranthene	205-99-2	-	< 8.000	-
Benzo[k]fluoranthene	207-08-9	23.77	1.148	m
Benzo[a]pyrene	50-32-8	24.59	1.515	m
Indeno[1,2,3-cd]pyrene	193-39-5	27.92	1.648	m
Dibenzo[a,h]anthracene	53-70-3	28.02	0.260	m
Benzo[g,h,i]perylene	191-24-2	28.59	1.849	m

Internal Standards	% Area
1,4-Dichlorobenzene-d4	73
Naphthalene-d8	72
Acenaphthene-d10	D
Phenanthrene-d10	71
Chrysene-d12	66
Perylene-d12	81

Surrogates	% Rec
2-Fluorophenol	64
Phenol-d5	39
Nitrobenzene-d5	93
2-Fluorobiphenyl	80
2,4,6-Tribromophenol	109
Terphenyl-d14	94

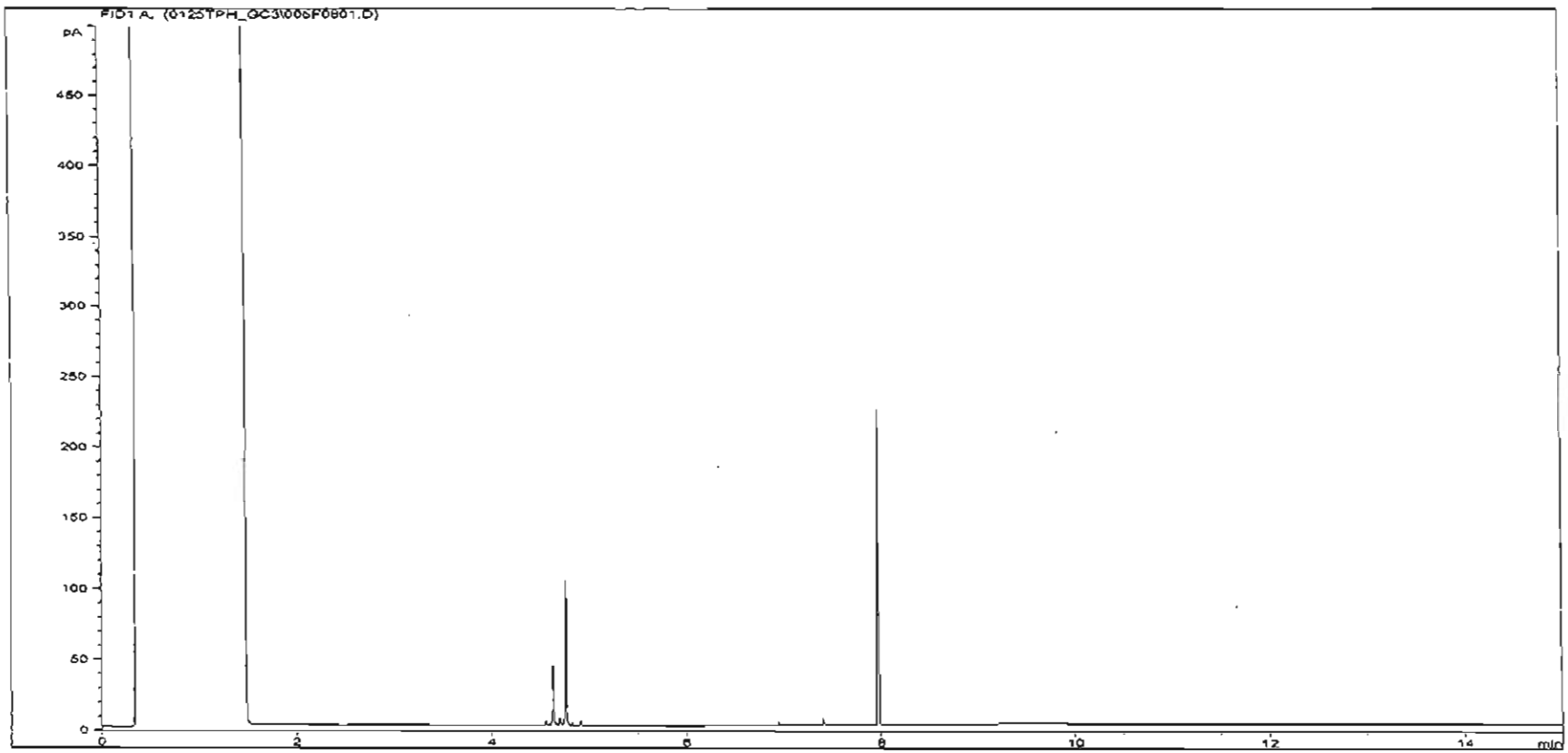
ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details:	Entec UK Ltd : HMS Daedalus (E)			Matrix:	Water
Job Number:	W05_5869	Separation:	Silica gel	Date Booked In	12-Dec-05
QC Batch Number:	60135	Eluents:	Pentane, DCM	Date Extracted	22-Jan-06
Directory:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\060B1201.D			Date Analysed:	25-Jan-06
Method:	Separating Funnel				

This sample data is not UKAS accredited.

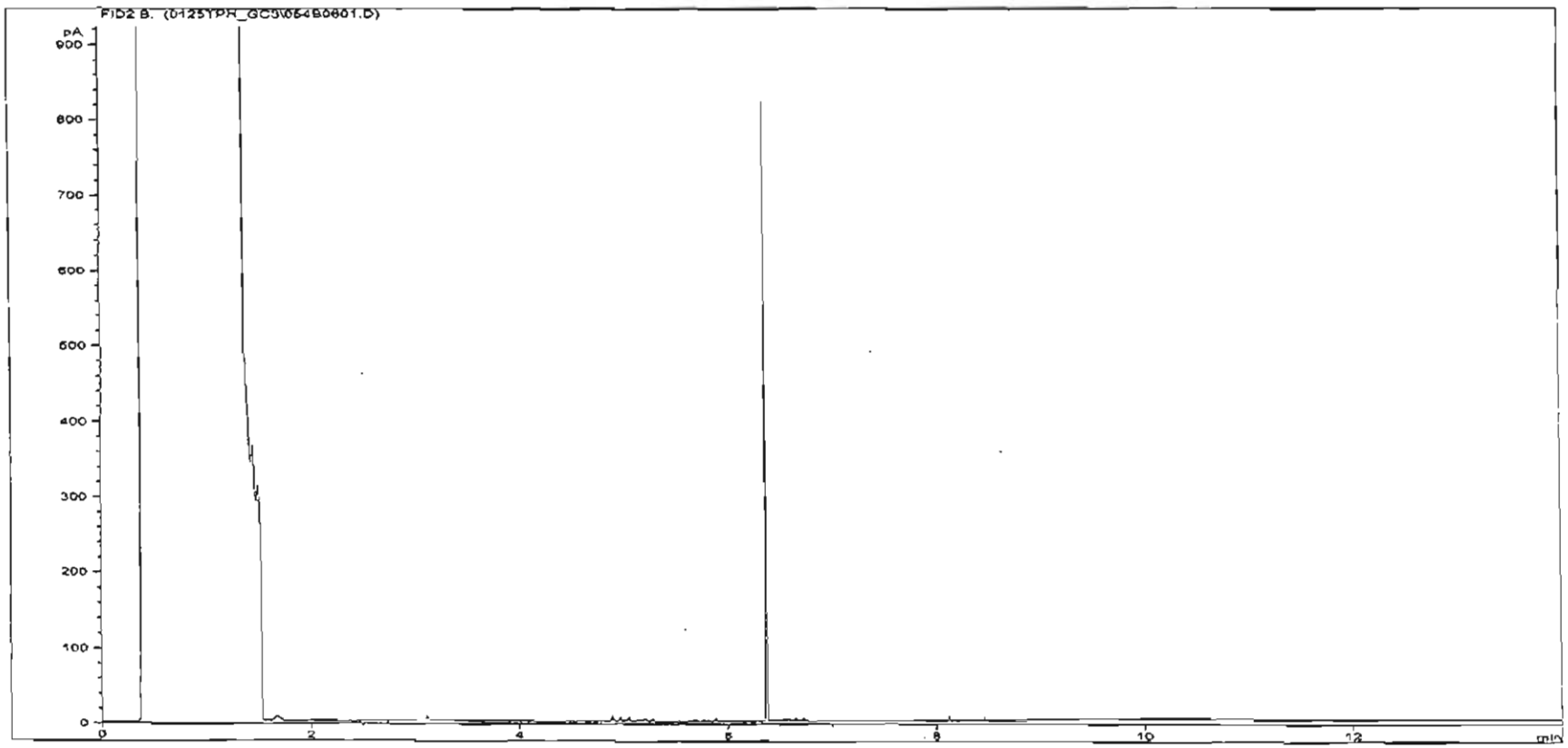
		Concentration, (mg/l)									
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35	
Sample ID	Client ID	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics
EX0525443	E-BH305	<0.0007	0.001	<0.0007	0.0032	0.0084	0.0035	<0.0017	0.0037	<0.0048	0.0051
EX0525444	E-BH301	<0.0007	0.0008	0.0014	0.0021	0.0111	<0.0014	0.0295	0.0037	0.0102	0.0061
EX0525445	E-BH308	<0.0009	0.001	<0.0009	0.0021	<0.0017	<0.0017	0.0065	0.0042	0.0098	<0.006
EX0525446	E-BH303	<0.0012	0.0015	<0.0012	0.0039	<0.0023	<0.0023	<0.0029	0.0051	<0.008	0.0104
EX0525447	E-BH310	<0.0008	0.0013	0.0008	0.003	<0.0016	0.002	0.0024	0.0057	<0.0054	0.0101
EX0525448	E-BH307	0.0356	0.0079	0.0412	0.037	0.0849	0.0691	0.0167	0.0244	0.014	0.0259
EX0525449	E-BH309	0.0502	0.0556	0.0162	0.0522	0.0062	0.0115	0.0082	0.0111	0.0204	0.0185

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



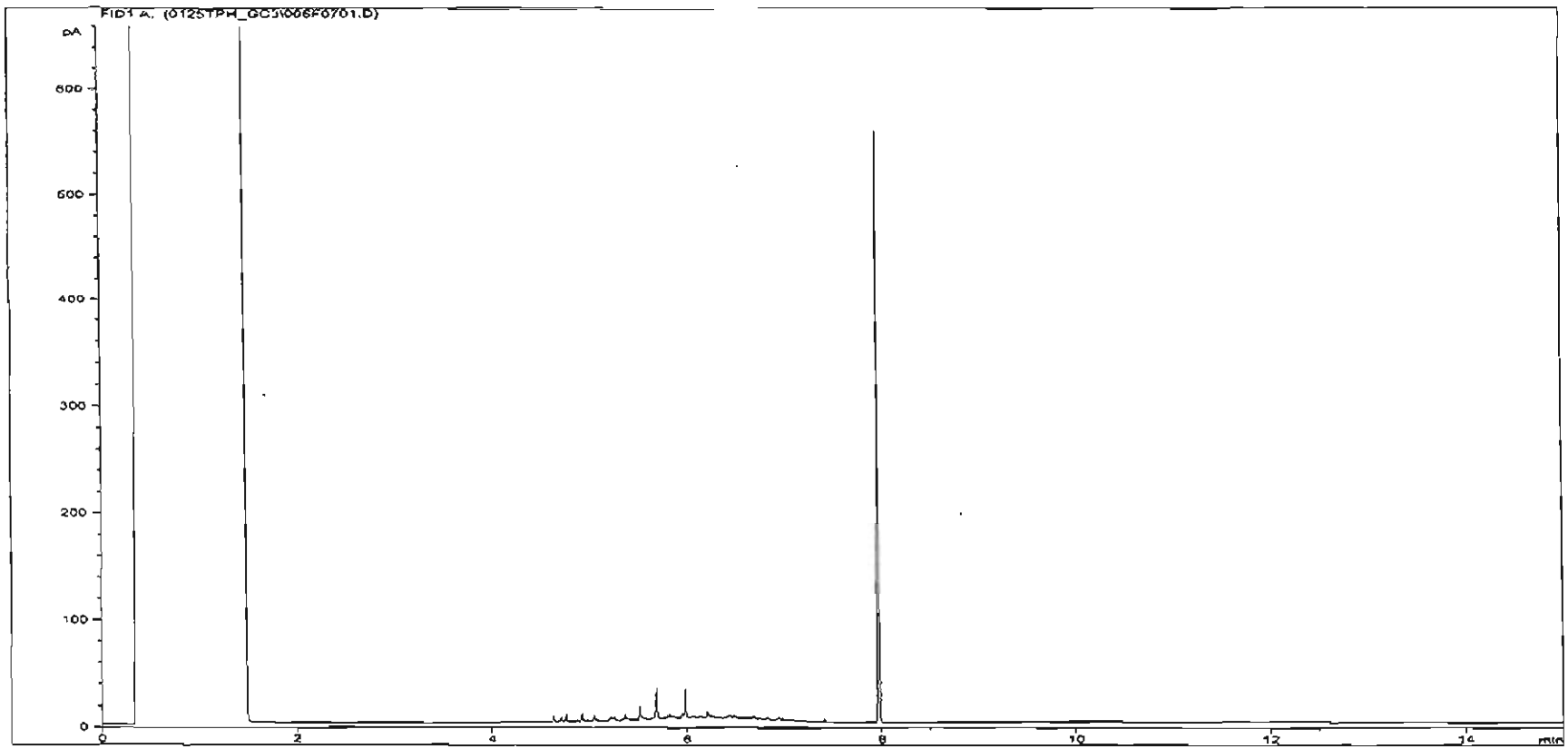
Sample ID:	EX0525443ALI	**Job Number:**	W05_5869
Multiplier:	0.001	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH305
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\005F0601.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



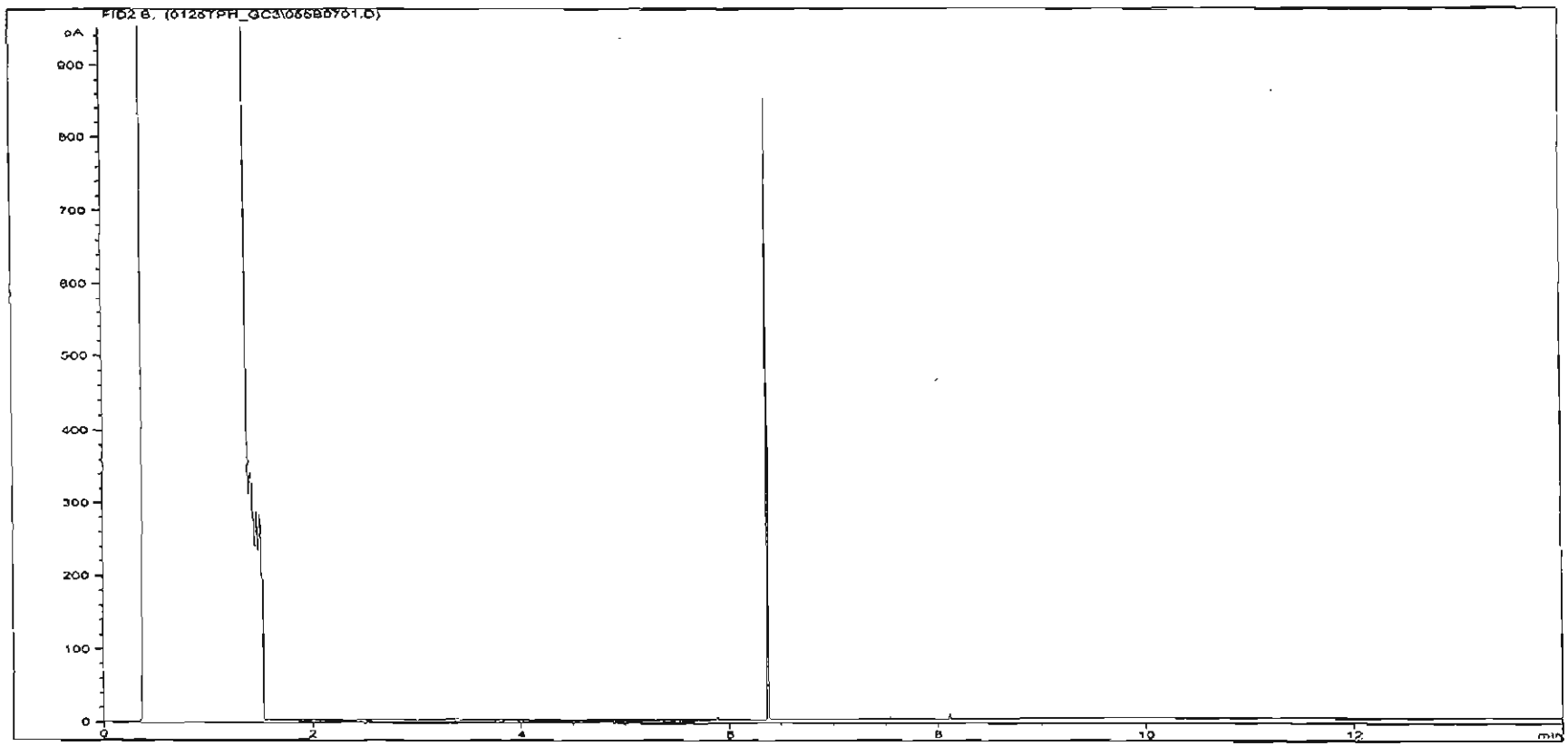
Sample ID:	EX0525443ARO	**Job Number:**	W05_5869
Multiplier:	0.001	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH305
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\054B0601.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



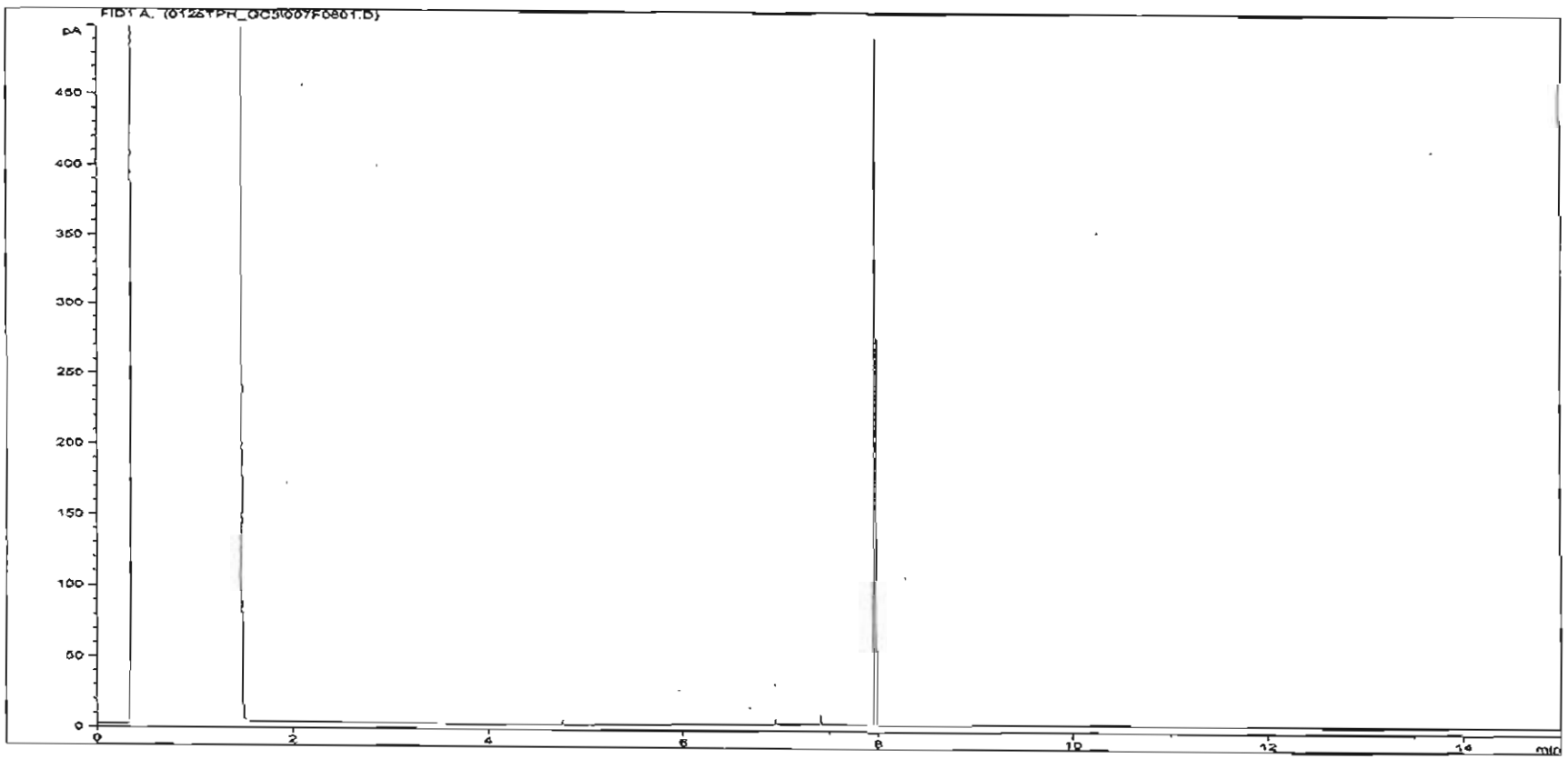
Sample ID:	EX0525444ALI	**Job Number:**	W05_5869
Multiplier:	0.001	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH301
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\006F0701.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



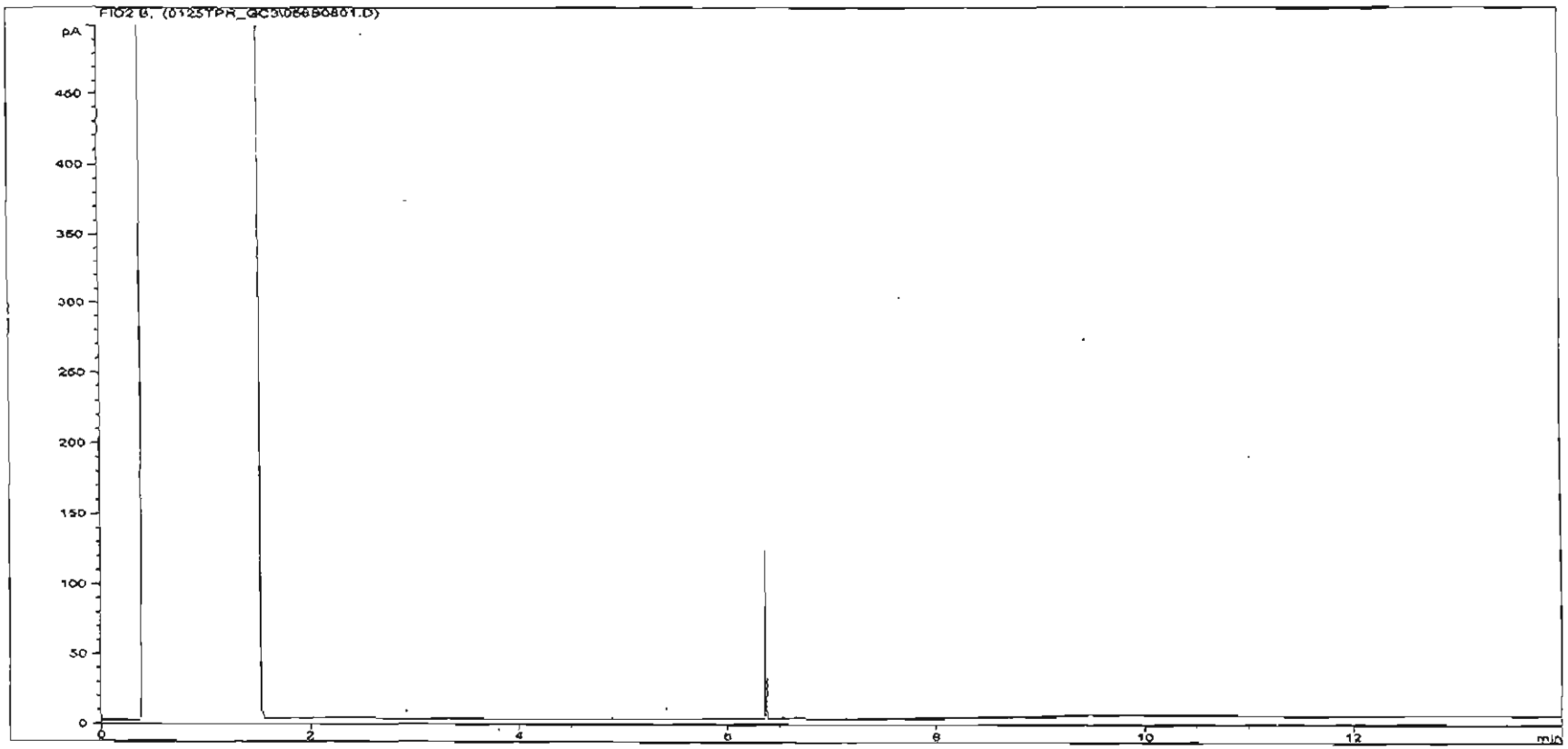
Sample ID:	EX0525444ARO	**Job Number:**	W05_5869
Multiplier:	0.001	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH301
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\055B0701.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



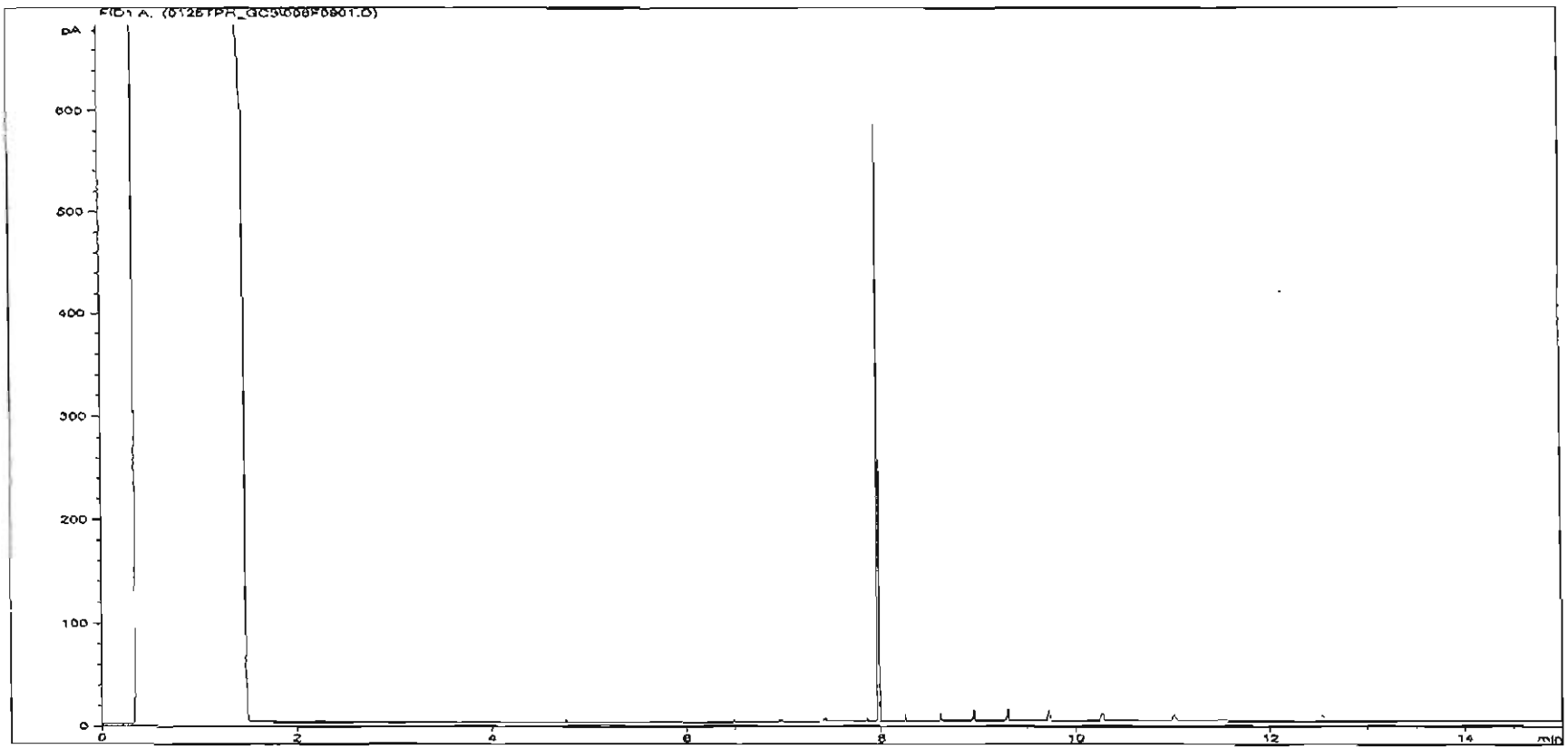
Sample ID:	EX0525445ALI	**Job Number:**	W05_5869
Multiplier:	0.00125	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH308
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\007F0801.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



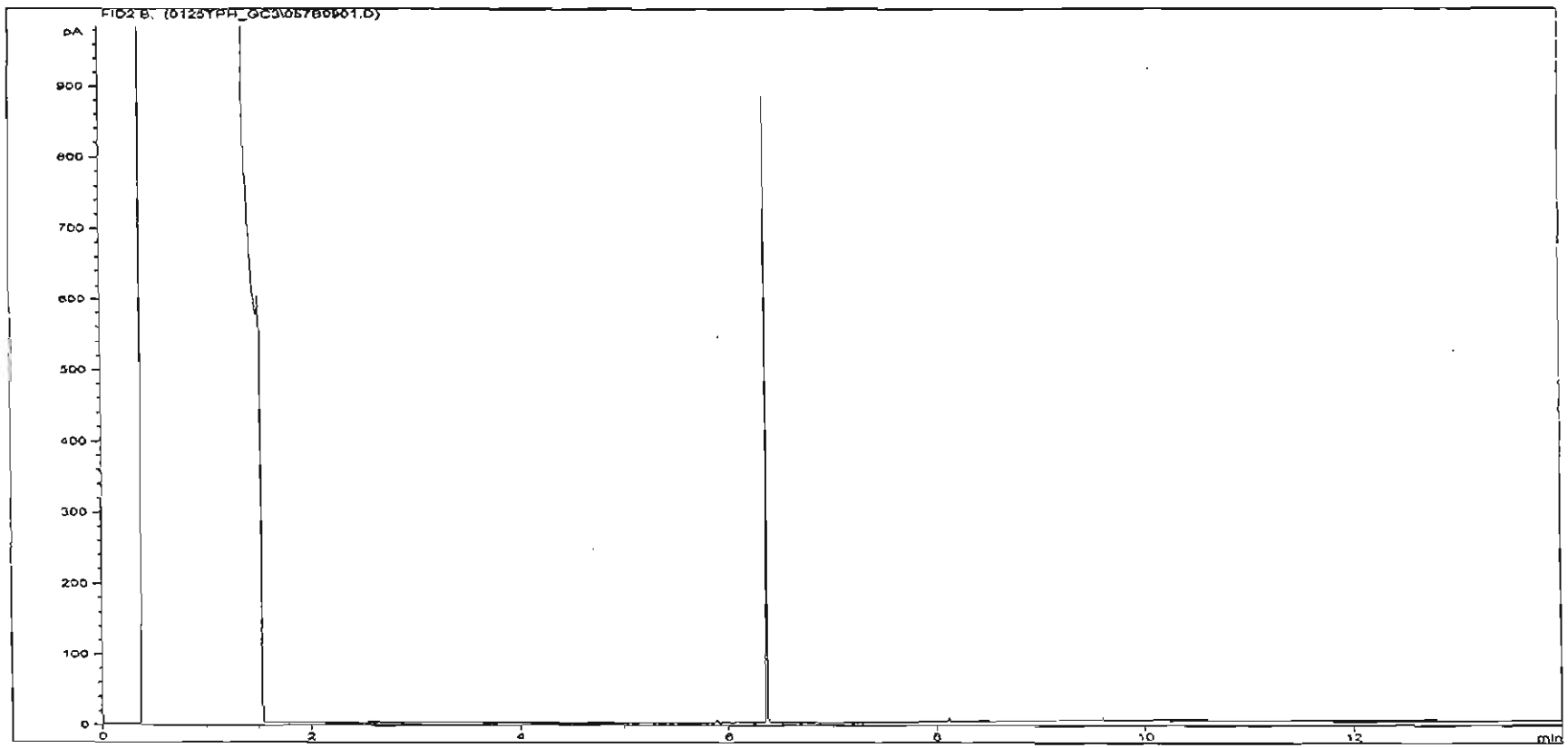
Sample ID:	EX0525445ARO	**Job Number:**	W05_5869
Multiplier:	0.00125	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH308
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\056B0801.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



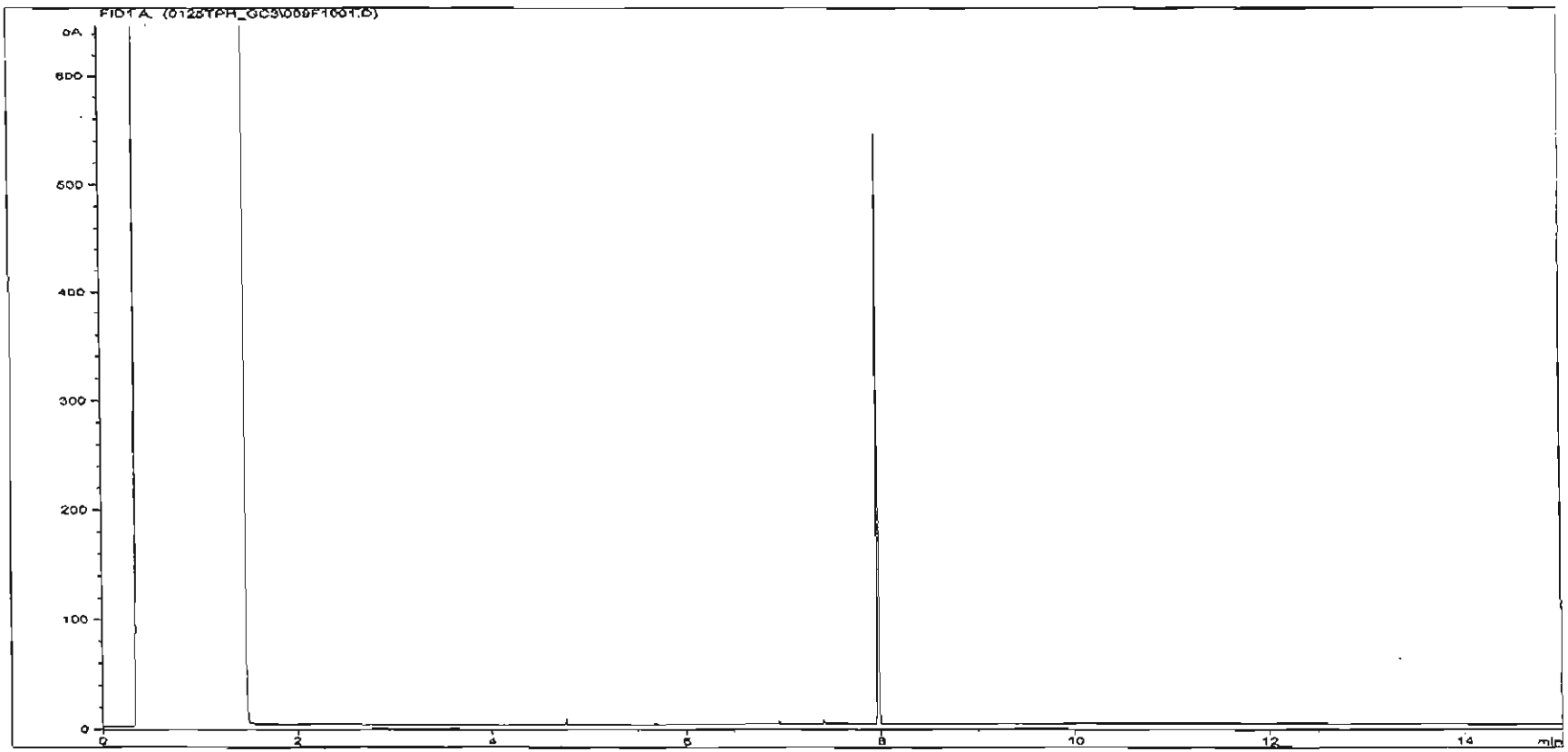
Sample ID:	EX0525446ALI	**Job Number:**	W05_5869
Multiplier:	0.001667	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH303
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\008F0901.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



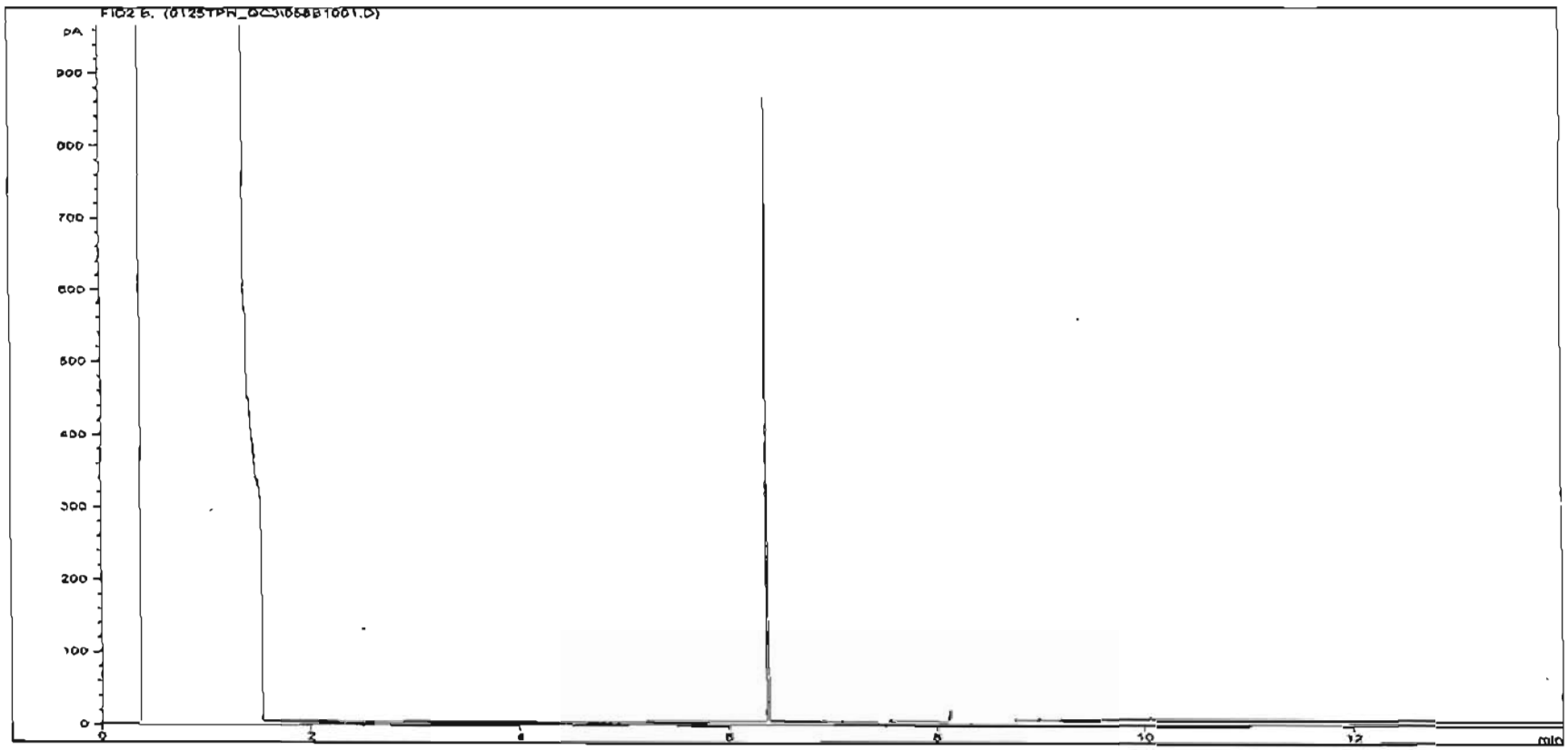
Sample ID:	EX0525446ARO	**Job Number:**	W05_5869
Multiplier:	0.001667	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH303
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\057B0901.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



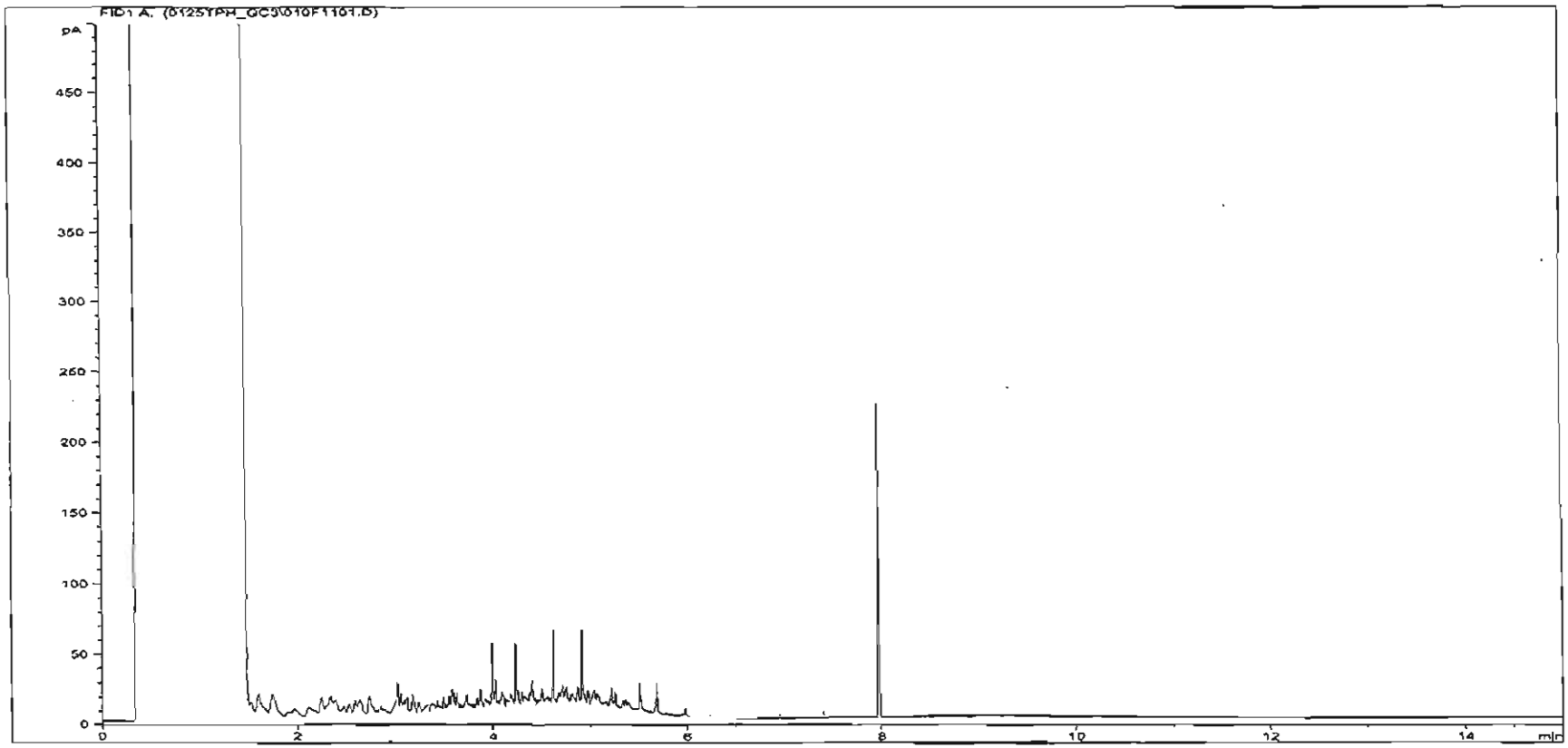
Sample ID:	EX0525447ALI	**Job Number:**	W05_5869
Multiplier:	0.001125	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH310
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\009F1001.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



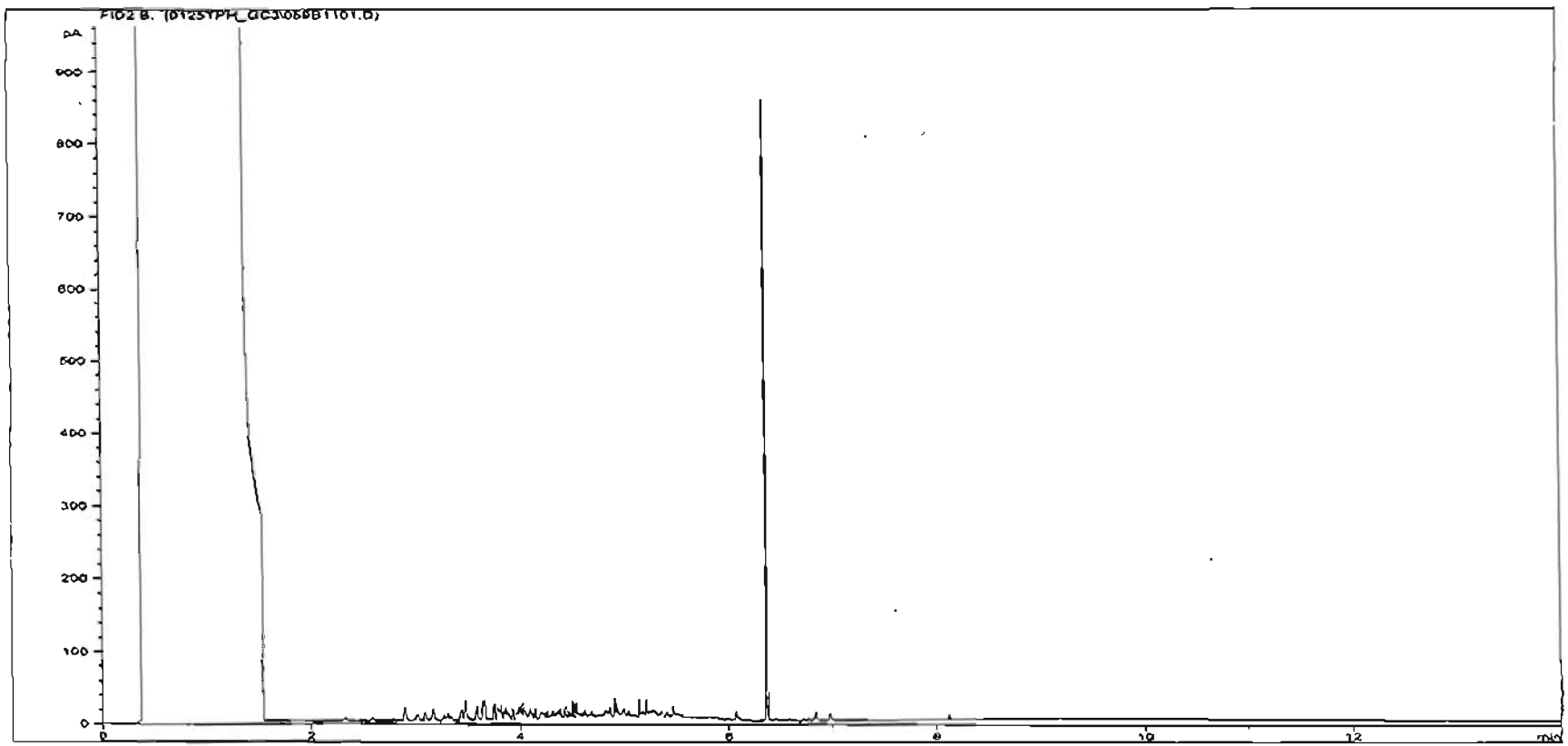
Sample ID:	EX0525447ARO	**Job Number:**	W05_5869
Multiplier:	0.00125	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH310
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\058B1001.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



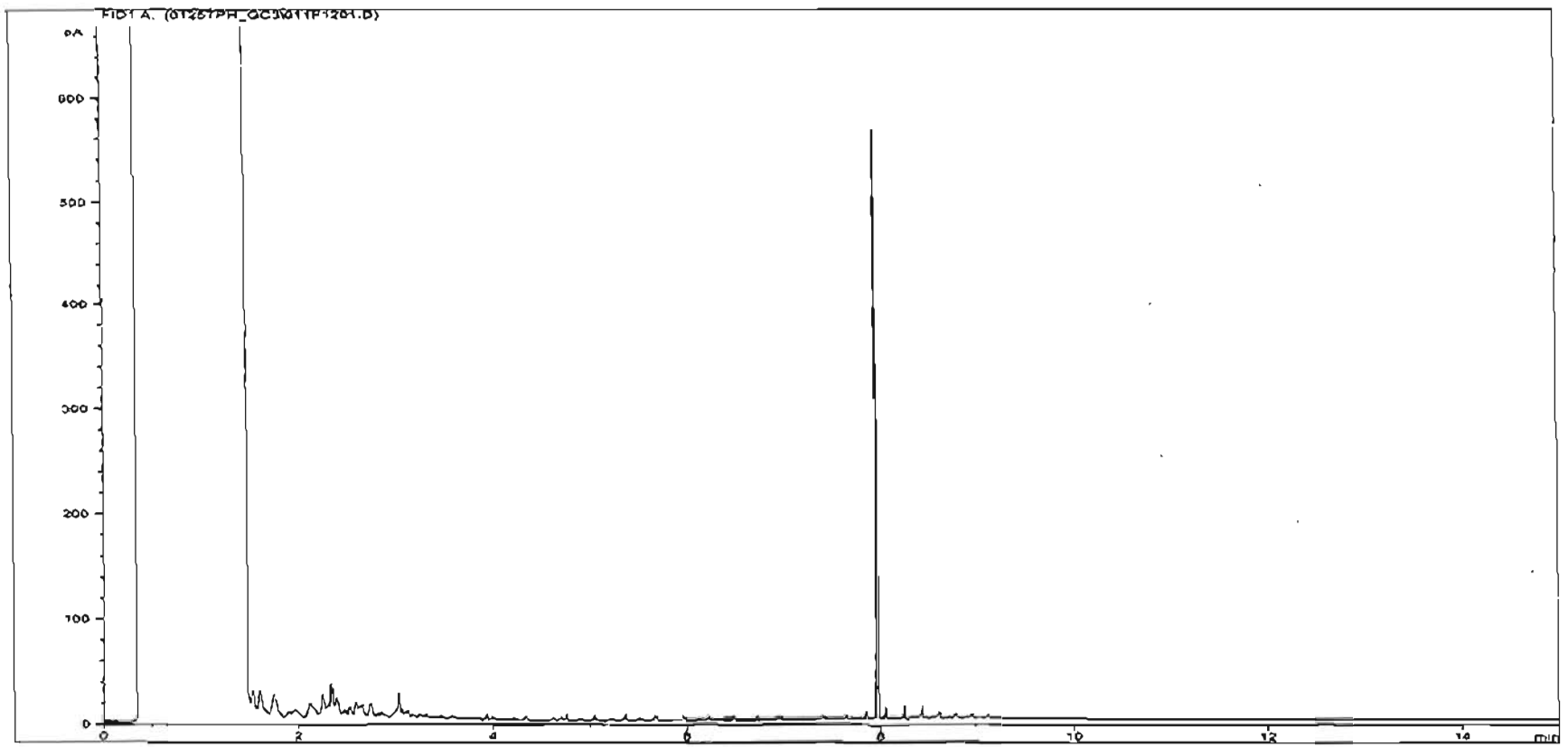
Sample ID:	EX0525448ALI	**Job Number:**	W05_5869
Multiplier:	0.001112	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH307
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\010F1101.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



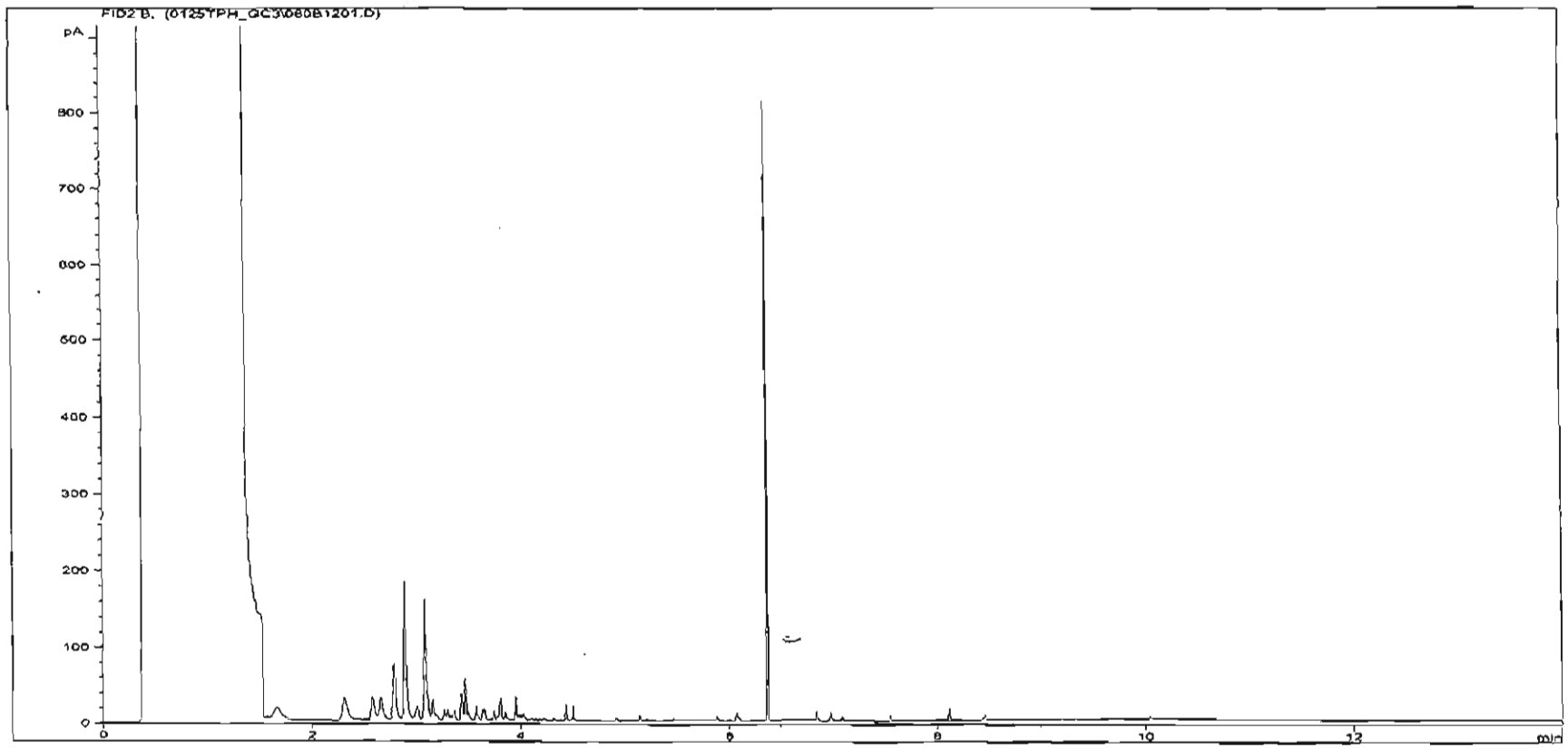
Sample ID:	EX0525448ARD	**Job Number:**	W05_5869
Multiplier:	0.001112	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH307
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\059B1101.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	EX0525449ALI	**Job Number:**	W05_5869
Multiplier:	0.001112	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH309
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\011F1201.D		

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	EX0525449ARO	**Job Number:**	W05_5869
Multiplier:	0.001112	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH309
Acquisition Date/Time:	25/01/2006		
Datafile:	E:\GC\TES\DATA\Y2006\0125TPH_GC3\060B1201.D		

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	Directory/Quant file:	1222voc.ms8\ 1222CCC3.D	Matrix:	Water
Sample Details:	E-BH307	Date Booked in:	12-Dec-05	Method:	Headspace
LIMS ID Number:	EX0525448	Date Analysed:	23-Dec-05	Multiplier:	1
Job Number:	W05_5869	Operator:	SH	Position:	29

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	4.89	2	89
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 1	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	5.46	2	88
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
Iso-Propylbenzene	98-82-8	5.72	2	82
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	6.04	7	97
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	6.30	2	79
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1	-
Hexachlorobutadiene	87-68-3	-	< 1	-
Naphthalene	91-20-3	7.26	2	68
1,2,3-Trichlorobenzene	87-61-6	-	< 1	-

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.95	114	Dibromofluoromethane	85
1,4-Difluorobenzene	4.28	113	Toluene-d8	131
Chlorobenzene-d5	5.39	124	Bromofluorobenzene	97
1,4-Dichlorobenzene-d4	6.19	110		

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	Directory/Quant file:	1222voc.ms8\ 1222CCC3.D	Matrix:	Water
Sample Details:	E-BH309	Date Booked In:	12-Dec-05	Method:	Headspace
LIMS ID Number:	EX0525449	Date Analysed:	23-Dec-05	Multiplier:	1
Job Number:	W05_5869	Operator:	SH	Position:	30

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	4.89	2	93
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 1	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	5.46	3	70
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	5.46	4	90
o-Xylene	95-47-6	5.60	1	84

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
Iso-Propylbenzene	98-82-8	5.72	6	99
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	6.02	2	87
1,2,4-Trimethylbenzene	95-63-6	5.99	34	84
sec-Butylbenzene	135-98-8	6.10	5	88
p-Isopropyltoluene	99-87-6	6.15	3	95
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1	-
Hexachlorobutadiene	87-68-3	-	< 1	-
Naphthalene	91-20-3	-	< 1	-
1,2,3-Trichlorobenzene	87-61-6	-	< 1	-

Internal standards	R.T.	Area %
Pentafluorobenzene	3.96	141
1,4-Difluorobenzene	4.29	128
Chlorobenzene-d5	5.39	137
1,4-Dichlorobenzene-d4	6.19	118

Surrogates	% Rec
Dibromofluoromethane	77
Toluene-d8	129
Bromofluorobenzene	89

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1220voc.ms8\ 1220ccc7.D	**Matrix:**	Water
Sample Details:	E-BH305	**Date Booked in:**	12-Dec-05	**Method:**	Headspace
LIMS ID Number:	ex0525443	**Date Analysed:**	22-Dec-05	**Multiplier:**	1
Job Number:	W05_5869	**Operator:**	SH	**Position:**	14

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	4	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	3.71	1	62
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	3.87	4	97
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	4.40	6	97
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	5.10	165	95
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
Iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1	-
Hexachlorobutadiene	87-68-3	-	< 1	-
Naphthalene	91-20-3	-	< 1	-
1,2,3-Trichlorobenzene	87-61-6	-	< 1	-

Internal standards	R.T.	Area %
Pentafluorobenzene	3.96	85
1,4-Difluorobenzene	4.29	86
Chlorobenzene-d5	5.39	97
1,4-Dichlorobenzene-d4	6.19	68

Surrogates	% Rec
Dibromofluoromethane	117
Toluene-d8	108
Bromofluorobenzene	78

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1220voc.ms8\ 1220ccc7.D	**Matrix:**	Water
Sample Details:	E-BH301	**Date Booked In:**	12-Dec-05	**Method:**	Headspace
LIMS ID Number:	ex0525444	**Date Analysed:**	22-Dec-05	**Multiplier:**	1
Job Number:	W05_5869	**Operator:**	SH	**Position:**	15

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 1	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1	-
Hexachlorobutadiene	87-68-3	-	< 1	-
Naphthalene	91-20-3	-	< 1	-
1,2,3-Trichlorobenzene	87-61-6	-	< 1	-

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.95	96	Dibromofluoromethane	118
1,4-Difluorobenzene	4.29	98	Toluene-d8	111
Chlorobenzene-d5	5.39	107	Bromofluorobenzene	76
1,4-Dichlorobenzene-d4	6.19	74		

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		Directory/Quant file:	1220voc.ms8\	1220ccc7.D	Matrix:	Water
Sample Details:	E-BH308		Date Booked in:	12-Dec-05		Method:	Headspace
LIMS ID Number:	ex0525445		Date Analysed:	22-Dec-05		Multiplier:	1
Job Number:	W05_5869		Operator:	SH		Position:	16

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 1	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
Iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1	-
Hexachlorobutadiene	87-68-3	-	< 1	-
Naphthalene	91-20-3	-	< 1	-
1,2,3-Trichlorobenzene	87-61-6	-	< 1	-

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.96	95	Dibromofluoromethane	118
1,4-Difluorobenzene	4.28	99	Toluene-d8	108
Chlorobenzene-d5	5.39	108	Bromofluorobenzene	79
1,4-Dichlorobenzene-d4	6.19	79		

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	Directory/Quant file:	1220voc.ms8\ 1220ccc7.D	Matrix:	Water
Sample Details:	E-BH303	Date Booked in:	12-Dec-05	Method:	Headspace
LIMS ID Number:	ex0525446	Date Analysed:	22-Dec-05	Multiplier:	1
Job Number:	W0S_5869	Operator:	SH	Position:	17

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	3.87	6	97
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	4.60	2	80
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	5.10	22	93
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1	-
Hexachlorobutadiene	87-68-3	-	< 1	-
Naphthalene	91-20-3	-	< 1	-
1,2,3-Trichlorobenzene	87-61-6	-	< 1	-

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.96	86	Dibromofluoromethane	121
1,4-Difluorobenzene	4.29	87	Toluene-d8	108
Chlorobenzene-d5	5.39	97	Bromofluorobenzene	76
1,4-Dichlorobenzene-d4	6.19	71		

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	Directory/Quant file:	1220voc.ms8\ 1220ccc7.D	Matrix:	Water
Sample Details:	E-BH310	Date Booked In:	12-Dec-05	Method:	Headspace
LIMS ID Number:	ex0525447	Date Analysed:	22-Dec-05	Multiplier:	1
Job Number:	W05_5869	Operator:	SH	Position:	18

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 1	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1	-
Hexachlorobutadiene	87-68-3	-	< 1	-
Naphthalene	91-20-3	-	< 1	-
1,2,3-Trichlorobenzene	87-61-6	-	< 1	-

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.96	80	Dibromofluoromethane	122
1,4-Difluorobenzene	4.28	82	Toluene-d8	110
Chlorobenzene-d5	5.39	90	Bromofluorobenzene	73
1,4-Dichlorobenzene-d4	6.19	61		

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample
co-eluted with benzo(b)fluoranthene
co-eluted with indeno(123-cd)pyrene
BTEX analysis expressed as ug/kg As Received
Phenol HPLC results expressed as mg/kg As Received

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15°C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected In Sample
NBFO denotes No Bulk fibres Observed
T Trace
L Low (2-15%)
M Medium (15-50%)
H High (>50%)

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S Insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
? Denotes that an element of the quality control system is currently exhibiting sustained bias from its normal working pattern. The QC has not failed action limits and the cause of this is being investigated and rectified.
This does not invalidate the data but our quality policy specifies that you will be kept informed when this happens.
* denotes the accreditation has been removed by the laboratory for this result only

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

TES Report No. EFS/054716M

Entec UK Ltd
Cannon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
SY2 5DE

Site: HMS Daedalus (E)

1 samples described in this report were logged for analysis by TES Bretby on 12-Dec-2005.
The analysis was completed by: 02-Feb-2006

Tests marked as 'not accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS or MCERTS accreditation held by TES Bretby Laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of GRO Results (Page 4)
Table of PAH (MS) Results (Pages 5 to 12)
Table of SVOC Results (Page 13)
Table of TPH (SI) banding (std) (Page 14)
GC-FID Chromatograms (Pages 15 to 36)
Table of VOC Results (Page 37)
Sample Chain of Custody Record (Page 38)
Table of Report Notes (Page 39)

On behalf of
TES Bretby
J Hannah

J Hannah
Project Co-ordinator

Date of Issue: 02-Feb-2006

Accreditation Codes: N (Not Accredited), U (UKAS), UM (UKAS & MCERTS)
Tests marked '^' have been subcontracted to another laboratory.
(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.
All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)
TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Sample Descriptions

Client : Entec UK Ltd

Site : HMS Daedalus (E)

Report Number : S05_4716M

Lab ID Number	Client ID	Description
CL/0533270	E-TP312 0.1	Brown Stone CLAY Vegetation
CL/0533271	E-TP311 0.5	Brown Stone SILT
CL/0533272	E-TP311 0.9	Brown Stone CLAY
CL/0533273	E-TP322 0.5	Brown CLAY
CL/0533274	E-TP322 LOK 3	Brown Stone CLAY
CL/0533275	E-TP315 LOK 4	Brown CLAY Vegetation
CL/0533276	E-TP315 1.0	Brown Stone CLAY
CL/0533277	E-TP321 0.2	Brown Stone CLAY
CL/0533278	E-TP321 2.5	Brown Sand CLAY
CL/0533279	E-TP314 0.5	Brown CLAY Vegetation
CL/0533280	E-TP314 LOK 2	Brown CLAY

Units :		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	ug/kg
Method Codes :		GROHSA	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPWSS	ICTSCN28	SVOCSW	SVOCSW	TMSS	VOCSW
Method Reporting Limits :		0.1	0.5	0.1	0.5	0.5	0.5	0.10	0.5	0.5	3.0	0.3	5	0.2-10.0	0.2-10.0	0.2	5
Accreditation Code:			UM	U	U	U	U	U	U	U	U	UM	U			U	
TES ID Number CU	Client Sample Description	GRO (AA)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SO4— (H2O soi) mg/l	Sulphide	PAH by MS	SVOC	Tot.Moisture @ 105oC	VOC
0533271	E-TP311 0.5	Req	23.4	3.46?	46.1	20200*	1580	0.47	48.2	1.32	7440	453	<5		Req	26.0	Req
0533272	E-TP311 0.9	Req	15.1	1.21?	32.8	69.6*	458	0.2	26.5	0.55	578.3	319	<5	Req		18.5	
0533270	E-TP312 0.1	Req	8.9	0.19?	18.2	49*	134.3	0.25	11.8	0.6	87.7	25.4	<5	Req		21.8	
0533280	E-TP314 LOK 2	Req	10.2	0.9?	28.4	12.7*	16.2	<0.1	23.4	<0.5	51.3	60.3	<5			19.7	
0533279	E-TP314 0.5	Req	9.8	0.20?	27.2	11.9*	15.9	<0.1	21.1	0.55	48	48.7	<5			20.0	
0533275	E-TP315 LOK 4	Req	8.6	0.21?	21.7	18.5*	42.2	<0.1	15.1	<0.5	61.5	18.02	<5	Req		19.5	
0533276	E-TP315 1.0	Req	14.1	0.22?	19.8	9.9*	11.7	<0.1	14.1	<0.5	43.8	4.77	<5	Req		12.4	
0533277	E-TP321 0.2	Req	8.9	0.17?	24	13.4*	22	0.17	15.2	0.9	57.6	37.4	<5	Req		19.3	
0533278	E-TP321 2.5	Req	8.2	0.12?	8.9	4.9*	5.2	<0.1	6	<0.5	20.2	17.35	<5	Req		17.5	
0533273	E-TP322 0.5	Req	12.4	0.17?	29	51.6*	51.3	<0.1	17.4	<0.5	92.8	71.2	<5	Req		20.1	
0533274	E-TP322 LOK 3	Req	8.9	0.32?	19	11.4*	12.1	<0.1	12.3	<0.5	35.7	7.82	<5	Req		9.2	

TES Bretby
PO Box 100, Bretby Business Park,
Burton-on-Trent, Staffordshire, DE15 0XD
Tel +44 (0) 1283 554400
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Client Name: Entec UK Ltd
Contact: Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	02-Feb-06
Report Number	EFS/054716M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Units :		pH Units	mg/kg	mg/kg	% M/M														
Method Codes :		WSLM3	WSLM4	TPHFID	WSLM59														
Method Reporting Limits :			0.5	10.0	0.02														
Accreditation Code:		U	U		N														
TES ID Number CU	Client Sample Description	pH units	Phenol Index	TPH GC/FID (AR) (SI)	F.O.C. %														
0533271	E-TP311 0.5	10.6	<0.5	Req	23.31														
0533272	E-TP311 0.9	8.9	<0.5	Req															
0533270	E-TP312 0.1	7.3	<0.5	Req															
0533280	E-TP314 LOK 2	8.1	<0.5	Req	0.23														
0533279	E-TP314 0.5	8.0	<0.5	Req	0.26														
0533275	E-TP315 LOK 4	6.7	<0.5	Req	1.06														
0533276	E-TP315 1.0	7.4	0.6	Req	0.1														
0533277	E-TP321 0.2	6.8	<0.5	Req															
0533278	E-TP321 2.5	7.3	<0.5	Req															
0533273	E-TP322 0.5	7.9	<0.5	Req	0.39														
0533274	E-TP322 LOK 3	7.4	<0.5	Req															

TES Bretby
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Client Name: Entec UK Ltd

Contact: Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	02-Feb-06
Report Number	EFS/064716M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Entec UK Ltd : HMS Daedalus (E)
Job Number: S05_4716
Directory: 0116HSA1_GC6
Method: Headspace GCFID
Accreditation Code: U

Matrix: SOIL
Date Booked in: 13-Dec-05
Date extracted: 16-Jan-06
Date Analysed: 16-Jan-06

* denotes the accreditation has been removed by the laboratory for this result only

		Concentration, (mg/kg) - as dry weight.					Aliphatics				
Sample ID	Client ID	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	C5 - C6	>C6 - C7	>C7 - C8	>C8 - C10	Total GRO
CL0533270	E-TP312 0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
CL0533271	E-TP311 0.5	<0.034	<0.034	<0.034	<0.034	<0.034	<0.7	<0.7	<0.7	<0.7	<0.7
CL0533272	E-TP311 0.9	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0533273	E-TP322 0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
CL0533274	E-TP322 LOK 3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0533275	E-TP315 LOK 4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0533276	E-TP315 1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0533277	E-TP321 0.2	<0.31	<0.31	<0.31	<0.31	<0.31	<6	<6	<6	<6	<6
CL0533278	E-TP321 2.5	<0.30	<0.30	<0.30	<0.30	<0.30	<6	<6	<6	<6	<6
CL0533279	E-TP314 0.5	<0.31	<0.31	<0.31	<0.31	<0.31	<6	<6	<6	<6	<6
CL0533280	E-TP314 LOK 2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2

Note: Benzene elutes between C8 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP312 0.1	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533270	**Date Booked In:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	90
Naphthalene-d8	88
Acenaphthene-d10	86
Phenanthrene-d10	82
Chrysene-d12	75
Perylene-d12	73

Surrogates	% Rec
Nitrobenzene-d5	59
2-Fluorobiphenyl	57
Terphenyl-d14	77

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP311 0.9	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533272	**Date Booked In:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	86
Naphthalene-d8	89
Acenaphthene-d10	87
Phenanthrene-d10	82
Chrysene-d12	73
Perylene-d12	67

Surrogates	% Rec
Nitrobenzene-d5	71
2-Fluorobiphenyl	71
Terphenyl-d14	93

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP322 0.5	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533273	**Date Booked In:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	88
Naphthalene-d8	88
Acenaphthene-d10	86
Phenanthrene-d10	83
Chrysene-d12	85
Perylene-d12	81

Surrogates	% Rec
Nitrobenzene-d5	48
2-Fluorobiphenyl	49
Terphenyl-d14	76

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP322 LOK 3	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533274	**Date Booked In:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.5	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	88
Naphthalene-d8	92
Acenaphthene-d10	91
Phenanthrene-d10	89
Chrysene-d12	88
Perylene-d12	84

Surrogates	% Rec
Nitrobenzene-d5	50
2-Fluorobiphenyl	52
Terphenyl-d14	88

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP315 LOK 4	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533275	**Date Booked In:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Flt	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	86
Naphthalene-d8	85
Acenaphthene-d10	82
Phenanthrene-d10	77
Chrysene-d12	64
Perylene-d12	58

Surrogates	% Rec
Nitrobenzene-d5	65
2-Fluorobiphenyl	67
Terphenyl-d14	86

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Sample Details: E-WS307 0.1-0.2
LIMS ID Number: CL0531968
Job Number: S05_4568M

Directory/Quant file: 1208VOC.MS3\ 1208CCC4.D
Date Booked In: 03-Dec-05
Date Analysed: 09-Dec-05
Operator: SH

Matrix: Soil
Method: Purge & trap
Multiplier: 5
Position: 13

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 ?	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 32	-	U
Chloroethane	75-00-3 *	-	< 32	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2 ?	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 ?	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 32	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 32	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 32	-	U
Hexachlorobutadiene	87-68-3	-	< 32	-	U
Naphthalene	91-20-3	-	< 32	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 32	-	U

Concentrations are reported on a dry weight basis

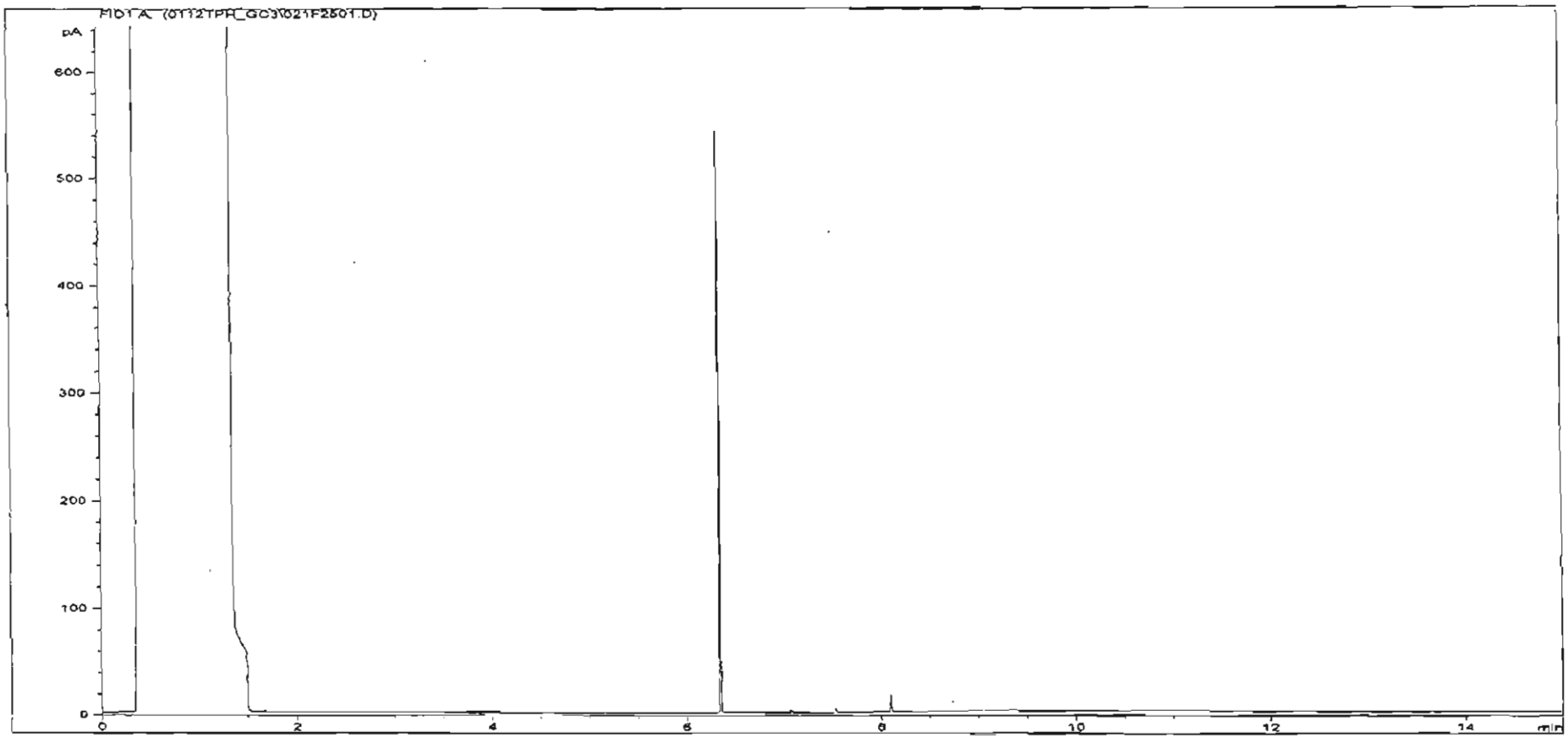
* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.96	88	Dibromofluoromethane	110
1,4-Difluorobenzene	14.13	88	Toluene-d8	96
Chlorobenzene-d5	18.48	76	Bromofluorobenzene	86
1,4-Dichlorobenzene-d4	21.97	55		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

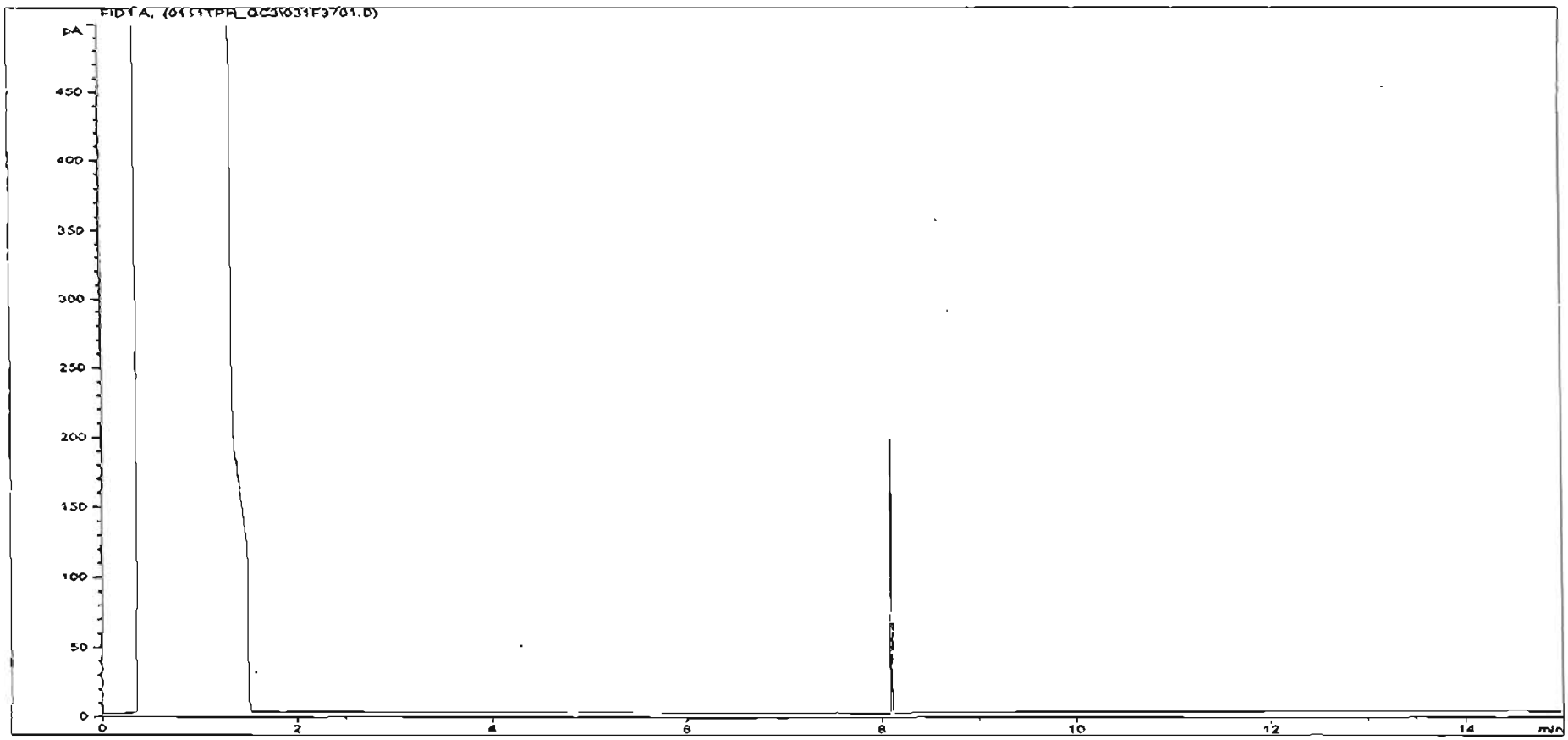
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531978ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP325 3.0 (NVM)
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\021F2501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

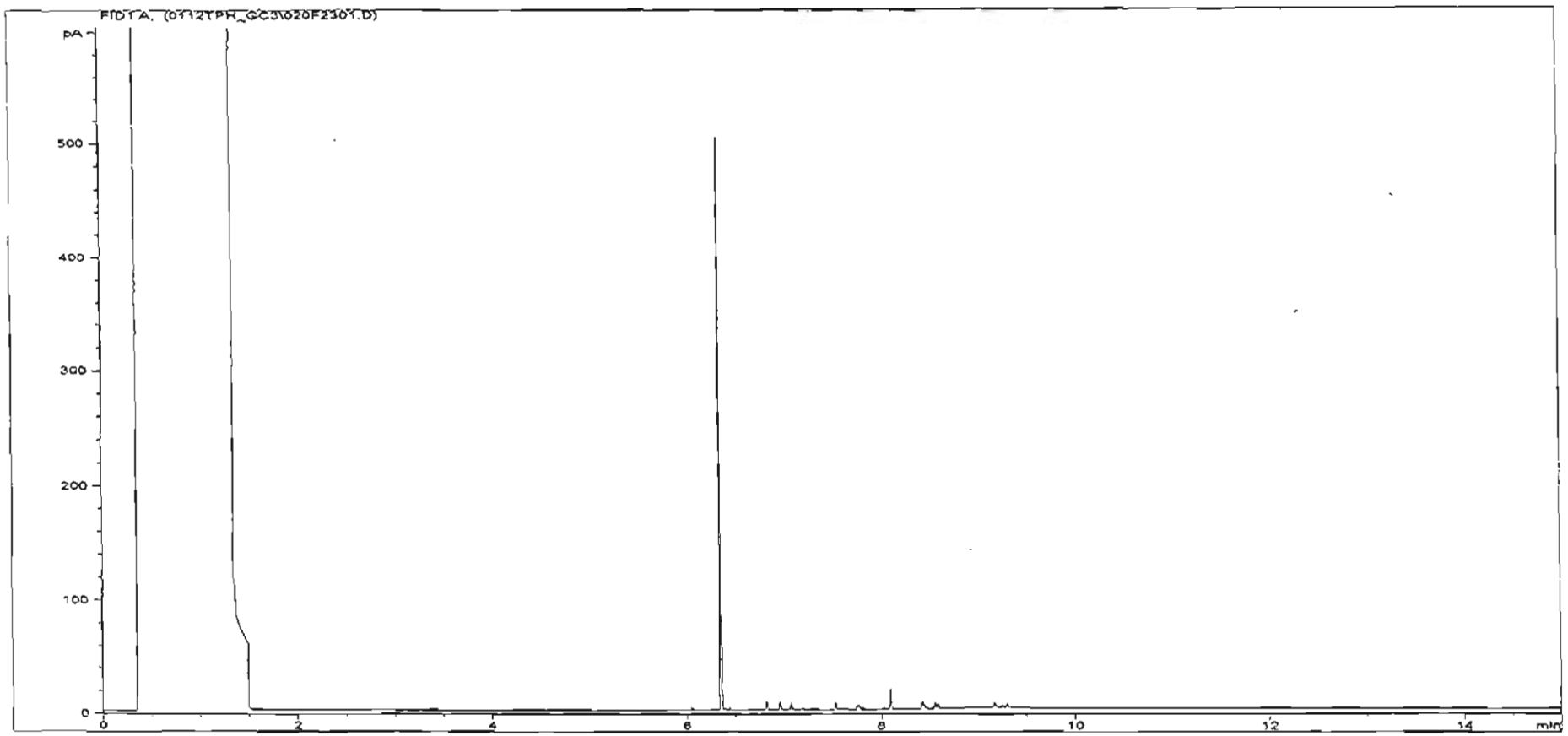
Petroleum Hydrocarbons (C8 to C37) by GC/FID Allphatics Fraction.



Sample ID:	CL0531978ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP325 3.0 (NVM)
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\031F3701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

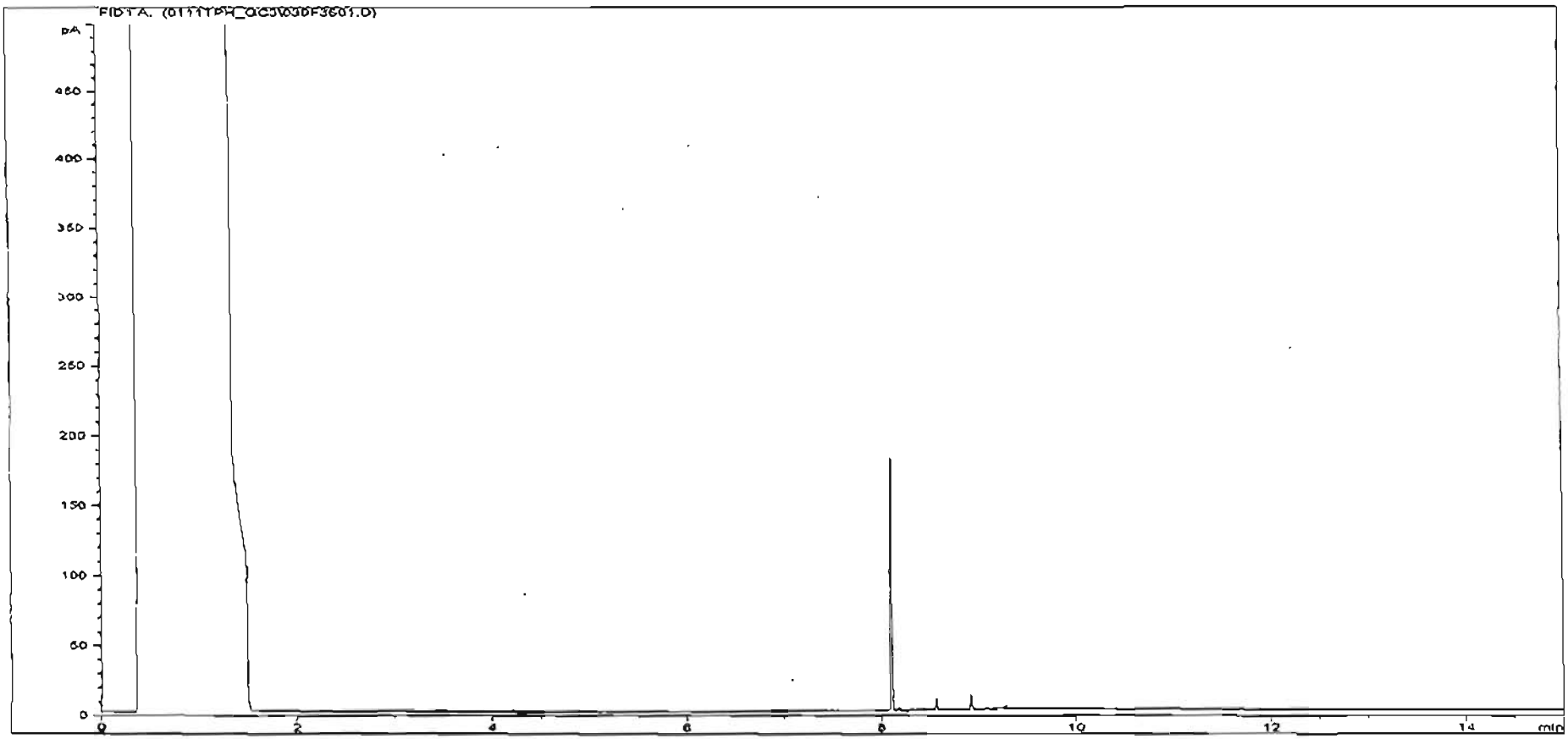
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531977ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP325 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\020F2301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

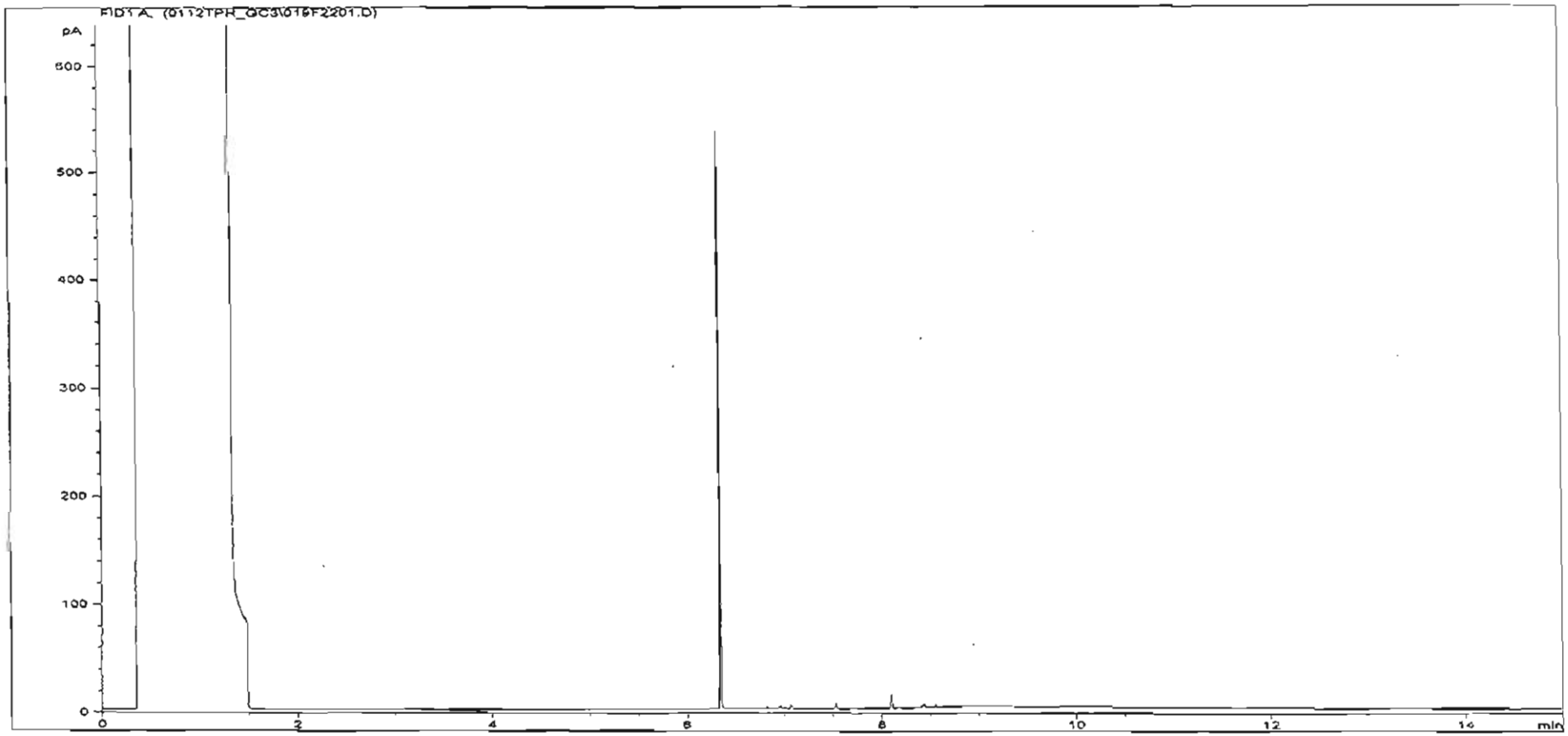
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531977ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP325 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\030F3601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

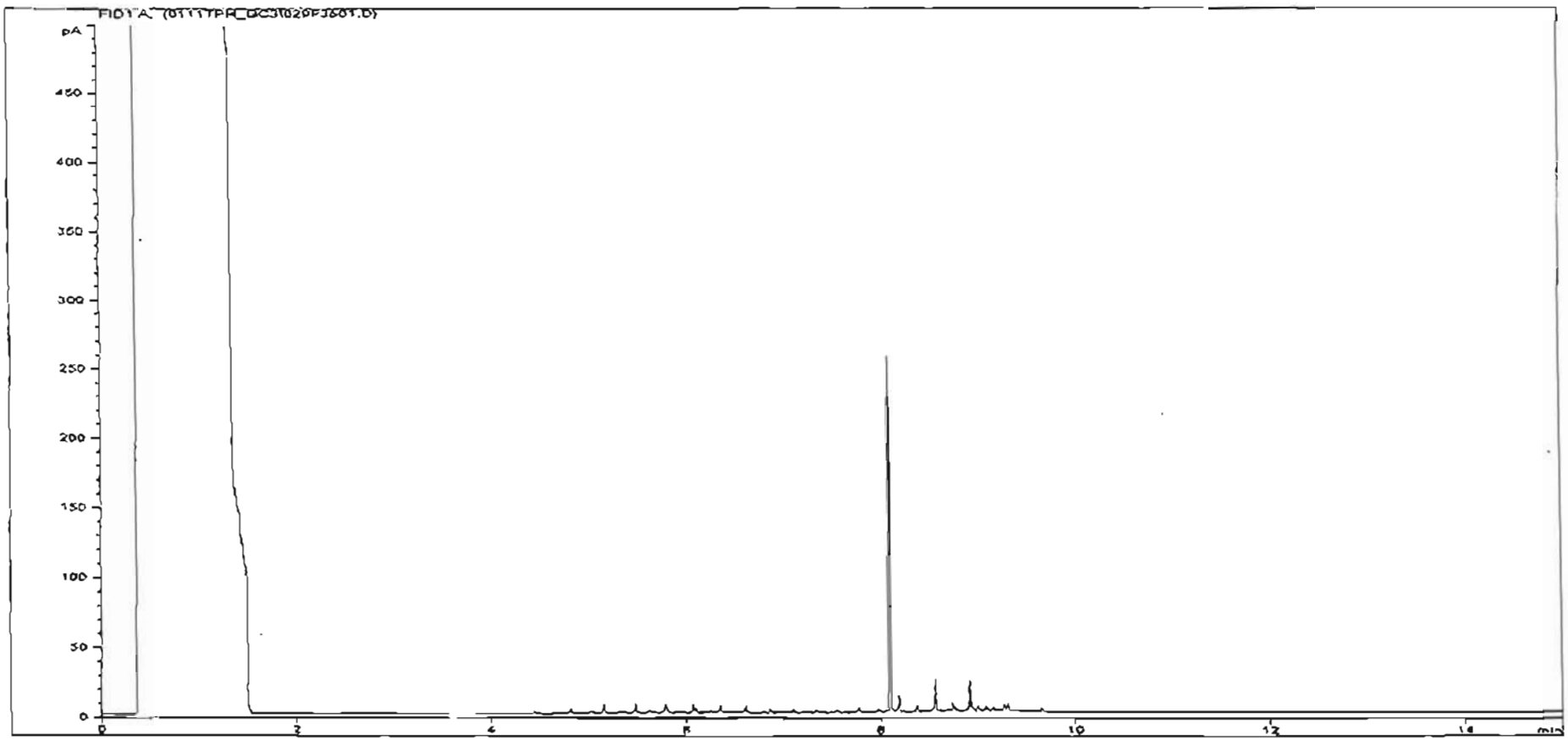
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531976ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP326 1.0
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\019F2201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

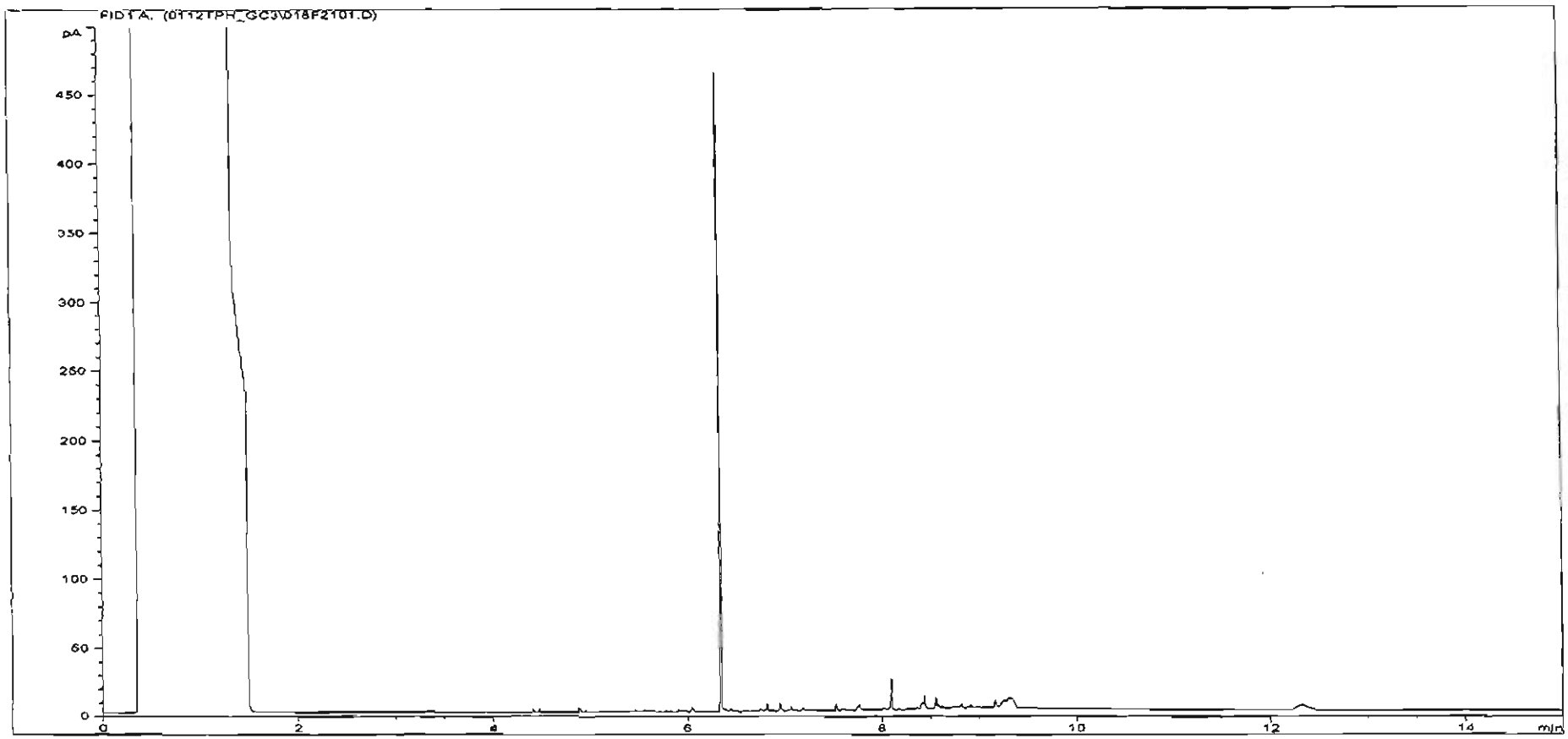
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531976ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP326 1.0
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\029F3501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

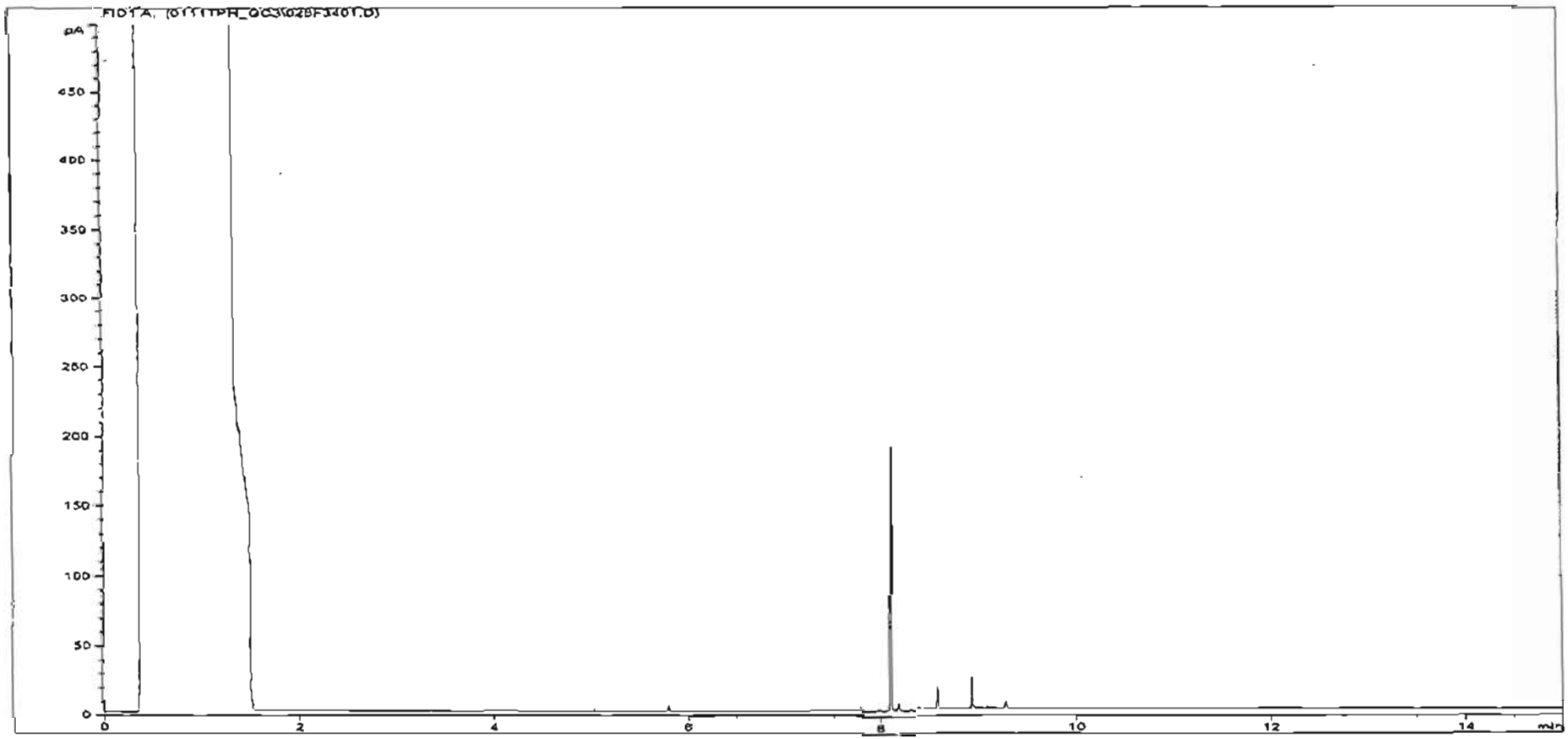
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531975ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP326 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\018F2101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

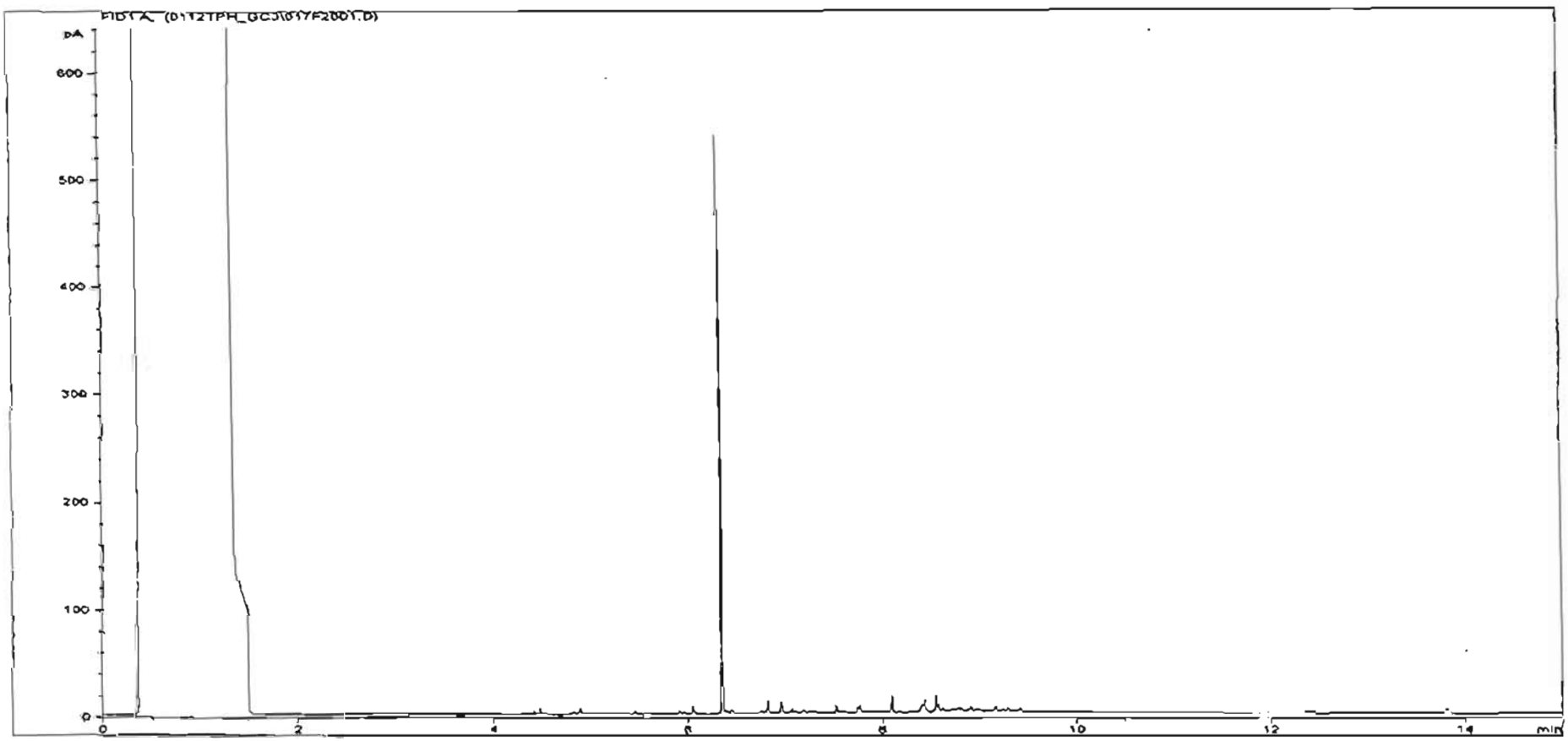
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531975ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP326 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\028F3401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

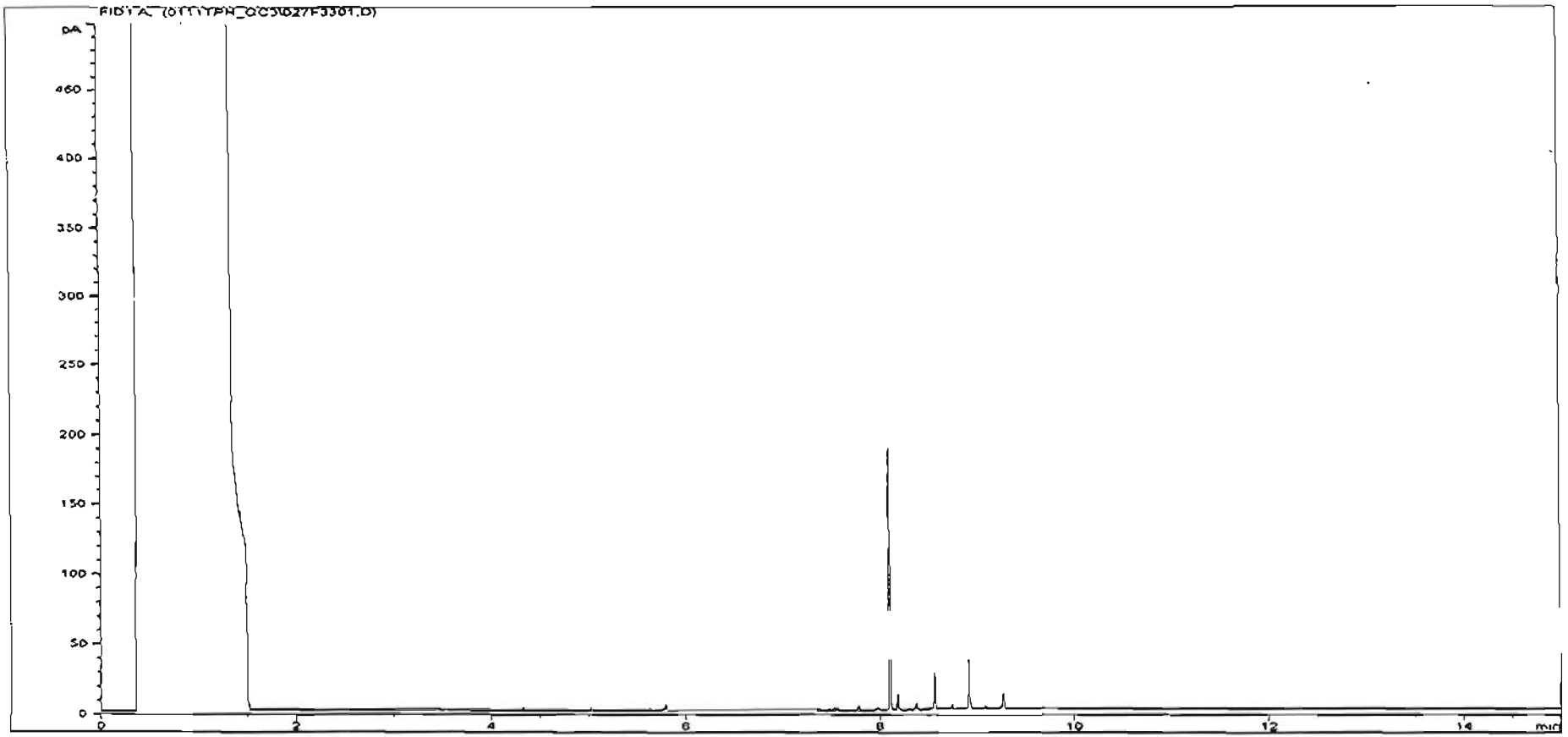
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531974ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP305B 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\017F2001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

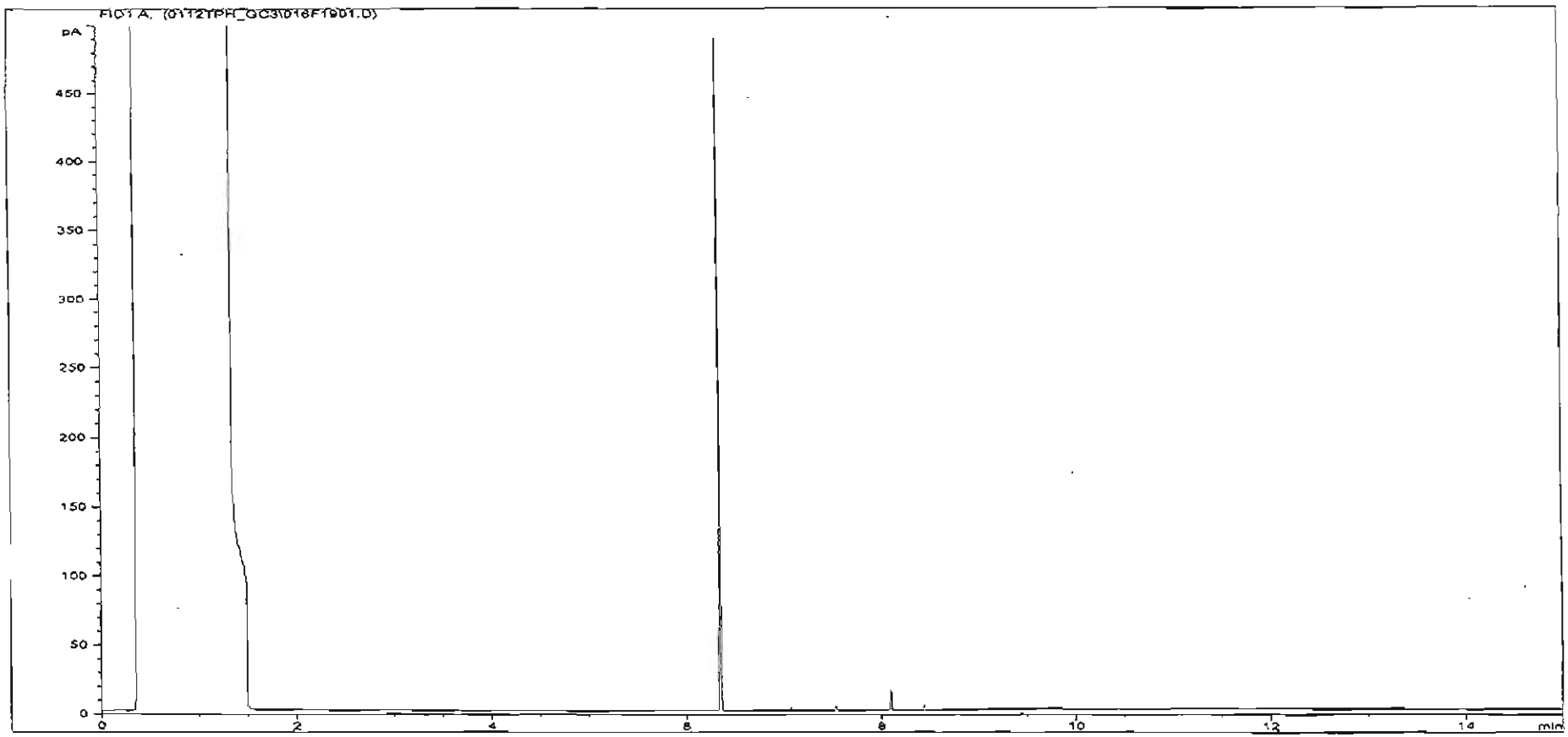
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531974ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP305B 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\027F3301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

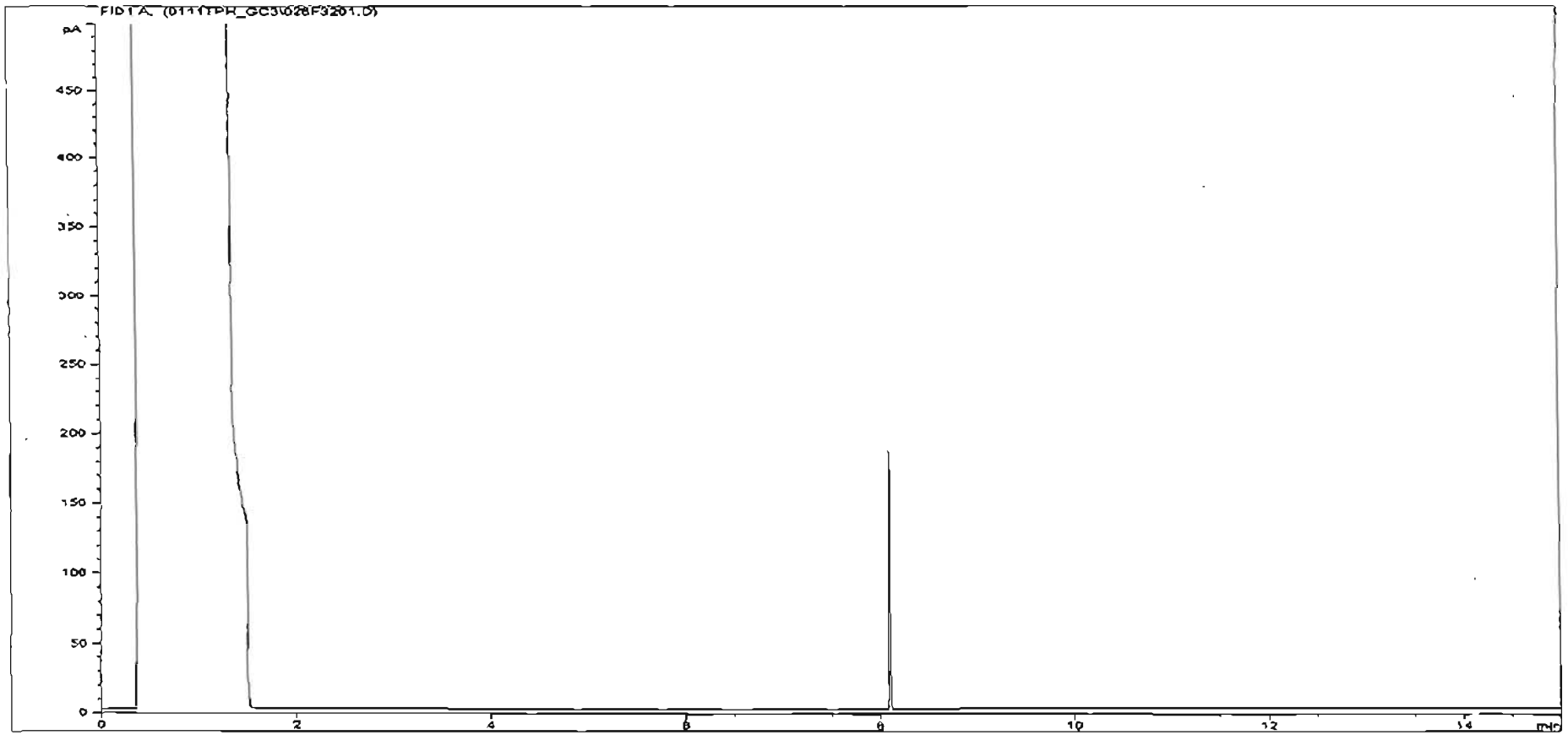
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531973ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH309 9.0-9.2
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\016F1901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

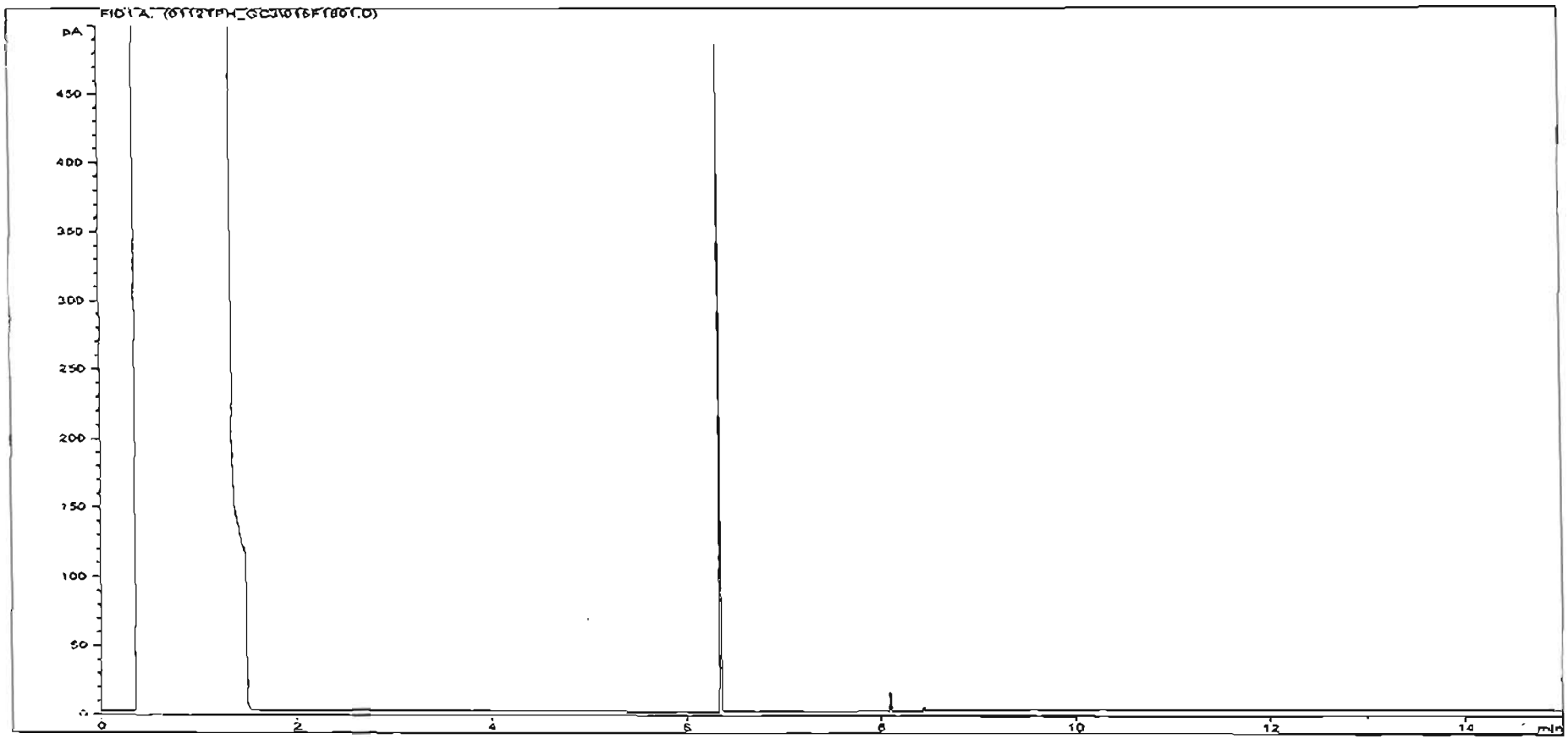
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531973ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH309 9.0-9.2
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\026F3201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

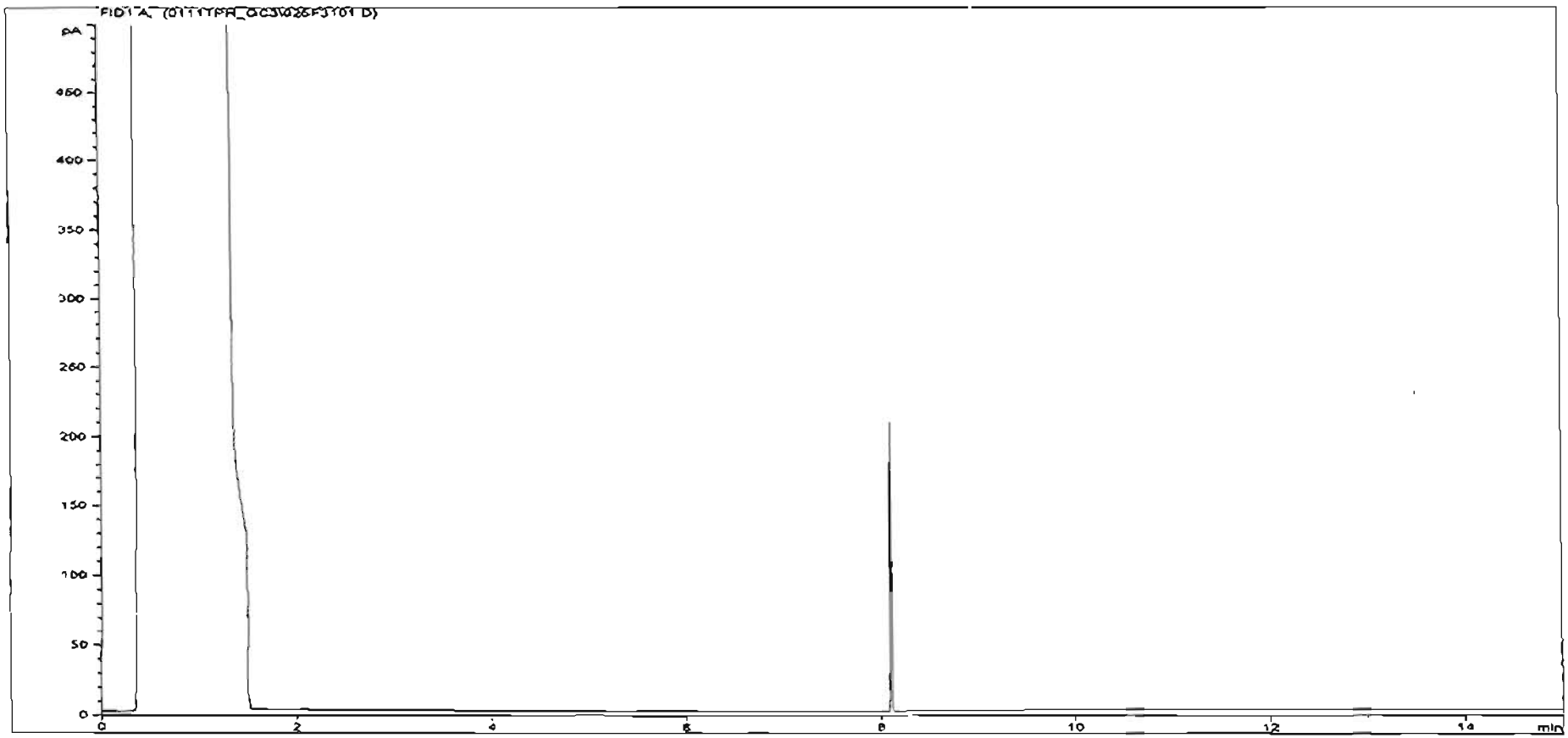
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531972ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH309 3.1-3.2
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\015F1801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

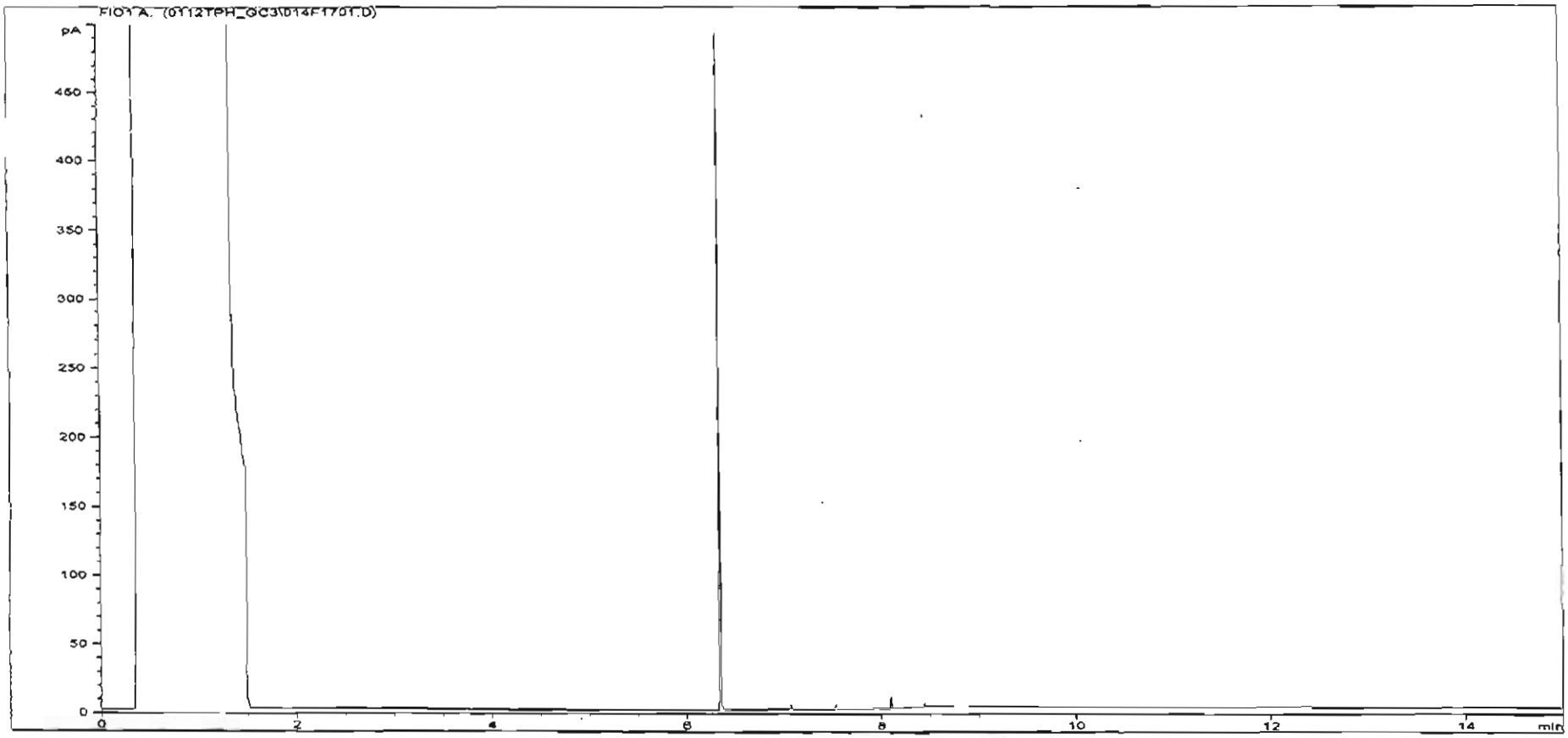
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531972ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH309 3.1-3.2
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\025F3101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

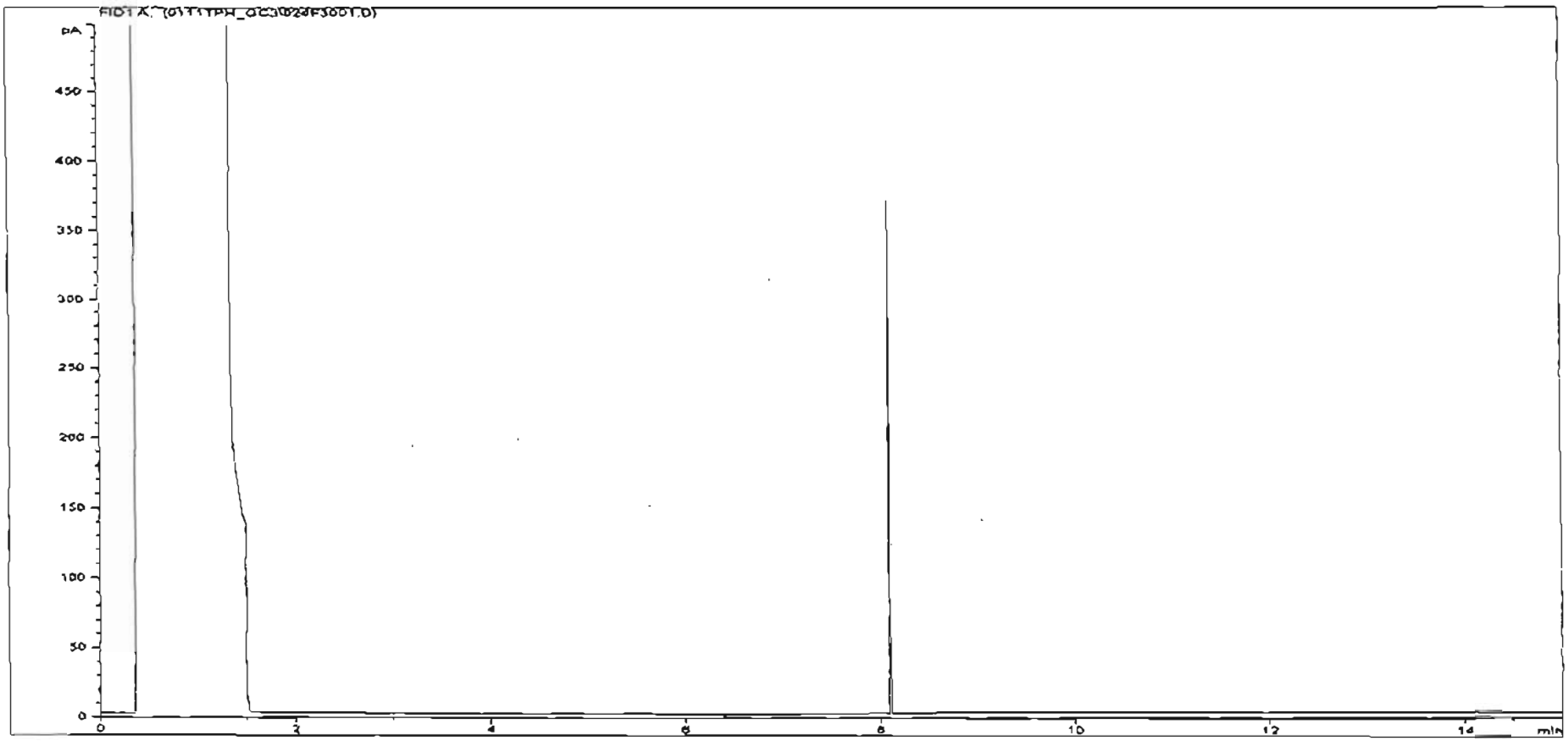
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531971ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH310 2.0-2.2
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\014F1701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

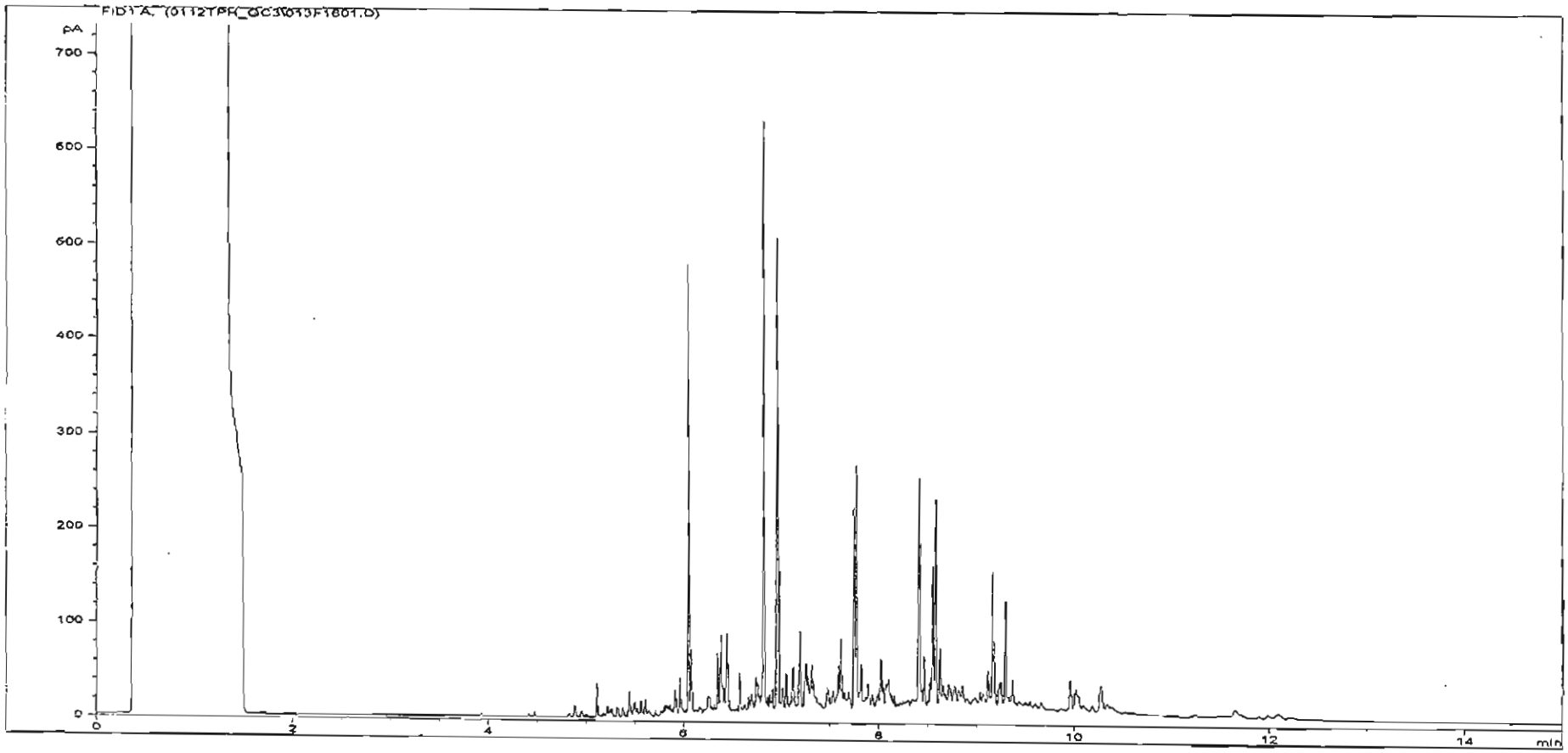
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531971ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH310 2.0-2.2
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\024F3001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

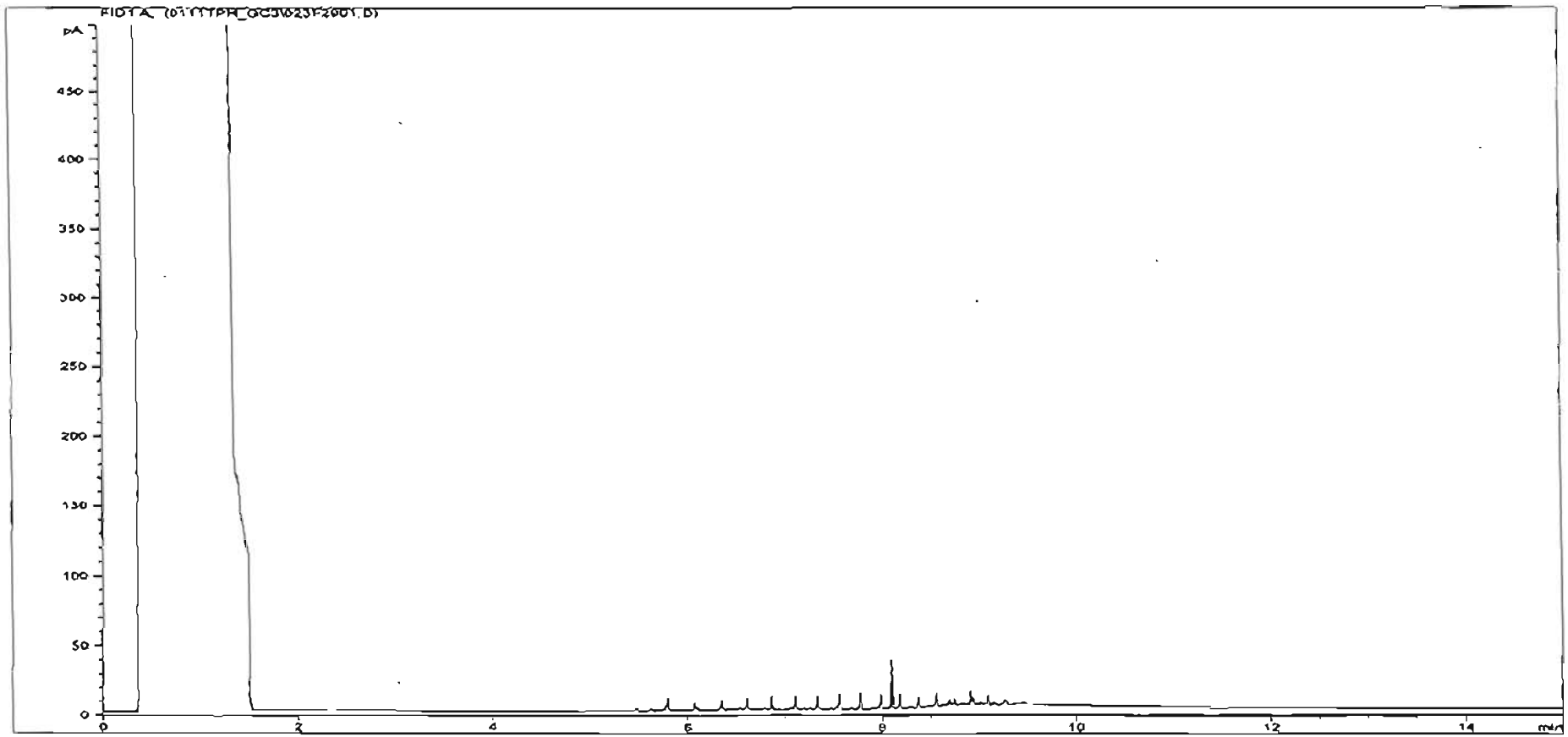
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531970ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	10	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH310 0.2-0.4
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\013F1601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

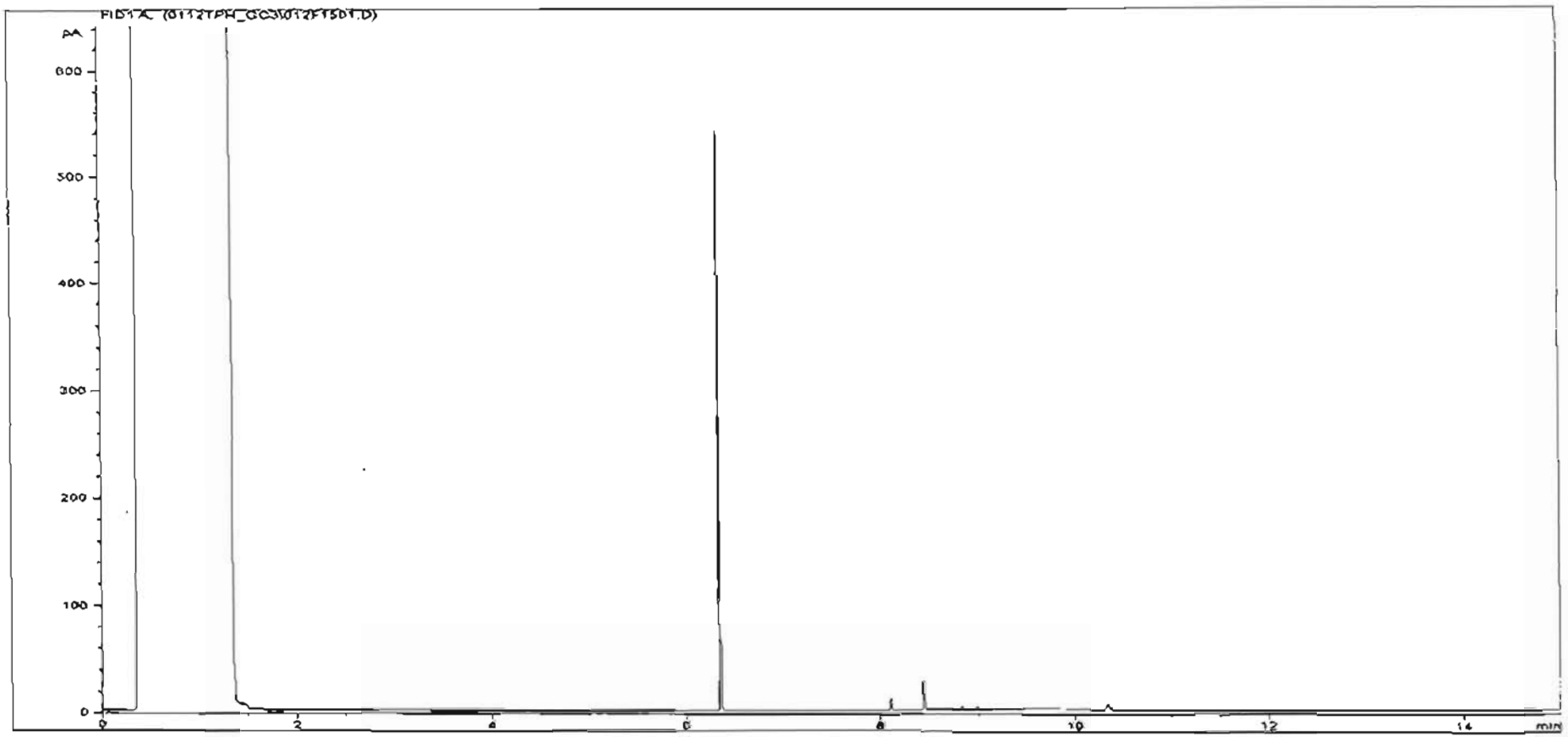
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531970ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	10	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH310 0.2-0.4
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\023F2901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

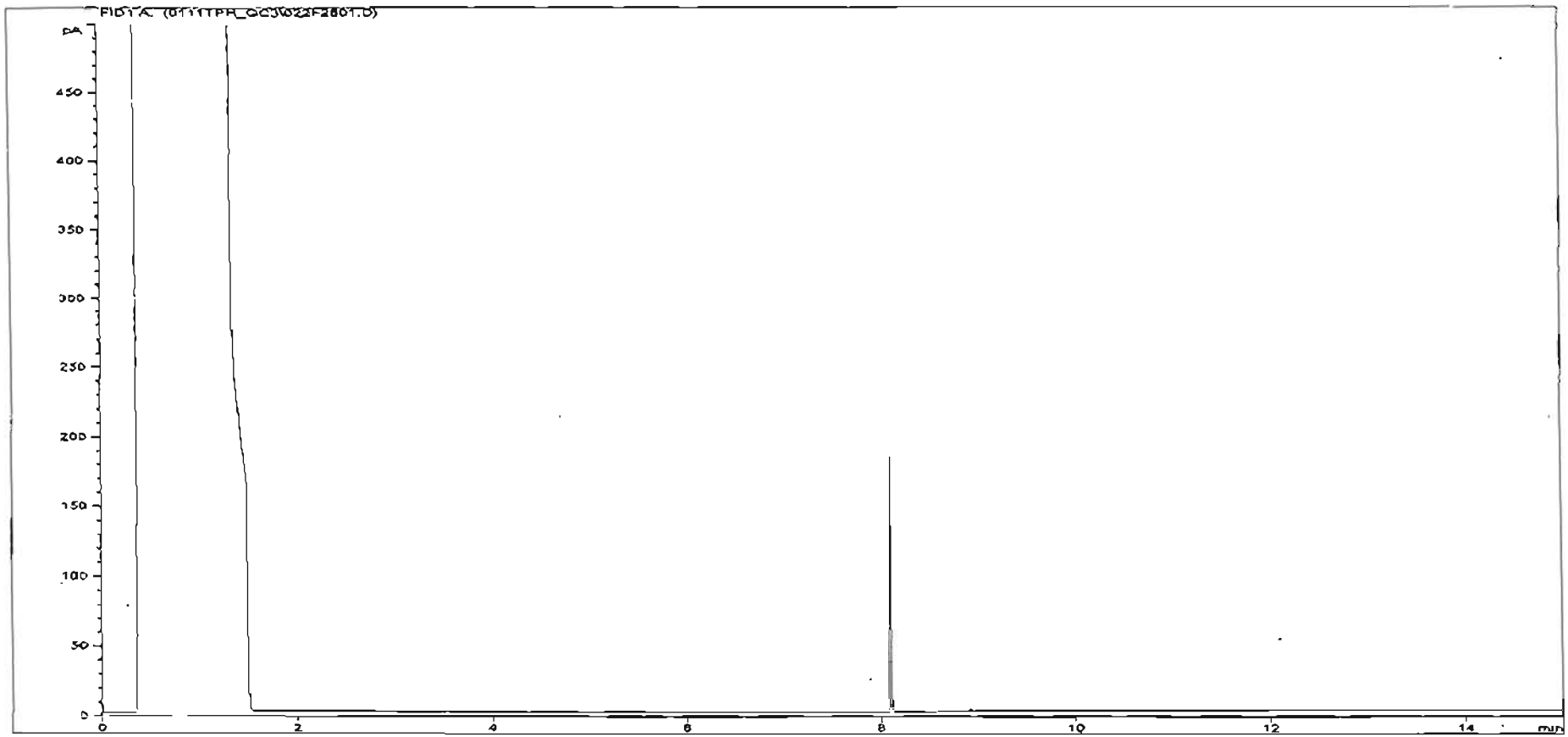
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531969ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS306 1.2-1.4
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\012F1501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

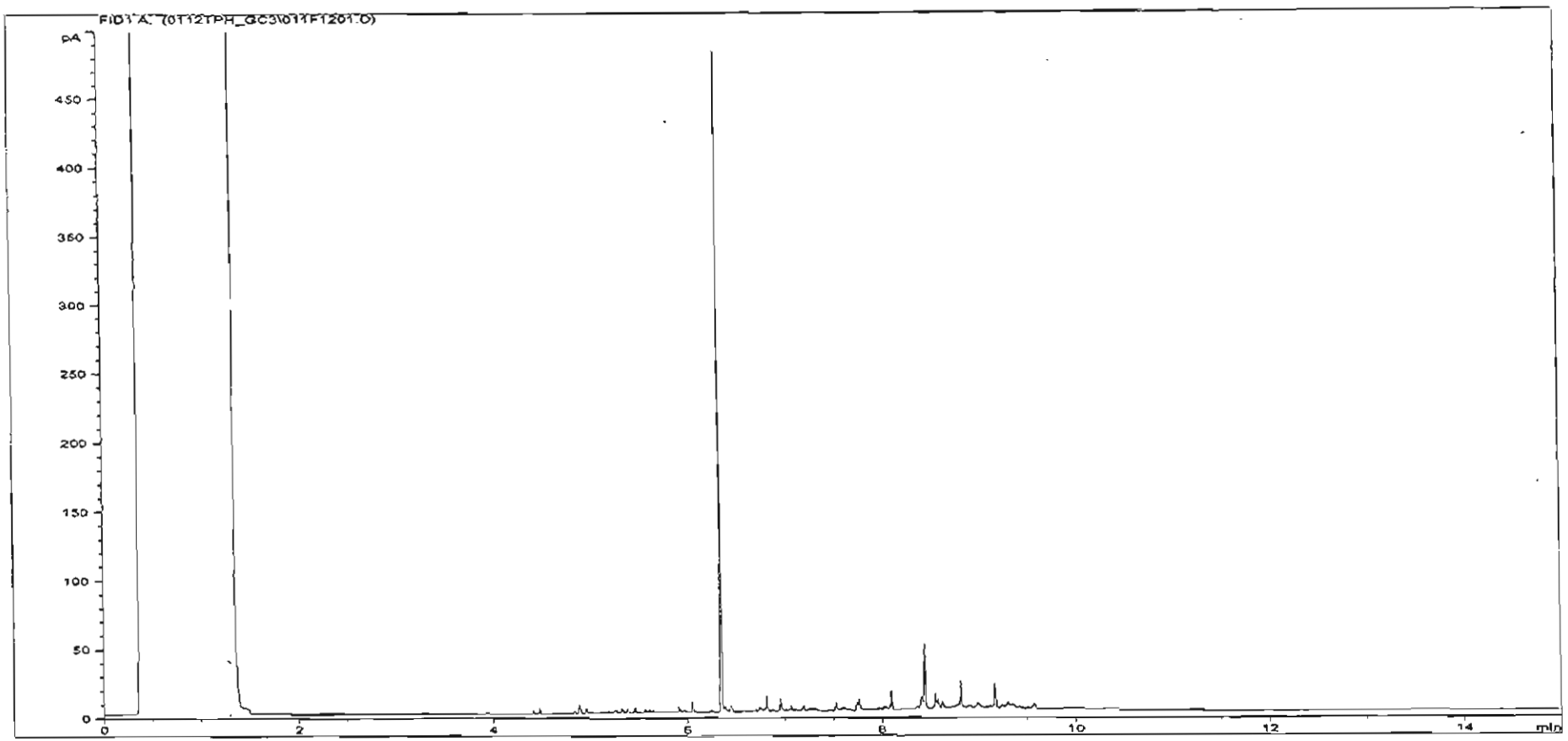
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531969ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS306 1.2-1.4
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\022F2601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

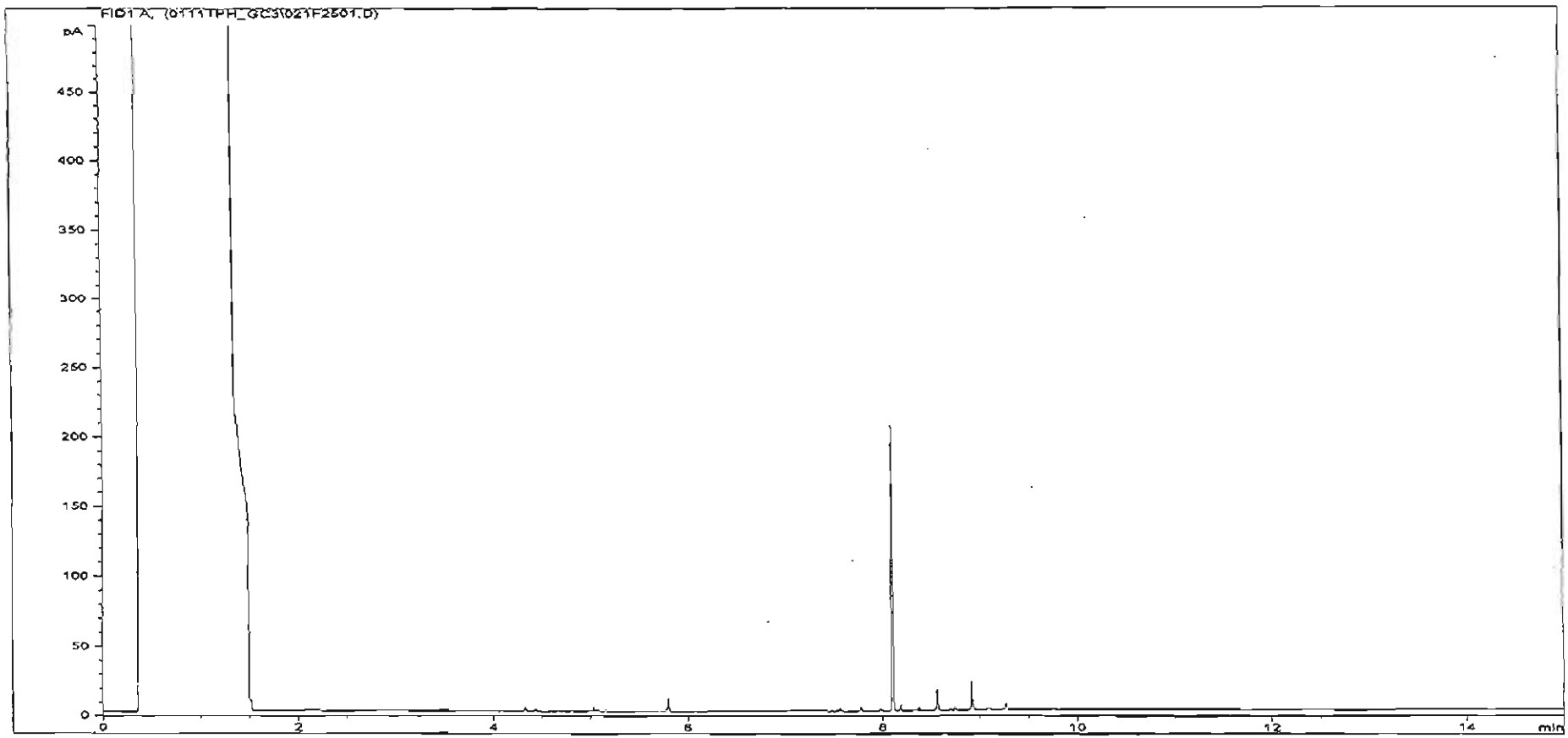
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531968ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS307 0.1-0.2
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\011F1201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

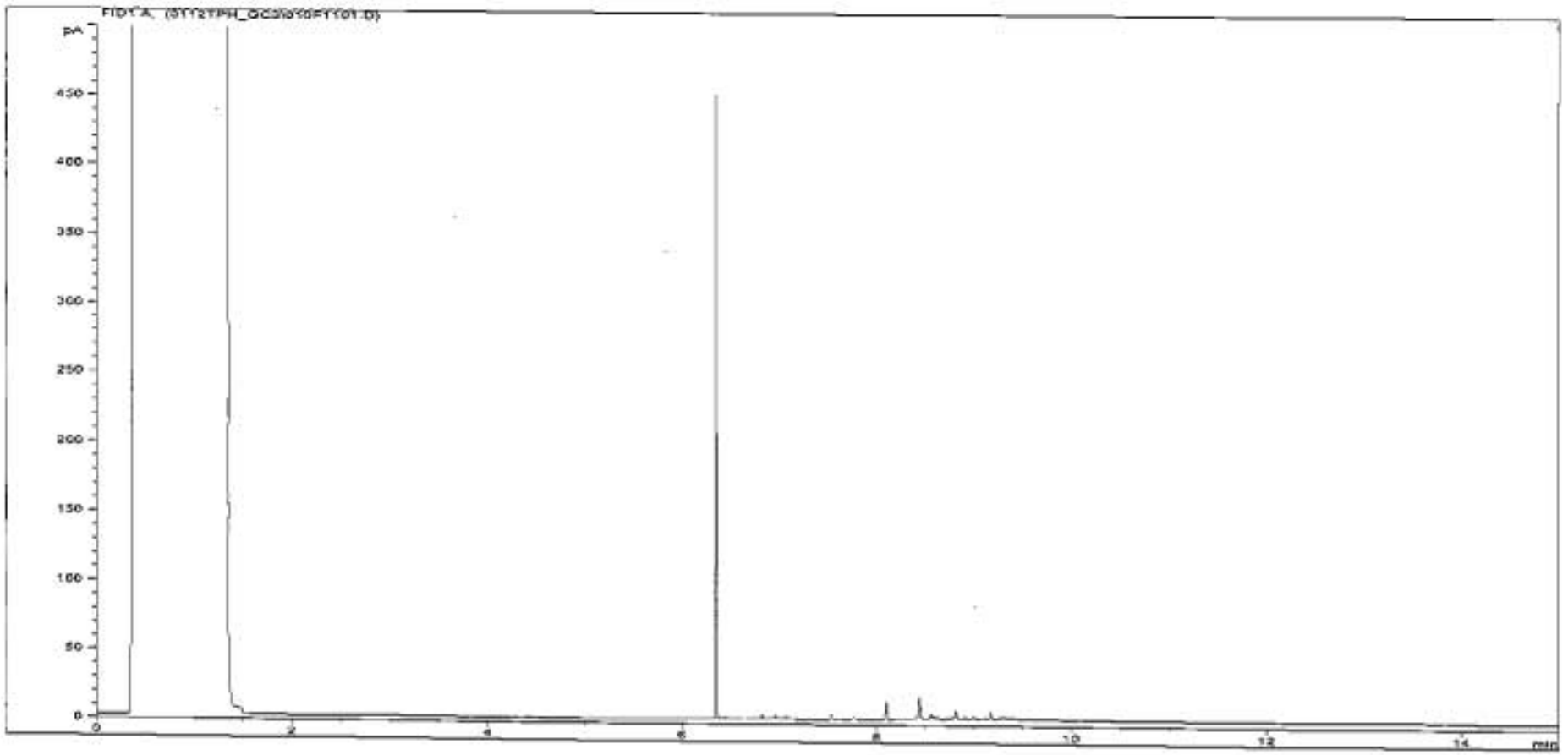
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531968ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS307 0.1-0.2
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\021F2501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

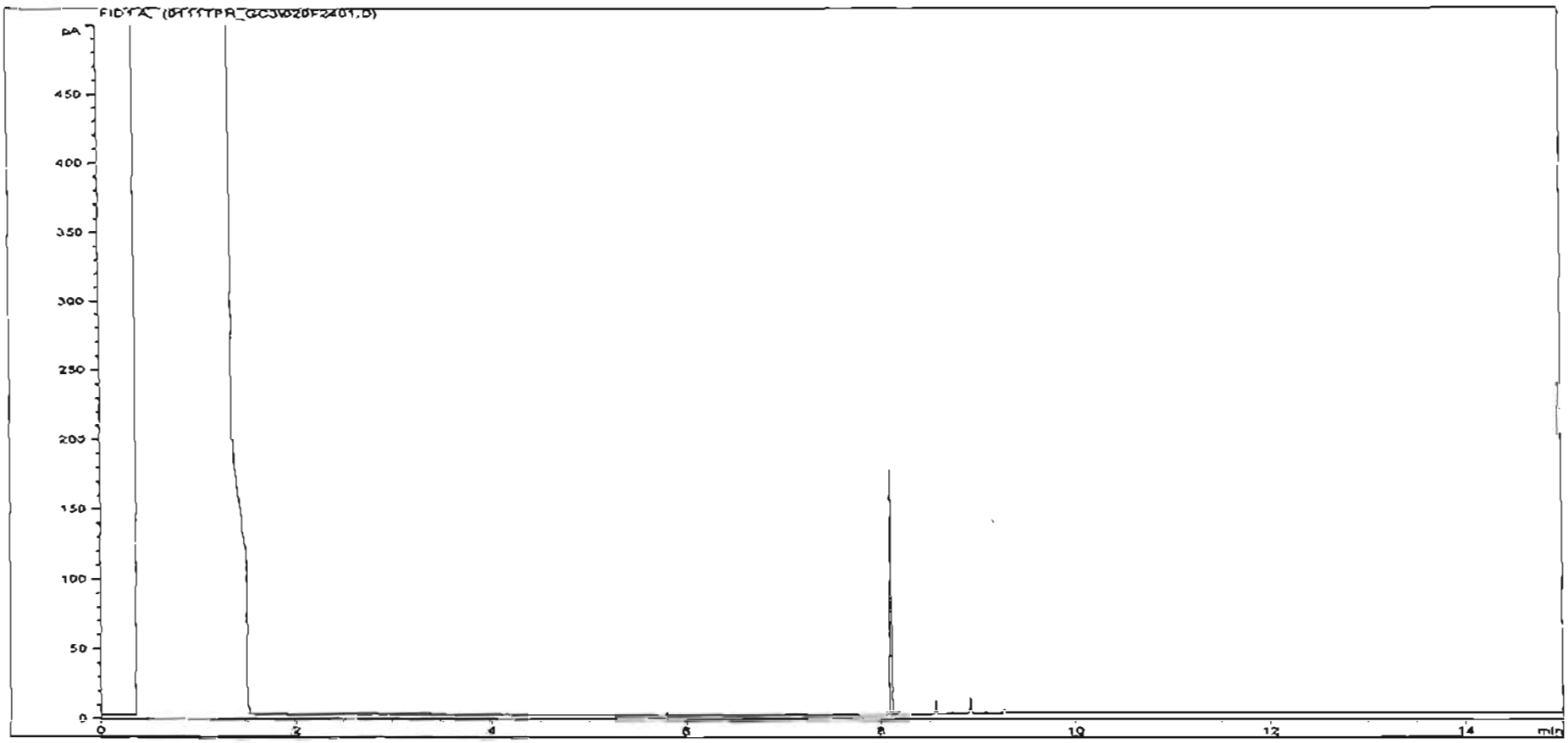
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531967ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP306 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\010F1101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

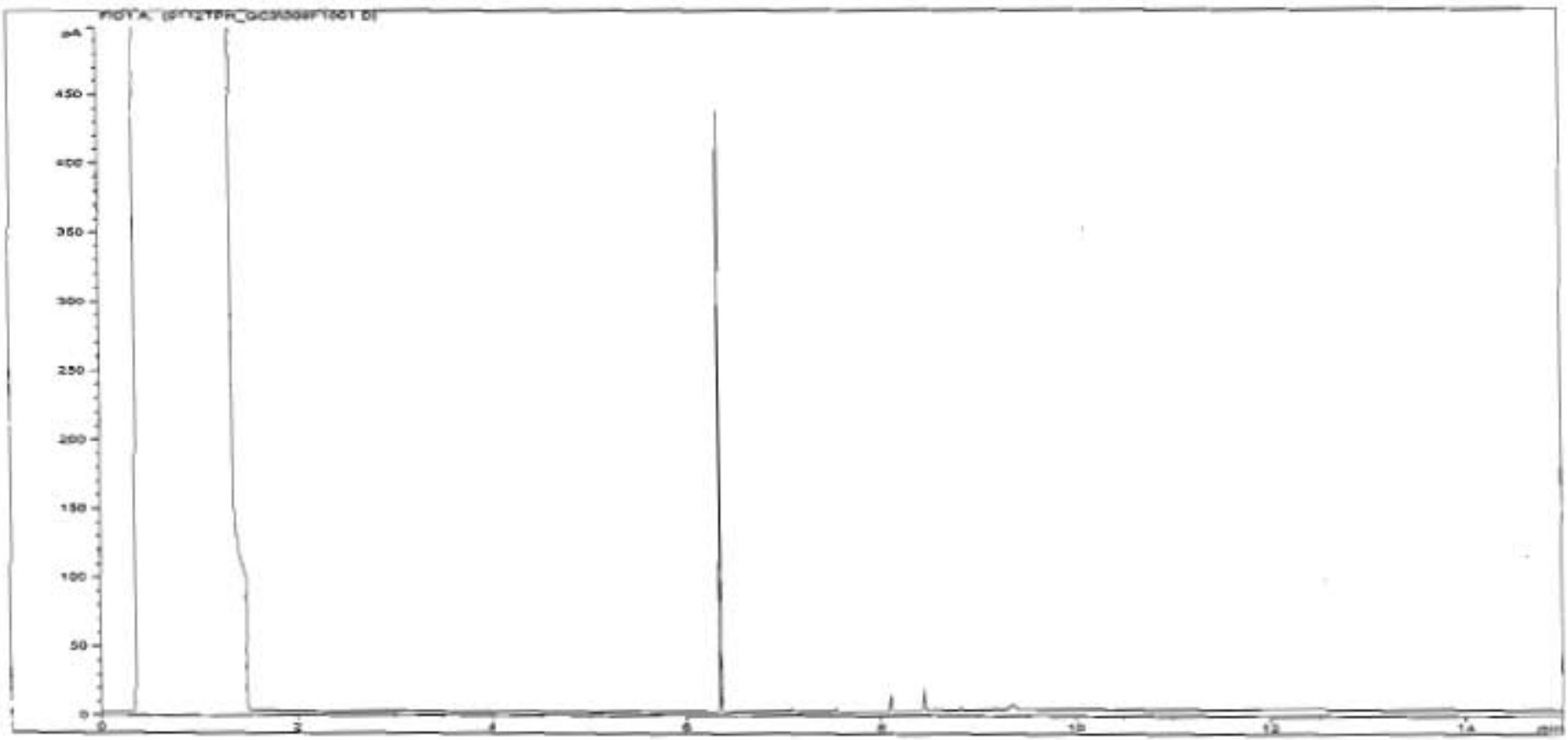
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531967ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP306 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\020F2401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

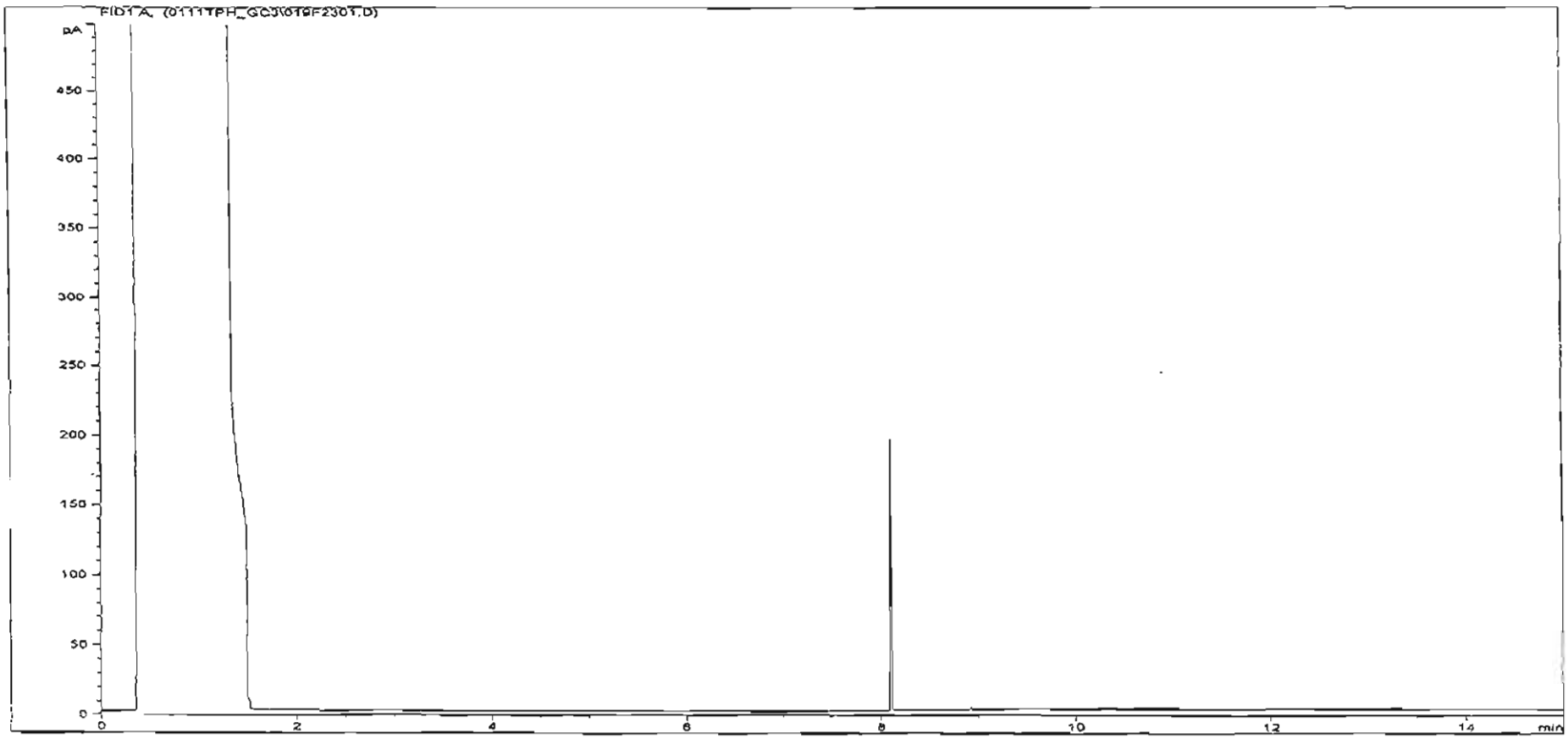
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531966ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP304 0.8
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\009F1001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

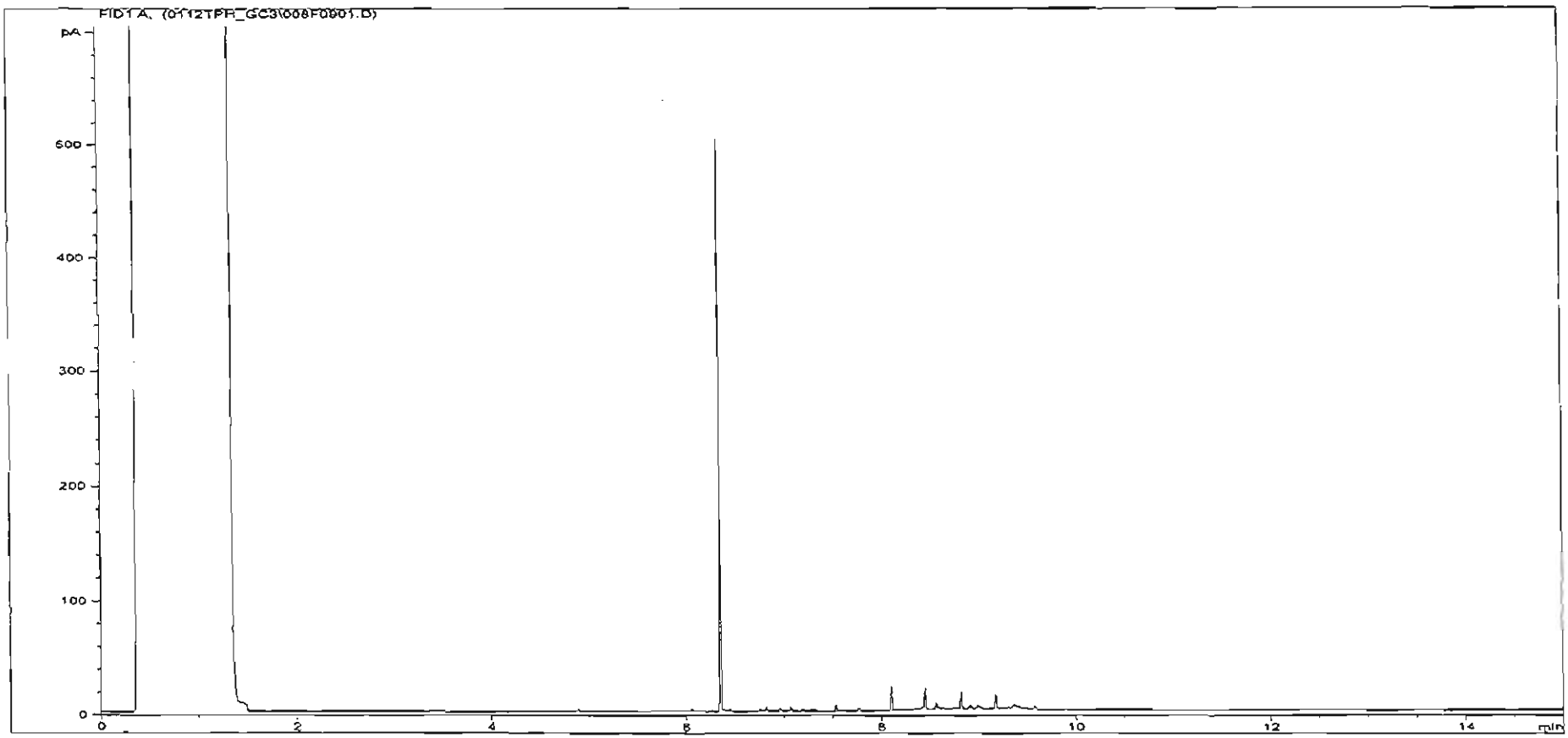
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531966ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP304 0.8
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\019F2301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

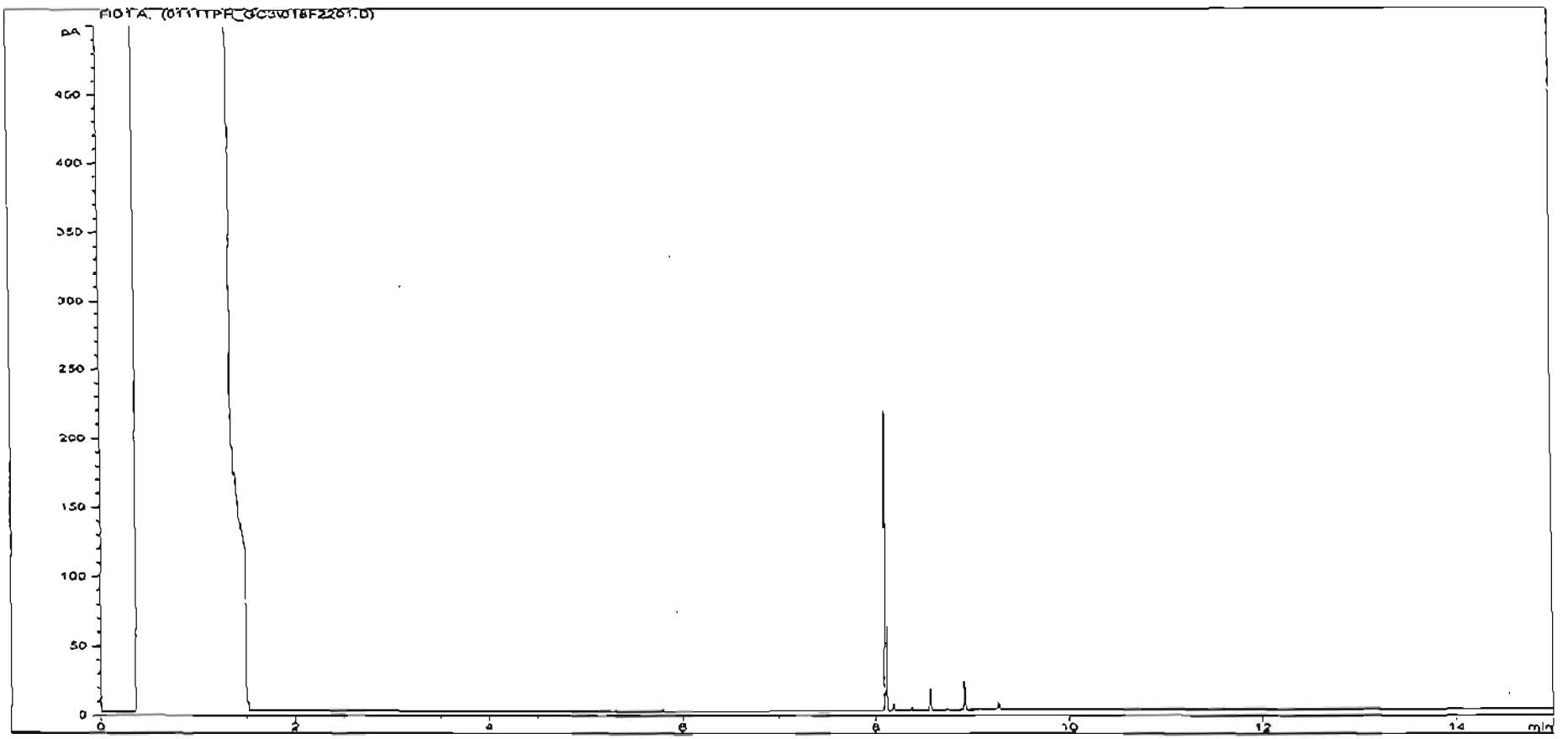
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531965ARO	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP304 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\008F0901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531965ALI	**Job Number:**	S05_4568M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP304 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	E:\GC\TES\DATA\0111TPH_GC3\018F2201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details:	Entec UK Ltd : HMS Daedalus (E)			**Matrix:**	Soil
Job Number:	S05_4568	**Separation:**	Silica gel	**Date Booked In**	03-Dec-05
QC Batch Number:	52740	**Eluents:**	Pentane, DCM	**Date Extracted**	03-Jan-06
Directory:	O:\LAB_DATA\GC3\GC\TES\DATA\0112TPH_GC3\021F2501.D			**Date Analysed:**	12-Jan-06
Method:	Soxhlet				

This sample data is not accredited.

		Concentration, (mg/kg) - as dry weight.									
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35	
Sample ID	**Client ID**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**
CL0531965	E-TP304 0.3	<0.82	<0.82	<0.82	<0.82	<1.64	<1.64	<2.05	<2.05	<5.74	<5.74
CL0531966	E-TP304 0.8	<0.88	<0.88	<0.88	<0.88	<1.75	<1.75	<2.18	<2.18	<6.12	<6.12
CL0531967	E-TP306 0.3	<0.82	<0.82	<0.82	<0.82	<1.64	<1.64	<2.05	<2.05	<5.74	<5.74
CL0531968	E-WS307 0.1-0.2	<0.88	<0.88	<0.88	<0.88	<1.76	<1.76	<2.20	<2.20	<6.16	8.25
CL0531969	E-WS306 1.2-1.4	<0.82	<0.82	<0.82	<0.82	<1.64	<1.64	<2.05	<2.05	<5.74	<5.74
CL0531970	E-BH310 0.2-0.4	<7.8	<7.8	<7.8	<7.8	<15.6	24	<19.5	228	<54.6	623
CL0531971	E-BH310 2.0-2.2	<0.78	<0.78	<0.78	<0.78	<1.55	<1.55	<1.93	<1.93	<5.42	<5.42
CL0531972	E-BH309 3.1-3.2	<0.85	<0.85	<0.85	<0.85	<1.70	<1.70	<2.12	<2.12	<5.93	<5.93
CL0531973	E-BH309 9.0-9.2	<0.86	<0.86	<0.86	<0.86	<1.71	<1.71	<2.13	<2.13	<5.98	<5.98
CL0531974	E-TP305B 0.3	<0.82	<0.82	<0.82	<0.82	<1.64	<1.64	<2.05	<2.05	<5.74	5.83
CL0531975	E-TP326 0.3	<0.88	<0.88	<0.88	<0.88	<1.76	<1.76	<2.20	<2.20	<6.16	<6.16
CL0531976	E-TP326 1.0	<0.85	<0.85	<0.85	<0.85	<1.70	6.5	<2.12	<2.12	<5.94	<5.94
CL0531977	E-TP325 0.3	<0.83	<0.83	<0.83	<0.83	<1.66	<1.66	<2.07	<2.07	<5.80	<5.80
CL0531978	E-TP325 3.0 (NVM)	<0.80	<0.80	<0.80	<0.80	<1.60	<1.60	<1.99	<1.99	<5.59	<5.59

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2729
Sample Details:	E-BH309 3.1-3.2	**Date Booked In:**	03-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.06667
LIMS ID Number:	CL0531972	**Date Extracted:**	31-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4568M	**Date Analysed:**	03-Jan-06	**Directory/Quant File:**	0103ABN.MS4\ 0103CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 12.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	-	< 0.2	-	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.2	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	80
Naphthalene-d8	85
Acenaphthene-d10	77
Phenanthrene-d10	74
Chrysene-d12	81
Perylene-d12	78

Surrogates	% Rec
2-Fluorophenol	35
Phenol-d5	41
Nitrobenzene-d5	28
2-Fluorobiphenyl	42
2,4,6-Tribromophenol	70
Terphenyl-d14	84

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate. In accordance with the MCERTS standard

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2729
Sample Details:	E-BH310 0.2-0.4	**Date Booked In:**	03-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.33333
LIMS ID Number:	CL0531970	**Date Extracted:**	31-Dec-05	**Operator:**	AB	**Dilution Factor:**	5
Job Number:	S05_4568M	**Date Analysed:**	04-Jan-06	**Directory/Quant File:**	0103ABN.MS4\ 0103CCC4.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 11.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 2.8	-	U
2-Chlorophenol	95-57-8	-	< 11.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 2.8	-	U
1,4-Dichlorobenzene	106-46-7	-	< 2.8	-	U
Benzyl alcohol	100-51-6	-	< 2.8	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 2.8	-	U
2-Methylphenol	95-48-7	-	< 2.8	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 2.8	-	U
Hexachloroethane	67-72-1	-	< 2.8	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 2.8	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 11.0	-	UM
Nitrobenzene	98-95-3	-	< 2.8	-	UM
Isophorone	78-59-1	-	< 2.8	-	UM
2-Nitrophenol	88-75-5	-	< 11.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 11.0	-	UM
Benzoic Acid	65-85-0 *	-	< 57.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 2.8	-	U
2,4-Dichlorophenol	120-83-2	-	< 11.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 2.8	-	UM
Naphthalene	91-20-3	-	< 1.0	-	UM
4-Chlorophenol	106-48-9	-	< 11.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 2.8	-	U
Hexachlorobutadiene	87-68-3	-	< 2.8	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 2.8	-	UM
2-Methylnaphthalene	91-57-6	-	< 1.0	-	UM
1-Methylnaphthalene	90-12-0	-	< 1.0	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 2.8	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 11.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 11.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 1.0	-	U
Biphenyl	92-52-4	-	< 1.0	-	UM
Diphenyl ether	101-84-8	-	< 1.0	-	UM
2-Nitroaniline	88-74-4	-	< 2.8	-	UM
Acenaphthylene	208-96-8	-	< 1.0	-	UM
Dimethylphthalate	131-11-3	-	< 2.8	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 2.8	-	UM
Acenaphthene	83-32-9	6.88	2.9	97	UM
3-Nitroaniline	99-09-2	-	< 2.8	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 6.0	-	U
Dibenzofuran	132-64-9	-	< 2.8	-	UM
4-Nitrophenol	100-02-7	-	< 28.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 2.8	-	UM
Fluorene	86-73-7	7.94	2.7	98	UM
Diethylphthalate	84-66-2	-	< 2.8	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 2.8	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 28.0	-	U
4-Nitroaniline	100-01-6	-	< 2.8	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 2.8	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 2.8	-	UM
Hexachlorobenzene	118-74-1	-	< 2.8	-	UM
Pentachlorophenol	87-86-5	-	< 28.0	-	U
Phenanthrene	85-01-8	8.20	43.5	99	UM
Anthracene	120-12-7	8.24	8.9	87	UM
Di-n-butylphthalate	84-74-2	-	< 2.8	-	UM
Fluoranthene	206-44-0	9.25	55.7	99	UM
Pyrene	129-00-0	9.45	43.8	96	UM
Butylbenzylphthalate	85-68-7	-	< 2.8	-	UM
Benzo[a]anthracene	56-55-3	10.51	25.0	90	UM
Chrysene	218-01-9	10.54	27.0	99	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 11.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 2.8	-	U
Di-n-octylphthalate	117-84-0	-	< 1.0	-	UM
Benzo[b]fluoranthene	205-99-2	11.41	32.4	97	U
Benzo[k]fluoranthene	207-08-9	11.42	14.3	93	UM
Benzo[a]pyrene	50-32-8	11.70	22.2	94	UM
Indeno[1,2,3-cd]pyrene	193-39-5	12.84	7.5	81	U
Dibenzo[a,h]anthracene	53-70-3	12.85	2.6	89	UM
Benzo[g,h,i]perylene	191-24-2	13.16	8.0	92	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	73
Naphthalene-d8	80
Acenaphthene-d10	75
Phenanthrene-d10	74
Chrysene-d12	79
Perylene-d12	70

Surrogates	% Rec
2-Fluorophenol	87
Phenol-d5	96
Nitrobenzene-d5	80
2-Fluorobiphenyl	114
2,4,6-Tribromophenol	93
Terphenyl-d14	98

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2729
Sample Details:	E-WS306 1.2-1.4	**Date Booked in:**	03-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.06667
LIMS ID Number:	CL0531969	**Date Extracted:**	31-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4568M	**Date Analysed:**	03-Jan-06	**Directory/Quant File:**	0103ABN.MS4\ 0103CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 12.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 5.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 5.0	-	U
Phenanthrene	85-01-8	-	< 0.2	-	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.2	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	76
Naphthalene-d8	80
Acenaphthene-d10	73
Phenanthrene-d10	73
Chrysene-d12	75
Perylene-d12	75

Surrogates	% Rec
2-Fluorophenol	59
Phenol-d5	59
Nitrobenzene-d5	54
2-Fluorobiphenyl	77
2,4,6-Tribromophenol	79
Terphenyl-d14	89

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2729
Sample Details:	E-WS307 0.1-0.2	**Date Booked In:**	03-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.06667
LIMS ID Number:	CL0531968	**Date Extracted:**	31-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4568M	**Date Analysed:**	03-Jan-06	**Directory/Quant File:**	0103ABN.MS4\ 0103CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 3.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 3.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 3.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 3.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 3.0	-	UM
Benzoic Acid	65-85-0 *	-	< 13.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 3.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.3	-	UM
4-Chlorophenol	106-48-9	-	< 3.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.3	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.3	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 3.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 3.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.3	-	U
Biphenyl	92-52-4	-	< 0.3	-	UM
Diphenyl ether	101-84-8	-	< 0.3	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.3	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.3	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.3	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	-	< 0.3	-	UM
Anthracene	120-12-7	-	< 0.3	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.3	-	UM
Pyrene	129-00-0	-	< 0.3	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.3	-	UM
Chrysene	218-01-9	-	< 0.3	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 3.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.3	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.3	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	78
Naphthalene-d8	83
Acenaphthene-d10	76
Phenanthrene-d10	74
Chrysene-d12	70
Perylene-d12	66

Surrogates	% Rec
2-Fluorophenol	58
Phenol-d5	68
Nitrobenzene-d5	58
2-Fluorobiphenyl	81
2,4,6-Tribromophenol	77
Terphenyl-d14	91

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate. In accordance with the MCERTS standard.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP325 3.0 (NVM)	**Job Number:**	S05_4568M
LIMS ID Number:	CL0531978	**Date Booked In:**	03-Dec-05
QC Batch Number:	2729	**Date Extracted:**	31-Dec-05
Quantitation File:	0104CCC4.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.7	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	61
Naphthalene-d8	67
Acenaphthene-d10	64
Phenanthrene-d10	60
Chrysene-d12	69
Perylene-d12	62

Surrogates	% Rec
Nitrobenzene-d5	52
2-Fluorobiphenyl	67
Terphenyl-d14	75

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP325 0.3	**Job Number:**	S05_4568M
LIMS ID Number:	CL0531977	**Date Booked In:**	03-Dec-05
QC Batch Number:	2729	**Date Extracted:**	31-Dec-05
Quantitation File:	0104CCC5.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	61
Naphthalene-d8	65
Acenaphthene-d10	60
Phenanthrene-d10	56
Chrysene-d12	63
Perylene-d12	55

Surrogates	% Rec
Nitrobenzene-d5	44
2-Fluorobiphenyl	71
Terphenyl-d14	83

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP326 1.0	**Job Number:**	S05_4568M
LIMS ID Number:	CL0531976	**Date Booked in:**	03-Dec-05
QC Batch Number:	2729	**Date Extracted:**	31-Dec-05
Quantitation File:	0104CCC4.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	66
Naphthalene-d8	72
Acenaphthene-d10	67
Phenanthrene-d10	62
Chrysene-d12	70
Perylene-d12	65

Surrogates	% Rec
Nitrobenzene-d5	45
2-Fluorobiphenyl	62
Terphenyl-d14	77

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP326 0.3	**Job Number:**	S05_4568M
LIMS ID Number:	CL0531975	**Date Booked In:**	03-Dec-05
QC Batch Number:	2729	**Date Extracted:**	31-Dec-05
Quantitation File:	0104CCC4.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	65
Naphthalene-d8	68
Acenaphthene-d10	65
Phenanthrene-d10	60
Chrysene-d12	68
Perylene-d12	62

Surrogates	% Rec
Nitrobenzene-d5	53
2-Fluorobiphenyl	79
Terphenyl-d14	88

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP305B 0.3	**Job Number:**	S05_4568M
LIMS ID Number:	CL0531974	**Date Booked In:**	03-Dec-05
QC Batch Number:	2729	**Date Extracted:**	31-Dec-05
Quantitation File:	0104CCC4.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.8	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	68
Naphthalene-d8	73
Acenaphthene-d10	69
Phenanthrene-d10	65
Chrysene-d12	73
Perylene-d12	63

Surrogates	% Rec
Nitrobenzene-d5	53
2-Fluorobiphenyl	76
Terphenyl-d14	88

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH309 9.0-9.2	**Job Number:**	S05_4568M
LIMS ID Number:	CL0531973	**Date Booked In:**	03-Dec-05
QC Batch Number:	2729	**Date Extracted:**	31-Dec-05
Quantitation File:	0104CCC4.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	67
Naphthalene-d8	71
Acenaphthene-d10	68
Phenanthrene-d10	63
Chrysene-d12	72
Perylene-d12	63

Surrogates	% Rec
Nitrobenzene-d5	50
2-Fluorobiphenyl	65
Terphenyl-d14	87

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH310 2.0-2.2	**Job Number:**	S05_4568M
LIMS ID Number:	CL0531971	**Date Booked in:**	03-Dec-05
QC Batch Number:	2729	**Date Extracted:**	31-Dec-05
Quantitation File:	0104CCC3.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.6	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	74
Naphthalene-d8	79
Acenaphthene-d10	76
Phenanthrene-d10	76
Chrysene-d12	84
Perylene-d12	79

Surrogates	% Rec
Nitrobenzene-d5	44
2-Fluorobiphenyl	61
Terphenyl-d14	87

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP306 0.3	**Job Number:**	S05_4568M
LIMS ID Number:	CL0531967	**Date Booked In:**	03-Dec-05
QC Batch Number:	2729	**Date Extracted:**	31-Dec-05
Quantitation File:	0104CCC4.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.8	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	62
Naphthalene-d8	67
Acenaphthene-d10	63
Phenanthrene-d10	57
Chrysene-d12	65
Perylene-d12	60

Surrogates	% Rec
Nitrobenzene-d5	34
2-Fluorobiphenyl	51
Terphenyl-d14	71

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP304 0.8	**Job Number:**	S05_4568M
LIMS ID Number:	CL0531986	**Date Booked In:**	03-Dec-05
QC Batch Number:	2729	**Date Extracted:**	31-Dec-05
Quantitation File:	0104CCC4.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	68
Naphthalene-d8	70
Acenaphthene-d10	67
Phenanthrene-d10	62
Chrysene-d12	70
Perylene-d12	64

Surrogates	% Rec
Nitrobenzene-d5	55
2-Fluorobiphenyl	72
Terphenyl-d14	80

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP304 0.3	**Job Number:**	S05_4568M
LIMS ID Number:	CL0631965	**Date Booked in:**	03-Dec-05
QC Batch Number:	2729	**Date Extracted:**	31-Dec-05
Quantitation File:	0104CCC4.D	**Date Analysed:**	05-Jan-06
Directory:	0104ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.8	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	70
Naphthalene-d8	75
Acenaphthene-d10	71
Phenanthrene-d10	65
Chrysene-d12	73
Perylene-d12	66

Surrogates	% Rec
Nitrobenzene-d5	51
2-Fluorobiphenyl	68
Terphenyl-d14	79

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Job Number: S05_4568
Directory: 0104HSA1_GC6
Method: Headspace GCFID
Accreditation Code: U

Matrix: SOIL
Date Booked In: 03-Dec-05
Date extracted: 04-Jan-06
Date Analysed: 05-Jan-06

*** denotes the accreditation has been removed by the laboratory for this result only**

		Concentration, (mg/kg) - as dry weight.					Aliphatics				
Sample ID	Client ID	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	C5 - C6	>C6 - C7	>C7 - C8	>C8 - C10	Total GRO
CL0531965	E-TP304 0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531966	E-TP304 0.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
CL0531967	E-TP306 0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531968	E-WS307 0.1-0.2	0.277	1.944	0.410	0.802	0.784	10.0	10.6	59.3	15.4	99.5
* CL0531969	E-WS306 1.2-1.4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL0531970	E-BH310 0.2-0.4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531971	E-BH310 2.0-2.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL0531972	E-BH309 3.1-3.2	0.213	1.827	0.770	0.686	0.764	6.6	13.8	44.7	10.7	80.1
CL0531973	E-BH309 9.0-9.2	<0.01	0.060	0.040	0.125	0.027	<0.2	<0.2	0.3	<0.2	0.8
* CL0531974	E-TP305B 0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531975	E-TP326 0.3	<0.032	<0.032	<0.032	<0.032	<0.032	<0.6	<0.6	<0.6	<0.6	<0.6
CL0531976	E-TP326 1.0	<0.031	<0.031	<0.031	<0.031	<0.031	<0.6	<0.6	<0.6	<0.6	<0.6
CL0531977	E-TP325 0.3	<0.030	<0.030	<0.030	<0.030	<0.030	<0.6	<0.6	<0.6	<0.6	<0.6
CL0531978	E-TP325 3.0 (NVM)	<0.29	<0.29	<0.29	<0.29	<0.29	40.7	<6	14.7	27.5	86.6

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

	Units :	pH Units	mg/kg	mg/kg	% M/M	
	Method Codes :	WSLM3	WSLM4	TPHFID	WSLM59	
	Method Reporting Limits :		0.5	10.0	0.02	
	Accreditation Code:	U	U		N	
TES ID Number CU	Client Sample Description	pH units	Phenol Index	TPH GCFID (AR) (SI)	F.O.C. %	
0531972	E-BH309 3.1-3.2	6.8	<0.5	Req	0.08	
0531973	E-BH309 8.0-8.2	8.2	<0.5	Req		
0531970	E-BH310 0.2-0.4	8.6	0.5	Req	2.17	
0531971	E-BH310 2.0-2.2	7.9	<0.5	Req		
0531965	E-TP304 0.3	7.3	<0.5	Req	1.31	
0531966	E-TP304 0.8	7.6	<0.7	Req	0.41	
0531974	E-TP305B 0.3	6.1	<0.5	Req	1.85	
0531967	E-TP306 0.3	7.0	<0.5	Req	0.74	
0531977	E-TP325 0.3	7.7	<0.5	Req	0.99	
0531978	E-TP325 3.0 (NVM)	7.7	<0.5	Req	0.06	
0531975	E-TP328 0.3	7.2	<0.5	Req	1.26	
0531976	E-TP328 1.0	5.9	<0.5	Req	0.37	
0531969	E-WS306 1.2-1.4	7.4	<0.5	Req	0.29	
0531968	E-WS307 0.1-0.2	6.8	1.3	Req	1.85	

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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	25-Jan-06
Report Number	EFS/054568M
Table Number	1

TES Bretby

Units :		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	ug/kg
Method Codes :		GRONSA	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPWSS	ICTSCN28	SVOCSW	SVOCSW	TMSS	VOCSW
Method Reporting Limits :		0.1	0.5	0.1	0.5	0.5	0.5	0.10	0.5	0.5	3.0	0.3	5	0.2-10.0	0.2-10.0	0.2	5
Accreditation Code:			UM	U	U	U	U	U	U	U	U	UM	U			U	
TES ID Number CLJ	Client Sample Description	GRO (AA)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SO4 - (H2O soil) mg/l	Sulphide	PAH by MS	SVOC	TotMoisture @ 105oC	VOC
0531972	E-BH309 3.1-3.2	Req	6.8	<0.1	10.2	3.27	6.1	<0.1	7.97	<0.5	23.8	28.7	<5		Req	18.7	Req
0531973	E-BH309 9.0-9.2	Req	7.8	<0.1	12.9	2.27	5.2	<0.1	8.77	0.96	36.6	57.9	<5	Req		18.4	
0531970	E-BH310 0.2-0.4	Req	7.2	0.47	22.8	39.57	161	<0.1	10.67	1.43	82	56.7	155		Req	11.7	Req
0531971	E-BH310 2.0-2.2	Req	14.2	<0.1	19	8.97	12.1	<0.1	11.17	0.58	42.7	15.6	<5	Req		11.1	
0531965	E-TP304 0.3	Req	9.3	0.16	16.7	29.97	53.1	<0.1	12.37	<0.5	55.8	51.1	<5	Req		16.0	
0531966	E-TP304 0.8	Req	33.9	<0.1	35.1	14.87	22	<0.1	20.17	<0.7	82	5.8	<7	Req		21.2	
0531974	E-TP305B 0.3	Req	10.2	0.39	13	28.47	74.2	<0.1	8.37	<0.5	49	15.72	<5	Req		18.1	
0531967	E-TP306 0.3	Req	11.3	<0.1	16.3	10.47	28.6	<0.1	9.87	<0.5	38	12.76	<5	Req		16.1	
0531977	E-TP325 0.3	Req	10.5	0.25	21.6	26.97	57	<0.1	13.47	0.84	108.5	53.9	<5	Req		16.8	
0531978	E-TP325 3.0 (NVM)	Req	4.3	<0.1	9	2.27	5.1	<0.1	10.07	<0.5	24.7	26.2	<5	Req		13.7	
0531975	E-TP326 0.3	Req	9	0.15	15.5	17.77	46.4	<0.1	15.27	<0.5	63.7	59.9	<5	Req		21.7	
0531976	E-TP326 1.0	Req	8.5	<0.1	9.6	5.47	12.8	<0.1	13.47	<0.5	38.3	2080	<5	Req		16.8	
0531969	E-WS306 1.2-1.4	Req	10.7	<0.1	22	11.87	14.8	<0.1	15.67	<0.5	48.6	10.28	<5		Req	16.1	Req
0531968	E-WS307 0.1-0.2	Req	8.8	0.23	17.4	18.67	49.9	<0.1	12.97	0.63	112	24.7	<5		Req	21.7	Req

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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	25-Jan-06
Report Number	EFS/D64588M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Sample Descriptions

Client : Entec UK Ltd
Site : HMS Daedalus (E)
Report Number : S05_4568M

Lab ID Number	Client ID	Description
CL/0531965	E-TP304 0.3	Brown Stone SOIL
CL/0531966	E-TP304 0.8	Orange/Brown SILT
CL/0531967	E-TP306 0.3	Brown Stone SOIL
CL/0531968	E-WS307 0.1-0.2	Brown Stone SOIL
CL/0531969	E-WS307 1.2-1.4	Orange/Brown SILT
CL/0531970	E-BH310 0.2-0.4	Brown Gravel SOIL
CL/0531971	E-BH310 2.0-2.2	Orange/Brown Gravel/Sand SILT
CL/0531972	E-BH309 3.1-3.2	Orange/Green Sand SILT
CL/0531973	E-BH309 9.0-9.2	Green Silt SAND
CL/0531974	E-TP305B 0.3	Brown Silt SAND
CL/0531975	E-TP326 0.3	Brown Stone SILT
CL/0531976	E-TP326 1.0	Orange/Brown Stone SILT
CL/0531977	E-TP325 0.3	Brown SOIL
CL/0531978	E-TP325 3.0 (NVM)	Yellow Sand GRAVEL

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

TES Report No. EFS/054568M

Entec UK Ltd
Cannon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
SY2 5DE

Site: HMS Daedalus (E

The 14 samples described in this report were logged for analysis by TES Bretby on 03-Dec-2005.
analysis was completed by: 25-Jan-2006

Tests marked as 'not accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS or MCERTS accreditation held by TES Bretby Laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of GRO Results (Page 4)
Table of PAH (MS) Results (Pages 5 to 14)
Table of SVOC Results (Pages 15 to 18)
Table of TPH (Si) banding (std) (Page 19)
GC-FID Chromatograms (Pages 20 to 47)
Table of VOC Results (Pages 48 to 51)
Table of Report Notes (Page 52)

On behalf of
TES Bretby :
J Hannah

J Hannah
Project Co-ordinator

Date of Issue: 25-Jan-2006

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)
Tests marked '^' have been subcontracted to another laboratory.
(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.
All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)
TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
SO4 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample
co-eluted with benzo(b)fluoranthene
co-eluted with indeno(123-cd)pyrene
BTEX analysis expressed as ug/kg As Received
Phenol HPLC results expressed as mg/kg As Received

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15°C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed
T Trace
L Low (2-15%)
M Medium (15-50%)
H High (>50%)

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
? Denotes that an element of the quality control system is currently exhibiting sustained bias from its normal working pattern. The QC has not failed action limits and the cause of this is being investigated and rectified.
This does not invalidate the data but our quality policy specifies that you will be kept informed when this happens.
* denotes the accreditation has been removed by the laboratory for this result only
Accreditation Codes:
N - Not Accredited, U - UKAS, UM - UKAS & MCERTS
If 'Accredited? = No' then the accreditation has been removed for the entire dataset
'Accreditation Code:' or 'Accr. Code:' indicates the status of the accreditation held by the laboratory

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Accredited?:**	Yes
Sample Details:	ETP307 3.2	**Directory/Quant file:**	1219VOC.MS3\ 1219CCC2.D
LIMS ID Number:	CL0532143	**Date Booked In:**	06-Dec-05
Job Number:	S05_4587M	**Date Analysed:**	20-Dec-05
		Operator:	SH/AH
		Matrix:	Soil
		Method:	Purge & trap
		Multiplier:	5
		Position:	16

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 7	-	U
Chloromethane	74-87-3	-	< 7	-	UM
Vinyl Chloride	75-01-4	-	< 7	-	UM
Bromomethane	74-83-9 *	-	< 35	-	U
Chloroethane	75-00-3 *	-	< 35	-	U
Trichlorofluoromethane	75-69-4	-	< 7	-	U
1,1-Dichloroethene	75-35-4 *	-	< 7	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 7	-	UM
1,1-Dichloroethane	75-34-3	-	< 7	-	UM
2,2-Dichloropropane	594-20-7	-	< 7	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 7	-	UM
Bromochloromethane	74-97-5	-	< 7	-	UM
Chloroform	67-66-3	-	< 7	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 7	-	UM
Carbon Tetrachloride	56-23-5	-	< 7	-	UM
1,1-Dichloropropene	563-58-6	-	< 7	-	UM
Benzene	71-43-2	-	< 7	-	UM
1,2-Dichloroethane	107-06-2	-	< 7	-	UM
Trichloroethene	79-01-6	-	< 7	-	UM
1,2-Dichloropropane	78-87-5	-	< 7	-	UM
Dibromomethane	74-95-3	-	< 7	-	UM
Bromodichloromethane	75-27-4	-	< 7	-	UM
cis 1,3-Dichloropropene	10061-01-5 ?	-	< 7	-	UM
Toluene	108-88-3	-	< 7	-	UM
trans 1,3-Dichloropropene	10061-02-6 ?	-	< 7	-	U
1,1,2-Trichloroethane	79-00-5	-	< 7	-	UM
Tetrachloroethene	127-18-4	-	< 35	-	UM
1,3-Dichloropropane	142-28-9	-	< 7	-	U
Dibromochloromethane	124-48-1	-	< 7	-	U
1,2-Dibromoethane	106-93-4	-	< 7	-	U
Chlorobenzene	108-90-7	-	< 7	-	UM
Ethylbenzene	100-41-4	-	< 7	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 7	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 7	-	UM
o-Xylene	95-47-6	-	< 7	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 7	-	UM
Bromoform	75-25-2	-	< 7	-	U
Iso-Propylbenzene	98-82-8	-	< 7	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 7	-	U
Propylbenzene	103-65-1	-	< 7	-	UM
Bromobenzene	108-86-1	-	< 7	-	U
1,2,3-Trichloropropane	96-18-4	-	< 7	-	U
2-Chlorotoluene	95-49-8	-	< 7	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 7	-	UM
4-Chlorotoluene	106-43-4	-	< 7	-	UM
tert-Butylbenzene	98-06-6	-	< 7	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 7	-	UM
sec-Butylbenzene	135-98-8	-	< 7	-	UM
p-Isopropyltoluene	99-87-6	-	< 7	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 7	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 7	-	U
n-Butylbenzene	104-51-8	-	< 7	-	U
1,2-Dichlorobenzene	95-50-1	-	< 7	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 35	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 35	-	U
Hexachlorobutadiene	87-68-3	-	< 35	-	U
Naphthalene	91-20-3	-	< 35	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 35	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.96	136	Dibromofluoromethane	97
1,4-Difluorobenzene	14.13	130	Toluene-d8	97
Chlorobenzene-d5	18.48	128	Bromofluorobenzene	95
1,4-Dichlorobenzene-d4	21.97	108		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard

Volatile Organic Compounds by HSGCMS

Accredited?: Yes

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1219VOC.MS3\ 1219CCC2.D	**Matrix:**	Soil
Sample Details:	EBH307 3.5-3.7 (NVM)	**Date Booked In:**	06-Dec-05	**Method:**	Purge & trap
LIMS ID Number:	CL0532137	**Date Analysed:**	20-Dec-05	**Multiplier:**	5
Job Number:	S05_4587M	**Operator:**	SH/AH	**Position:**	15

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 30	-	U
Chloroethane	75-00-3 *	-	< 30	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 ?	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 ?	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 30	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
Iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	21.34	18	94	UM
sec-Butylbenzene	135-98-8	21.59	19	92	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	22.41	24	95	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 30	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 30	-	U
Hexachlorobutadiene	87-68-3	-	< 30	-	U
Naphthalene	91-20-3	-	< 30	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 30	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.86	145	Dibromofluoromethane	94
1,4-Difluorobenzene	14.13	139	Toluene-d8	113
Chlorobenzene-d5	18.48	149	Bromofluorobenzene	117
1,4-Dichlorobenzene-d4	21.96	122		

This analysis was conducted on an 'As Recieved' basis.

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1219VOC.MS3\ 1219CCC2.D	**Matrix:**	Soil
Sample Details:	EBH308 1.5-1.7	**Date Booked In:**	06-Dec-05	**Method:**	Purge & trap
LIMS ID Number:	CL0532136	**Date Analysed:**	20-Dec-05	**Multiplier:**	5
Job Number:	S05_4587M	**Operator:**	SH/AH	**Position:**	14

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 31	-	U
Chloroethane	75-00-3 *	-	< 31	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethane	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 ?	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 ?	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 31	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
Iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 31	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 31	-	U
Hexachlorobutadiene	87-68-3	-	< 31	-	U
Naphthalene	91-20-3	-	< 31	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 31	-	U

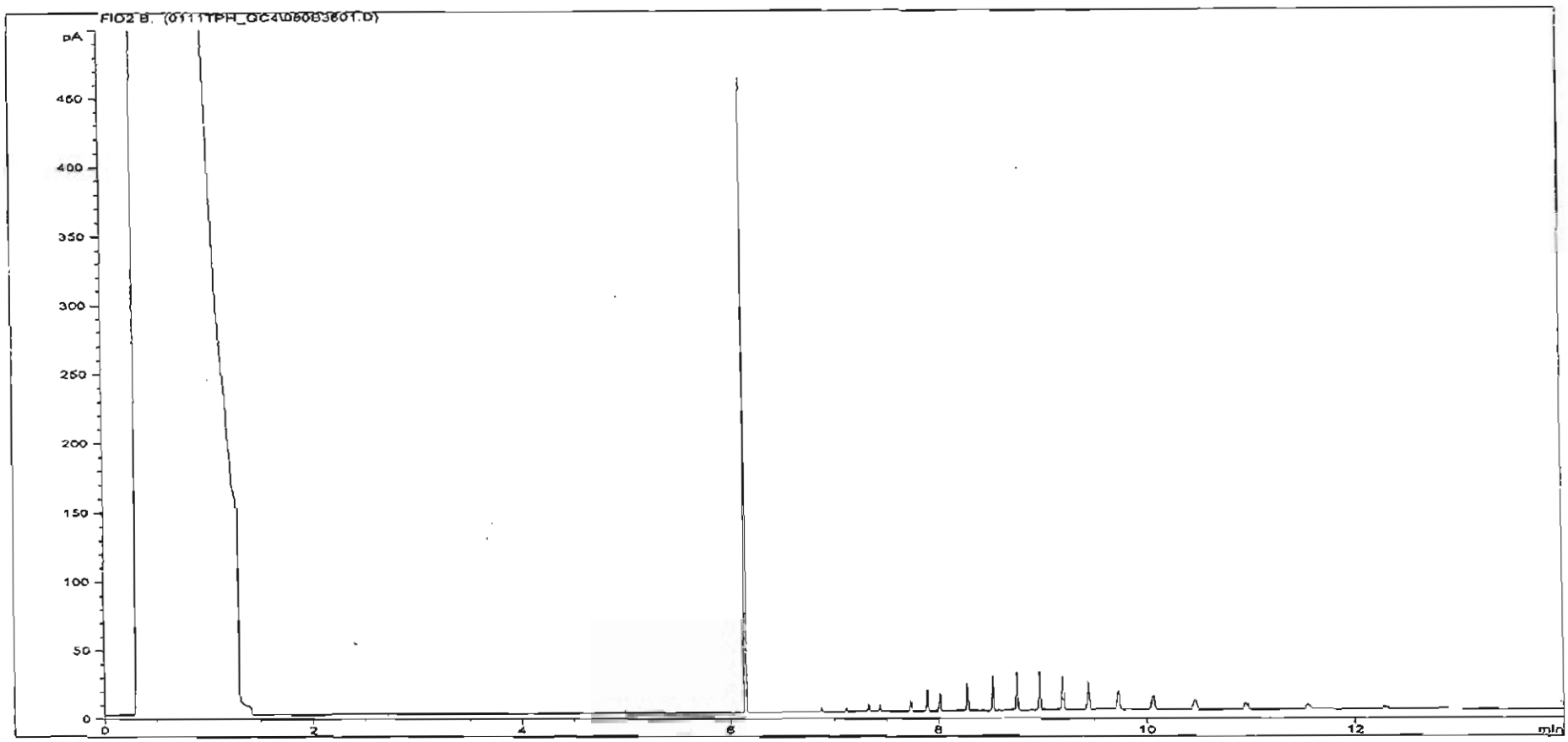
Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.96	124	Dibromofluoromethane	102
1,4-Difluorobenzene	14.12	120	Toluene-d8	100
Chlorobenzene-d5	18.48	118	Bromofluorobenzene	95
1,4-Dichlorobenzene-d4	21.97	99		

This analysis was conducted on an 'As Recieved' basis.

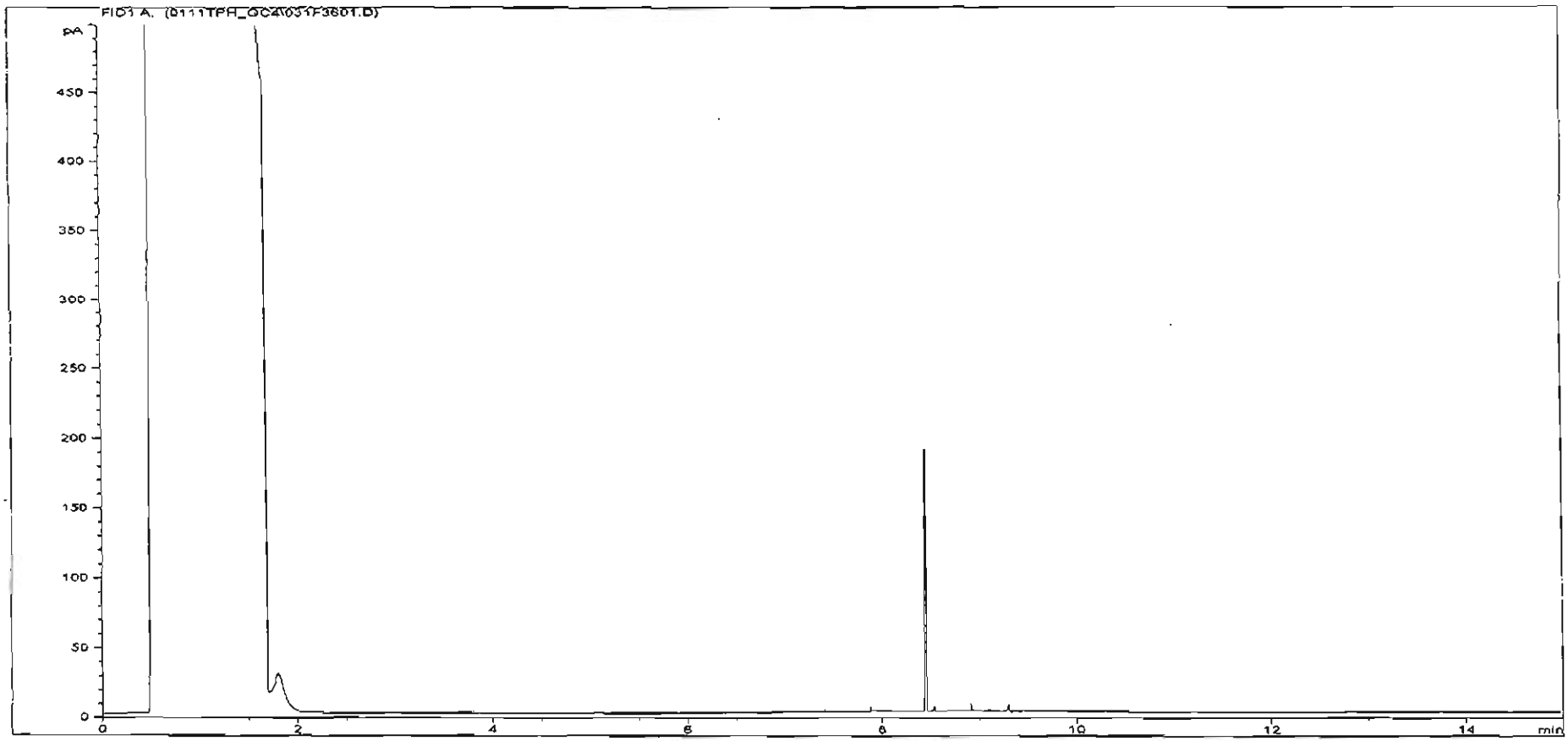
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532144ARO	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	ETP307 4.0
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\080B3601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

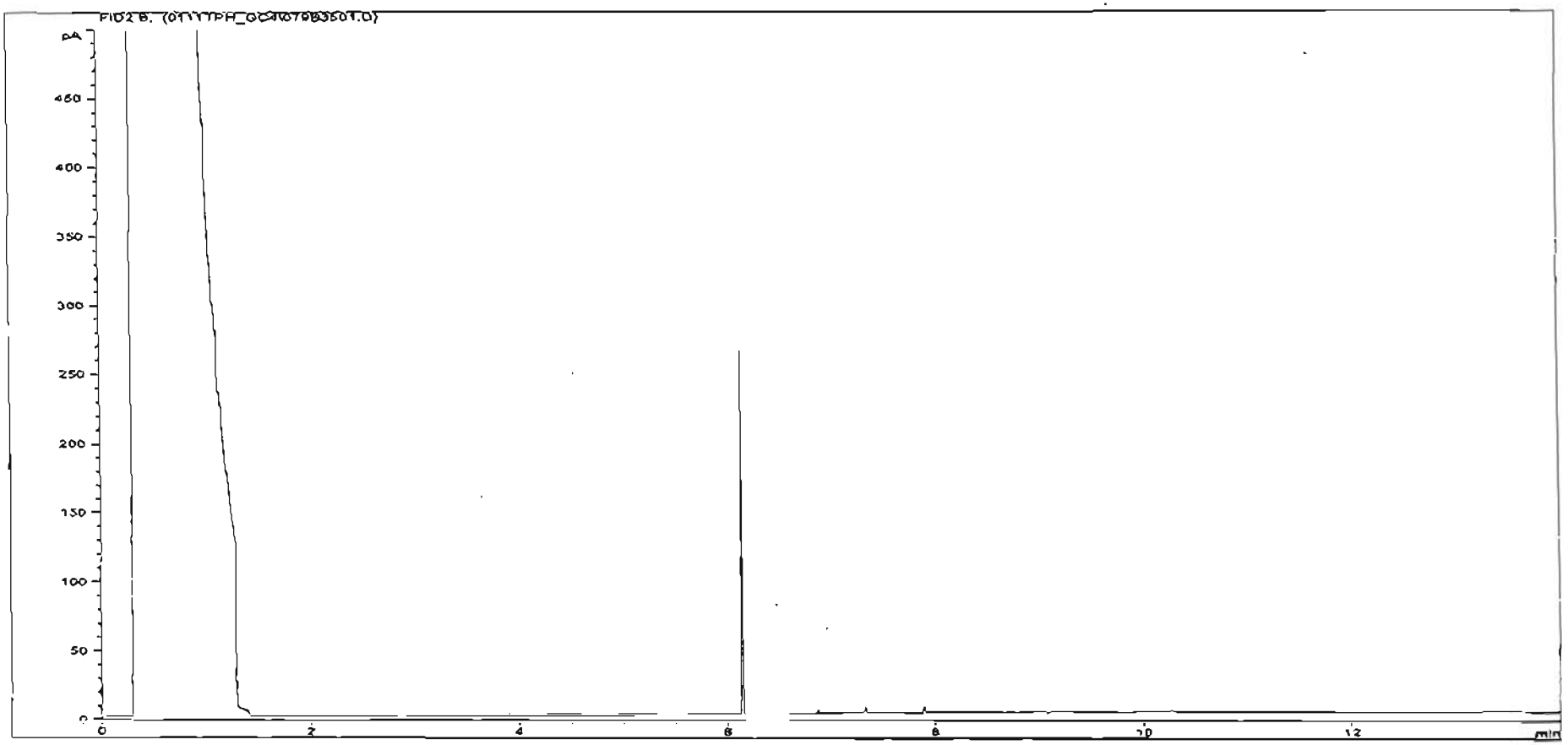
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532144ALI	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	ETP307 4.0
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\031F3601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

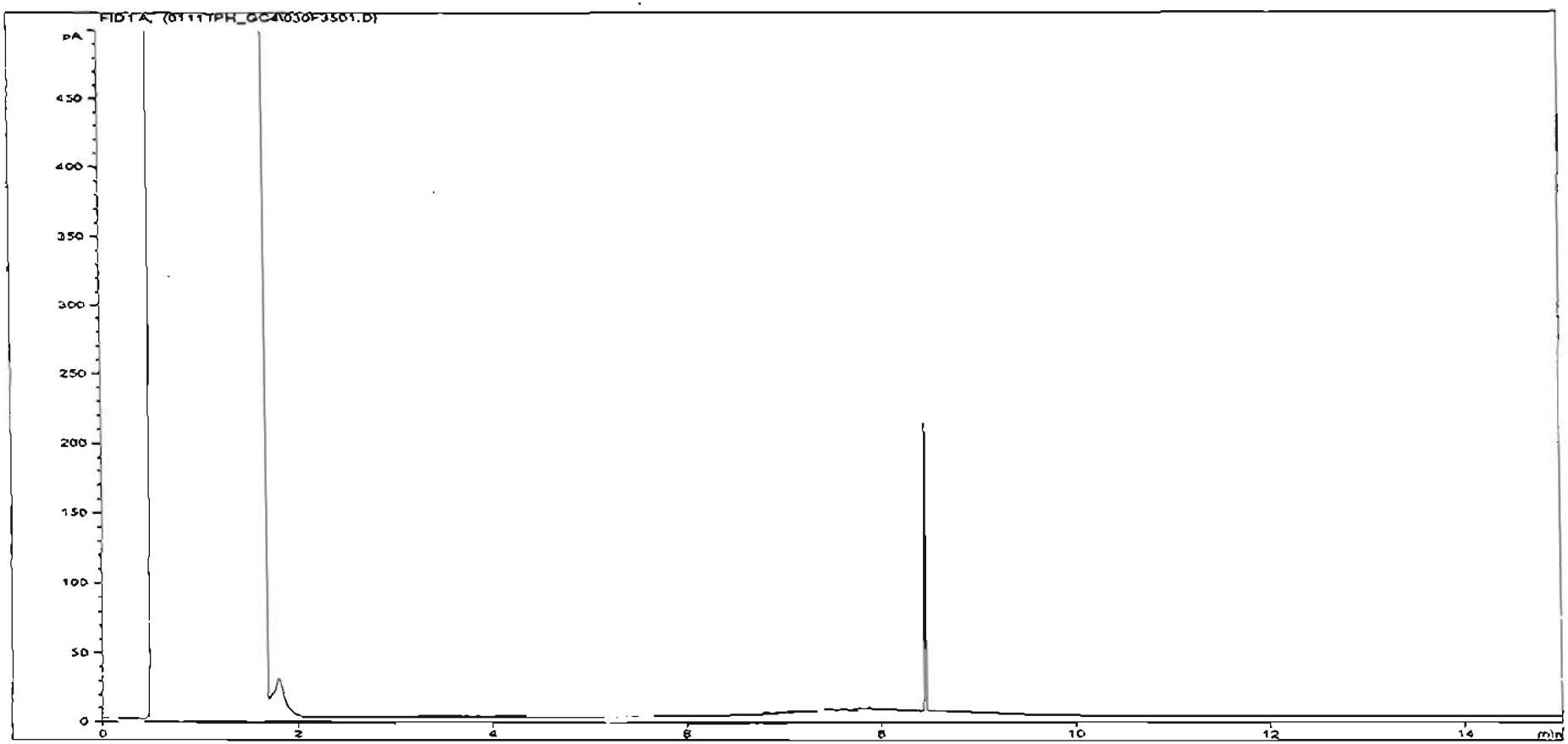
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532143ARO	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	ETP307 3.2
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\079B3501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

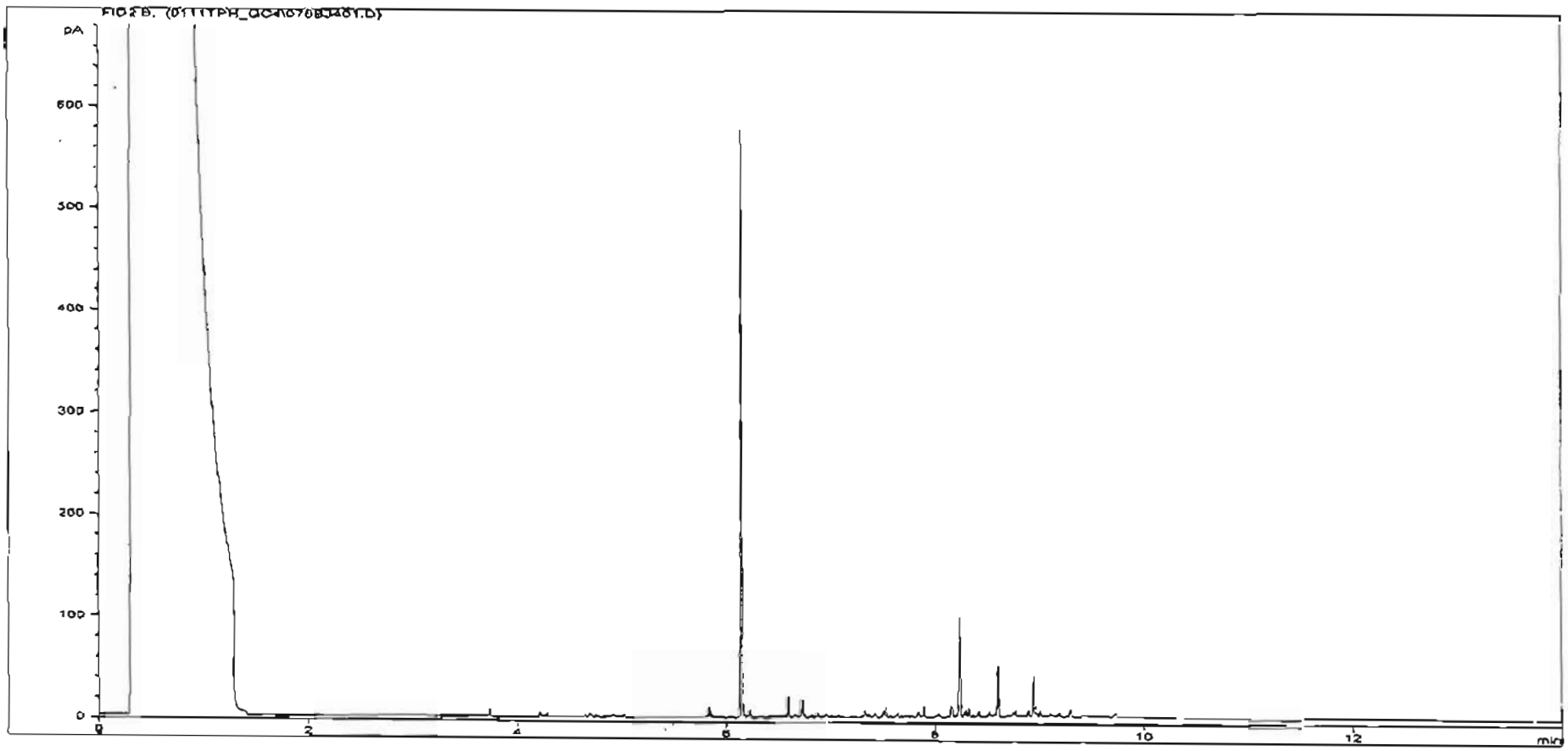
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532143ALI	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	ETP307 3.2
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\030F3501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

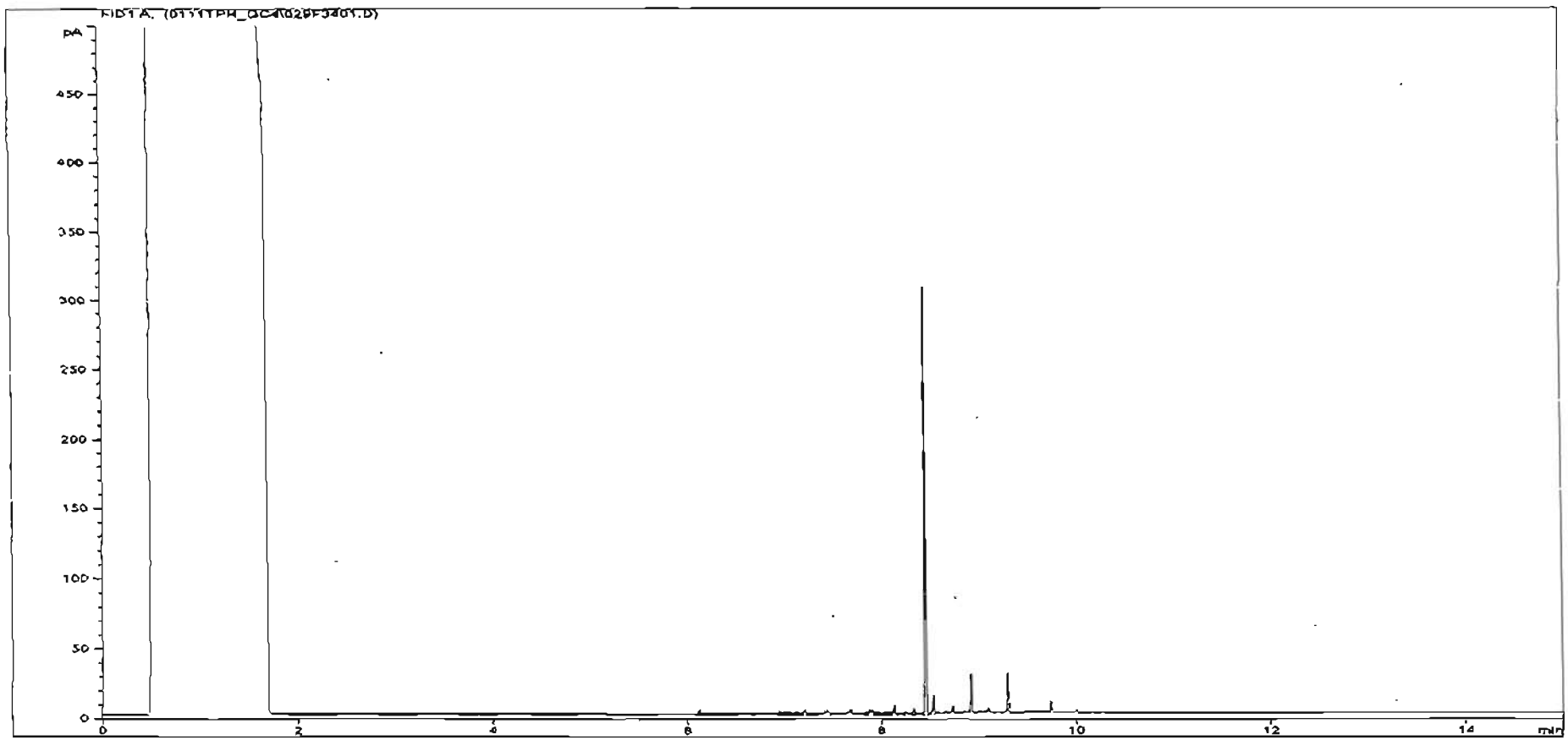
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532142ARO	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	ETP307 0.2
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\078B3401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

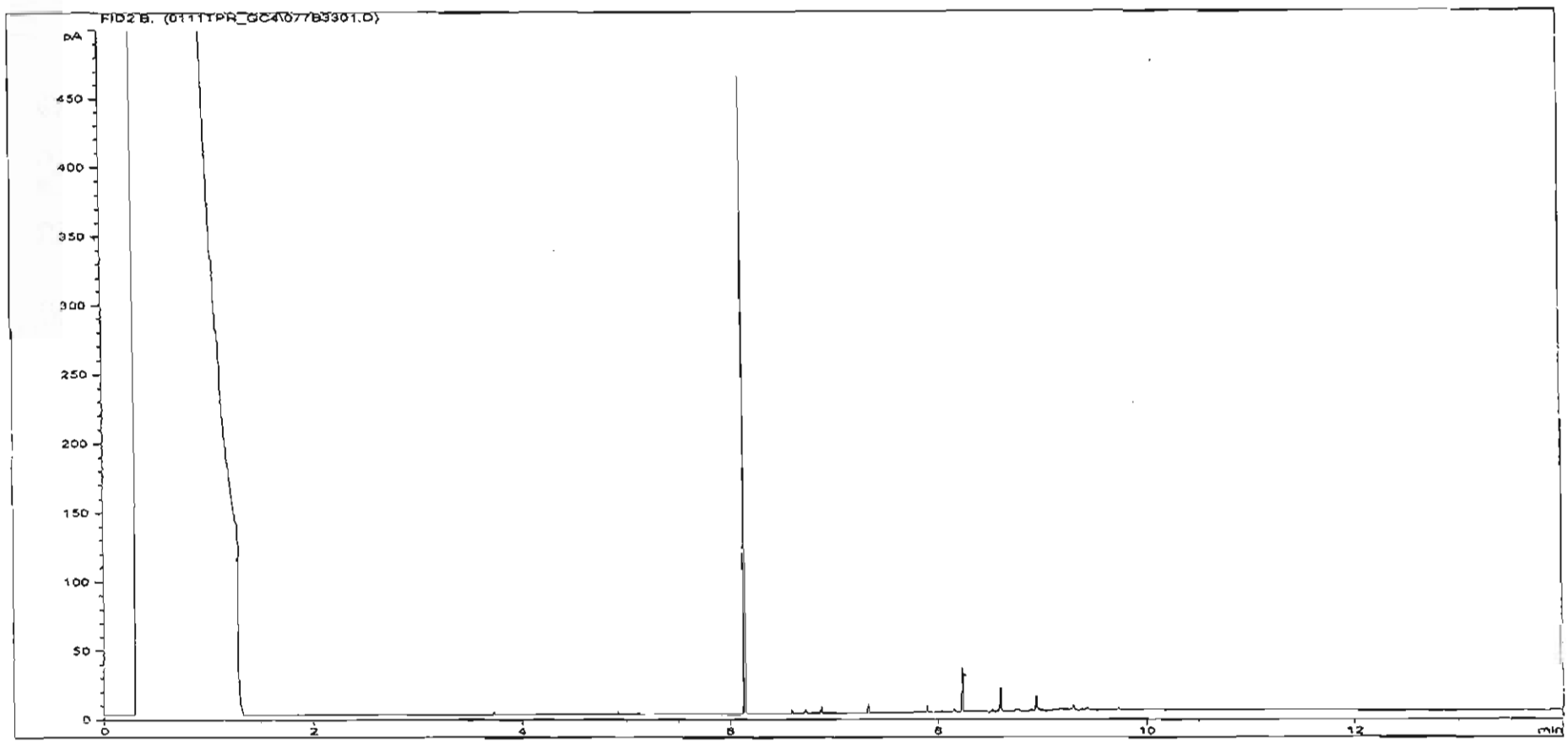
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532142ALI	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	ETP307 0.2
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\029F3401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

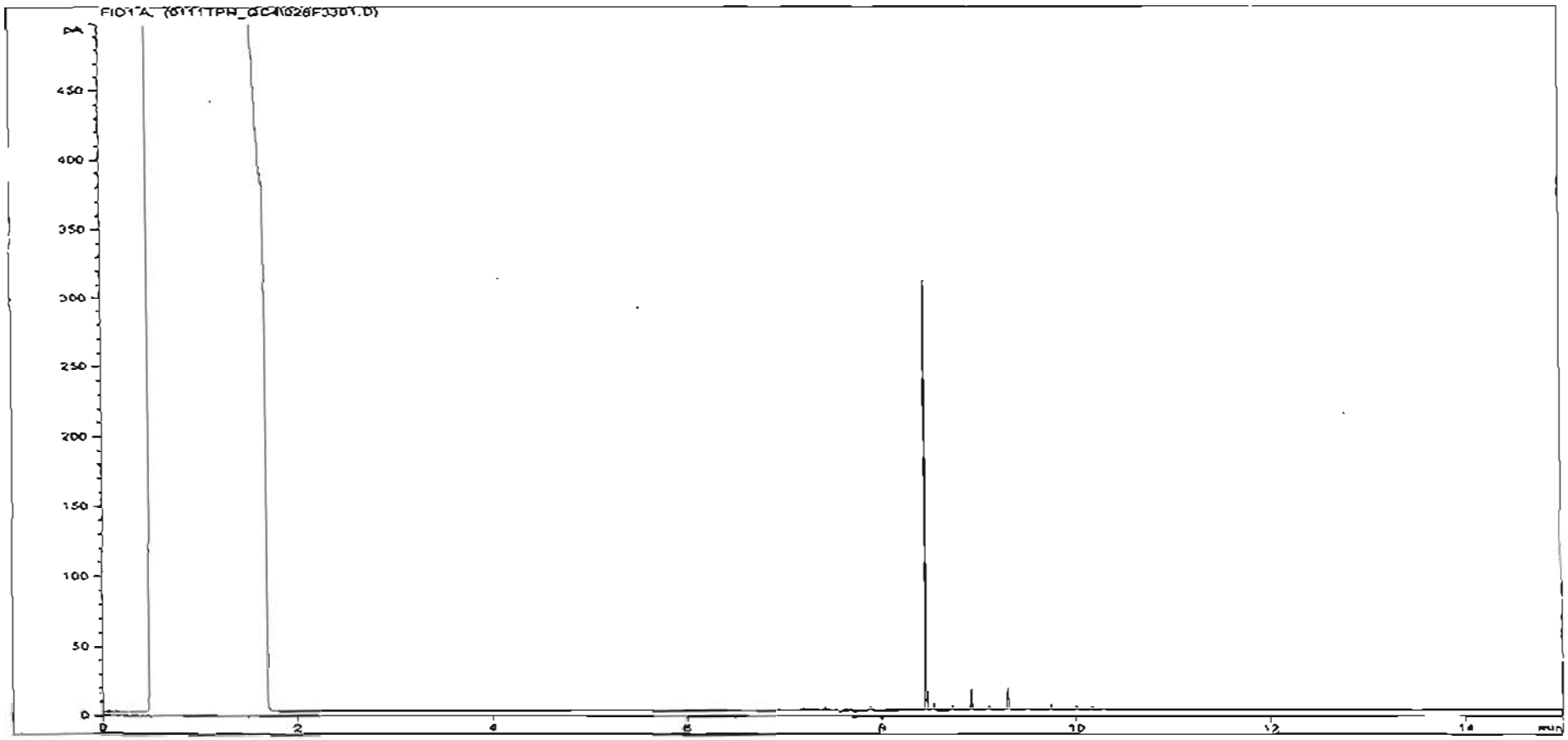
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532141ARO	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	ETP310 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\077B3301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

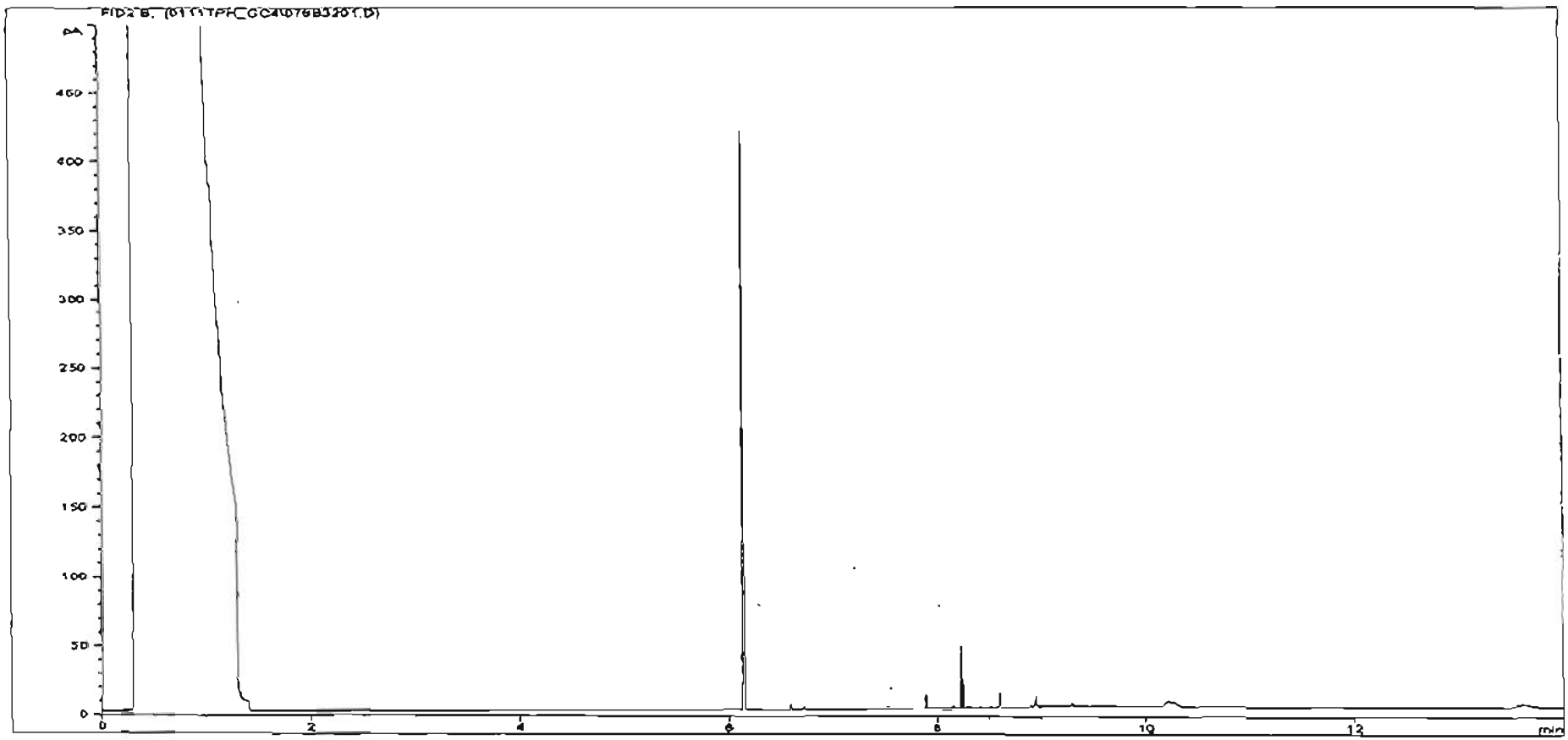
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532141ALI	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	ETP310 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\028F3301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

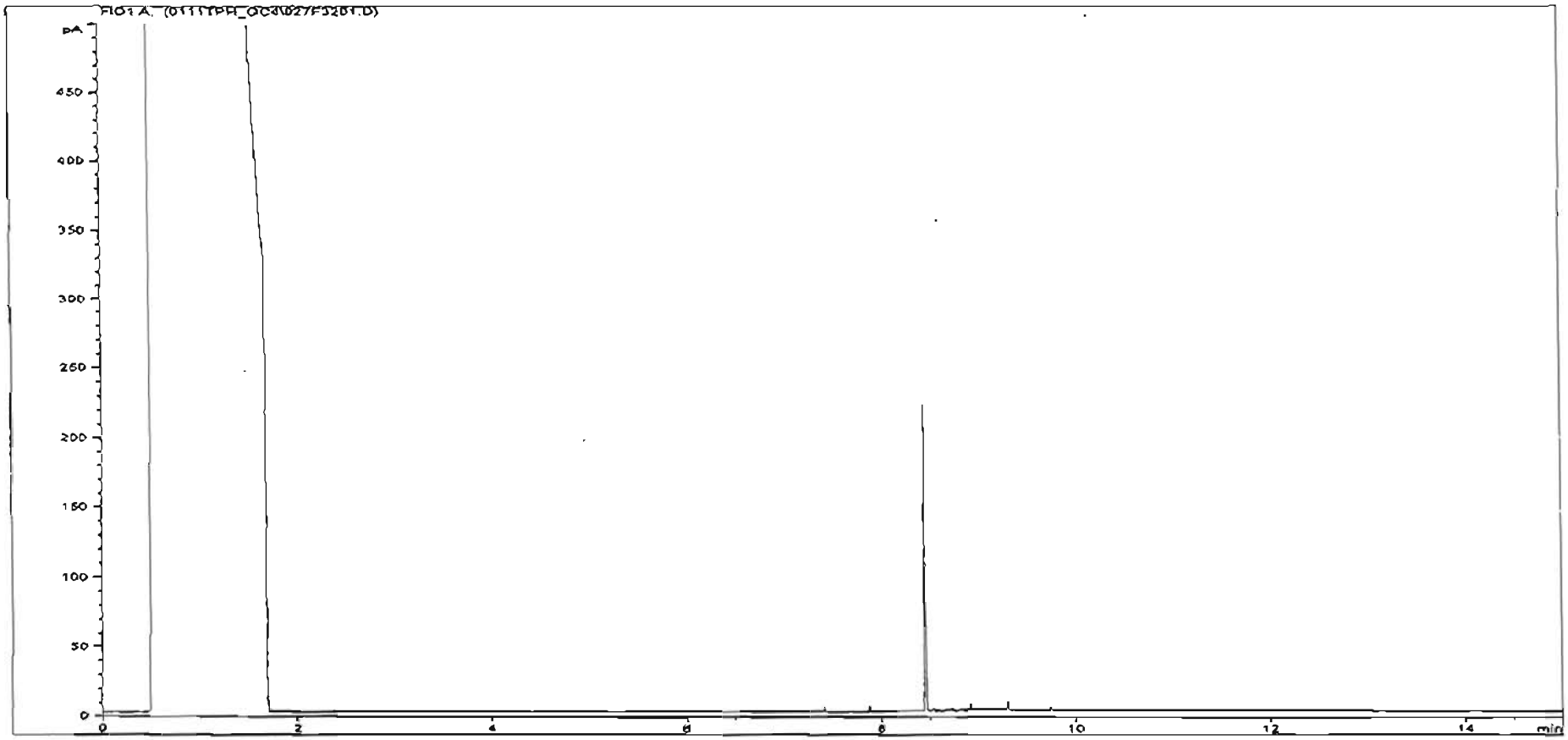
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532140ARO	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	ETP308 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\076B3201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

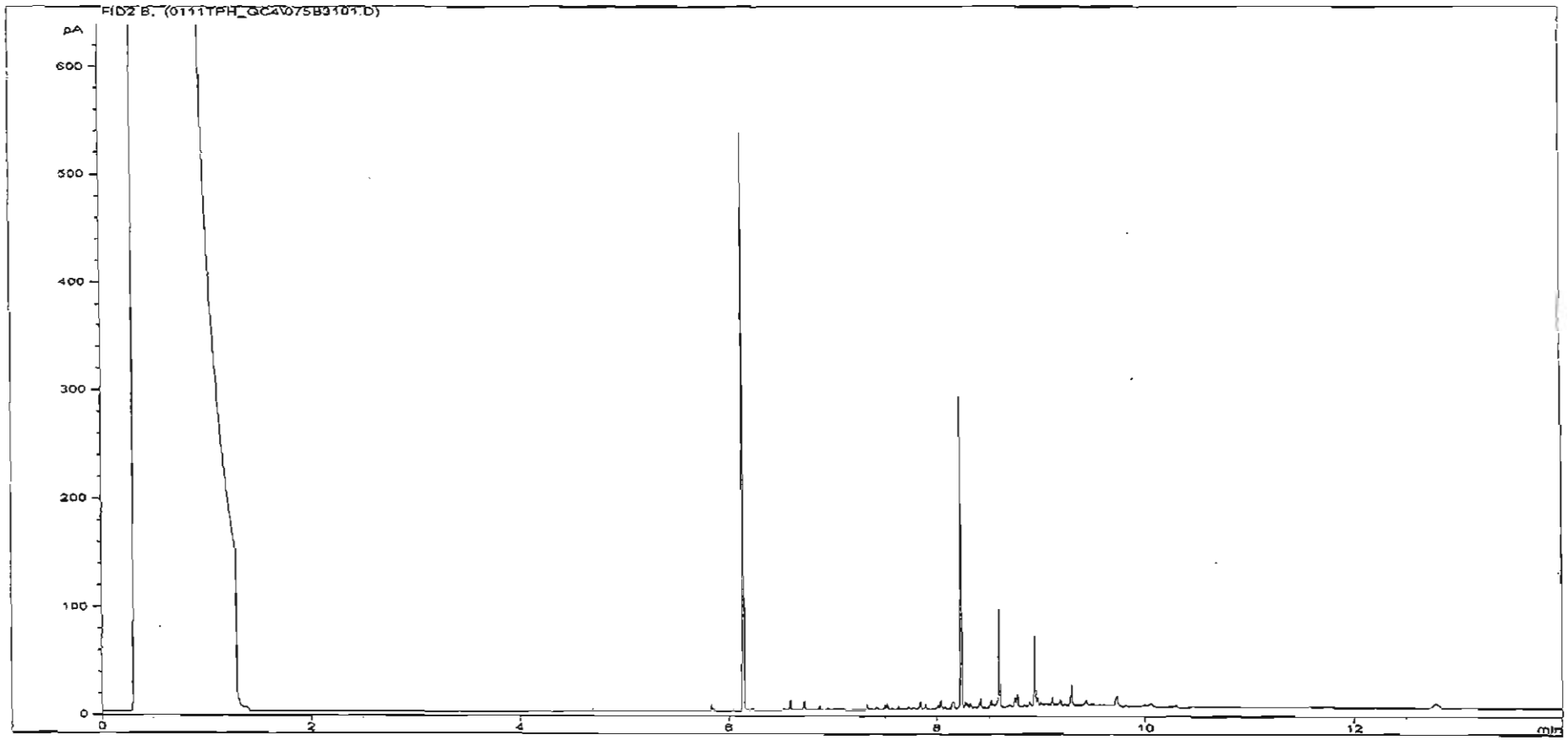
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532140ALI	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	ETP308 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\027F3201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

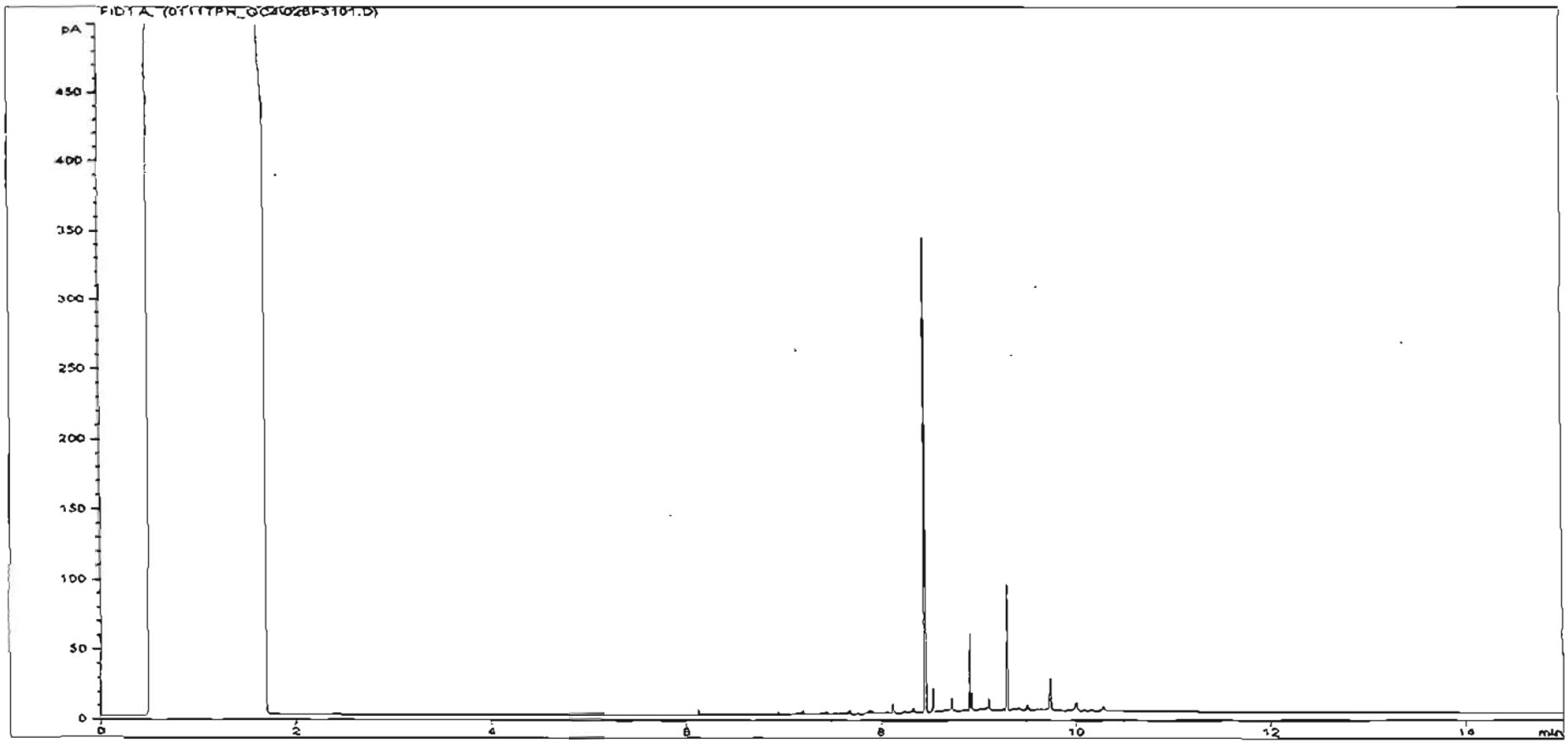
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532139ARO	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	ETP324 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\075B3101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

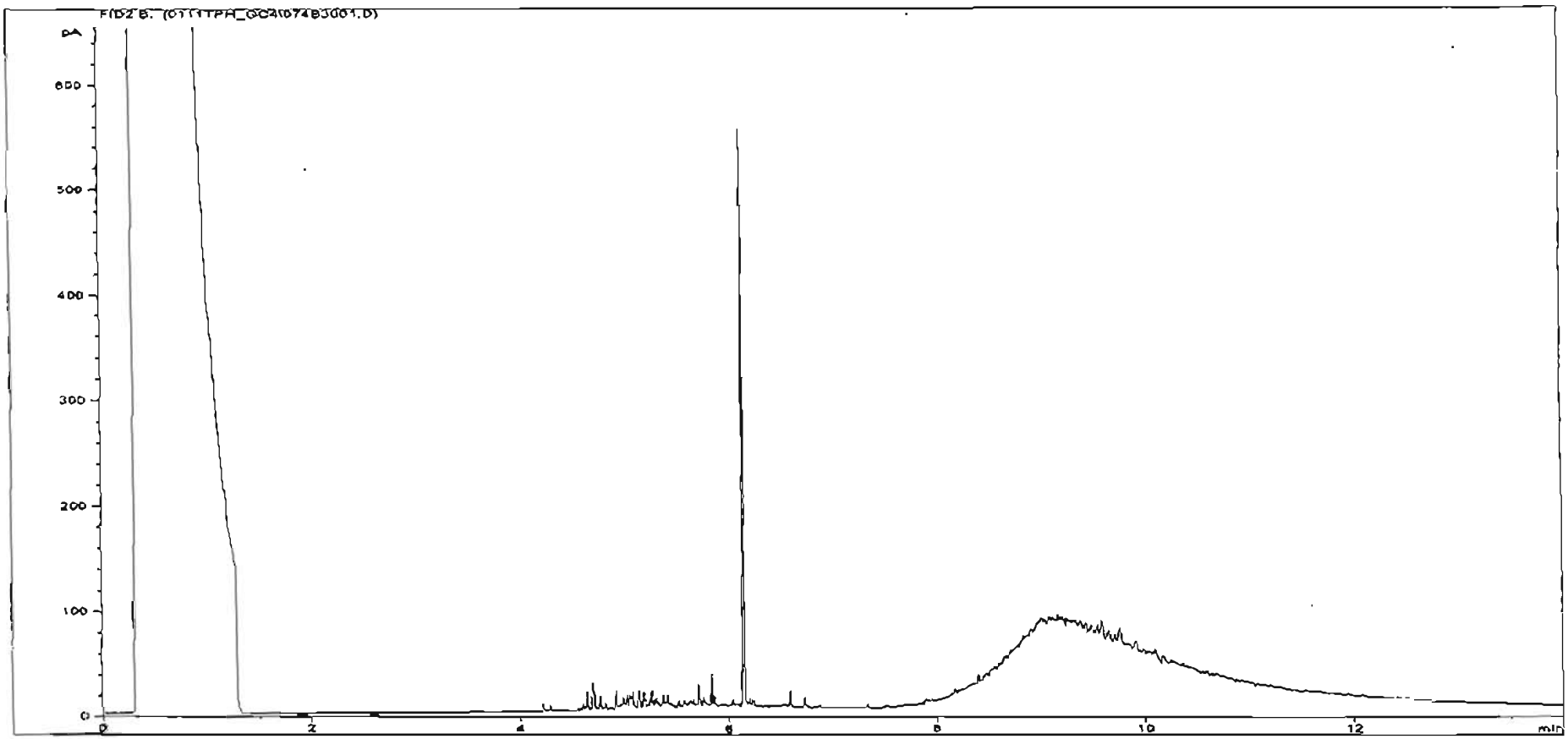
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532139ALI	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	ETP324 0.3
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\026F3101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

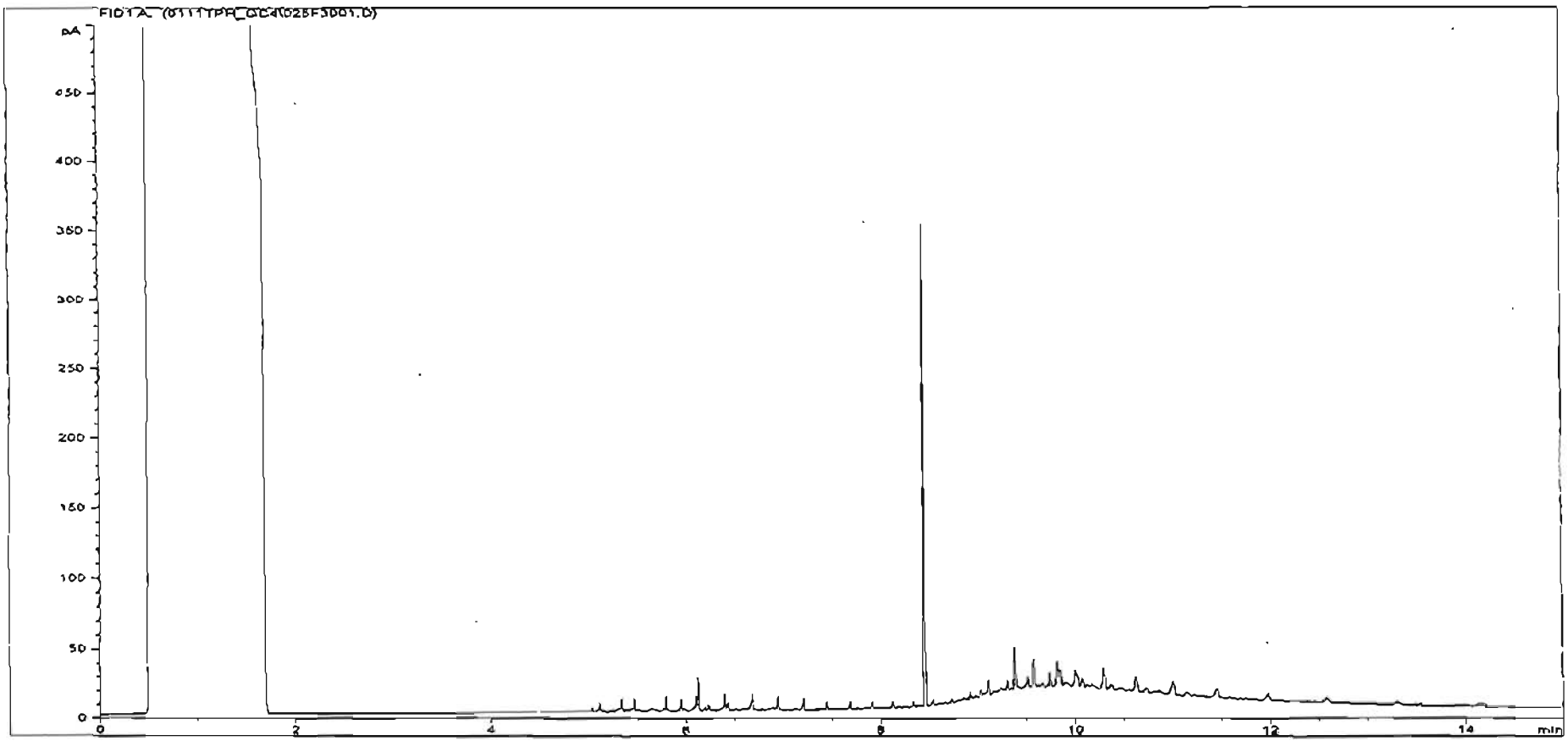
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532138ARO	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	EBH307 5.5-5.7
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\074B3001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

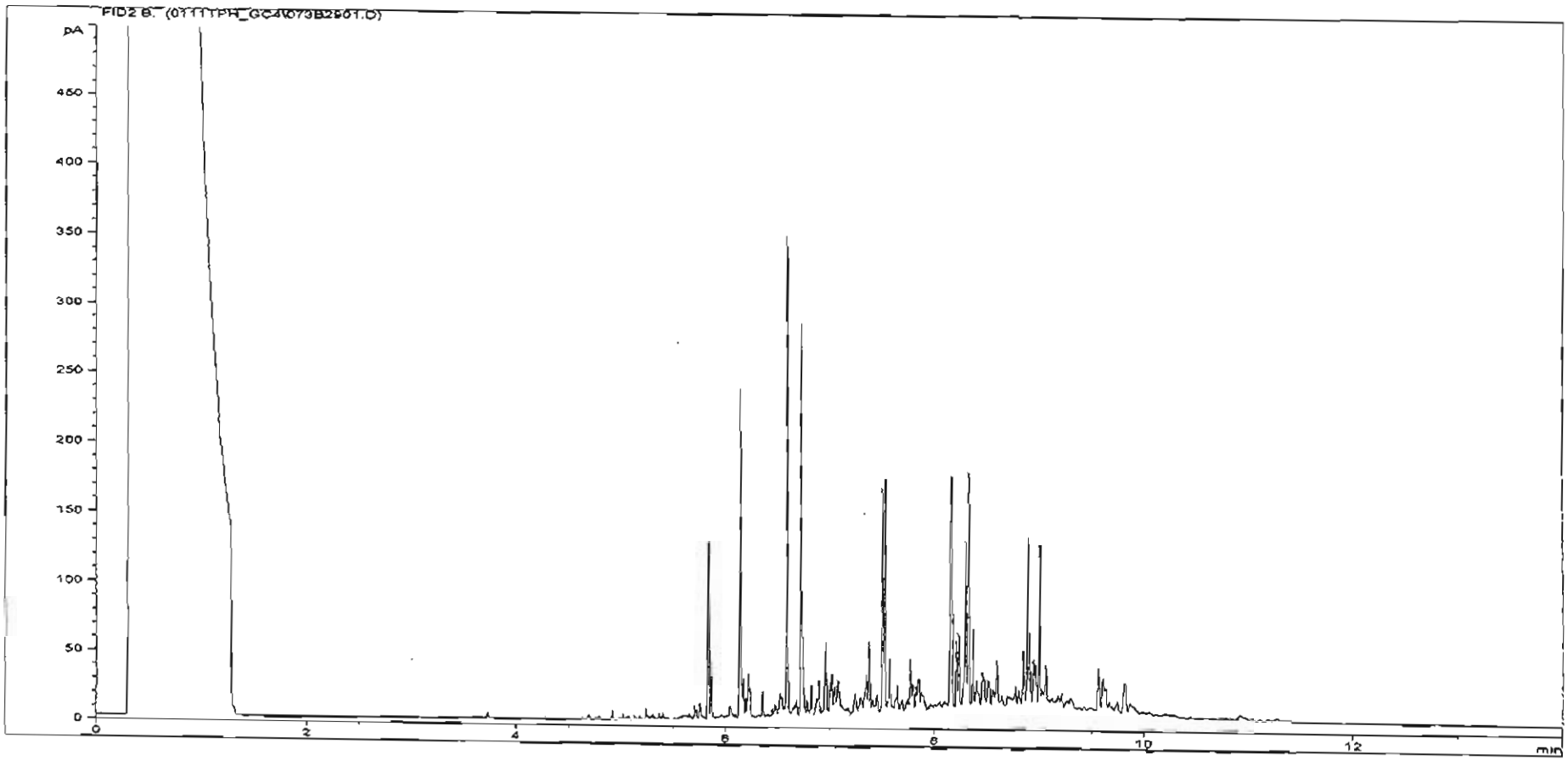
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532138ALI	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	EBH307 5.5-5.7
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\025F3001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

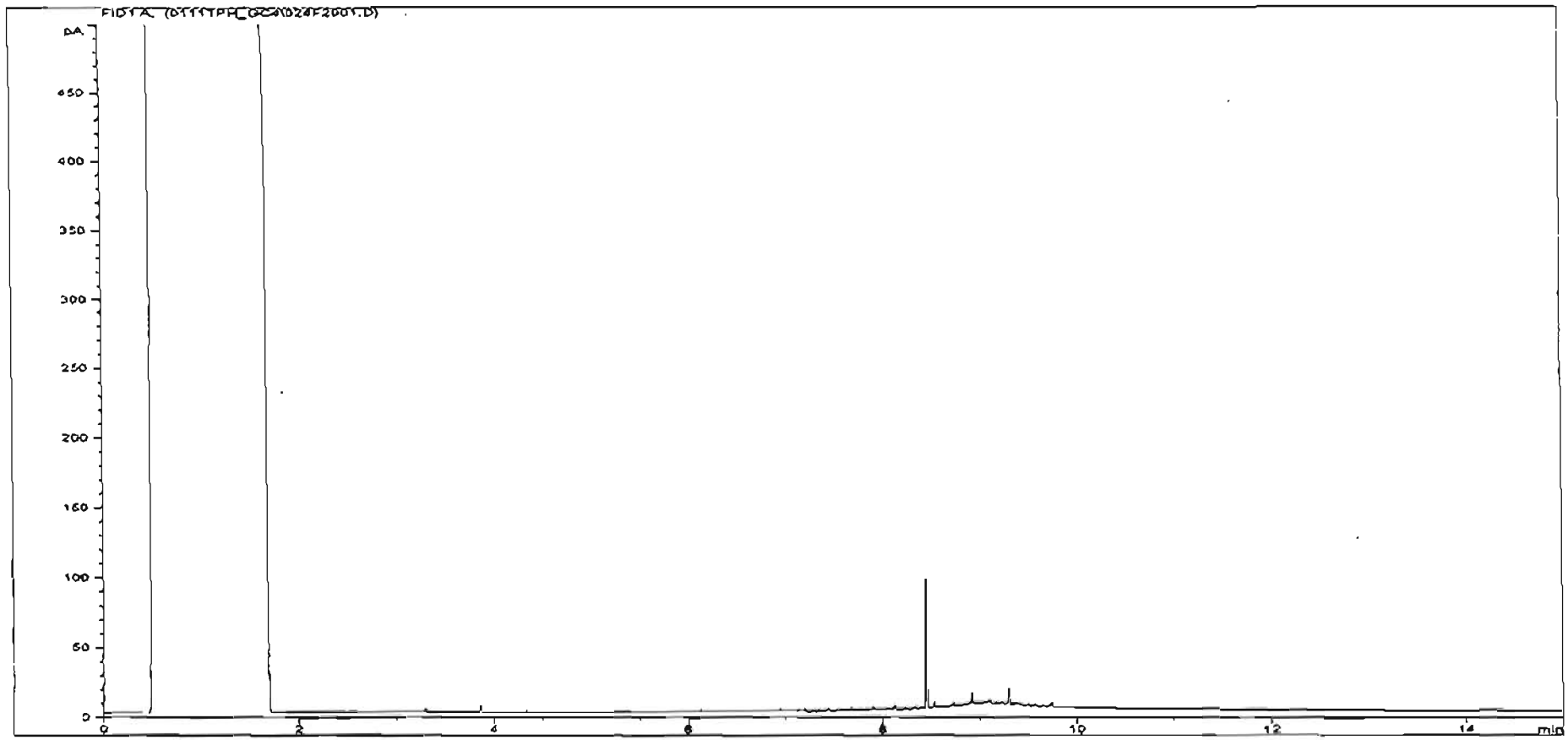
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532137ARO	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	EBH307 3.5-3.7 (NVM)
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\073B2901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

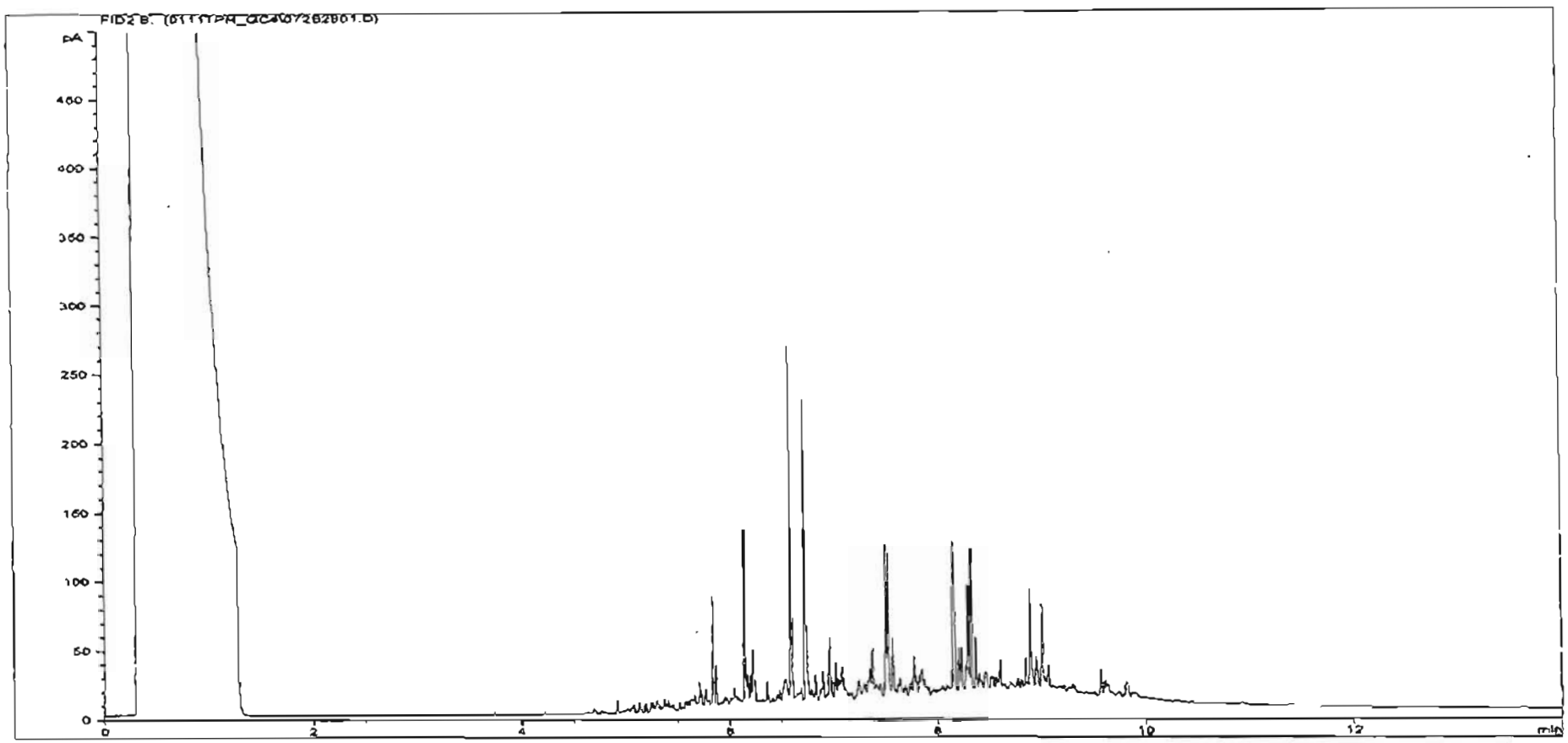
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532137ALI	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	EBH307 3.5-3.7 (NVM)
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\024F2901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

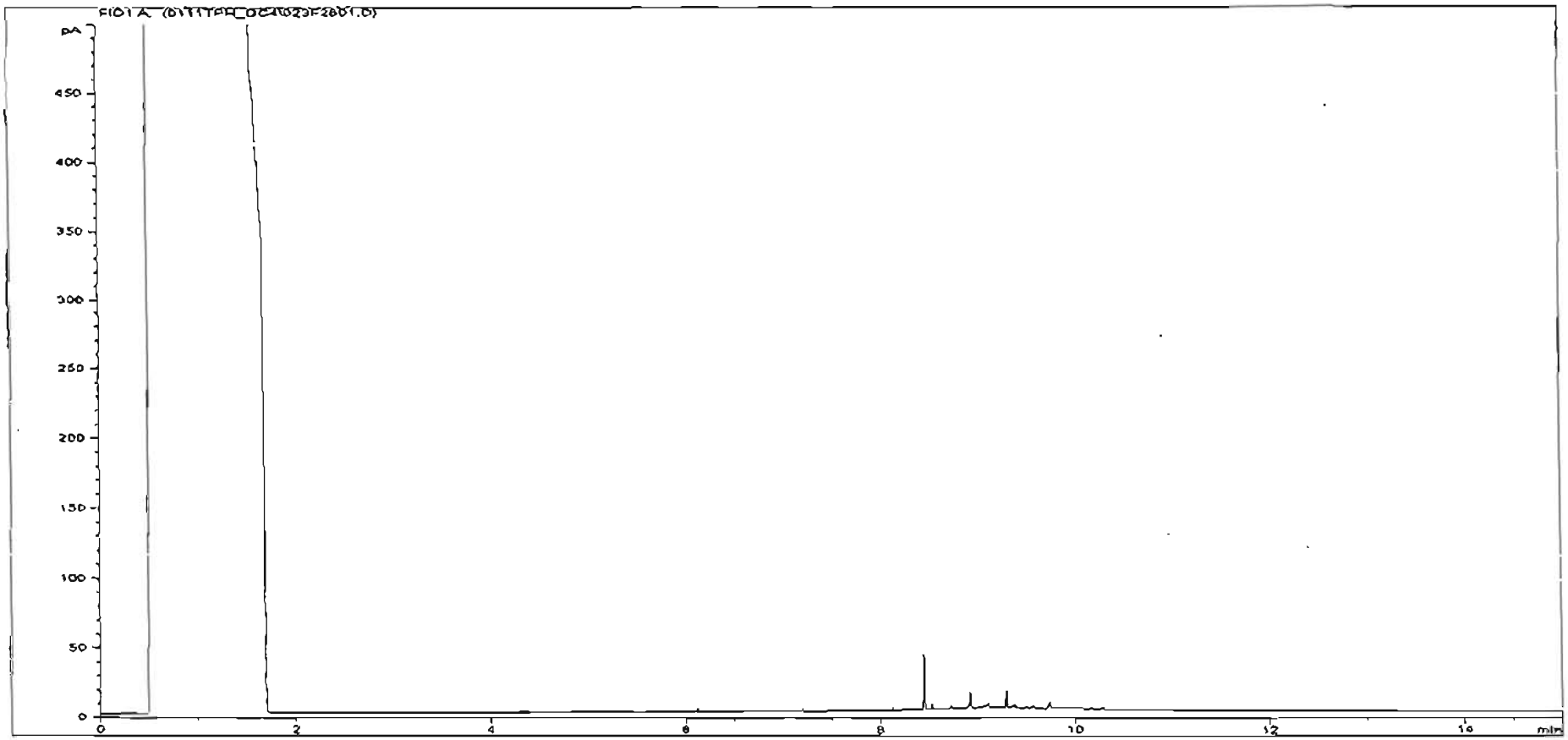
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532136ARO	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	5	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	EBH308 1.5-1.7
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\072B2801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

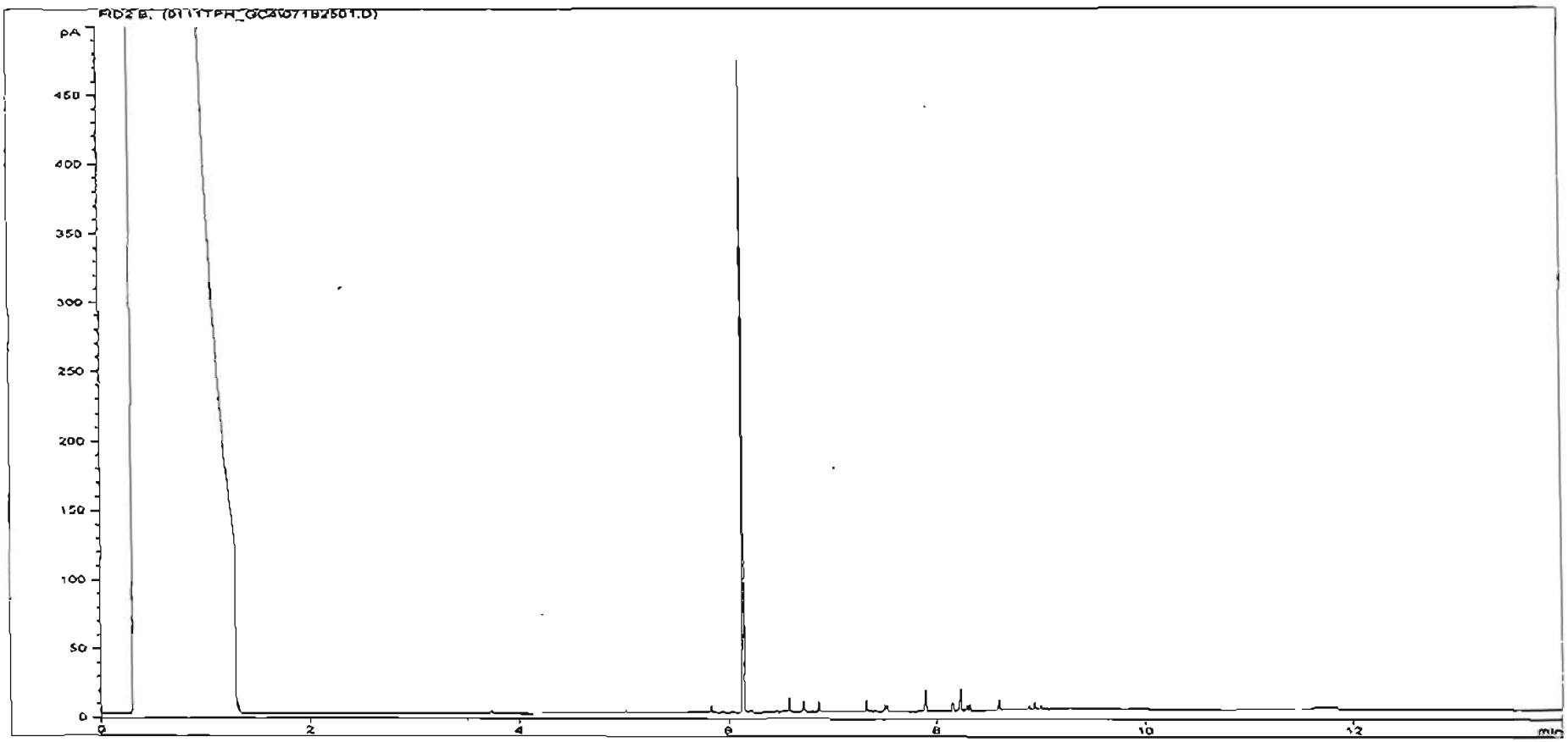
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532136ALI	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	5	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	EBH308 1.5-1.7
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\023F2801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

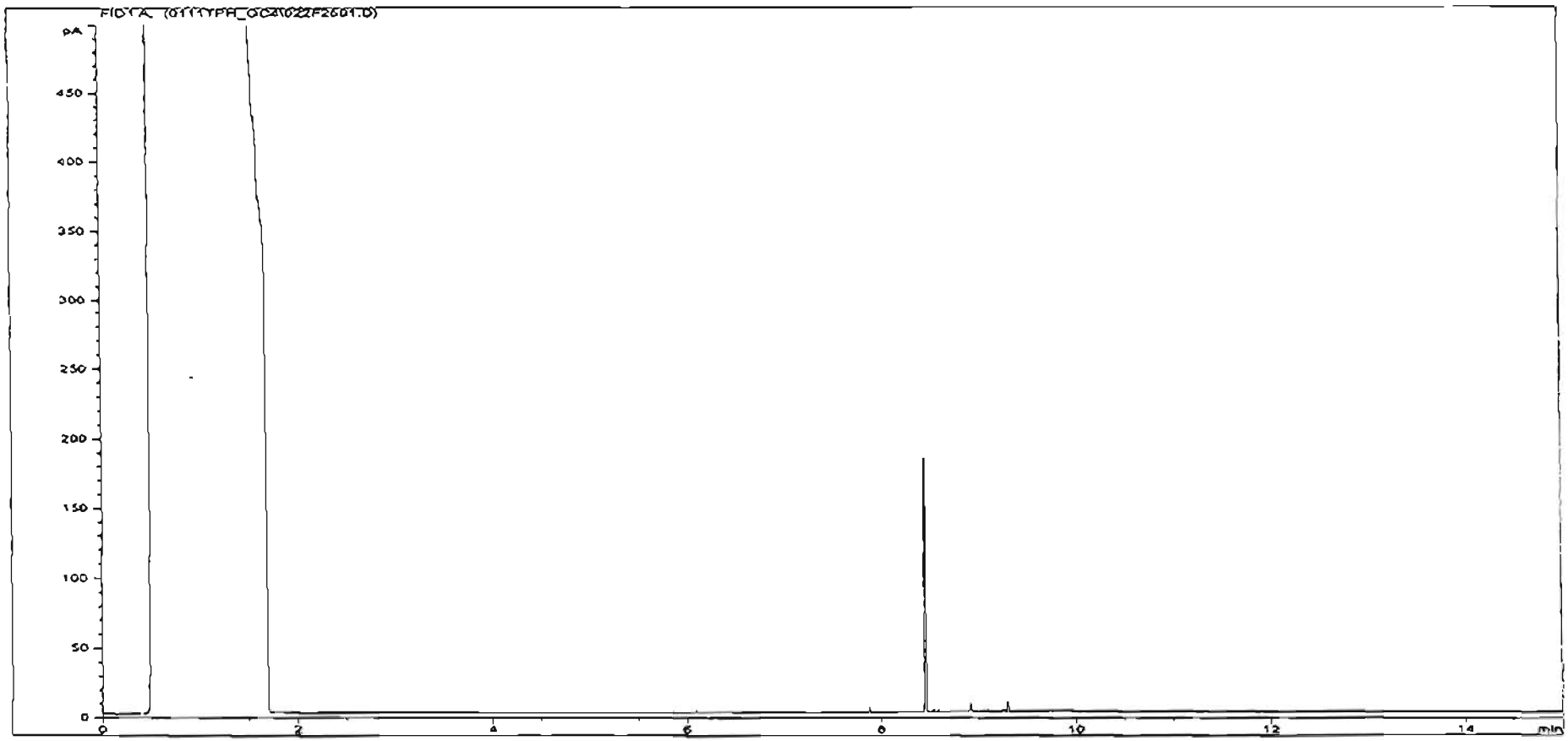
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532135ARO	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	EBH308 0.3-0.5
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\071B2501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

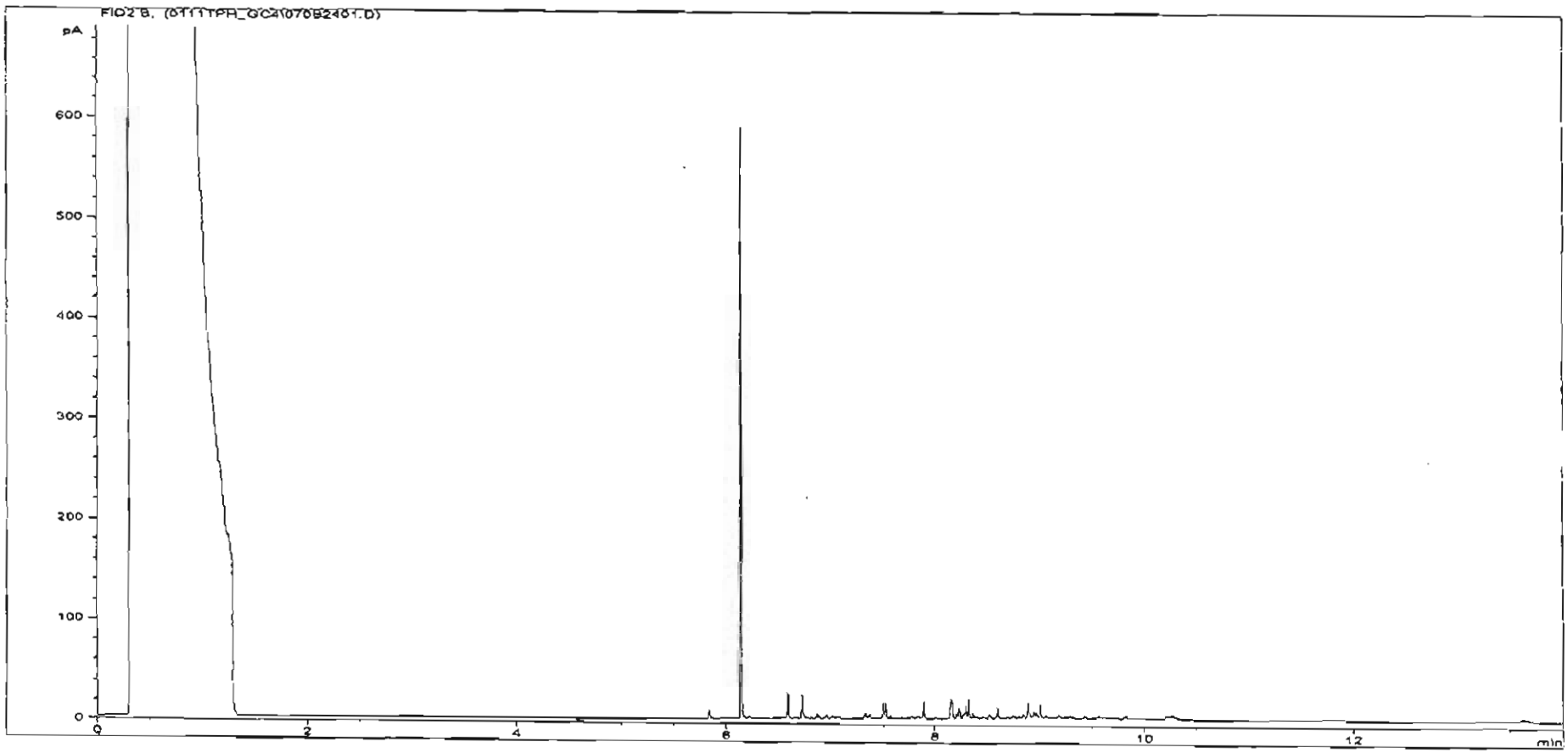
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532135ALI	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	EBH308 0.3-0.5
Acquisition Date/Time:	01/12/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\022F2501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

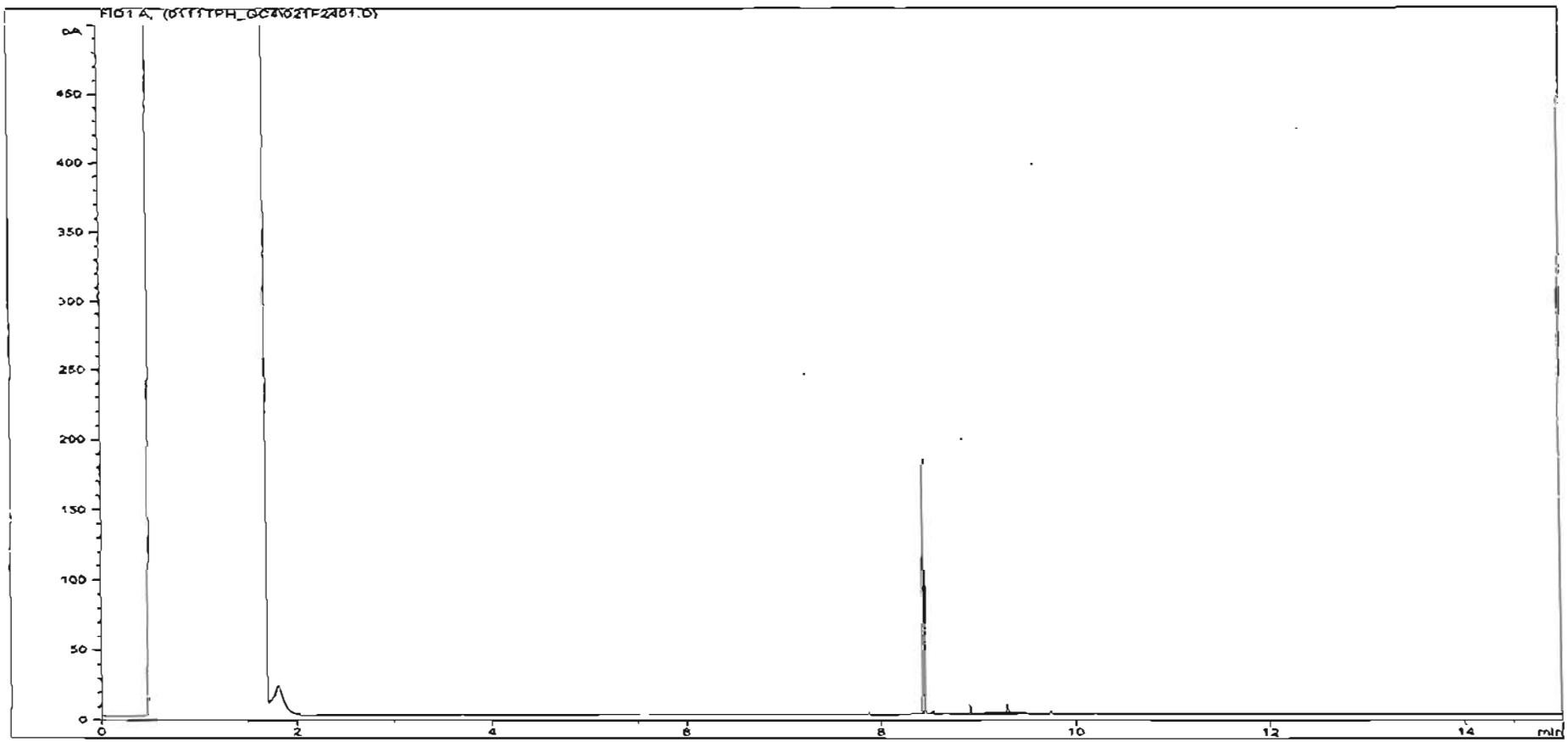
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532134ARO	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	TPE323 1.3
Acquisition Date/Time:	01/11/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\070B2401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

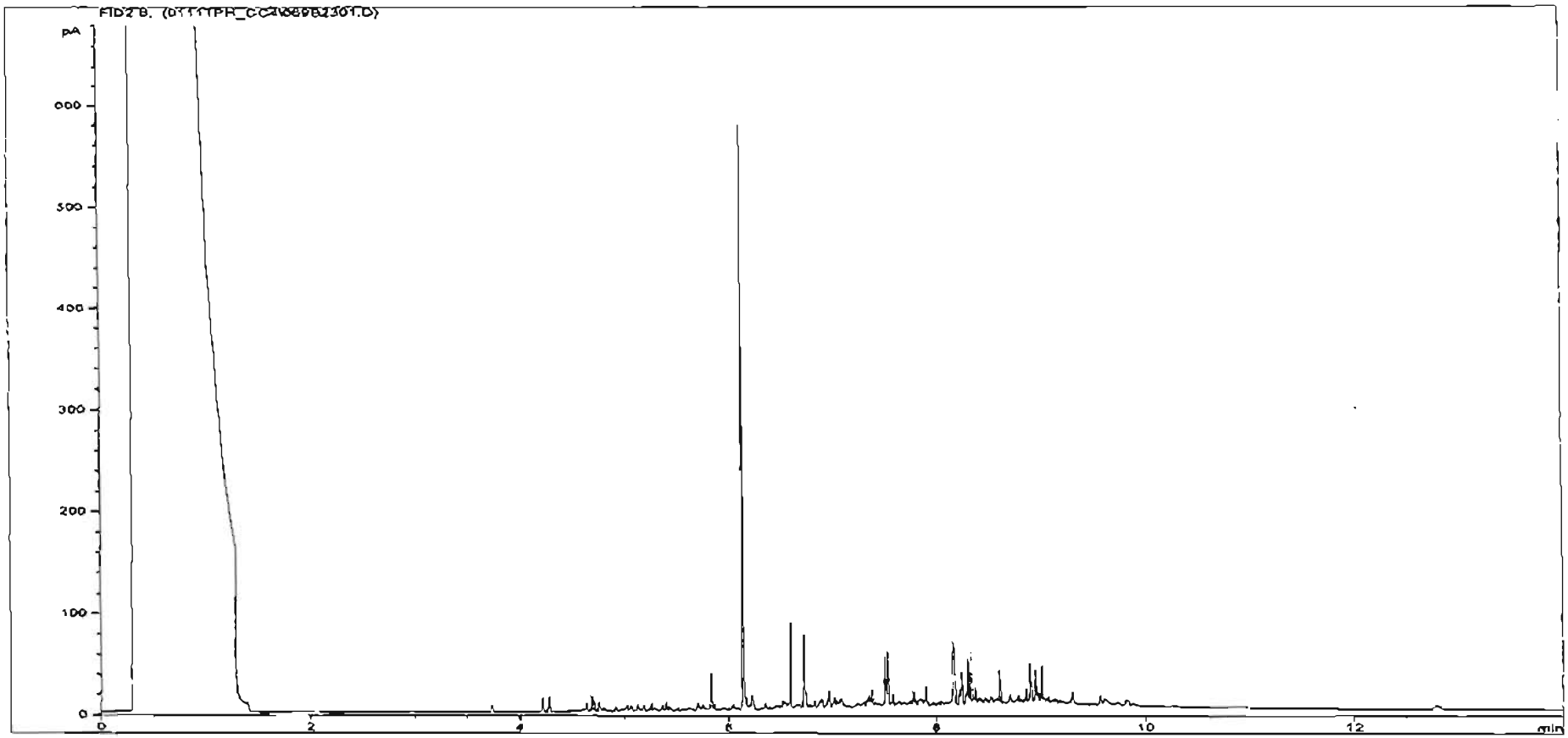
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532134ALI	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	TPE323 1.3
Acquisition Date/Time:	01/11/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\021F2401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

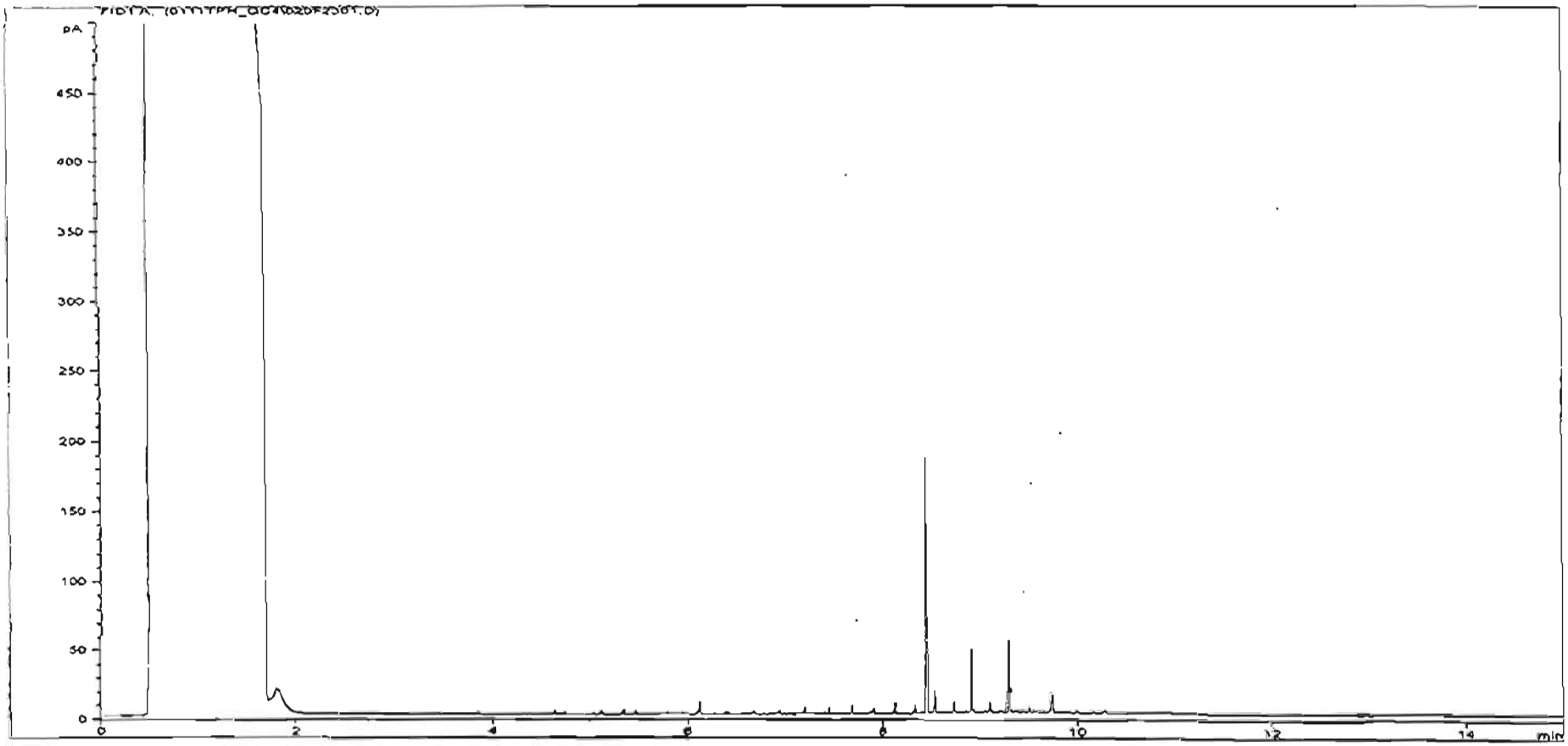
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532133ARO	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	TPE323 0.3 (NVM)
Acquisition Date/Time:	01/11/2006		
Datafile:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\069B2301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532133ALI	**Job Number:**	S05_4587M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	TPE323 0.3 (NVM)
Acquisition Date/Time:	01/11/2006		
Datafile:	O:\LA8_DATA\GC4\GC\TES\DATA\0111TPH_GC4\020F2301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details:	Entec UK Ltd : HMS Daedalus (E)			**Matrix:**	Soil
Job Number:	S05_4587	**Separation:**	Silica gel	**Date Booked In**	06-Dec-05
QC Batch Number:	52748	**Eluents:**	Pentane, DCM	**Date Extracted**	04-Jan-05
Directory:	O:\LAB_DATA\GC4\GC\TES\DATA\0111TPH_GC4\060B3601.D			**Date Analysed:**	12-Jan-06
Method:	ASE				

This sample data is not accredited.

		Concentration, (mg/kg) - as dry weight.									
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35	
Sample ID	**Client ID**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**
CL0532133	TPE323 0.3 (NVM)	<0.77	<0.77	<0.77	<0.77	<1.54	4.87	<1.92	<1.92	<5.37	21.1
CL0532134	TPE323 1.3	<0.84	<0.84	<0.84	<0.84	<1.67	<1.67	<2.08	<2.08	<5.84	7.07
CL0532135	EBH308 0.3-0.5	<0.83	<0.83	<0.83	<0.83	<1.67	<1.67	<2.08	<2.08	<5.82	<5.82
CL0532136	EBH308 1.5-1.7	<4.31	<4.31	<4.31	<4.31	<8.6	57	<10.7	26.3	<30.1	252
CL0532137	EBH307 3.5-3.7 (NVM)	<0.82	<0.82	<0.82	<0.82	<1.64	6.4	<2.04	4.76	6.62	48.9
CL0532138	EBH307 5.5-5.7	<0.85	<0.85	<0.85	<0.85	<1.70	6.06	3.04	8.59	22.3	65.4
CL0532139	ETP324 0.3	<0.81	<0.81	<0.81	<0.81	<1.61	<1.61	<2.01	<2.01	<5.64	10.9
CL0532140	ETP308 0.3	<0.83	<0.83	<0.83	<0.83	<1.65	<1.65	<2.06	<2.06	<5.77	<5.77
CL0532141	ETP310 0.3	<0.86	<0.86	<0.86	<0.86	<1.72	<1.72	<2.15	<2.15	<6.02	<6.02
CL0532142	ETP307 0.2	<0.86	<0.86	<0.86	<0.86	<1.73	1.79	<2.16	<2.16	<6.04	8.25
CL0532143	ETP307 3.2	<0.96	<0.96	<0.96	<0.96	<1.92	<1.92	<2.40	<2.40	7.89	<6.72
CL0532144	ETP307 4.0	<1.03	<1.03	<1.03	<1.03	<2.05	<2.05	<2.56	<2.56	<7.17	<7.17

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	0093
Sample Details:	ETP307 3.2	**Date Booked In:**	06-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0532143	**Date Extracted:**	17-Jan-06	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4587M	**Date Analysed:**	19-Jan-06	**Directory/Quant File:**	0118ABN.MS6\ 0118CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 3.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.7	-	U
2-Chlorophenol	95-57-8	-	< 3.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.7	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.7	-	U
Benzyl alcohol	100-51-6	-	< 0.7	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.7	-	U
2-Methylphenol	95-48-7	-	< 0.7	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.7	-	U
Hexachloroethane	67-72-1	-	< 0.7	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.7	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 3.0	-	UM
Nitrobenzene	98-95-3	-	< 0.7	-	UM
Isophorone	78-59-1	-	< 0.7	-	UM
2-Nitrophenol	88-75-5	-	< 3.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 3.0	-	UM
Benzoic Acid	65-85-0 *	-	< 14.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.7	-	U
2,4-Dichlorophenol	120-83-2	-	< 3.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.7	-	UM
Naphthalene	91-20-3	-	< 0.3	-	UM
4-Chlorophenol	106-48-9	-	< 3.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.7	-	U
Hexachlorobutadiene	87-68-3	-	< 0.7	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.7	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.3	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.3	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.7	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 3.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 3.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.3	-	U
Biphenyl	92-52-4	-	< 0.3	-	UM
Diphenyl ether	101-84-8	-	< 0.3	-	UM
2-Nitroaniline	88-74-4	-	< 0.7	-	UM
Acenaphthylene	208-96-8	-	< 0.3	-	UM
Dimethylphthalate	131-11-3	-	< 0.7	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.7	-	UM
Acenaphthene	83-32-9	-	< 0.3	-	UM
3-Nitroaniline	99-09-2	-	< 0.7	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.7	-	UM
4-Nitrophenol	100-02-7	-	< 7.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.7	-	UM
Fluorene	86-73-7	-	< 0.3	-	UM
Diethylphthalate	84-66-2	-	< 0.7	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.7	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 7.0	-	U
4-Nitroaniline	100-01-6	-	< 0.7	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.7	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.7	-	UM
Hexachlorobenzene	118-74-1	-	< 0.7	-	UM
Pentachlorophenol	87-86-5	-	< 7.0	-	U
Phenanthrene	85-01-8	-	< 0.3	-	UM
Anthracene	120-12-7	-	< 0.3	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.7	-	UM
Fluoranthene	206-44-0	-	< 0.3	-	UM
Pyrene	129-00-0	-	< 0.3	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.7	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.3	-	UM
Chrysene	218-01-9	-	< 0.3	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 3.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.7	-	U
Di-n-octylphthalate	117-84-0	-	< 0.3	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.3	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	73
Naphthalene-d8	74
Acenaphthene-d10	63
Phenanthrene-d10	67
Chrysene-d12	51
Perylene-d12	68

Surrogates	% Rec
2-Fluorophenol	45
Phenol-d5	46
Nitrobenzene-d5	47
2-Fluorobiphenyl	50
2,4,6-Tribromophenol	52
Terphenyl-d14	87

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Enlec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	0093
Sample Details:	EBH307 3.5-3.7 (NVM)	**Date Booked In:**	06-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0532137	**Date Extracted:**	17-Jan-06	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4587M	**Date Analysed:**	19-Jan-06	**Directory/Quant File:**	0118ABN.MS6\ 0118CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 12.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	-	< 0.2	-	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.2	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	76
Acenaphthene-d10	64
Phenanthrene-d10	74
Chrysene-d12	67
Perylene-d12	92

Surrogates	% Rec
2-Fluorophenol	61
Phenol-d5	63
Nitrobenzene-d5	58
2-Fluorobiphenyl	60
2,4,6-Tribromophenol	64
Terphenyl-d14	85

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by TGCMS

Accredited?: Yes

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Sample Details: E-WS311 0.9-1.2 (NVM)
LIMS ID Number: CL0531835
Job Number: S05_4548M

Directory/Quant file: 1209VOC.MS3\ 1209CCC3.D
Date Booked In: 01-Dec-05
Date Analysed: 09-Dec-05
Operator: SH

Matrix: Soil
Method: Purge & trap
Multiplier: 5
Position: 3

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 ?	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 28	-	U
Chloroethane	75-00-3 *	-	< 28	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 ?	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 28	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
Iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 28	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 28	-	U
Hexachlorobutadiene	87-68-3	-	< 28	-	U
Naphthalene	91-20-3	-	< 28	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 28	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.96	100	Dibromofluoromethane	101
1,4-Difluorobenzene	14.13	99	Toluene-d8	95
Chlorobenzene-d5	18.48	86	Bromofluorobenzene	86
1,4-Dichlorobenzene-d4	21.97	63		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

Accredited?:	**Yes**		
Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1209VOC.MS3\ 1209CCC3.D
Sample Details:	E-WS311 1.4-1.6	**Date Booked in:**	01-Dec-05
LIMS ID Number:	CL0531836	**Date Analysed:**	09-Dec-05
Job Number:	S05_4548M	**Operator:**	SH
Matrix:	Soil		
Method:	Purge & trap		
Multiplier:	5		
Position:	4		

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 ?	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 30	-	U
Chloroethane	75-00-3 *	-	< 30	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 ?	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 30	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 30	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 30	-	U
Hexachlorobutadiene	87-68-3	-	< 30	-	U
Naphthalene	91-20-3	-	< 30	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 30	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %
Pentafluorobenzene	12.86	88
1,4-Difluorobenzene	14.13	90
Chlorobenzene-d5	18.48	84
1,4-Dichlorobenzene-d4	21.97	69

Surrogates	% Rec
Dibromofluoromethane	100
Toluene-d8	98
Bromofluorobenzene	90

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by TGCMS

Accredited?: Yes

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Sample Details: E-BH305 5.5-6.0
LIMS ID Number: CL0531841
Job Number: S05_4548M

Directory/Quant file: 1208VOC.MS1\ 1208CCC2.D
Date Booked In: 01-Dec-05
Date Analysed: 09-Dec-05
Operator: SH

Matrix: Soil
Method: Purge & trap
Multiplier: 5
Position: 13

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 7	-	U
Chloromethane	74-87-3	-	< 7	-	UM
Vinyl Chloride	75-01-4	-	< 7	-	UM
Bromomethane	74-83-9 *	-	< 33	-	U
Chloroethane	75-00-3 *	-	< 33	-	U
Trichlorofluoromethane	75-69-4 ?	-	< 7	-	U
1,1-Dichloroethene	75-35-4 *	-	< 7	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 7	-	UM
1,1-Dichloroethane	75-34-3	-	< 7	-	UM
2,2-Dichloropropane	594-20-7	-	< 7	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 7	-	UM
Bromochloromethane	74-97-5	-	< 7	-	UM
Chloroform	67-66-3	-	< 7	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 7	-	UM
Carbon Tetrachloride	56-23-5	-	< 7	-	UM
1,1-Dichloropropene	563-58-6	-	< 7	-	UM
Benzene	71-43-2	-	< 7	-	UM
1,2-Dichloroethane	107-06-2	-	< 7	-	UM
Trichloroethene	79-01-6	-	< 7	-	UM
1,2-Dichloropropane	78-87-5	-	< 7	-	UM
Dibromomethane	74-95-3	-	< 7	-	UM
Bromodichloromethane	75-27-4	-	< 7	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 7	-	UM
Toluene	108-88-3	-	< 7	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 7	-	U
1,1,2-Trichloroethane	79-00-5	-	< 7	-	UM
Tetrachloroethene	127-18-4	16.67	177	95	UM
1,3-Dichloropropane	142-28-9 ?	-	< 7	-	U
Dibromochloromethane	124-48-1 ?	-	< 7	-	U
1,2-Dibromoethane	106-93-4	-	< 7	-	U
Chlorobenzene	108-90-7	-	< 7	-	UM
Ethylbenzene	100-41-4	-	< 7	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 7	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 7	-	UM
o-Xylene	95-47-6	-	< 7	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 7	-	UM
Bromoform	75-25-2	-	< 7	-	U
iso-Propylbenzene	98-82-8	-	< 7	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 7	-	U
Propylbenzene	103-65-1	-	< 7	-	UM
Bromobenzene	108-86-1	-	< 7	-	U
1,2,3-Trichloropropane	96-18-4	-	< 7	-	U
2-Chlorotoluene	95-49-8	-	< 7	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 7	-	UM
4-Chlorotoluene	106-43-4	-	< 7	-	UM
tert-Butylbenzene	98-06-6	-	< 7	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 7	-	UM
sec-Butylbenzene	135-98-8	-	< 7	-	UM
p-Isopropyltoluene	99-87-6	-	< 7	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 7	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 7	-	U
n-Butylbenzene	104-51-8	-	< 7	-	U
1,2-Dichlorobenzene	95-50-1	-	< 7	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 33	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 33	-	U
Hexachlorobutadiene	87-68-3	-	< 33	-	U
Naphthalene	91-20-3	-	< 33	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 33	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.83	92	Dibromofluoromethane	106
1,4-Difluorobenzene	13.12	93	Toluene-d8	100
Chlorobenzene-d5	18.05	96	Bromofluorobenzene	101
1,4-Dichlorobenzene-d4	22.03	101		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1208VOC.MS1\ 1208CCC2.D	**Matrix:**	Soil
Sample Details:	E-BH301 1.2-1.4	**Date Booked in:**	01-Dec-05	**Method:**	Purge & trap
LIMS ID Number:	CL0531842	**Date Analysed:**	09-Dec-05	**Multiplier:**	5
Job Number:	S05_4548M	**Operator:**	SH	**Position:**	14

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 31	-	U
Chloroethane	75-00-3 *	-	< 31	-	U
Trichlorofluoromethane	75-69-4 ?	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 31	-	UM
1,3-Dichloropropane	142-28-9 ?	-	< 6	-	U
Dibromochloromethane	124-48-1 ?	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
Iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 31	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 31	-	U
Hexachlorobutadiene	87-68-3	-	< 31	-	U
Naphthalene	91-20-3	-	< 31	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 31	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.82	87	Dibromofluoromethane	108
1,4-Difluorobenzene	13.12	89	Toluene-d8	100
Chlorobenzene-d5	18.06	92	Bromofluorobenzene	102
1,4-Dichlorobenzene-d4	22.03	96		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by TGCMS

Accredited?: Yes

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Sample Details: E-BH312 0.3-0.5
LIMS ID Number: CL0531844
Job Number: S05_4548M

Directory/Quant file: 1212VOC.MS3\ 1212CCC2.D
Date Booked In: 01-Dec-05
Date Analysed: 12-Dec-05
Operator: SH

Matrix: Soil
Method: Purge & trap
Multiplier: 5
Position: 2

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 ?	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 31	-	U
Chloroethane	75-00-3 *	-	< 31	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 6	-	UM
1,1-Dichloroethane	75-34-3 ?	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5 ?	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4 ?	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 ?	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 31	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	18.60	48	97	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	18.76	88	97	UM
o-Xylene	95-47-6	19.38	58	94	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
iso-Propylbenzene	98-82-8	19.89	68	99	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	20.51	111	63	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	20.73	349	99	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	21.34	908	99	UM
sec-Butylbenzene	135-98-8	21.59	251	96	UM
p-Isopropyltoluene	99-87-6	21.78	154	98	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 31	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 31	-	U
Hexachlorobutadiene	87-68-3	-	< 31	-	U
Naphthalene	91-20-3	25.81	613	97	U
1,2,3-Trichlorobenzene	87-61-6	-	< 31	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.96	89	Dibromofluoromethane	112
1,4-Difluorobenzene	14.12	95	Toluene-d8	95
Chlorobenzene-d5	18.48	85	Bromofluorobenzene	93
1,4-Dichlorobenzene-d4	21.97	64		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

02/02 2006 15:37 FAX 01283554549 TES BRETBY 003

Sample Descriptions

Client : Entec UK Ltd

Site : HMS Daedalus (E)

Report Number : S05_4716M

Lab ID Number	Client ID	Description
CL/0533270	E-TP312 0.1	Brown Stone CLAY Vegetation
CL/0533271	E-TP311 0.5	Brown Stone SILT
CL/0533272	E-TP311 0.9	Brown Stone CLAY
CL/0533273	E-TP322 0.5	Brown CLAY
CL/0533274	E-TP322 LOK 3	Brown Stone CLAY
CL/0533275	E-TP315 LOK 4	Brown CLAY Vegetation
CL/0533276	E-TP315 1.0	Brown Stone CLAY
CL/0533277	E-TP321 0.2	Brown Stone CLAY
CL/0533278	E-TP321 2.5	Brown Sand CLAY
CL/0533279	E-TP314 0.5	Brown CLAY Vegetation
CL/0533280	E-TP314 LOK 2	Brown CLAY

02/02 2006 15:37 FAX 01283554549 TES BRETBY 004

Units :		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	ug/kg
Method Codes :		GRO/HSA	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPWSS	ICTSC3328	SVOCSW	SVOCSW	TMSS	VOCSW
Method Reporting Limits :		0.1	0.5	0.1	0.5	0.5	0.5	0.10	0.5	0.5	3.0	0.3	5	0.2-10.0	0.2-10.0	0.2	5
Accreditation Code:			UM	U	U	U	U	U	U	U	U	UM	U			U	
TES ID Number CU	Client Sample Description	GRO (AA)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SO4- (H2O ext) mg/l	Sulphide	PAH by MS	SVOC	Tot.Moisture @ 105oC	VOC
0533271	E-TP311 0.5	Req	23.4	3.467	46.1	20200*	1580	0.47	48.2	1.32	7440	453	<5		Req	26.0	Req
0533272	E-TP311 0.9	Req	15.1	1.217	32.6	69.6*	458	0.2	26.5	0.55	578.3	319	<5	Req		18.5	
0533270	E-TP312 0.1	Req	8.9	0.197	18.2	49*	134.3	0.25	11.8	0.6	67.7	25.4	<5	Req		21.8	
0533280	E-TP314 LOK 2	Req	10.2	0.37	26.4	12.7*	16.2	<0.1	23.4	<0.5	51.3	80.3	<5			19.7	
0533279	E-TP314 0.5	Req	9.8	0.207	27.2	11.9*	15.9	<0.1	21.1	0.55	48	48.7	<5			20.0	
0533275	E-TP315 LOK 4	Req	8.6	0.217	21.7	18.5*	42.2	<0.1	15.1	<0.5	61.6	18.02	<5	Req		19.5	
0533276	E-TP315 1.0	Req	14.1	0.227	19.8	9.9*	11.7	<0.1	14.1	<0.5	43.8	4.77	<5	Req		12.4	
0533277	E-TP321 0.2	Req	8.9	0.177	24	13.4*	22	0.17	15.2	0.9	57.5	37.4	<5	Req		18.3	
0533278	E-TP321 2.5	Req	6.2	0.127	8.9	4.3*	5.2	<0.1	6	<0.5	20.2	17.35	<5	Req		17.5	
0533273	E-TP322 0.5	Req	12.4	0.177	29	51.8*	51.3	<0.1	17.4	<0.5	92.8	71.2	<5	Req		20.1	
0533274	E-TP322 LOK 3	Req	8.9	0.327	19	11.4*	12.1	<0.1	12.3	<0.5	35.7	7.82	<5	Req		9.2	

TES Bretby
PO Box 100, Bretby Business Park,
Burton-on-Trent, Staffordshire, DE15 0QD
Tel +44 (0) 1283 554400
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Client Name: Entec UK Ltd
Contact: Mr N Keyworth

Soils Sample Analysis

HMS Daedalus (E)

Date Printed	02-Feb-06
Report Number	EFS/054716/1
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard

Units :	pH Units	mg/kg	mg/kg	% M/M												
Method Codes :	WSLM3	WSLM4	TPHFID	WSLM58												
Method Reporting Limits :		0.5	10.0	0.02												
Accreditation Code:	U	U		N												

TES ID Number CLI	Client Sample Description	pH units	Phenol Index	TPH GCFID (AR) (S1)	F.O.C. %
0533271	E-TP311 0.5	10.6	<0.5	Req	23.31
0533272	E-TP311 0.9	8.9	<0.5	Req	
0533270	E-TP312 0.1	7.3	<0.5	Req	
0533280	E-TP314 LOK 2	8.1	<0.5	Req	0.23
0533279	E-TP314 0.5	8.0	<0.5	Req	0.26
0533275	E-TP315 LOK 4	6.7	<0.5	Req	1.06
0533276	E-TP315 1.0	7.4	0.6	Req	0.1
0533277	E-TP321 0.2	6.8	<0.5	Req	
0533278	E-TP321 2.5	7.3	<0.5	Req	
0533273	E-TP322 0.5	7.9	<0.5	Req	0.39
0533274	E-TP322 LOK 3	7.4	<0.5	Req	

TES Bretby
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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	02-Feb-06
Report Number	EFS/054716M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS stand

02/02 2006 15:38 FAX 01283554549 TES BRETBY 006

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details:	Entec UK Ltd : HMS Daedalus (E)	**Matrix:**	SOIL
Job Number:	S05_4716	**Date Booked in:**	13-Dec-05
Directory:	0116HSA1_GC6	**Date extracted:**	16-Jan-06
Method:	Headspace GCFID	**Date Analysed:**	16-Jan-06
Accreditation Code:	U		

* denotes the accreditation has been removed by the laboratory for this result only

		Concentration, (mg/kg) - as dry weight.					Aliphatics				
Sample ID	**Client ID**	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	C5 - C6	>C6 - C7	>C7 - C8	>C8 - C10	Total GRO
CL0533270	E-TP312 0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
CL0533271	E-TP311 0.5	<0.034	<0.034	<0.034	<0.034	<0.034	<0.7	<0.7	<0.7	<0.7	<0.7
CL0533272	E-TP311 0.9	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0533273	E-TP322 0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
CL0533274	E-TP322 LOK 3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0533275	E-TP315 LOK 4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0533276	E-TP315 1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0533277	E-TP321 0.2	<0.31	<0.31	<0.31	<0.31	<0.31	<6	<6	<6	<6	<6
CL0533278	E-TP321 2.5	<0.30	<0.30	<0.30	<0.30	<0.30	<6	<6	<6	<6	<6
CL0533279	E-TP314 0.5	<0.31	<0.31	<0.31	<0.31	<0.31	<6	<6	<6	<6	<6
CL0533280	E-TP314 LOK 2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.

Results corrected to dry weight at 105°C where appropriate, in accordance with MCERTS standard.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP312 0.1	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533270	**Date Booked In:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	90
Naphthalene-d8	88
Acenaphthene-d10	86
Phenanthrene-d10	82
Chrysene-d12	76
Perylene-d12	73

Surrogates	% Rec
Nitrobenzene-d5	59
2-Fluorobiphenyl	57
Terphenyl-d14	77

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP311 0.9	**Job Number:**	S06_4716M
LIMS ID Number:	CL0533272	**Date Booked in:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	86
Naphthalene-d8	89
Acenaphthene-d10	87
Phenanthrene-d10	82
Chrysene-d12	73
Perylene-d12	67

Surrogates	% Rec
Nitrobenzene-d5	71
2-Fluorobiphenyl	71
Terphenyl-d14	93

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP322 0.5	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533273	**Date Booked in:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	88
Naphthalene-d8	88
Acenaphthene-d10	86
Phenanthrene-d10	83
Chrysene-d12	85
Perylene-d12	81

Surrogates	% Rec
Nitrobenzene-d5	48
2-Fluorobiphenyl	49
Terphenyl-d14	76

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP322 LOK 3	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533274	**Date Booked in:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Acor. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.5	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	88
Naphthalene-d8	92
Acenaphthene-d10	91
Phenanthrene-d10	89
Chrysene-d12	88
Perylene-d12	84

Surrogates	% Rec
Nitrobenzene-d5	50
2-Fluorobiphenyl	52
Terphenyl-d14	88

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP315 LOK 4	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533275	**Date Booked in:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	86
Naphthalene-d8	86
Acenaphthene-d10	82
Phenanthrene-d10	77
Chrysene-d12	64
Perylene-d12	58

Surrogates	% Rec
Nitrobenzene-d5	66
2-Fluorobiphenyl	67
Terphenyl-d14	86

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP315 1.0	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533276	**Date Booked In:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.7	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	90
Naphthalene-d8	88
Acenaphthene-d10	85
Phenanthrene-d10	78
Chrysene-d12	64
Perylene-d12	54

Surrogates	% Rec
Nitrobenzene-d5	64
2-Fluorobiphenyl	68
Terphenyl-d14	108

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP321 0.2	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533277	**Date Booked In:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC4.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	86
Naphthalene-d8	87
Acenaphthene-d10	85
Phenanthrene-d10	84
Chrysene-d12	82
Perylene-d12	83

Surrogates	% Rec
Nitrobenzene-d5	61
2-Fluorobiphenyl	63
Terphenyl-d14	82

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP321 2.5	**Job Number:**	S05_4716M
LIMS ID Number:	CL0533278	**Date Booked In:**	12-Dec-05
QC Batch Number:	0205	**Date Extracted:**	30-Jan-06
Quantitation File:	0131CCC5.D	**Date Analysed:**	01-Feb-06
Directory:	0131ABN.MS4\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	91
Naphthalene-d8	91
Acenaphthene-d10	88
Phenanthrene-d10	83
Chrysene-d12	72
Perylene-d12	69

Surrogates	% Rec
Nitrobenzene-d5	72
2-Fluorobiphenyl	75
Terphenyl-d14	96

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

02/02 2008 15:41 FAX 01283554549 TES BRETBY 015

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			Matrix:	Soil	QC Batch Number:	0175
Sample Details:	E-TP311 0.5	Date Booked In:	12-Dec-05	Ext Method:	Soxhlet	Multiplier:	0.33333
LIMS ID Number:	CL0533271	Date Extracted:	26-Jan-06	Operator:	AB	Dilution Factor:	5
Job Number:	S05_4716M	Date Analysed:	30-Jan-06	Directory/Quant File:	0130ABN.MS\	0130CCC2.D	GPC (Y/N) N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 14.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 3.4	-	U
2-Chlorophenol	95-57-8	-	< 14.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 3.4	-	U
1,4-Dichlorobenzene	106-46-7	-	< 3.4	-	U
Benzyl alcohol	100-51-6	-	< 3.4	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 3.4	-	U
2-Methylphenol	95-48-7	-	< 3.4	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 3.4	-	U
Hexachloroethane	67-72-1	-	< 3.4	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 3.4	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 14.0	-	UM
Nitrobenzene	98-95-3	-	< 3.4	-	UM
Isophorone	78-59-1	-	< 3.4	-	UM
2-Nitrophenol	88-75-5	-	< 14.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 14.0	-	UM
Benzoic Acid	65-85-0 *	-	< 68.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 3.4	-	U
2,4-Dichlorophenol	120-83-2	-	< 14.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 3.4	-	UM
Naphthalene	91-20-3	-	< 1.0	-	UM
4-Chlorophenol	106-48-9	-	< 14.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 3.4	-	U
Hexachlorobutadiene	87-68-3	-	< 3.4	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 3.4	-	UM
2-Methylnaphthalene	91-57-6	-	< 1.0	-	UM
1-Methylnaphthalene	90-12-0	-	< 1.0	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 3.4	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 14.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 14.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 1.0	-	U
Biphenyl	92-52-4	-	< 1.0	-	UM
Diphenyl ether	101-84-8	-	< 1.0	-	UM
2-Nitroaniline	88-74-4	-	< 3.4	-	UM
Acenaphthylene	208-96-8	-	< 1.0	-	UM
Dimethylphthalate	131-11-3	-	< 3.4	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 3.4	-	UM
Acenaphthene	83-32-9	-	< 1.0	-	UM
3-Nitroaniline	99-09-2	-	< 3.4	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 7.0	-	U
Dibenzofuran	132-64-9	-	< 3.4	-	UM
4-Nitrophenol	100-02-7	-	< 34.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 3.4	-	UM
Fluorene	86-73-7	-	< 1.0	-	UM
Diethylphthalate	84-66-2	-	< 3.4	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 3.4	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 34.0	-	U
4-Nitroaniline	100-01-6	-	< 3.4	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 3.4	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 3.4	-	UM
Hexachlorobenzene	118-74-1	-	< 3.4	-	UM
Pentachlorophenol	87-86-5	-	< 34.0	-	U
Phenanthrene	85-01-8	15.43	1.5	96	UM
Anthracene	120-12-7	-	< 1.0	-	UM
Di-n-butylphthalate	84-74-2	-	< 3.4	-	UM
Fluoranthene	206-44-0	17.95	15.0	89	UM
Pyrene	129-00-0	18.41	16.8	90	UM
Butylbenzylphthalate	85-68-7	-	< 3.4	-	UM
Benzo[a]anthracene	56-55-3	20.98	7.3	94	UM
Chrysene	218-01-9	21.04	7.0	97	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 14.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 3.4	-	U
Di-n-octylphthalate	117-84-0	-	< 1.0	-	UM
Benzo[b]fluoranthene	205-99-2	23.19	7.7	97	U
Benzo[k]fluoranthene	207-08-9	23.25	2.8	95	UM
Benzo[a]pyrene	50-32-8	23.96	6.4	98	UM
Indeno[1,2,3-cd]pyrene	193-39-5	27.27	4.0	85	U
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-	UM
Benzo[g,h,i]perylene	191-24-2	27.78	4.0	93	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	86
Naphthalene-d8	82
Acenaphthene-d10	85
Phenanthrene-d10	83
Chrysene-d12	72
Perylene-d12	86

Surrogates	% Rec
2-Fluorophenol	90
Phenol-d5	76
Nitrobenzene-d5	87
2-Fluorobiphenyl	77
2,4,6-Tribromophenol	72
Terphenyl-d14	97

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCE standard.

02/02 2006 15:42 FAX 01283554549 TES BRETBY 016

ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details:	Entec UK Ltd : HMS Daedalus (E)			Matrix:	Soil
Job Number:	S05_4716	Separation:	Silica gel	Date Booked In:	12-Dec-05
QC Batch Number:	60132	Eluents:	Pentane, DCM	Date Extracted:	23-Jan-06
Directory:	E:\GC\TES\DATA\Y2006\0126TPH_GC3\066B2101.D			Date Analysed:	26-Jan-06
Method:	ASE				

This sample data is not accredited.

		Concentration, (mg/kg) - as dry weight.									
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35	
Sample ID	Client ID	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics
CL0533270	E-TP312 0.1	<0.88	<0.88	<0.88	<0.88	<1.76	<1.76	<2.20	<2.20	<6.16	<6.16
CL0533271	E-TP311 0.5	<0.93	<0.93	<0.93	<0.93	<1.86	1.86	<2.32	16.5	9.04	86.4
CL0533272	E-TP311 0.9	<0.85	<0.85	<0.85	<0.85	<1.69	<1.69	<2.11	<2.11	<5.91	<5.91
CL0533273	E-TP322 0.5	<0.86	<0.86	<0.86	<0.86	<1.73	<1.73	<2.15	<2.15	<6.03	<6.03
CL0533274	E-TP322 LOK 3	<0.76	<0.76	<0.76	<0.76	<1.52	<1.52	<1.89	<1.89	<5.31	<5.31
CL0533275	E-TP315 LOK 4	<0.86	<0.86	<0.86	<0.86	<1.71	<1.71	<2.14	<2.14	<5.99	<5.99
CL0533276	E-TP315 1.0	<0.79	<0.79	<0.79	<0.79	<1.58	<1.58	<1.96	<1.96	<5.50	<5.50
CL0533277	E-TP321 0.2	<0.86	<0.86	<0.86	<0.86	<1.71	<1.71	<2.13	<2.13	<5.97	<5.97
CL0533278	E-TP321 2.5	<0.84	<0.84	<0.84	<0.84	<1.67	<1.67	<2.08	<2.08	<5.84	<5.84
CL0533279	E-TP314 0.5	<0.86	<0.86	<0.86	<0.86	<1.73	<1.73	<2.15	<2.15	<6.03	<6.03
CL0533280	E-TP314 LOK 2	<0.86	<0.86	<0.86	<0.86	<1.72	<1.72	<2.14	<2.14	<6.00	<6.00

* Its corrected to dry weight at 105°C where appropriate, in accordance with the CRTS standard.

Volatile Organic Compounds by PTGCMS

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	Directory/Quant file:	1220VOC.MS1\ 1220CCC3.D	Matrix:	Soil
Sample Details:	E-TP311 0.5	Date Booked in:	12-Dec-05	Method:	Purge & trap
LIMS ID Number:	CL0533271	Date Analysed:	21-Dec-05	Multiplier:	5
Job Number:	S05_4716M	Operator:	SH/AH	Position:	16

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 7	-	U
Chloromethane	74-87-3	-	< 7	-	UM
Vinyl Chloride	75-01-4	-	< 7	-	UM
Bromomethane	74-83-9 *	-	< 34	-	U
Chloroethane	75-00-3 *	-	< 34	-	U
Trichlorofluoromethane	75-69-4	-	< 7	-	U
1,1-Dichloroethene	75-35-4 ?	-	< 7	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 7	-	UM
1,1-Dichloroethane	75-34-3	-	< 7	-	UM
2,2-Dichloropropane	594-20-7	-	< 7	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 7	-	UM
Bromochloromethane	74-97-5	-	< 7	-	UM
Chloroform	67-66-3	-	< 7	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 7	-	UM
Carbon Tetrachloride	56-23-5	-	< 7	-	UM
1,1-Dichloropropene	563-58-6	-	< 7	-	UM
Benzene	71-43-2	-	< 7	-	UM
1,2-Dichloroethane	107-06-2	-	< 7	-	UM
Trichloroethene	79-01-6	-	< 7	-	UM
1,2-Dichloropropane	78-87-5	-	< 7	-	UM
Dibromomethane	74-95-3	-	< 7	-	UM
Bromodichloromethane	75-27-4	-	< 7	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 7	-	UM
Toluene	108-88-3	-	< 7	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 7	-	U
1,1,2-Trichloroethane	79-00-5	-	< 7	-	UM
Tetrachloroethene	127-18-4	-	< 34	-	UM
1,3-Dichloropropane	142-28-9	-	< 7	-	U
Dibromochloromethane	124-48-1	-	< 7	-	U
1,2-Dibromoethane	106-93-4	-	< 7	-	U
Chlorobenzene	108-90-7	-	< 7	-	UM
Ethylbenzene	100-41-4	-	< 7	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 7	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 7	-	UM
o-Xylene	95-47-6	-	< 7	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 7	-	UM
Bromoform	75-25-2	-	< 7	-	U
Iso-Propylbenzene	98-82-8	-	< 7	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 7	-	U
Propylbenzene	103-65-1	-	< 7	-	UM
Bromobenzene	108-86-1	-	< 7	-	U
1,2,3-Trichloropropane	96-18-4	-	< 7	-	U
2-Chlorotoluene	95-49-8	-	< 7	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 7	-	UM
4-Chlorotoluene	106-43-4	-	< 7	-	UM
tert-Butylbenzene	98-06-6	-	< 7	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 7	-	UM
sec-Butylbenzene	135-98-8	-	< 7	-	UM
p-Isopropyltoluene	99-87-6	-	< 7	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 7	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 7	-	U
n-Butylbenzene	104-51-8	-	< 7	-	U
1,2-Dichlorobenzene	95-50-1	-	< 7	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 34	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 34	-	U
Hexachlorobutadiene	87-68-3	-	< 34	-	U
Naphthalene	91-20-3	-	< 34	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 34	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.84	70	Dibromofluoromethane	105
1,4-Difluorobenzene	13.13	61	Toluene-d8	96
Chlorobenzene-d5	18.07	42	Bromofluorobenzene	72
1,4-Dichlorobenzene-d4	22.05	23		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

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Volatile Organic Compounds by TGCMS

		Accredited?:	Yes		
Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1208VOC.MS3\ 1208CCC4.D	**Matrix:**	Soil
Sample Details:	E-WS306 1.2-1.4	**Date Booked In:**	03-Dec-05	**Method:**	Purge & trap
LIMS ID Number:	CL0531969	**Date Analysed:**	09-Dec-05	**Multiplier:**	5
Job Number:	S05_4568M	**Operator:**	SH	**Position:**	14

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 ?	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 30	-	U
Chloroethane	75-00-3 *	-	< 30	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2 ?	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 ?	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 30	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
Iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 30	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 30	-	U
Hexachlorobutadiene	87-68-3	-	< 30	-	U
Naphthalene	91-20-3	-	< 30	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 30	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.96	94	Dibromofluoromethane	104
1,4-Difluorobenzene	14.13	96	Toluene-d8	100
Chlorobenzene-d5	18.48	93	Bromofluorobenzene	91
1,4-Dichlorobenzene-d4	21.97	77		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Sample Details: E-BH310 0.2-0.4
LIMS ID Number: CL0531970
Job Number: S05_4568M

Directory/Quant file: 1209VOC.MS3\ 1209CCC2.D
Date Booked In: 03-Dec-05
Date Analysed: 09-Dec-05
Operator: SH

Matrix: Soil
Method: Purge & trap
Multiplier: 5
Position: 1

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 ?	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 28	-	U
Chloroethane	75-00-3 *	-	< 28	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 ?	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 28	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 28	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 28	-	U
Hexachlorobutadiene	87-68-3	-	< 28	-	U
Naphthalene	91-20-3	-	< 28	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 28	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.96	97	Dibromofluoromethane	100
1,4-Difluorobenzene	14.13	97	Toluene-d8	95
Chlorobenzene-d5	18.48	85	Bromofluorobenzene	84
1,4-Dichlorobenzene-d4	21.97	62		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by TGCMS

Accredited?: Yes

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Sample Details: E-BH309 3.1-3.2
LIMS ID Number: CL0531972
Job Number: S05_4568M

Directory/Quant file: 1209VOC.MS3\ 1209CCC2.D
Date Booked In: 03-Dec-05
Date Analysed: 09-Dec-05
Operator: SH

Matrix: Soil
Method: Purge & trap
Multiplier: 5
Position: 2

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 ?	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 31	-	U
Chloroethane	75-00-3 *	-	< 31	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 ?	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 31	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	18.60	237	94	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	18.77	582	97	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
Iso-Propylbenzene	98-82-8	19.89	246	99	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	20.51	279	66	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	20.66	290	74	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	21.27	18	64	U
1,2,4-Trimethylbenzene	95-63-6	21.34	982	99	UM
sec-Butylbenzene	135-98-8	21.60	65	95	UM
p-Isopropyltoluene	99-87-6	21.77	46	97	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	22.41	35	79	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 31	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 31	-	U
Hexachlorobutadiene	87-68-3	-	< 31	-	U
Naphthalene	91-20-3	25.81	37	99	U
1,2,3-Trichlorobenzene	87-61-6	-	< 31	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only.

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.96	97	Dibromofluoromethane	105
1,4-Difluorobenzene	14.13	96	Toluene-d8	109
Chlorobenzene-d5	18.48	106	Bromofluorobenzene	107
1,4-Dichlorobenzene-d4	21.97	91		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample
co-eluted with benzo(b)fluoranthene
co-eluted with Indeno(123-cd)pyrene
BTEX analysis expressed as ug/kg As Received
Phenol HPLC results expressed as mg/kg As Received

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15°C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed
T Trace
L Low (2-15%)
M Medium (15-50%)
H High (>50%)

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S Insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
? Denotes that an element of the quality control system is currently exhibiting sustained bias from its normal working pattern. The QC has not failed action limits and the cause of this is being investigated and rectified.
This does not invalidate the data but our quality policy specifies that you will be kept informed when this happens.
***** denotes the accreditation has been removed by the laboratory for this result only
Accreditation Codes:
N - Not Accredited, **U** - UKAS, **UM** - UKAS & MCERTS
If '**Accredited? = No**' then the accreditation has been removed for the entire dataset
'Accreditation Code:' or 'Accr. Code:' indicates the status of the accreditation held by the laboratory

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Our Ref: EFS/054596M (Ver. 1)
Your Ref: 17275

January 19, 2006

TES Bretby
PO Box 100
Bretby Business Park
Ashby Road
Burton-on-Trent
Staffordshire
DE15 0XD

Telephone: 01283 554400
Facsimile: 01283 554422

Entec
23 JAN 2006
Project File Number
17275KL041
Copies
NK.

Mr N Keyworth
Entec UK Ltd
Cannon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
SY2 5DE

For the attention of Mr N Keyworth

Dear Mr Keyworth

SOIL Sample Analysis - HMS Daedalus (E)

Samples from the above site have been analysed in accordance with the schedule supplied.
The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Where appropriate the samples will be kept until 17/01/06 when they will be discarded. Please call 01283 554403 for an extension of this date.
Please be aware that from 1 January 2003 our policy for the retention of paper based laboratory records and analysis reports will be 3 years.

The work was carried out in accordance with Environmental Services Group Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for TES Bretby

S Hannah

S Hannah
Project Co-ordinator
01283 554403

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

TES Report No. EFS/054596M

Entec UK Ltd
Cannon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
SY2 5DE

Site: HMS Daedalus (E)

The 11 samples described in this report were logged for analysis by TES Bretby on 06-Dec-2005.
analysis was completed by: 19-Jan-2006

Tests marked as 'not accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS or MCERTS accreditation held by TES Bretby Laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of GRO Results (Page 4)
Table of PAH (MS) Results (Pages 5 to 13)
Table of SVOC Results (Page 14)
Table of TPH (Si) banding (std) (Page 15)
GC-FID Chromatograms (Pages 16 to 37)
Table of VOC Results (Page 38)
Table of Report Notes (Page 39)

On behalf of
TES Bretby :
J Hannah

Project Co-ordinator

Date of Issue: 19-Jan-2006

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)
Tests marked '^' have been subcontracted to another laboratory.
(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.
All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)
TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Sample Descriptions

Client : Entec UK Ltd

Site : HMS Daedalus (E)

Report Number : S05_4596M

Lab ID Number	Client ID	Description
CL/0532193	E-BH303 0.3-0.5	Grey Gravel SILT
CL/0532194	E-BH303 1.5-1.7	Brown Gravel CLAY
CL/0532195	E-BH303 6.0-6.2	Brown SILT
CL/0532196	MDL00	Brown Gravel CLAY
CL/0532197	MDL01	Brown SILT
CL/0532198	E-TP317 0.1	Brown Gravel SILT
CL/0532199	LOK1	Brown Gravel SILT
CL/0532200	E-TP318 0.25	Brown Gravel SILT
CL/0532201	E-TP318 1.3	Brown Gravel SILT
CL/0532202	E-TP319 0.45	Black Gravel SILT
CL/0532203	E-TP319 1.7	Brown Gravel SAND

Units :	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	ug/kg
Method Codes :	GROHSA	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPWSS	ICTSCN28	SVOCSW	SVOCSW	TMSS	VOCSW
Method Reporting Limits :	0.1	0.5	0.1	0.5	0.5	0.5	0.10	0.5	0.5	3.0	0.3	5	0.2-10.0	0.2-10.0	0.2	5
Accreditation Code:		UM	U	U	U	U	U	U	U	U	UM	U			U	

TES ID Number CLI	Client Sample Description	GRO (AA)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SO4- (H2O sol) mg/l	Sulphide	PAH by MS	SVOC	Tot.Moisture @ 105eC	VOC
0532199	LOK1	Req	8.2?	0.12	17.9	19.6*	74.8?	0.14	13.3?	0.59	63.6?	20.36	<5	Req		22.0	
0532196	MDL00	Req	12.5?	<0.1	21.6	22.0*	39.3?	<0.1	13.2?	<0.5	53.5?	164.5	<5	Req		15.6	
0532197	MDL01	Req	12.3?	<0.1	22.8	3.6*	8.0?	<0.1	14.7?	<0.5	36.8?	64.6	<5	Req		21.7	
0532193	E-BH303 0.3-0.5	Req	19.7?	0.59	21.4	212.7*	472.4?	0.13	27.6?	0.77	301.6?	2750	15			18.5	
0532194	E-BH303 1.5-1.7	Req	4.8?	<0.1	18.3	8.0*	16.0?	<0.1	8.9?	<0.5	36?	134	<5		Req	14.3	Req
0532195	E-BH303 6.0-6.2	Req	12.5?	0.13	23.3	4.5*	9.2?	0.12	14.1?	0.86	40.2?	93.6	<5	Req		20.8	
0532198	E-TP317 0.1	Req	9.3?	0.21	21.4	18*	63.3?	0.3	16.1?	0.53	68.1?	19.53	<5	Req		17.3	
0532200	E-TP318 0.25	Req	8.3?	0.16	15.6	22.6*	99.5?	0.15	9.2?	0.4	87.8?	28.5	<4	Req		10.8	
0532201	E-TP318 1.3	Req	7.0?	<0.1	15.9	5.0*	9.5?	<0.1	8.2?	<0.5	19.4?	9.07	<5	Req		5.0	
0532202	E-TP319 0.45	Req	188.5?	0.2	37.4	401.3*	433.9?	<0.1	51?	1.07	243.0?	1220	7	Req		19.0	
0532203	E-TP319 1.7	Req	4.9?	<0.1	10.6	3.9*	9.7?	<0.1	6.1?	<0.5	16.5?	22.1	<5	Req		7.3	

TES Bretby

PO Box 100, Bretby Business Park,

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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	19-Jan-06
Report Number	EFS/054596M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

	Units :	pH Units	mg/kg	mg/kg	% M/M													
	Method Codes :	WSLM3	WSLM4	TPHFID	WSLM59													
	Method Reporting Limits :		0.5	10.0	0.02													
	Accreditation Code:	U	U		N													
TES ID Number CL/	Client Sample Description	pH units	Phenol Index	TPH GCFID (AR) (SI)	F.O.C. %													
0532199	LOK1	7.4	0.5	Req														
0532196	MDL00	5.0	<0.5	Req														
0532197	MDL01	7.8	<0.5	Req														
0532193	E-BH303 0.3-0.5	9.9	<0.5	Req														
0532194	E-BH303 1.5-1.7	4.9	<0.5	Req	0.12													
0532195	E-BH303 6.0-6.2	7.7	<0.5	Req														
0532198	E-TP317 0.1	7.5	1.2	Req	1.35													
0532200	E-TP318 0.25	6.7	1	Req														
0532201	E-TP318 1.3	7.5	<0.5	Req	0.17													
0532202	E-TP319 0.45	7.6	<0.5	Req	9.28													
0532203	E-TP319 1.7	7.6	<0.5	Req														

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Client Name Entec UK Ltd

Contact Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	19-Jan-06
Report Number	EFS/054596M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Job Number: S05_4596
Directory: 1216HSA1_GC6
Method: Headspace GCFID
Accreditation Code: U

Matrix: SOIL
Date Booked in: 06-Dec-05
Date extracted: 16-Dec-05
Date Analysed: 19-Dec-05

*** denotes the accreditation has been removed by the laboratory for this result only**

		Concentration, (mg/kg) - as dry weight.					Aliphatics				
Sample ID	**Client ID**	**Benzene**	**Toluene**	**Ethyl benzene**	**m/p-Xylene**	**o-Xylene**	**C5 - C6**	**>C6 - C7**	**>C7 - C8**	**>C8 - C10**	**Total GRO**
CL0532193	E-BH303 0.3-0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0532194	E-BH303 1.5-1.7	<0.029	<0.029	<0.029	<0.029	<0.029	<0.6	<0.6	<0.6	<0.6	<0.6
CL0532195	E-BH303 6.0-6.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
CL0532196	MDL00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0532197	MDL01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
CL0532198	E-TP317 0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0532199	LOK1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
CL0532200	E-TP318 0.25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0532201	E-TP318 1.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0532202	E-TP319 0.45	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0532203	E-TP319 1.7	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH303 6.0-6.2	**Job Number:**	S05_4596M
LIMS ID Number:	CL0532195	**Date Booked In:**	06-Dec-05
QC Batch Number:	0076	**Date Extracted:**	16-Jan-06
Quantitation File:	0117CCC2.D	**Date Analysed:**	17-Jan-06
Directory:	0117ABN.MS5\	**Matrix:**	Soil
Dilution:	5.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 1.0	-	U
Acenaphthylene	208-96-8	-	< 1.0	-	U
Acenaphthene	83-32-9	-	< 1.0	-	U
Fluorene	86-73-7	-	< 1.0	-	U
Phenanthrene	85-01-8	-	< 1.0	-	U
Anthracene	120-12-7	-	< 1.0	-	U
Fluoranthene	206-44-0	-	< 1.0	-	U
Pyrene	129-00-0	-	< 1.0	-	U
Benzo[a]anthracene	56-55-3	-	< 1.0	-	U
Chrysene	218-01-9	-	< 1.0	-	U
Benzo[b]fluoranthene	205-99-2	-	< 1.0	-	U
Benzo[k]fluoranthene	207-08-9	-	< 1.0	-	U
Benzo[a]pyrene	50-32-8	-	< 1.0	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 1.0	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 1.0	-	U
Total (USEPA16) PAHs	-	-	< 20.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	83
Naphthalene-d8	84
Acenaphthene-d10	76
Phenanthrene-d10	76
Chrysene-d12	72
Perylene-d12	71

Surrogates	% Rec
Nitrobenzene-d5	76
2-Fluorobiphenyl	103
Terphenyl-d14	114

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	MDL00	**Job Number:**	S05_4596M
LIMS ID Number:	CL0532196	**Date Booked in:**	06-Dec-05
QC Batch Number:	0076	**Date Extracted:**	16-Jan-06
Quantitation File:	0117CCC2.D	**Date Analysed:**	17-Jan-06
Directory:	0117ABN.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	8.22	0.6	92	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	9.27	0.7	98	U
Pyrene	129-00-0	9.47	0.7	97	U
Benzo[a]anthracene	56-55-3	10.52	0.4	91	U
Chrysene	218-01-9	10.56	0.4	93	U
Benzo[b]fluoranthene	205-99-2	11.42	0.2	90	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	11.71	0.2	89	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 5.3	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	73
Naphthalene-d8	76
Acenaphthene-d10	72
Phenanthrene-d10	68
Chrysene-d12	69
Perylene-d12	71

Surrogates	% Rec
Nitrobenzene-d5	46
2-Fluorobiphenyl	65
Terphenyl-d14	87

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	MDL01	**Job Number:**	S05_4596M
LIMS ID Number:	CL0532197	**Date Booked In:**	06-Dec-05
QC Batch Number:	0076	**Date Extracted:**	16-Jan-06
Quantitation File:	0117CCC2.D	**Date Analysed:**	18-Jan-06
Directory:	0117ABN.MS5\	**Matrix:**	Soil
Dilution:	5.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 1.0	-	U
Acenaphthylene	208-96-8	-	< 1.0	-	U
Acenaphthene	83-32-9	-	< 1.0	-	U
Fluorene	86-73-7	-	< 1.0	-	U
Phenanthrene	85-01-8	-	< 1.0	-	U
Anthracene	120-12-7	-	< 1.0	-	U
Fluoranthene	206-44-0	-	< 1.0	-	U
Pyrene	129-00-0	-	< 1.0	-	U
Benzo[a]anthracene	56-55-3	-	< 1.0	-	U
Chrysene	218-01-9	-	< 1.0	-	U
Benzo[b]fluoranthene	205-99-2	-	< 1.0	-	U
Benzo[k]fluoranthene	207-08-9	-	< 1.0	-	U
Benzo[a]pyrene	50-32-8	-	< 1.0	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 1.0	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 1.0	-	U
Total (USEPA16) PAHs	-	-	< 20.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	81
Naphthalene-d8	83
Acenaphthene-d10	76
Phenanthrene-d10	75
Chrysene-d12	77
Perylene-d12	74

Surrogates	% Rec
Nitrobenzene-d5	83
2-Fluorobiphenyl	101
Terphenyl-d14	99

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP317 0.1	**Job Number:**	S05_4596M
LIMS ID Number:	CL0532198	**Date Booked In:**	06-Dec-05
QC Batch Number:	0076	**Date Extracted:**	16-Jan-06
Quantitation File:	0117CCC3.D	**Date Analysed:**	18-Jan-06
Directory:	0117ABN.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	8.22	0.5	93	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	9.27	1.0	99	U
Pyrene	129-00-0	9.47	0.8	99	U
Benzo[a]anthracene	56-55-3	10.52	0.5	95	U
Chrysene	218-01-9	10.56	0.5	93	U
Benzo[b]fluoranthene	205-99-2	11.42	0.6	93	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	11.71	0.5	94	U
Indeno[1,2,3-cd]pyrene	193-39-5	12.84	0.2	77	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	13.15	0.4	92	U
Total (USEPA16) PAHs	-	-	< 6.7	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	78
Naphthalene-d8	81
Acenaphthene-d10	78
Phenanthrene-d10	73
Chrysene-d12	78
Perylene-d12	72

Surrogates	% Rec
Nitrobenzene-d5	60
2-Fluorobiphenyl	77
Terphenyl-d14	91

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	LOK1	**Job Number:**	S05_4596M
LIMS ID Number:	CL0532199	**Date Booked In:**	06-Dec-05
QC Batch Number:	0076	**Date Extracted:**	16-Jan-06
Quantitation File:	0117CCC3.D	**Date Analysed:**	18-Jan-06
Directory:	0117ABN.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	8.22	0.9	95	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	9.27	1.7	97	U
Pyrene	129-00-0	9.47	1.0	97	U
Benzo[a]anthracene	56-55-3	10.52	0.8	95	U
Chrysene	218-01-9	10.56	0.8	95	U
Benzo[b]fluoranthene	205-99-2	11.42	0.9	90	U
Benzo[k]fluoranthene	207-08-9	11.44	0.5	92	U
Benzo[a]pyrene	50-32-8	11.71	0.9	93	U
Indeno[1,2,3-cd]pyrene	193-39-5	12.84	0.4	78	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	13.16	0.5	92	U
Total (USEPA16) PAHs	-	-	< 10.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	91
Naphthalene-d8	93
Acenaphthene-d10	86
Phenanthrene-d10	79
Chrysene-d12	86
Perylene-d12	79

Surrogates	% Rec
Nitrobenzene-d5	61
2-Fluorobiphenyl	82
Terphenyl-d14	100

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP318 0.25	**Job Number:**	S05_4596M
LIMS ID Number:	CL0532200	**Date Booked In:**	06-Dec-05
QC Batch Number:	0076	**Date Extracted:**	16-Jan-06
Quantitation File:	0117CCC3.D	**Date Analysed:**	18-Jan-06
Directory:	0117ABN.MS5\	**Matrix:**	Soil
Dilution:	10.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 2.0	-	U
Acenaphthylene	208-96-8	-	< 2.0	-	U
Acenaphthene	83-32-9	-	< 2.0	-	U
Fluorene	86-73-7	-	< 2.0	-	U
Phenanthrene	85-01-8	-	< 2.0	-	U
Anthracene	120-12-7	-	< 2.0	-	U
Fluoranthene	206-44-0	-	< 2.0	-	U
Pyrene	129-00-0	-	< 2.0	-	U
Benzo[a]anthracene	56-55-3	-	< 2.0	-	U
Chrysene	218-01-9	-	< 2.0	-	U
Benzo[b]fluoranthene	205-99-2	-	< 2.0	-	U
Benzo[k]fluoranthene	207-08-9	-	< 2.0	-	U
Benzo[a]pyrene	50-32-8	-	< 2.0	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 2.0	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 2.0	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 2.0	-	U
Total (USEPA16) PAHs	-	-	< 36.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	81
Naphthalene-d8	80
Acenaphthene-d10	77
Phenanthrene-d10	69
Chrysene-d12	74
Perylene-d12	64

Surrogates	% Rec
Nitrobenzene-d5	85
2-Fluorobiphenyl	107
Terphenyl-d14	98

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP318 1.3	**Job Number:**	S05_4596M
LIMS ID Number:	CL0532201	**Date Booked in:**	06-Dec-05
QC Batch Number:	0076	**Date Extracted:**	16-Jan-06
Quantitation File:	0117CCC3.D	**Date Analysed:**	18-Jan-06
Directory:	0117ABN.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.4	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	73
Acenaphthene-d10	73
Phenanthrene-d10	66
Chrysene-d12	73
Perylene-d12	62

Surrogates	% Rec
Nitrobenzene-d5	50
2-Fluorobiphenyl	59
Terphenyl-d14	79

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP319 0.45	**Job Number:**	S05_4596M
LIMS ID Number:	CL0532202	**Date Booked in:**	06-Dec-05
QC Batch Number:	0076	**Date Extracted:**	16-Jan-06
Quantitation File:	0117CCC3.D	**Date Analysed:**	18-Jan-06
Directory:	0117ABN.MS5\	**Matrix:**	Soil
Dilution:	5.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 1.0	-	U
Acenaphthylene	208-96-8	-	< 1.0	-	U
Acenaphthene	83-32-9	-	< 1.0	-	U
Fluorene	86-73-7	-	< 1.0	-	U
Phenanthrene	85-01-8	-	< 1.0	-	U
Anthracene	120-12-7	-	< 1.0	-	U
Fluoranthene	206-44-0	-	< 1.0	-	U
Pyrene	129-00-0	-	< 1.0	-	U
Benzo[a]anthracene	56-55-3	-	< 1.0	-	U
Chrysene	218-01-9	-	< 1.0	-	U
Benzo[b]fluoranthene	205-99-2	-	< 1.0	-	U
Benzo[k]fluoranthene	207-08-9	-	< 1.0	-	U
Benzo[a]pyrene	50-32-8	-	< 1.0	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 1.0	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 1.0	-	U
Total (USEPA16) PAHs	-	-	< 20.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	80
Naphthalene-d8	83
Acenaphthene-d10	76
Phenanthrene-d10	69
Chrysene-d12	75
Perylene-d12	66

Surrogates	% Rec
Nitrobenzene-d5	76
2-Fluorobiphenyl	104
Terphenyl-d14	96

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-TP319 1.7	**Job Number:**	S05_4596M
LIMS ID Number:	CL0532203	**Date Booked in:**	06-Dec-05
QC Batch Number:	0076	**Date Extracted:**	16-Jan-06
Quantitation File:	0117CCC3.D	**Date Analysed:**	18-Jan-06
Directory:	0117ABN.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.5	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	72
Naphthalene-d8	73
Acenaphthene-d10	67
Phenanthrene-d10	64
Chrysene-d12	71
Perylene-d12	60

Surrogates	% Rec
Nitrobenzene-d5	50
2-Fluorobiphenyl	66
Terphenyl-d14	68

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	0010
Sample Details:	E-BH303 1.5-1.7	**Date Booked in:**	06-Dec-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0532194	**Date Extracted:**	07-Jan-06	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4596M	**Date Analysed:**	12-Jan-06	**Directory/Quant File:**	0112ABN.MS5\ 0112CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 12.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	8.33	0.7	94	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	9.38	0.8	99	UM
Pyrene	129-00-0	9.58	0.6	97	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	10.64	0.5	96	UM
Chrysene	218-01-9	10.66	0.5	94	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	11.54	0.5	96	U
Benzo[k]fluoranthene	207-08-9	11.56	0.5	94	UM
Benzo[a]pyrene	50-32-8	11.84	0.5	96	UM
Indeno[1,2,3-cd]pyrene	193-39-5	13.01	0.2	73	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	13.33	0.4	89	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	70
Naphthalene-d8	67
Acenaphthene-d10	67
Phenanthrene-d10	65
Chrysene-d12	83
Perylene-d12	77

Surrogates	% Rec
2-Fluorophenol	80
Phenol-d5	95
Nitrobenzene-d5	95
2-Fluorobiphenyl	103
2,4,6-Tribromophenol	104
Terphenyl-d14	105

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details: Entec UK Ltd : HMS Daedalus (E)
Job Number: S05_4596
QC Batch Number: 60061
Directory: O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\048F5601.D
Method: ASE

Separation: Silica gel
Eluents: Pentane, DCM

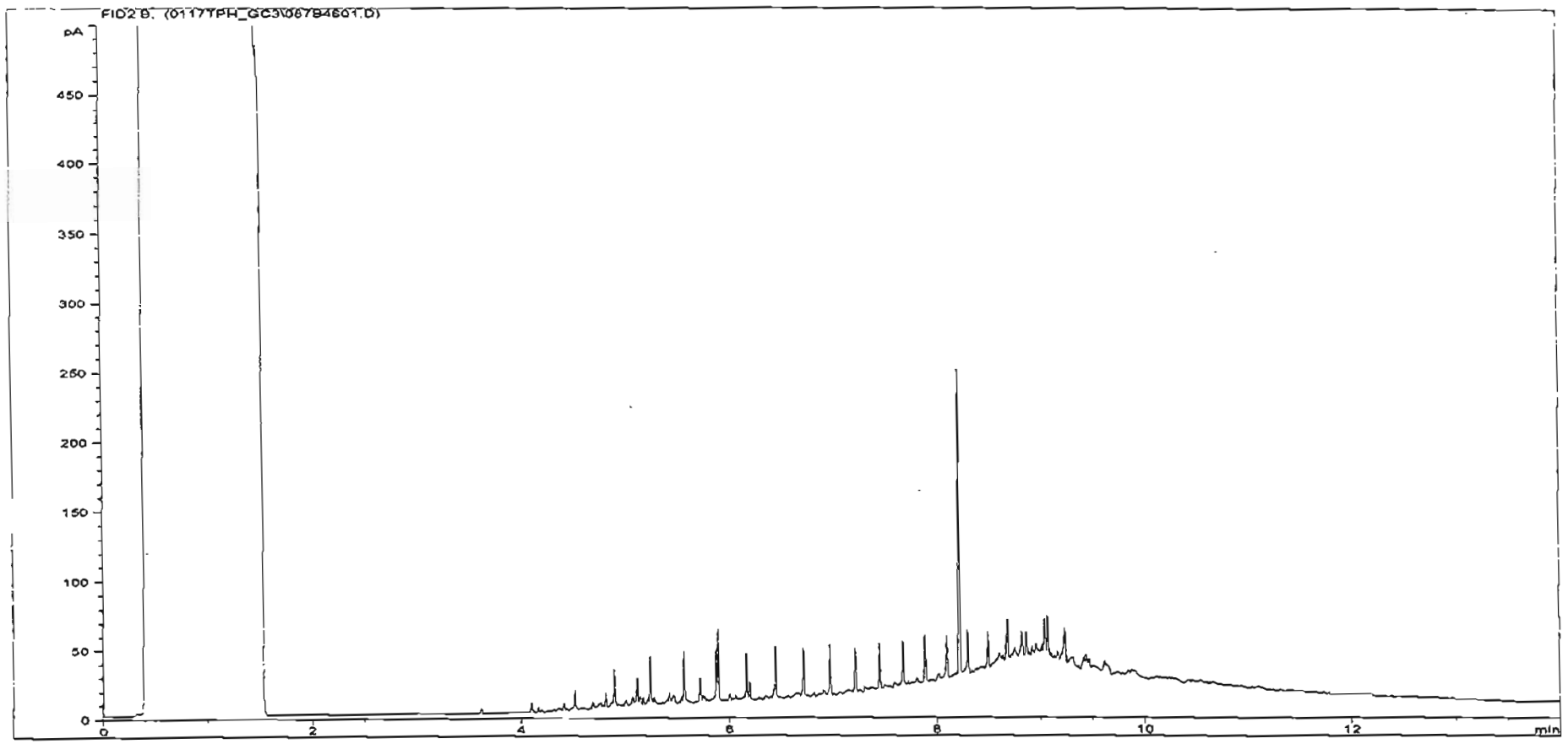
Matrix: Soil
Date Booked In: 06-Dec-05
Date Extracted 13-Jan-06
Date Analysed: 18-Jan-06

This sample data is not accredited.

		Concentration, (mg/kg) - as dry weight.									
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35	
Sample ID	Client ID	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics
CL0532193	E-BH303 0.3-0.5	<0.85	<0.85	0.9	13	9.12	71.8	16.3	310	76.6	677
CL0532194	E-BH303 1.5-1.7	<0.81	<0.81	<0.81	<0.81	<1.61	<1.61	<2.01	<2.01	<5.62	<5.62
CL0532195	E-BH303 6.0-6.2	<0.87	<0.87	<0.87	<0.87	<1.74	<1.74	<2.17	<2.17	<6.09	10.53
CL0532196	MDL00	<0.82	<0.82	<0.82	<0.82	<1.64	<1.64	<2.04	7.3	<5.71	18.7
CL0532197	MDL01	<0.88	<0.88	<0.88	<0.88	<1.76	<1.76	<2.20	<2.20	<6.16	<6.16
CL0532198	E-TP317 0.1	<0.83	<0.83	<0.83	<0.83	<1.67	<1.67	<2.08	3.2	<5.83	15
CL0532199	LOK1	<0.88	<0.88	<0.88	<0.88	<1.77	<1.77	<2.21	4.59	<6.18	21.2
CL0532200	E-TP318 0.25	<0.77	<0.77	<0.77	<0.77	<1.55	<1.55	<1.93	2.29	<5.40	16.1
CL0532201	E-TP318 1.3	<0.73	<0.73	<0.73	<0.73	<1.45	<1.45	<1.81	<1.81	<5.07	<5.07
CL0532202	E-TP319 0.45	<0.84	<0.84	<0.84	<0.84	<1.68	<1.68	2.73	5.4	39.3	91.1
CL0532203	E-TP319 1.7	<0.74	<0.74	<0.74	<0.74	<1.49	<1.49	<1.86	<1.86	<5.20	<5.20

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

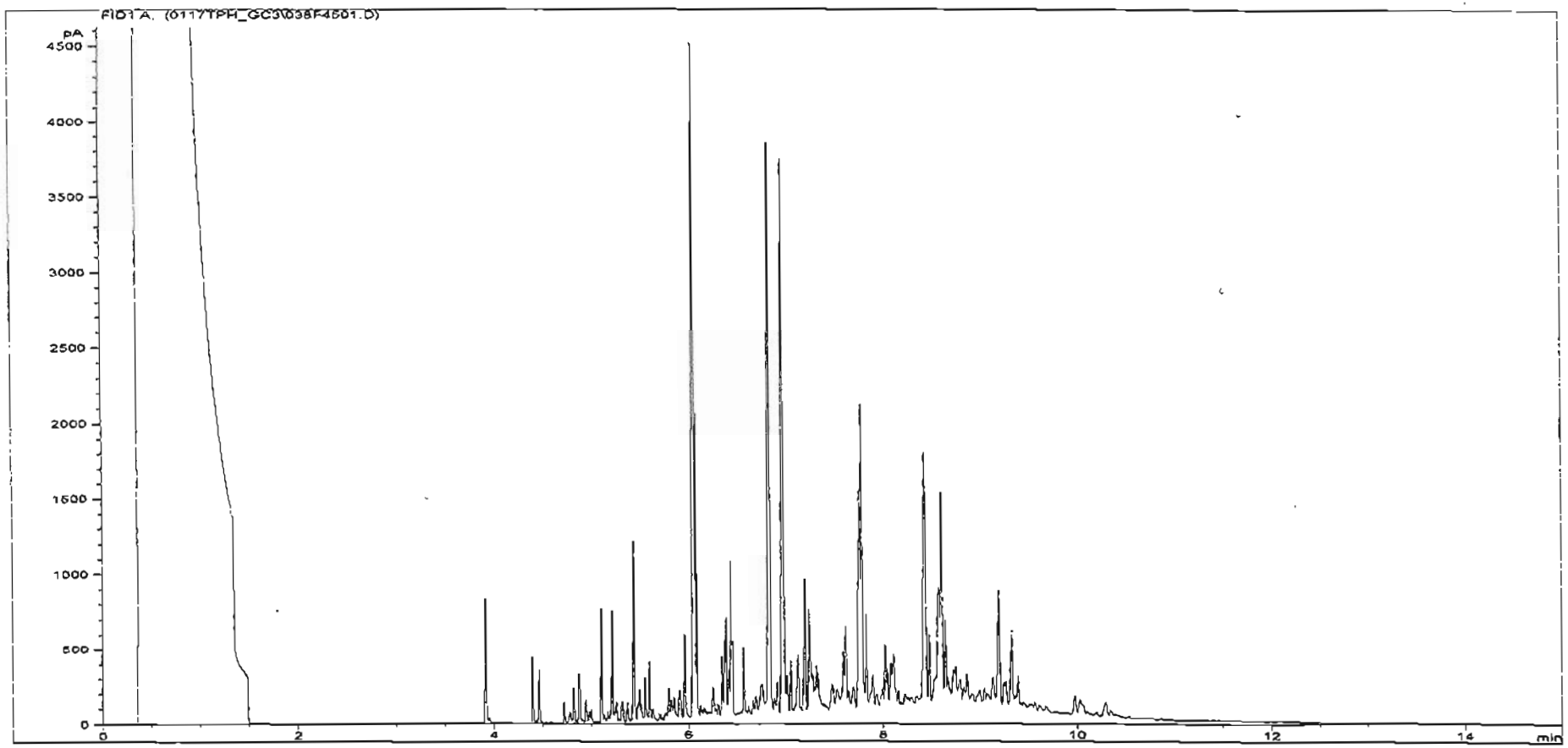
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532193ALI	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH303 0.3-0.5
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\087B4601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

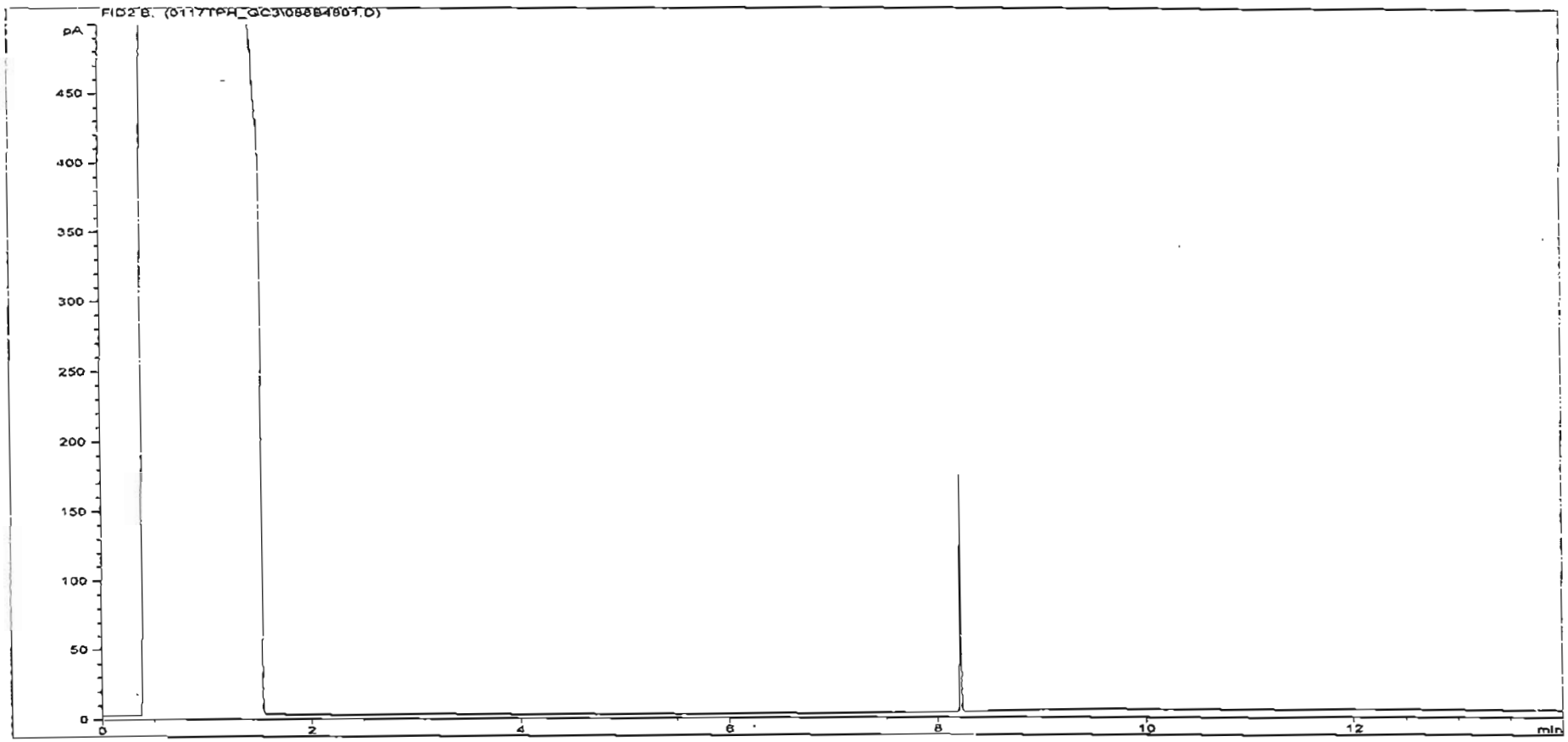
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532193ARO	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH303 0.3-0.5
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\038F4501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

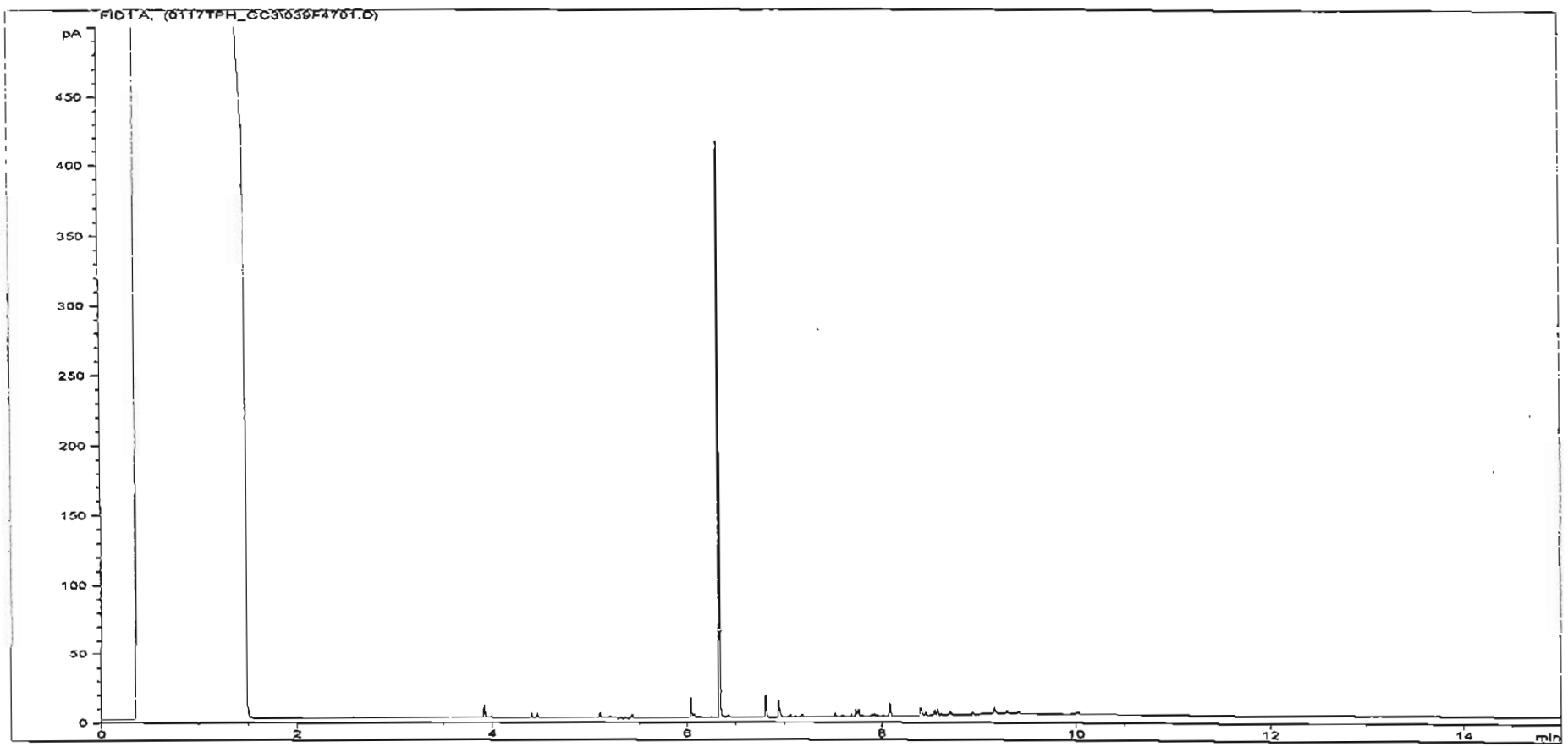
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532194ALI	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH303 1.5-1.7
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\088B4801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

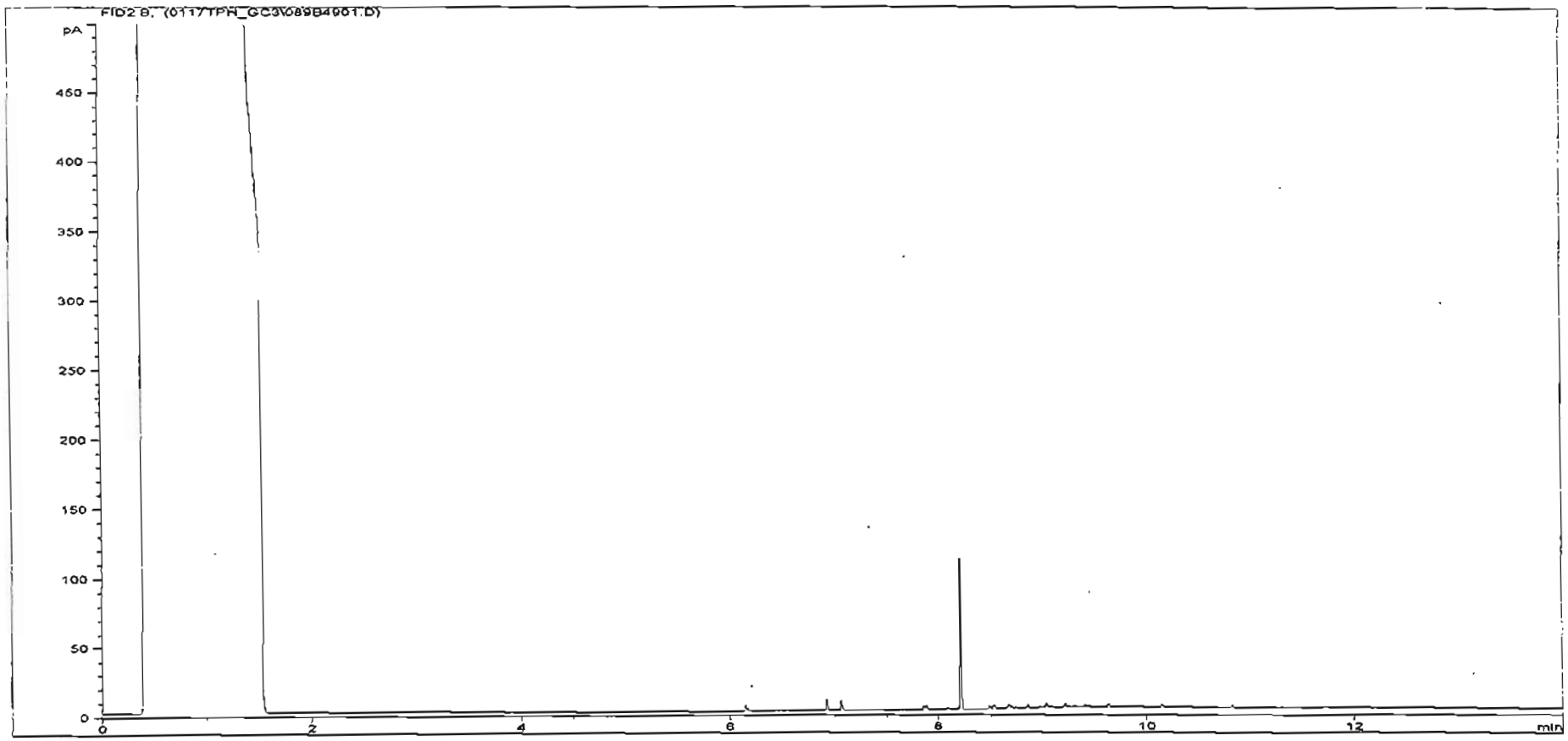
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532194ARO	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH303 1.5-1.7
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\039F4701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

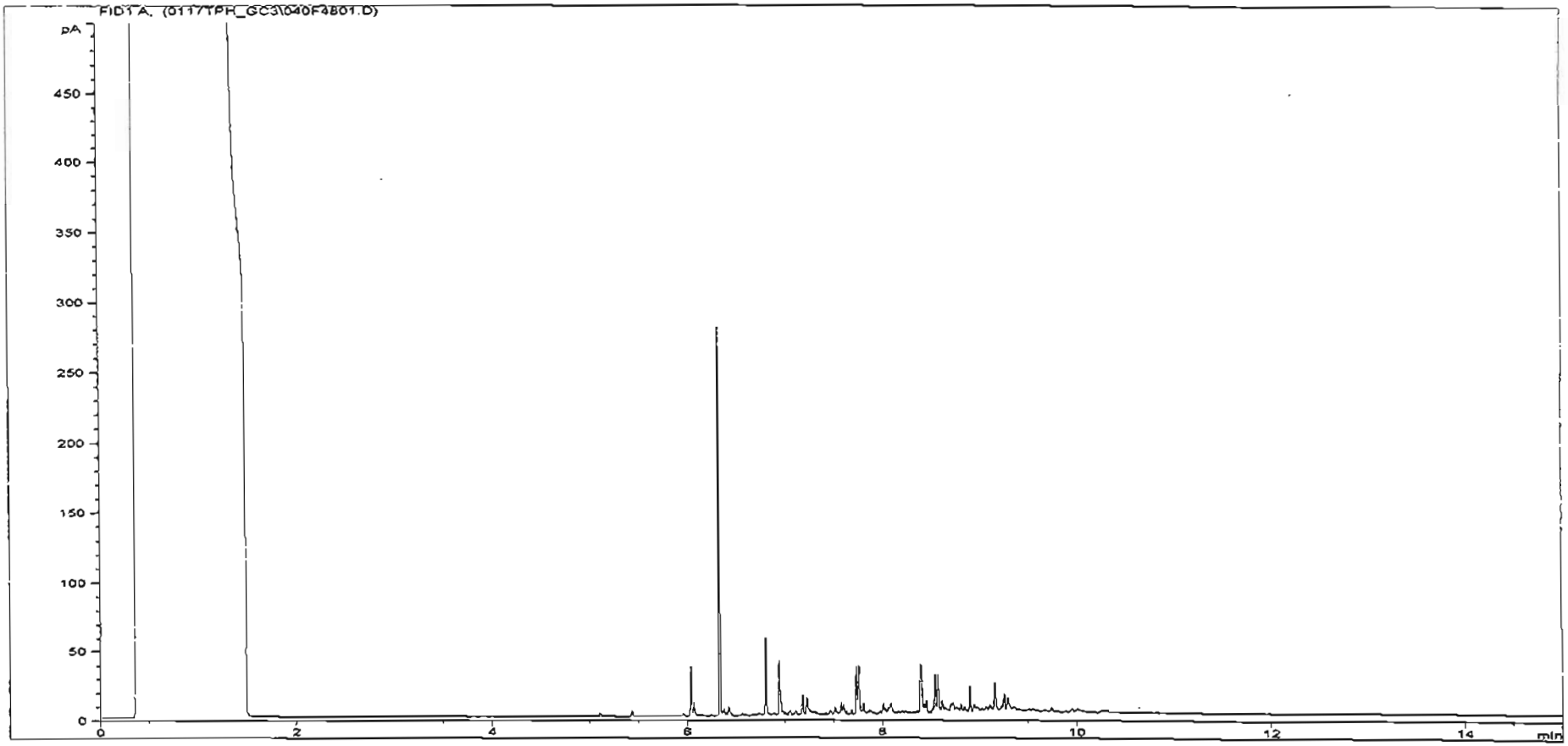
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532195ALI	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH303 6.0-6.2
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\089B4901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

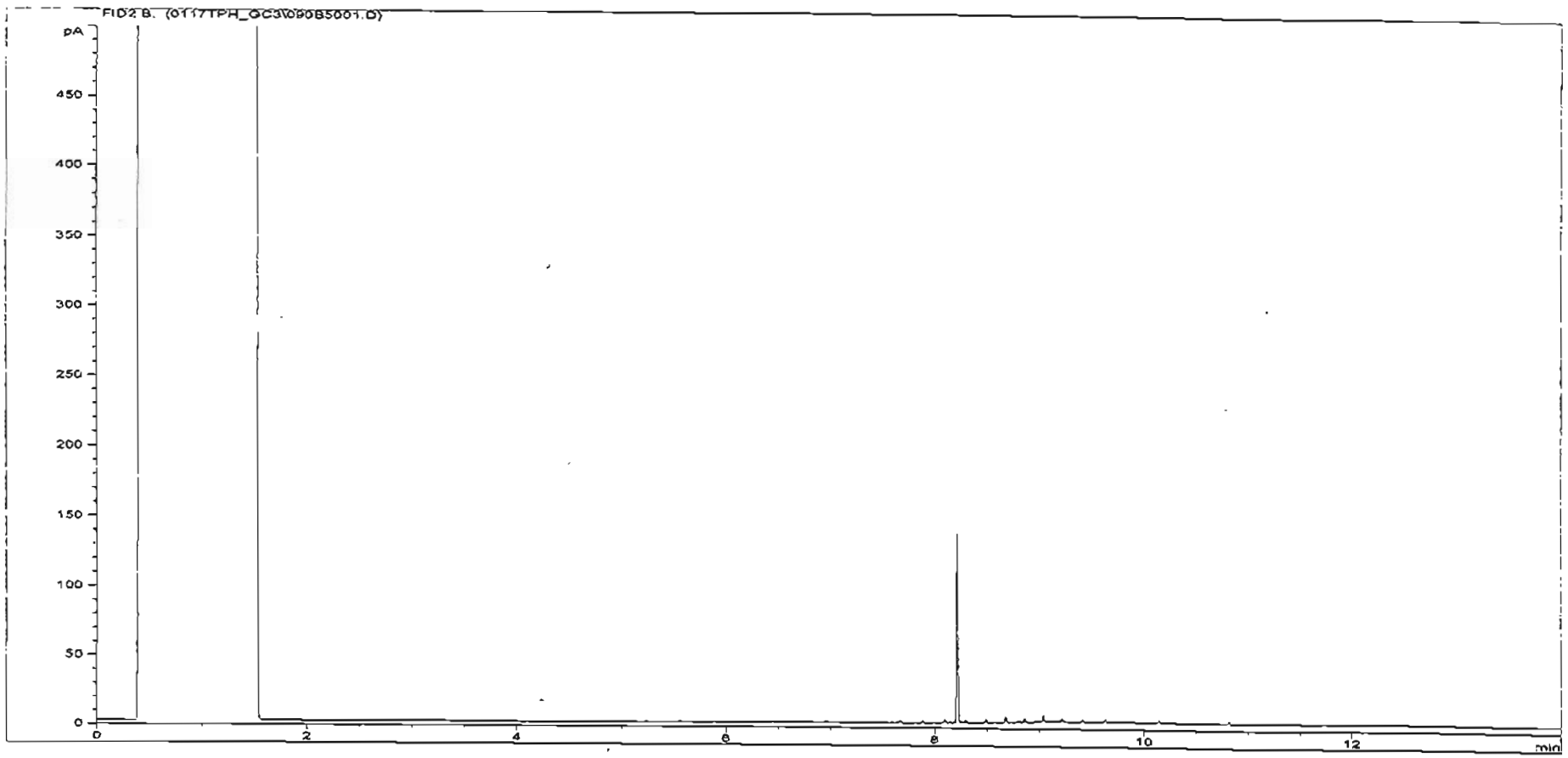
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532195ARO	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH303 6.0-6.2
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\040F4801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

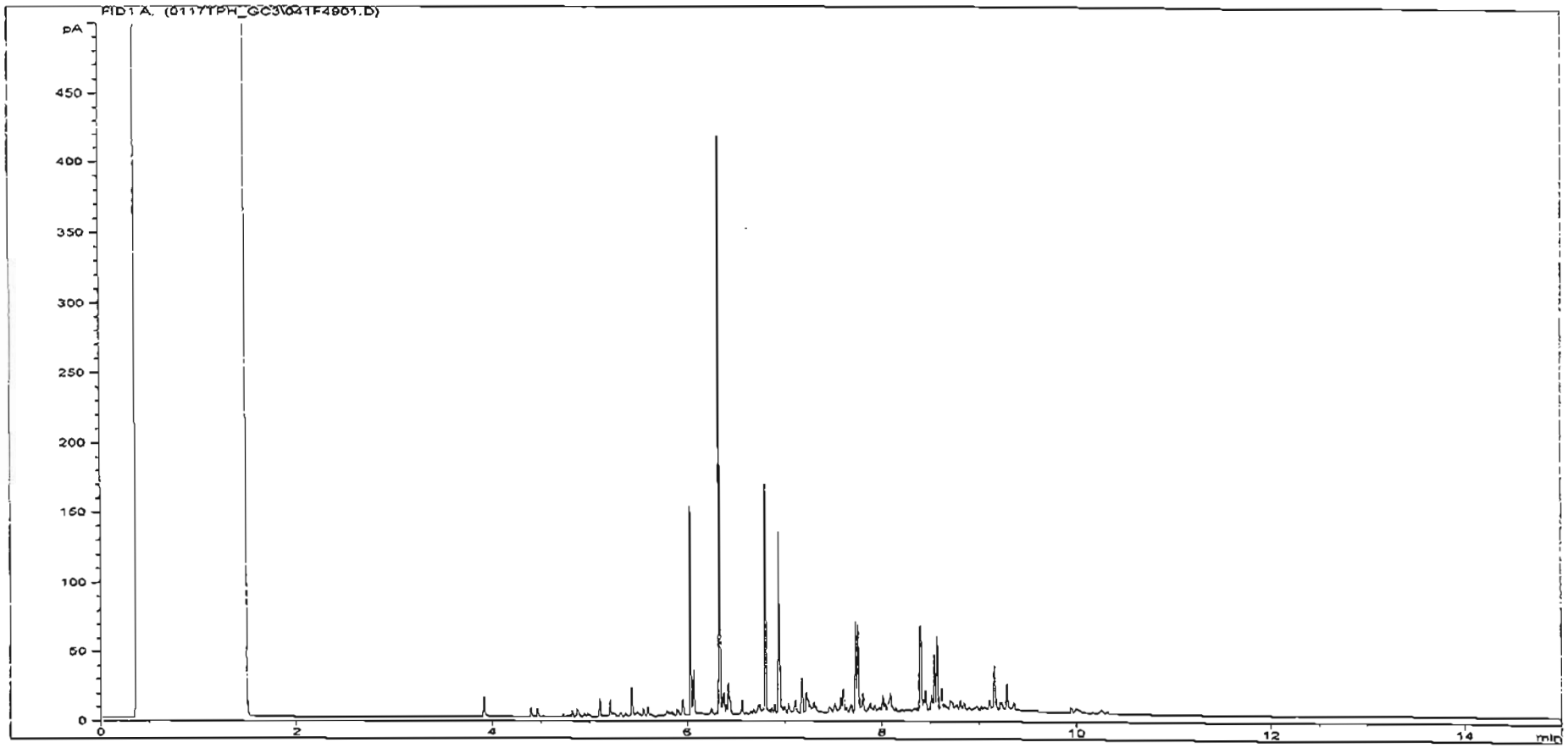
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532196ALI	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	MDL00
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\090B5001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

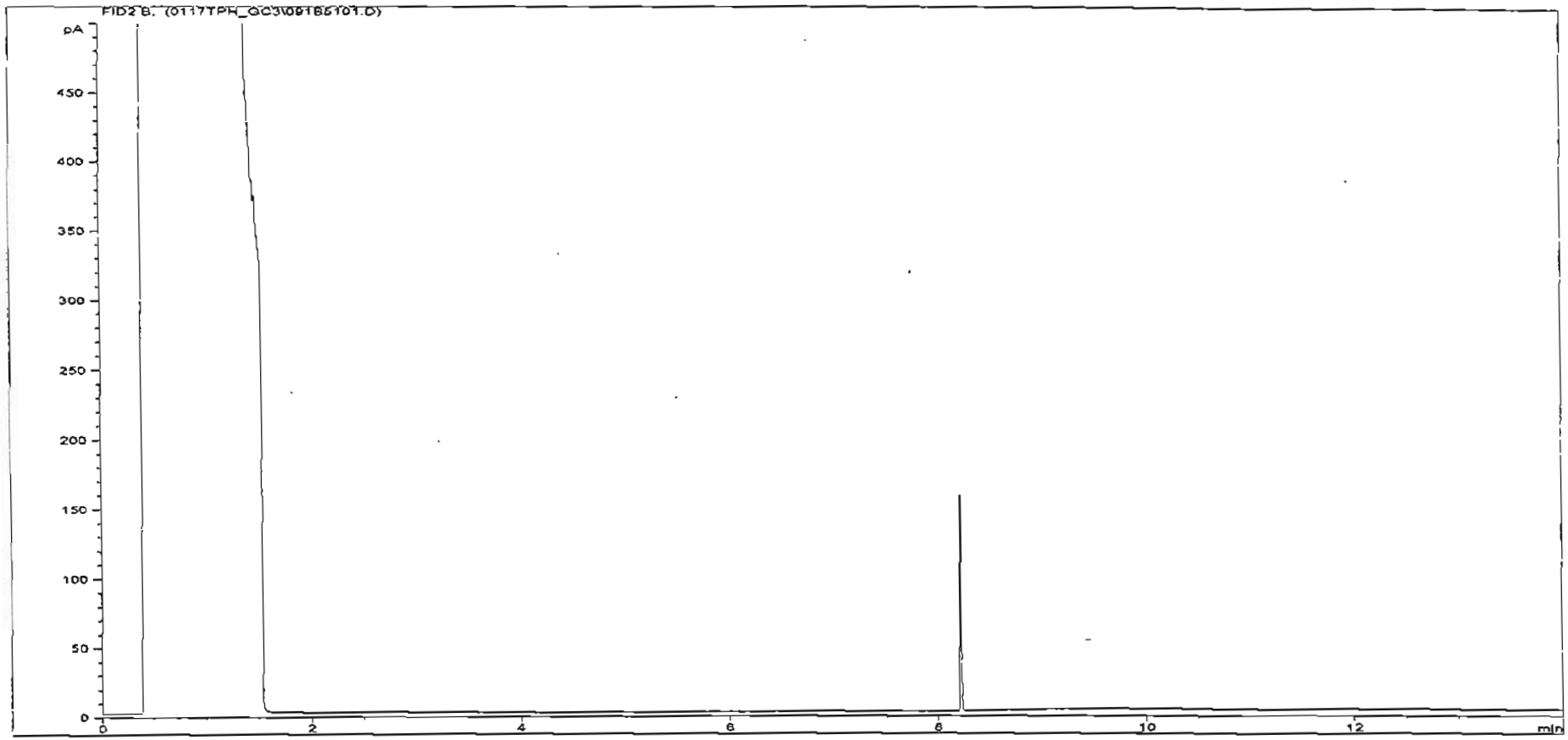
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532196ARO	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	MDL00
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\041F4901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

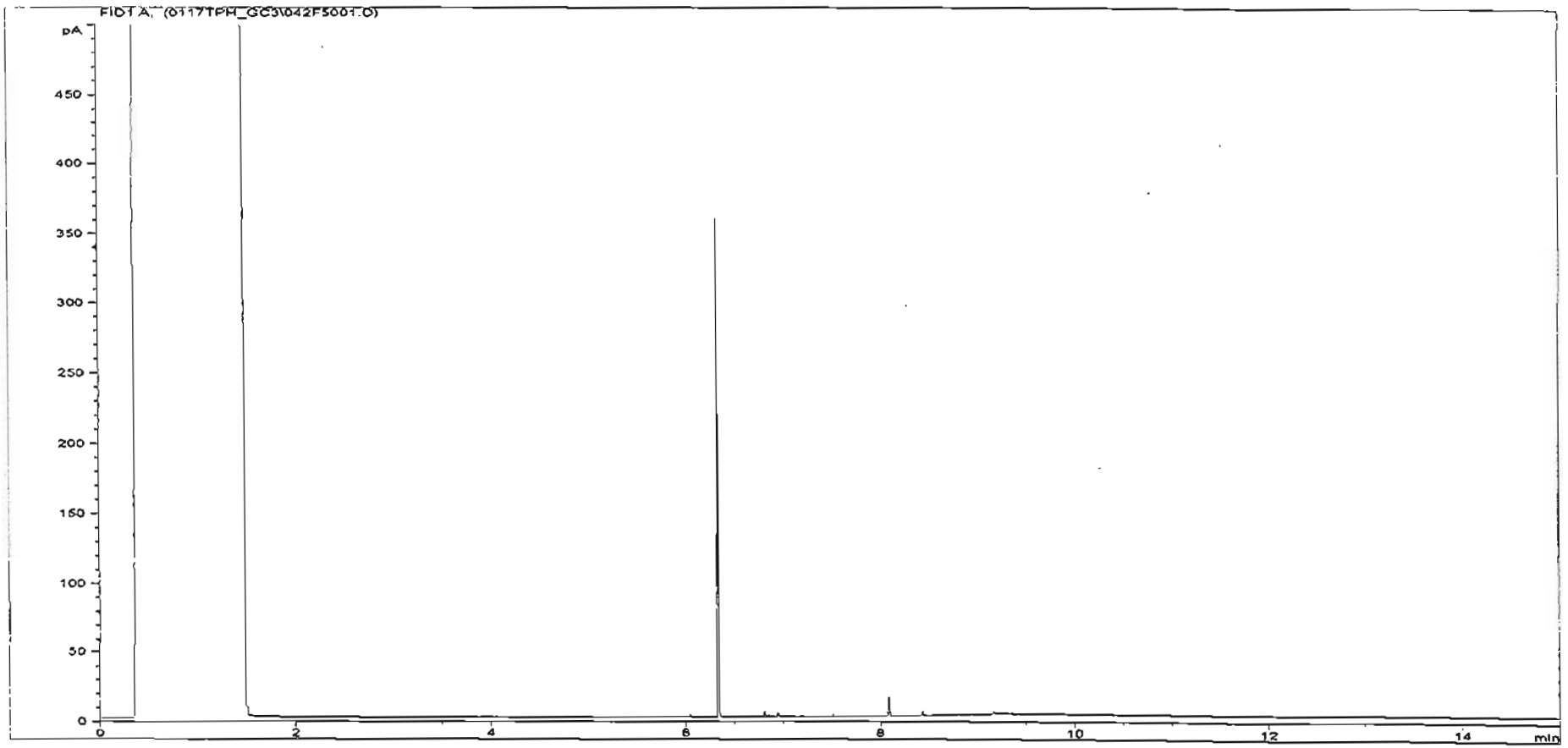
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532197ALI	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	MDL01
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\091B5101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

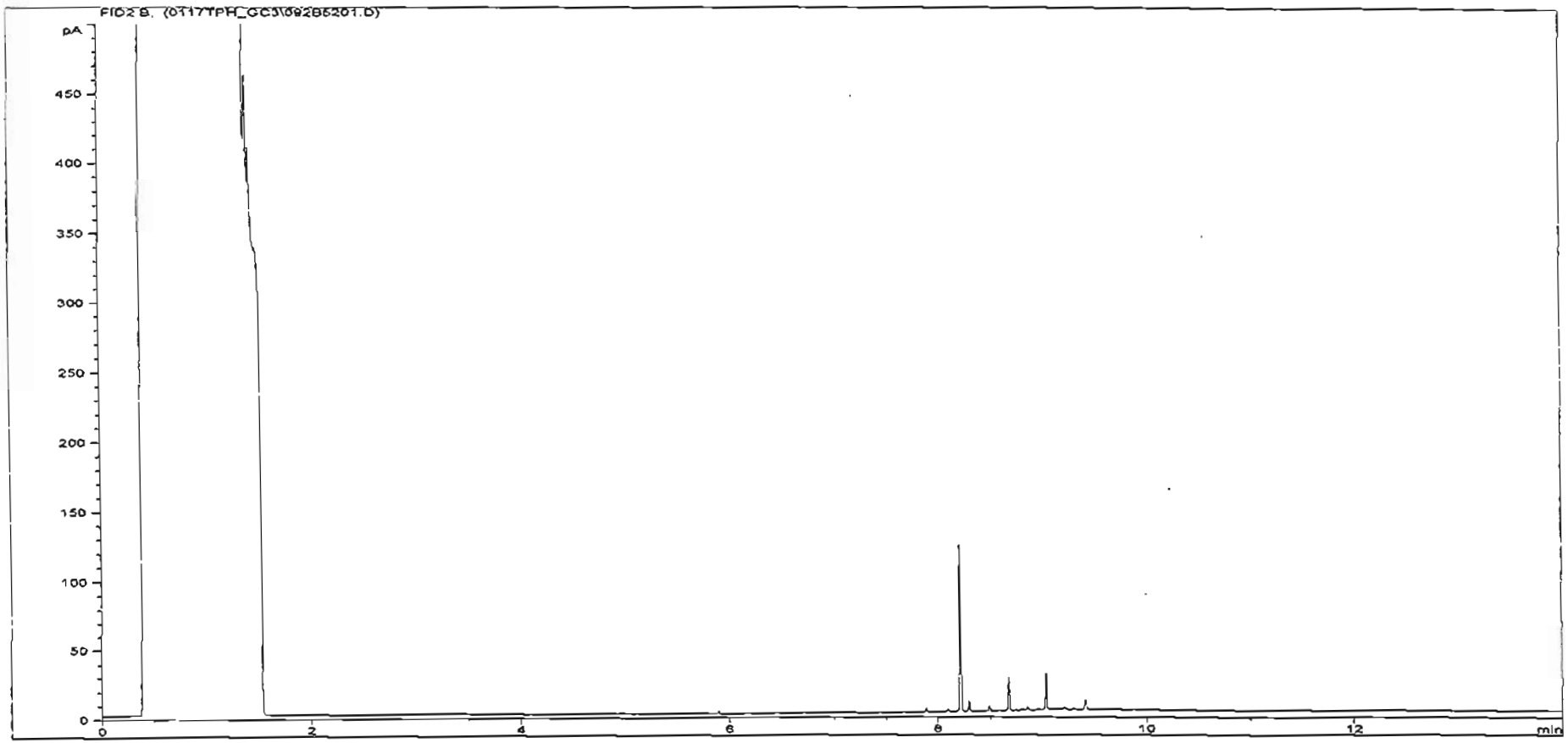
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532197ARO	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	MDL01
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\042F5001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

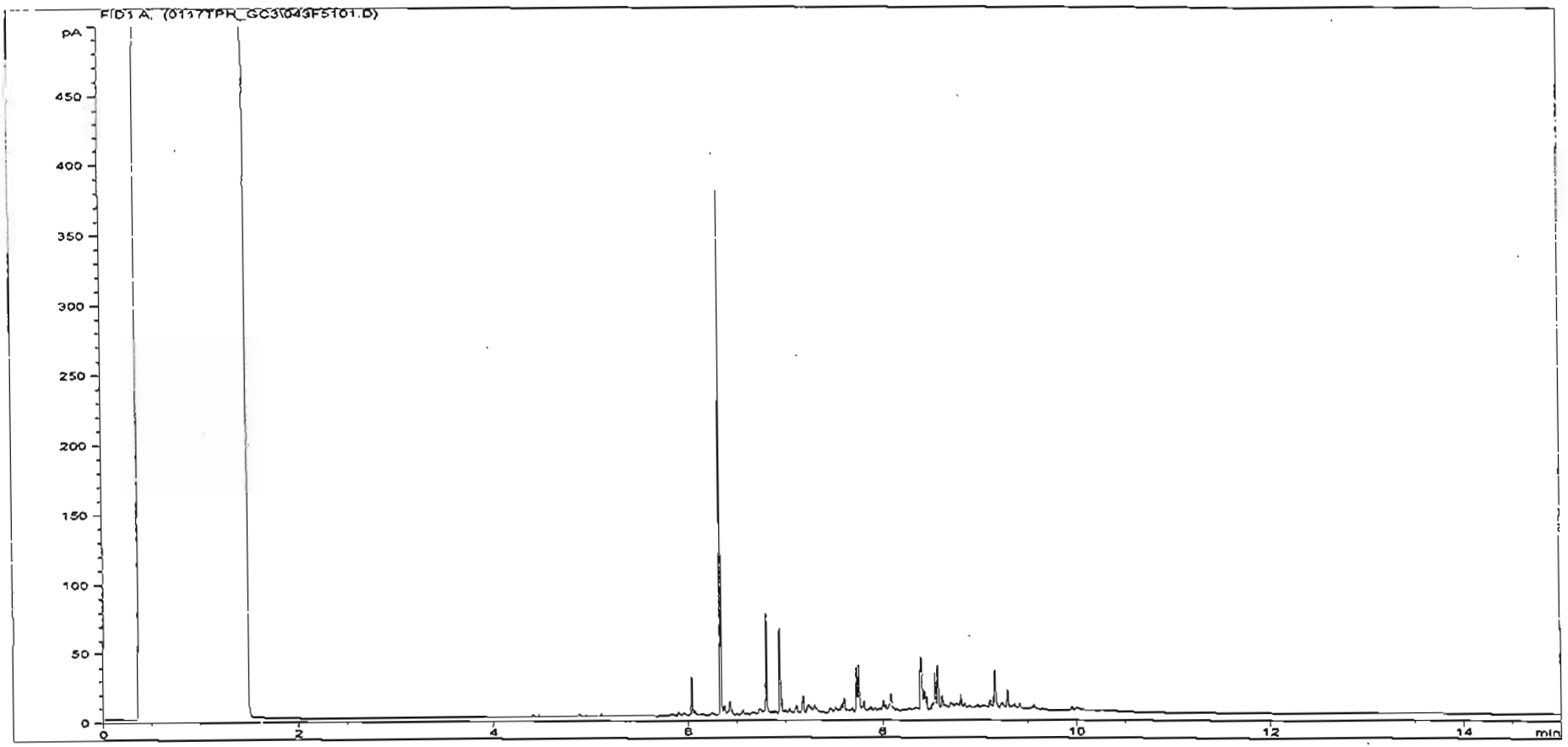
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532198ALI	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP317 0.1
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\092B5201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

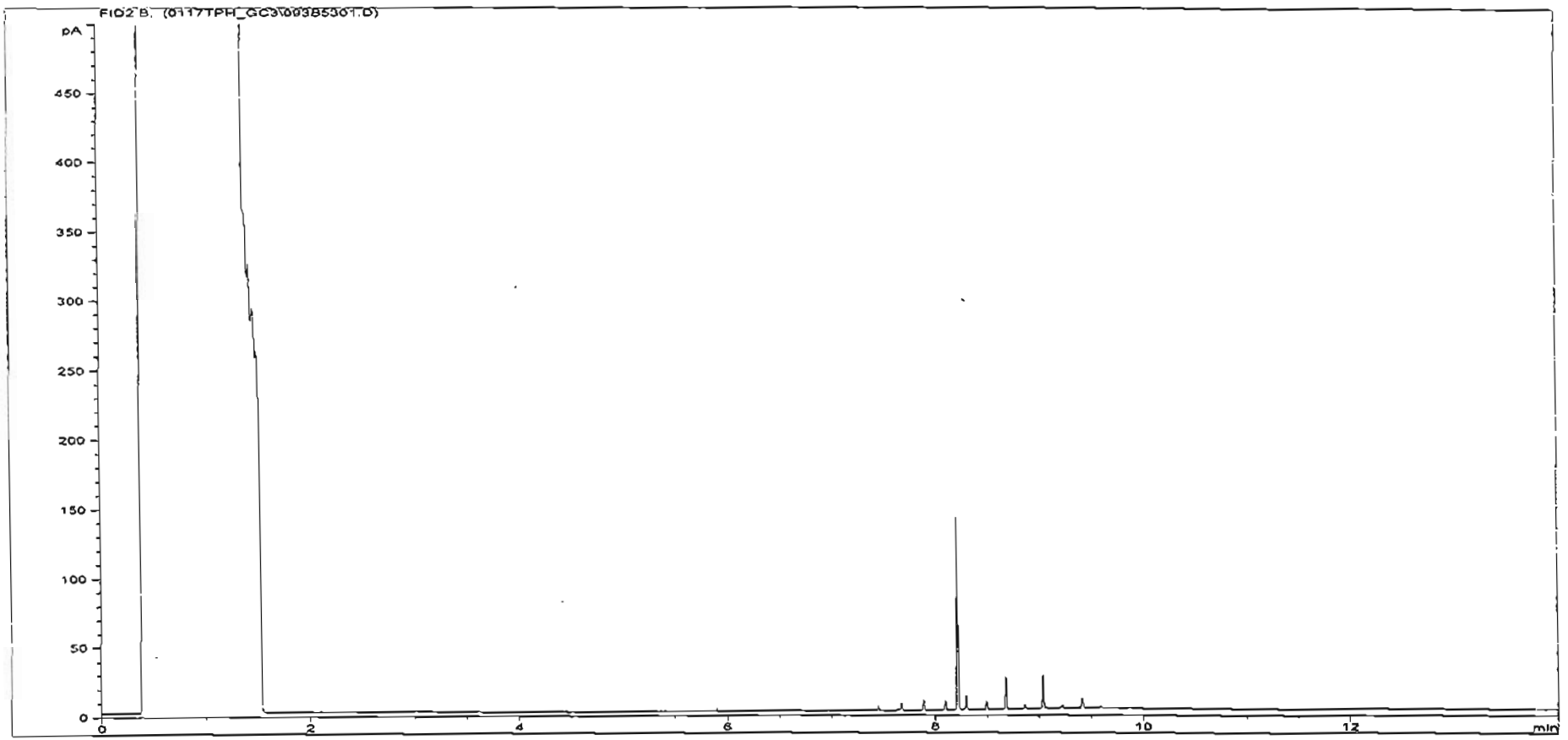
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532198ARO	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP317 0.1
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\043F5101.D		

Results corrected to dry weight at 105°C where.appropriate, in accordance with the MCERTS standard.

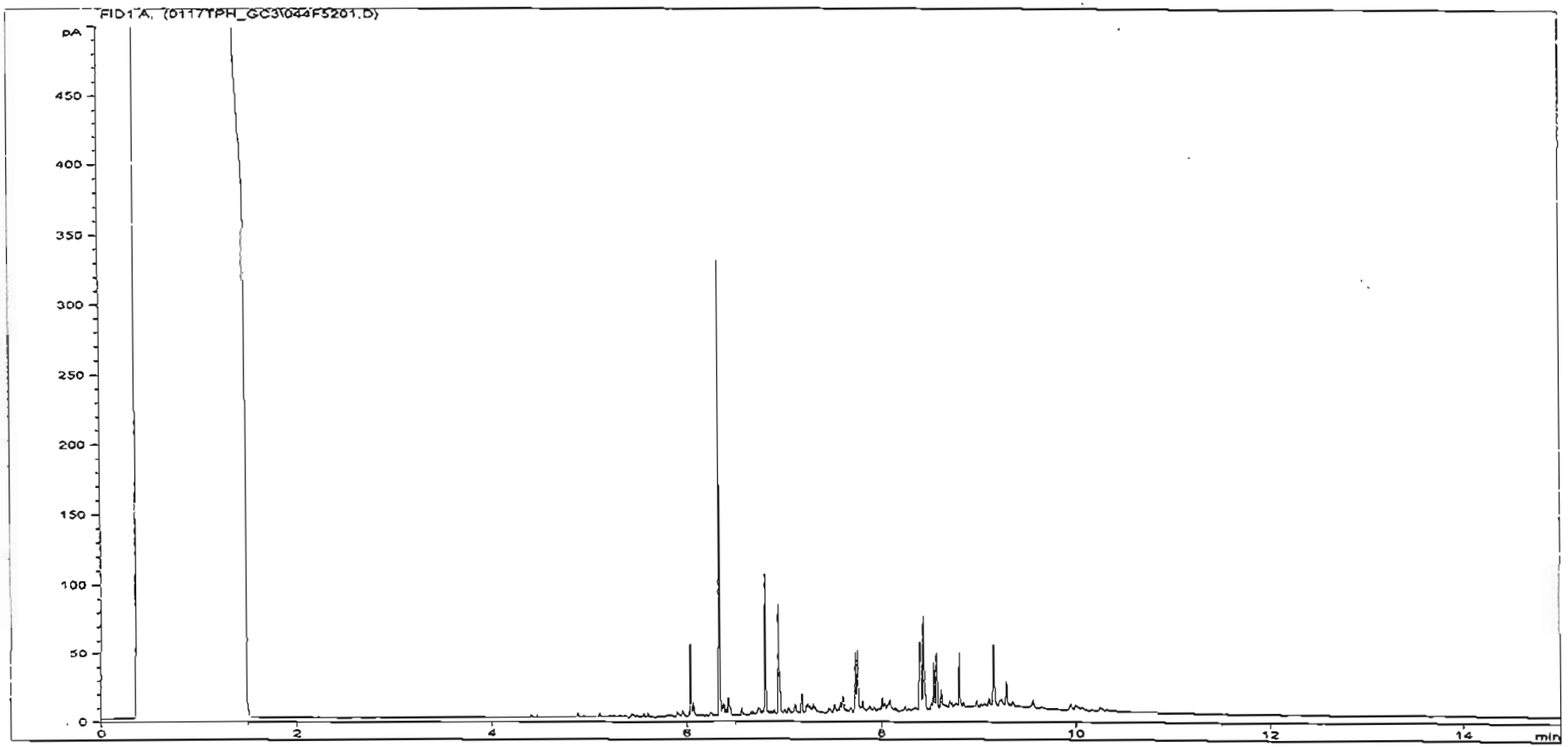
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532199ALI	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	LOK1
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\093B5301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

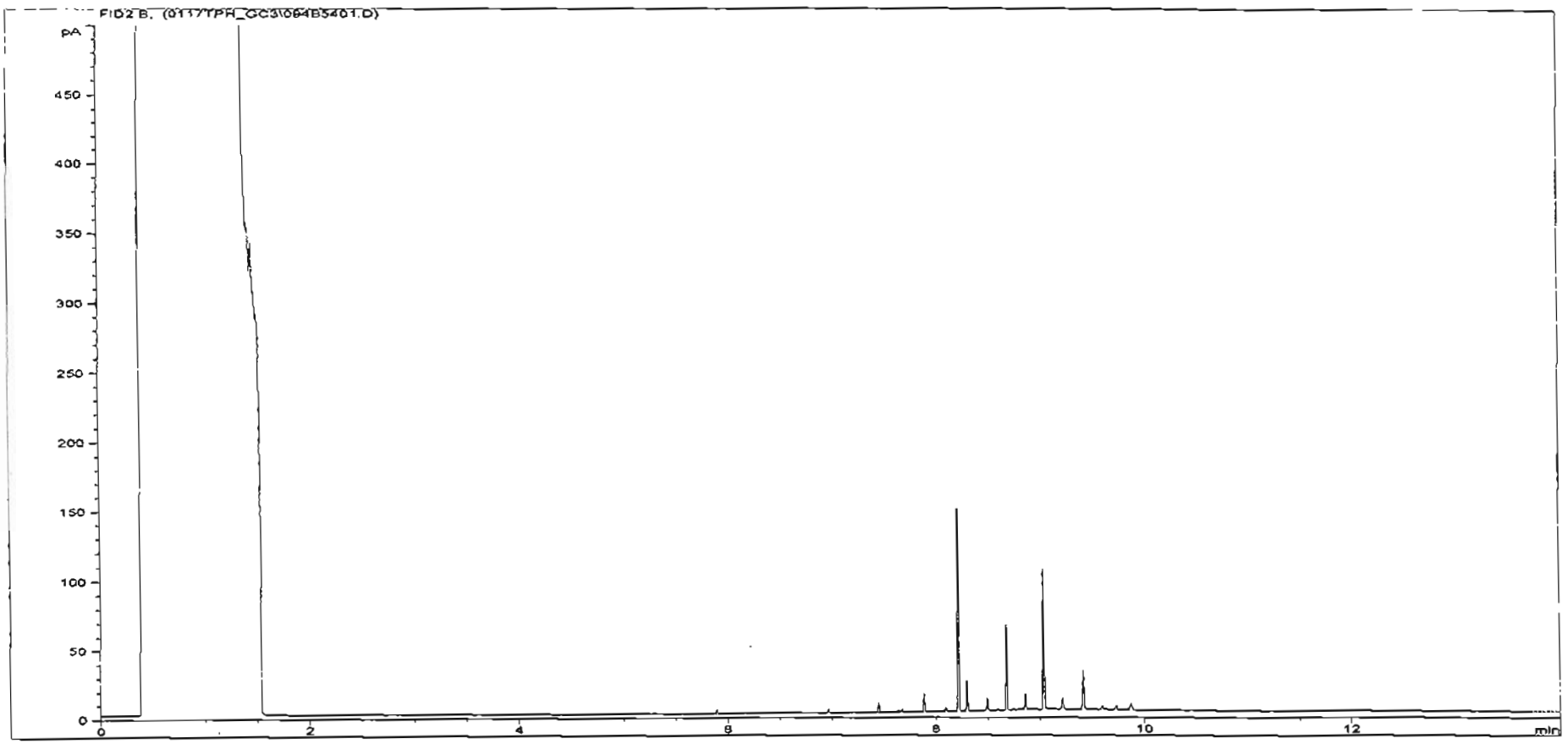
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532199ARO	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	LOK1
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\044F5201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

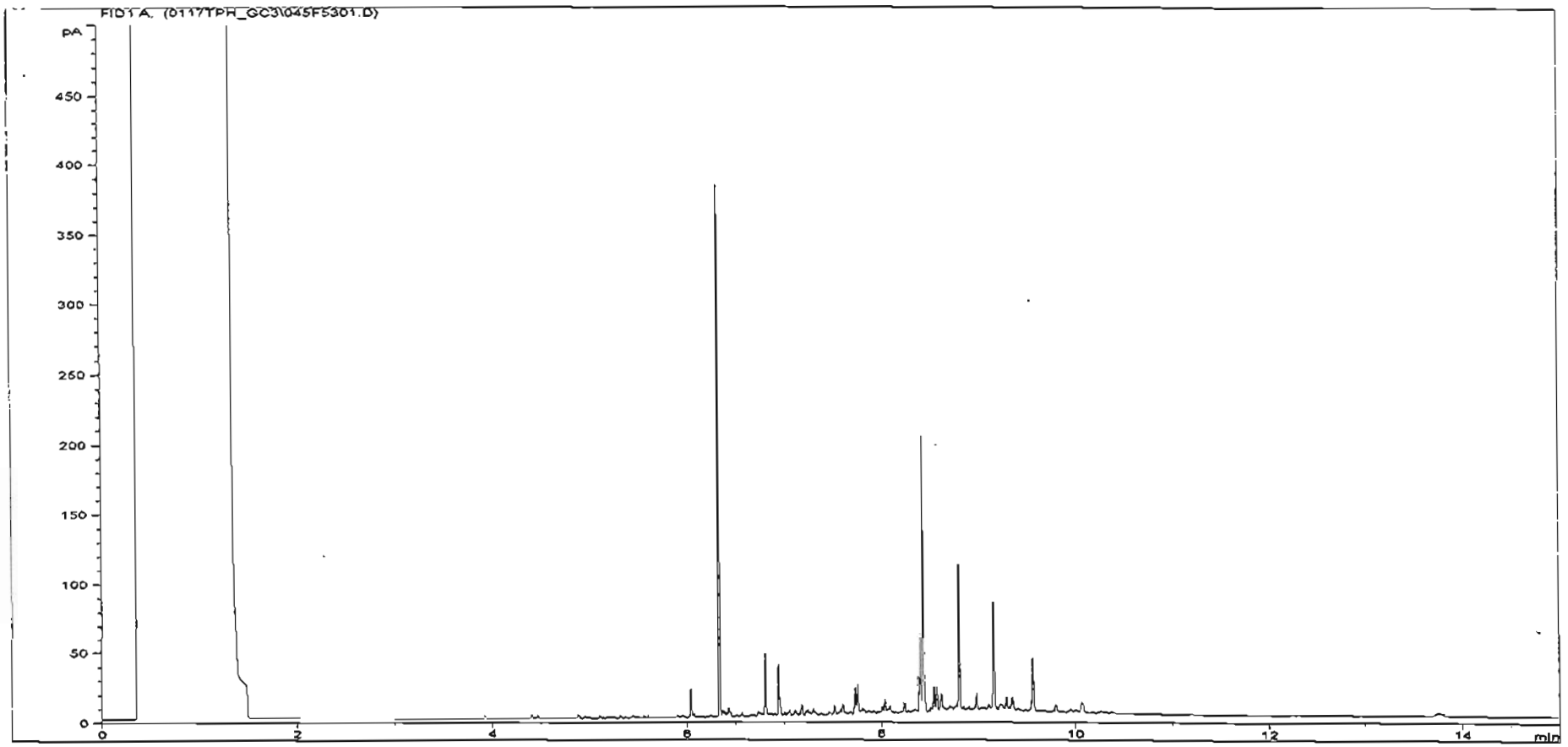
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532200ALI	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP318 0.25
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\094B5401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

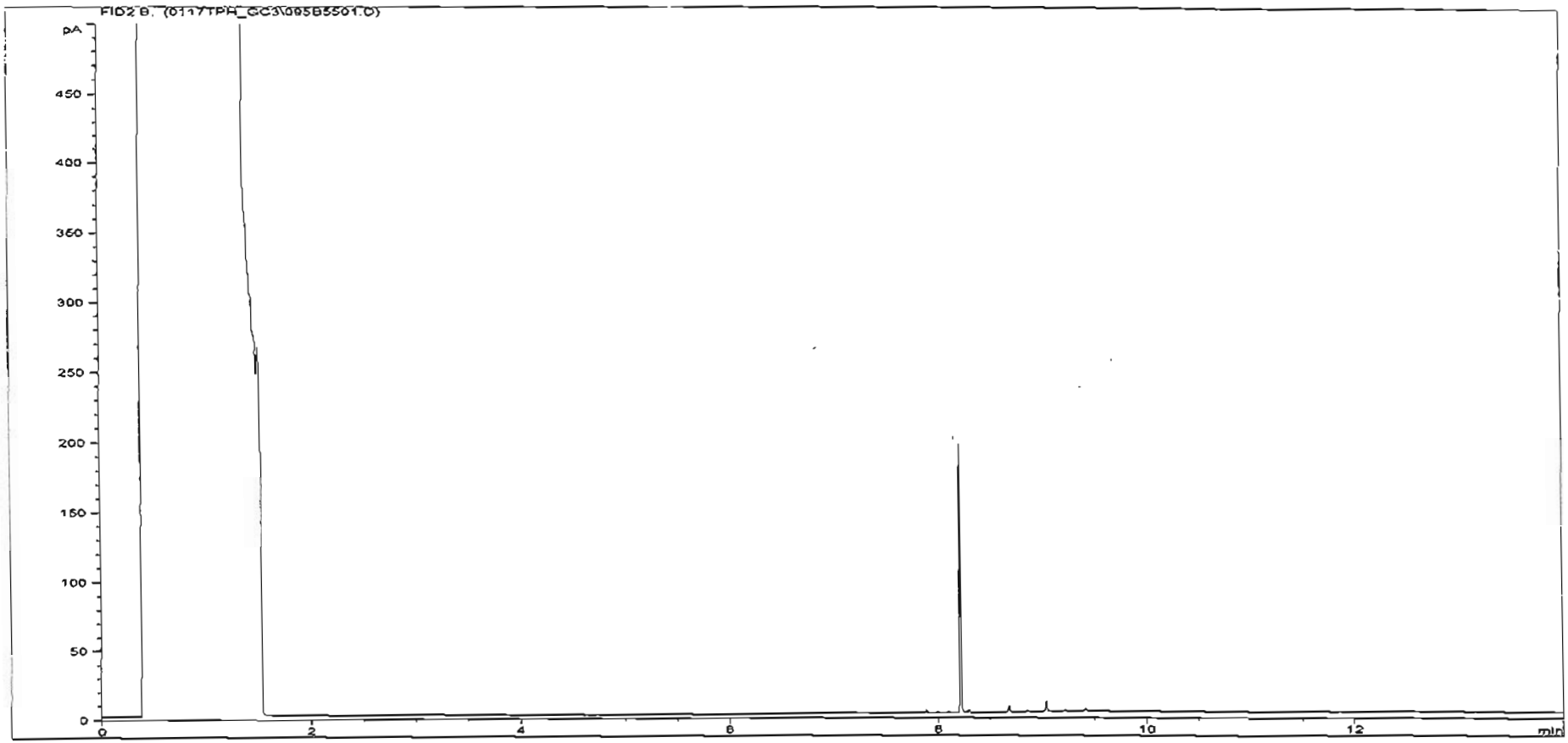
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532200ARO	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP318 0.25
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\045F5301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

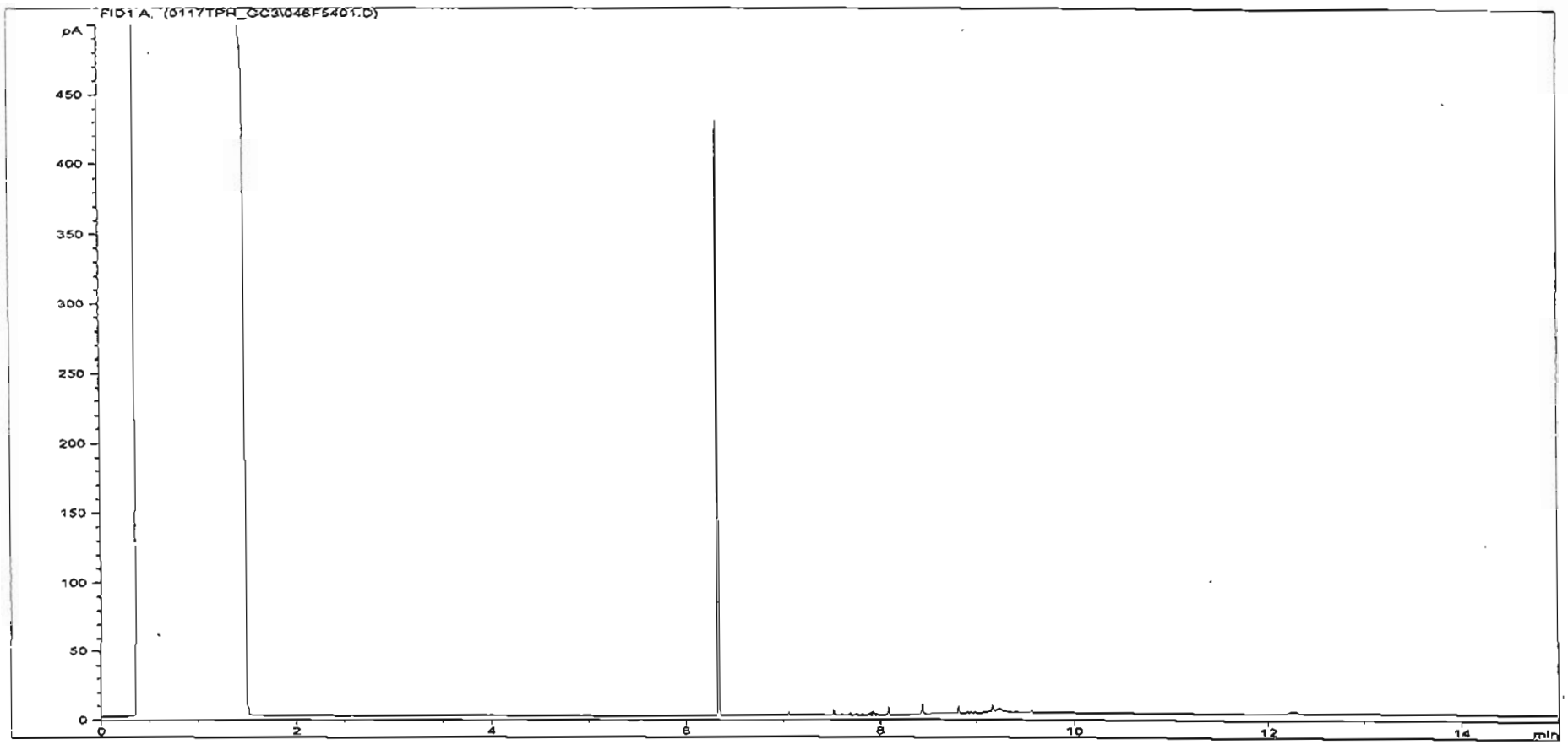
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532201ALI	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP318 1.3
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\095B5501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

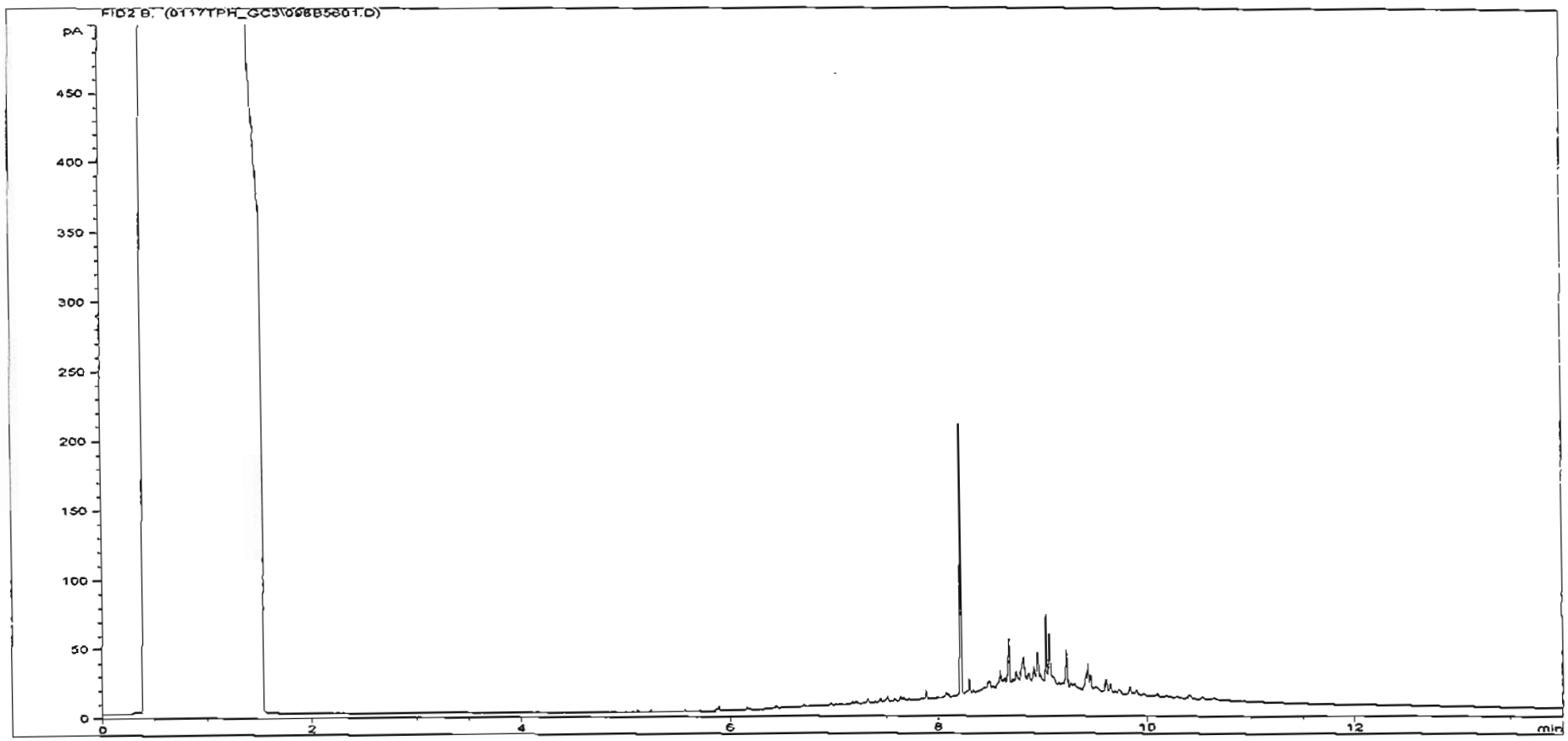
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532201ARO	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP318 1.3
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\046F5401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

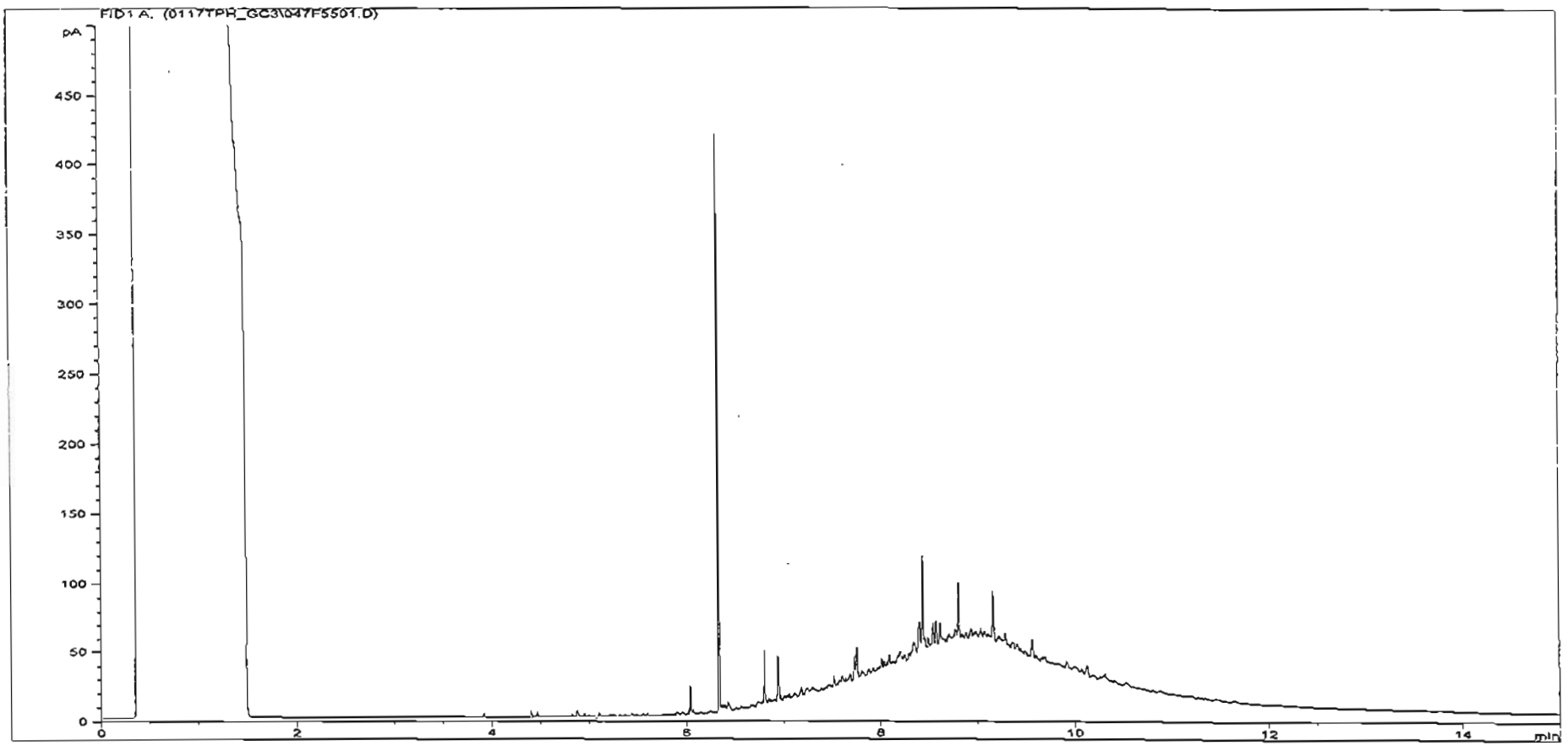
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532202ALI	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP319 0.45
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\096B5601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

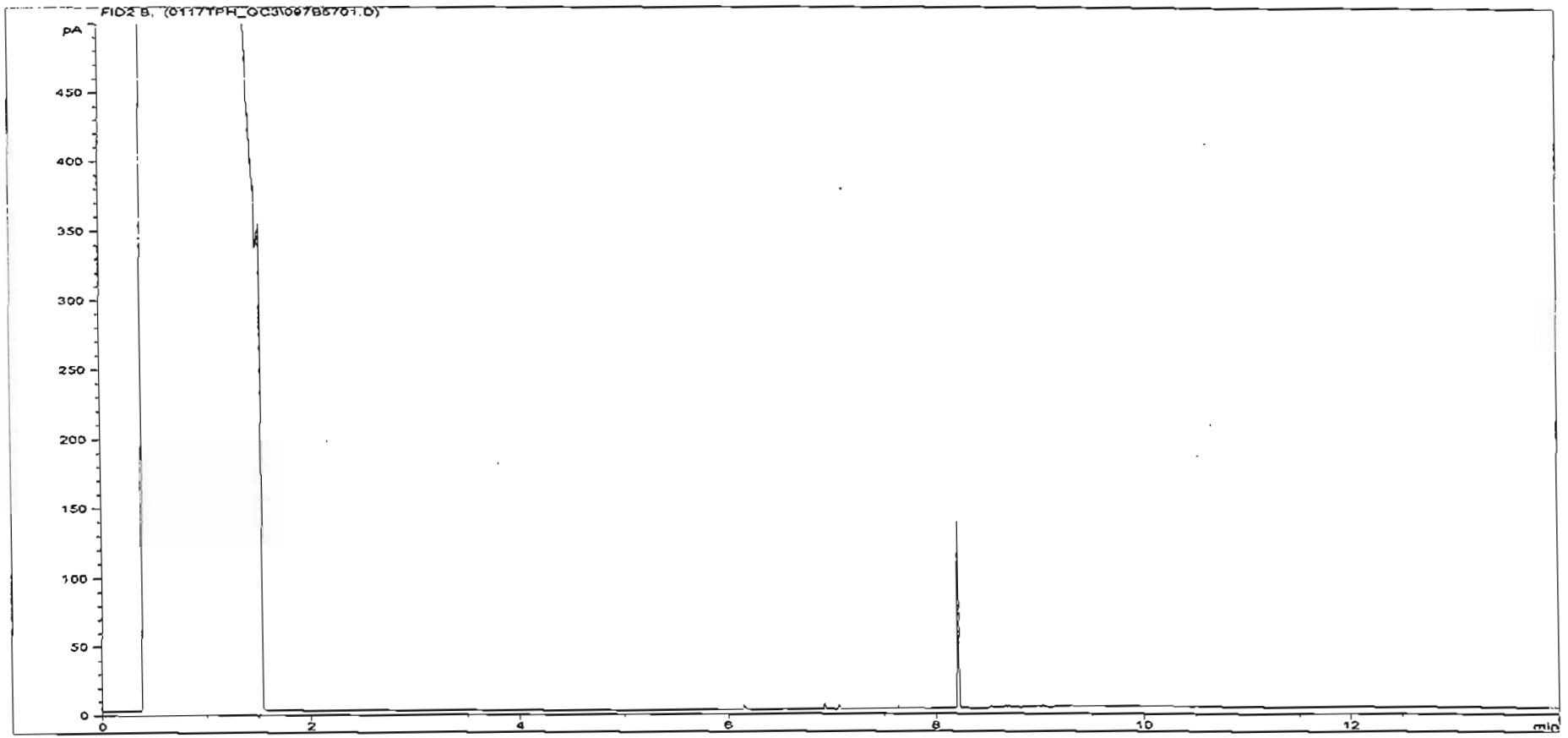
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532202ARO	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP319 0.45
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\047F5501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

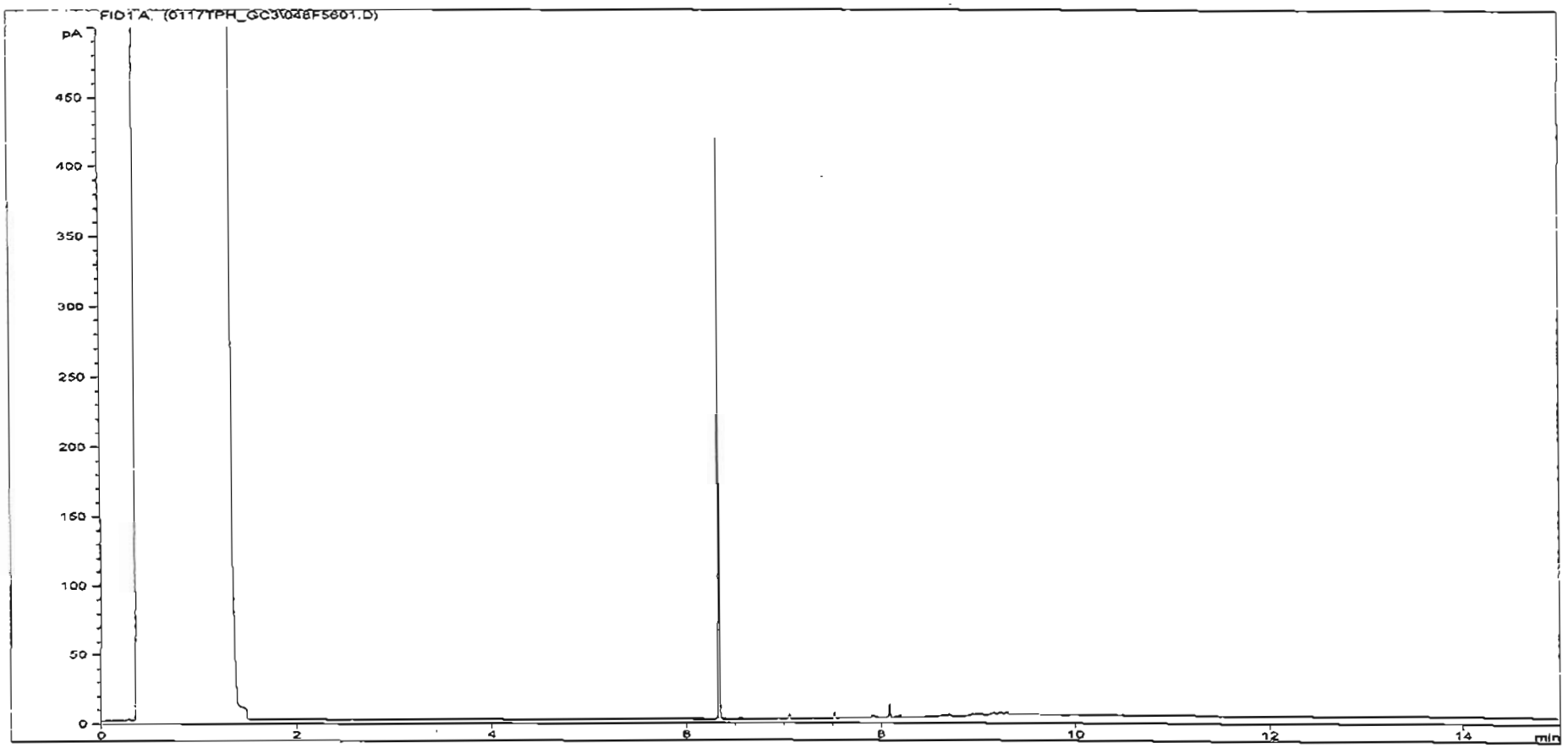
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0532203ALI	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP319 1.7
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\097B5701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0532203ARO	**Job Number:**	S05_4596M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-TP319 1.7
Acquisition Date/Time:	18/01/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0117TPH_GC3\048F5601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Accredited?:**	**Yes**		
Sample Details:	E-BH303 1.5-1.7	**Directory/Quant file:**	1219VOC.MS2\ 1219CCC1.D	**Matrix:**	Soil
LIMS ID Number:	CL0532194	**Date Booked In:**	06-Dec-05	**Method:**	Purge & trap
Job Number:	S05_4596M	**Date Analysed:**	19-Dec-05	**Multiplier:**	5
		Operator:	SH	**Position:**	8

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 29	-	U
Chloroethane	75-00-3 *	-	< 29	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 ?	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 29	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
Iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 29	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 29	-	U
Hexachlorobutadiene	87-68-3	-	< 29	-	U
Naphthalene	91-20-3 *	-	< 29	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 29	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	6.93	69	Dibromofluoromethane	119
1,4-Difluorobenzene	7.97	82	Toluene-d8	119
Chlorobenzene-d5	12.50	76	Bromofluorobenzene	111
1,4-Dichlorobenzene-d4	16.55	88		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample
co-eluted with benzo(b)fluoranthene
co-eluted with Indeno(123-cd)pyrene
BTEX analysis expressed as ug/kg As Received
Phenol HPLC results expressed as mg/kg As Received

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15°C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed
T Trace
L Low (2-15%)
M Medium (15-50%)
H High (>50%)

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S Insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
? Denotes that an element of the quality control system is currently exhibiting sustained bias from its normal working pattern. The QC has not failed action limits and the cause of this is being investigated and rectified.
This does not invalidate the data but our quality policy specifies that you will be kept informed when this happens.
***** denotes the accreditation has been removed by the laboratory for this result only
Accreditation Codes:
N - Not Accredited, **U** - UKAS, **UM** - UKAS & MCERTS
If **'Accredited? = No'** then the accreditation has been removed for the entire dataset
'Accreditation Code:' or 'Accr. Code:' indicates the status of the accreditation held by the laboratory

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

TES Report No. EFS/054538M

Entec UK Ltd
Cannon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
SY2 5DE

Site: HMS Daedalus (E)

The 15 samples described in this report were logged for analysis by TES Bretby on 30-Nov-2005.
analysis was completed by: 09-Jan-2006

Tests marked as 'not accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS or MCERTS accreditation held by TES Bretby Laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of GRO Results (Page 4)
Table of PAH (MS) Results (Pages 5 to 19)
Table of SVOC Results (Pages 20 to 22)
Table of TPH (Si) banding (std) (Page 23)
GC-FID Chromatograms (Pages 24 to 53)
Table of VOC Results (Pages 54 to 56)
Sample Chain of Custody Record (Pages 57 to 58)
Table of Report Notes (Page 59)

On behalf of
TES Bretby :
J Hannah

J Hannah
Project Co-ordinator

Date of Issue: 09-Jan-2006

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)
Tests marked '^' have been subcontracted to another laboratory.
(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.
All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)
TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Sample Descriptions

Client : Entec UK Ltd

Site : HMS Daedalus

Report Number : S05_4538M

Lab ID Number	Client ID	Description
CL/0531770	E-WS301 0.9-1.0	Brown Gravel SAND
CL/0531771	E-WS301 0.1-0.2	Brown SILT
CL/0531772	E-WS302 1.1-1.2	Brown CLAY
CL/0531773	E-WS302 0.2-0.3	Brown SILT
CL/0531774	E-WS303 1.9-2.0	Brown Gravel SAND
CL/0531775	E-BH306 1.6-1.8	Brown Gravel SILT
CL/0531776	E-BH306 4.0-4.3	Brown CLAY
CL/0531777	E-BH302 6.0-6.2	Brown Gravel SILT
CL/0531778	E-BH302 7.0-7.2	Brown Gravel SILT
CL/0531779	E-BH304 0.1-0.3	Brown Gravel SILT
CL/0531780	E-BH304 6.5-6.8	Grey Gravel SILT
CL/0531781	E-WS304 0.3-0.5	Brown Gravel CLAY
CL/0531782	E-WS304 0.8-0.9	Brown Gravel CLAY
CL/0531783	E-WS305 2.5-2.7 (NVM)	Brown Silt GRAVEL
CL/0531784	E-WS308 0.2-0.3	Brown Gravel SILT

Units :		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	ug/kg
Method Codes :		GROHSA	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPWSS	ICTSCN28	SVOCSW	SVOCSW	TMSS	VOCSW
Method Reporting Limits :		0.1	0.5	0.1	0.5	0.5	0.5	0.10	0.5	0.5	3.0	0.3	5	0.2-10.0	0.2-10.0	0.2	5
Accreditation Code:			UM	U	U	U	U	U	U	U	U	UM	U			U	
TES ID Number CL/	Client Sample Description	GRO (AA)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SO4- (H2O sol) mg/l	Sulphide	PAH by MS	SVOC	Tot.Moisture @ 105oC	VOC
0531777	E-BH302 6.0-6.2	Req	6.7	<0.1	13.6	3.9?	3.9	<0.1	5.9?	0.68	12.6?	14.96	<5	Req	Req	23.1	Req
0531778	E-BH302 7.0-7.2	Req	5.4	<0.1	12	3.2?	3.3	<0.1	4.4?	0.55	13.0?	16.27	<5	Req		18.9	
0531779	E-BH304 0.1-0.3	Req	8.3	0.16	18.6	12.8?	42.6	<0.1	12.7?	<0.5	51.3?	18.23	<5	Req		15.5	
0531780	E-BH304 6.5-6.8	Req	9.2	<0.1	18	3.1?	6.1	<0.1	11.2?	<0.5	27.6?	273	<5	Req	Req	21.4	Req
0531775	E-BH306 1.6-1.8	Req	2.2	<0.1	9.1	2.9?	4.6	<0.1	5.0?	<0.5	12.1?	13.22	<5	Req	Req	12.0	Req
0531776	E-BH306 4.0-4.3	Req	14.6	0.5	25.8	6.9?	10.3	<0.1	18.6?	0.8	33.2?	476	<5	Req		21.1	
0531771	E-WS301 0.1-0.2	Req	7.1	0.12	19.4	14.9?	126	<0.1	9.8?	<0.5	39.0?	35.7	<5	Req		17.8	
0531770	E-WS301 0.9-1.0	Req	8.5	<0.1	18	6.2?	7.9	<0.1	7.1?	<0.5	19.3?	3.61	<5	Req		13.3	
0531773	E-WS302 0.2-0.3	Req	7.5	0.21	19	15.7?	57	<0.1	12.4?	<0.5	52.0?	27	<5	Req		18.3	
0531772	E-WS302 1.1-1.2	Req	3.2	<0.1	19	4.9?	11	<0.1	10.2?	<0.5	31.8?	9.35	<5	Req		20.5	
0531774	E-WS303 1.9-2.0	Req	1.5	<0.1	6	3.4?	4.1	<0.1	4.4?	<0.5	6.4?	11.97	<5	Req		7.5	
0531781	E-WS304 0.3-0.5	Req	10.3	0.15	19.4	21.6?	158.2	<0.1	11.3?	<0.5	78.9?	21.1	<5	Req		17.3	
0531782	E-WS304 0.8-0.9	Req	9.3	<0.1	27.4	11.2?	22.1	<0.1	18.4?	<0.5	52.9?	17.17	<5	Req		18.7	
0531783	E-WS305 2.5-2.7 (NVM)	Req	7.2	<0.1	6.7	3.7?	3.6	<0.1	6.0?	<0.5	8.8?	8.43	<5	Req		10.0	
0531784	E-WS308 0.2-0.3	Req	8.7	0.34	22	22.1?	150.1	<0.1	14.1?	<0.5	100.7?	25.2	<5	Req		16.9	

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Client Name Entec UK Ltd

Contact Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	09-Jan-06
Report Number	EFS/054638M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Units :		pH Units	mg/kg	mg/kg	% M/M													
Method Codes :		WSLM3	WSLM4	TPHFID	WSLM59													
Method Reporting Limits :			0.5	10.0	0.02													
Accreditation Code:		U	U		N													
TES ID Number CU	Client Sample Description	pH units	Phenol Index	TPH GCFID (AR) (BI)	F.O.C. %													
0531777	E-BH302 6.0-6.2	7.9	<0.5	Req	0.03													
0531778	E-BH302 7.0-7.2	8.0	<0.5	Req														
0531779	E-BH304 0.1-0.3	6.4	1	Req														
0531780	E-BH304 6.5-6.8	8.6	<0.5	Req	0.18													
0531775	E-BH306 1.6-1.8	8.0	<0.5	Req	0.04													
0531776	E-BH306 4.0-4.3	7.1	<0.5	Req														
0531771	E-WS301 0.1-0.2	6.4	<0.5	Req														
0531770	E-WS301 0.9-1.0	7.3	<0.5	Req														
0531773	E-WS302 0.2-0.3	6.9	1	Req														
0531772	E-WS302 1.1-1.2	7.7	<0.5	Req	0.13													
0531774	E-WS303 1.9-2.0	7.4	<0.5	Req														
0531781	E-WS304 0.3-0.5	7.6	<0.5	Req														
0531782	E-WS304 0.8-0.9	7.4	<0.5	Req														
0531783	E-WS305 2.5-2.7 (NVM)	7.5	<0.5	Req														
0531784	E-WS308 0.2-0.3	7.2	<0.5	Req														

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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	09-Jan-06
Report Number	EFS/054538M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Job Number: S05_4538
Directory: 1213HSA1_GC6
Method: Headspace GCFID
Accreditation Code: U

Matrix: SOIL
Date Booked In: 30-Nov-05
Date extracted: 13-Dec-05
Date Analysed: 14-Dec-05

*** denotes the accreditation has been removed by the laboratory for this result only**

		Concentration, (mg/kg) - as dry weight.					Aliphatics				
Sample ID	Client ID	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	C5 - C6	>C6 - C7	>C7 - C8	>C8 - C10	Total GRO
CL0531770	E-WS301 0.9-1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531771	E-WS301 0.1-0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531772	E-WS302 1.1-1.2	<0.031	<0.031	<0.031	<0.031	<0.031	<0.6	<0.6	<0.6	<0.6	<0.6
CL0531773	E-WS302 0.2-0.3	<0.031	<0.031	<0.031	<0.031	<0.031	<0.6	<0.6	<0.6	<0.6	<0.6
CL0531774	E-WS303 1.9-2.0	<0.027	<0.027	<0.027	<0.027	<0.027	<0.5	<0.5	<0.5	<0.5	<0.5
CL0531775	E-BH306 1.6-1.8	<0.028	<0.028	<0.028	<0.028	<0.028	<0.6	<0.6	<0.6	<0.6	<0.6
CL0531776	E-BH306 4.0-4.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
CL0531777	E-BH302 6.0-6.2	<0.33	<0.33	<0.33	<0.33	<0.33	<7	<7	<7	<7	<7
CL0531778	E-BH302 7.0-7.2	<0.31	<0.31	<0.31	<0.31	<0.31	<6	<6	<6	<6	<6
CL0531779	E-BH304 0.1-0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531780	E-BH304 6.5-6.8	<0.032	<0.032	<0.032	<0.032	<0.032	<0.6	<0.6	<0.6	<0.6	<0.6
CL0531781	E-WS304 0.3-0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	0.2	<0.2	<0.2	0.3
CL0531782	E-WS304 0.8-0.9	<0.031	<0.031	<0.031	<0.031	<0.031	<0.6	<0.6	<0.6	<0.6	<0.6
CL0531783	E-WS305 2.5-2.7 (NVM)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531784	E-WS308 0.2-0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS301 0.9-1.0	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531770	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC1.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.7	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	87
Naphthalene-d8	85
Acenaphthene-d10	87
Phenanthrene-d10	88
Chrysene-d12	80
Perylene-d12	82

Surrogates	% Rec
Nitrobenzene-d5	60
2-Fluorobiphenyl	68
Terphenyl-d14	96

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS301 0.1-0.2	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531771	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC1.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	15.00	0.2	98	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	83
Naphthalene-d8	84
Acenaphthene-d10	85
Phenanthrene-d10	86
Chrysene-d12	85
Perylene-d12	90

Surrogates	% Rec
Nitrobenzene-d5	56
2-Fluorobiphenyl	67
Terphenyl-d14	97

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS302 1.1-1.2	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531772	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC1.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	87
Naphthalene-d8	84
Acenaphthene-d10	87
Phenanthrene-d10	89
Chrysene-d12	83
Perylene-d12	83

Surrogates	% Rec
Nitrobenzene-d5	54
2-Fluorobiphenyl	53
Terphenyl-d14	78

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS302 0.2-0.3	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531773	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC4.D	**Date Analysed:**	24-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	5.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 1.0	-	U
Acenaphthylene	208-96-8	-	< 1.0	-	U
Acenaphthene	83-32-9	-	< 1.0	-	U
Fluorene	86-73-7	-	< 1.0	-	U
Phenanthrene	85-01-8	15.00	2.1	98	U
Anthracene	120-12-7	-	< 1.0	-	U
Fluoranthene	206-44-0	17.51	5.8	91	U
Pyrene	129-00-0	17.95	5.3	93	U
Benzo[a]anthracene	56-55-3	20.53	3.3	95	U
Chrysene	218-01-9	20.60	3.2	98	U
Benzo[b]fluoranthene	205-99-2	22.68	3.2	94	U
Benzo[k]fluoranthene	207-08-9	22.74	1.3	96	U
Benzo[a]pyrene	50-32-8	23.36	2.6	99	U
Indeno[1,2,3-cd]pyrene	193-39-5	26.56	1.5	68	U
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-	U
Benzo[g,h,i]perylene	191-24-2	27.24	1.6	95	U
Total (USEPA16) PAHs	-	-	< 37.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	78
Naphthalene-d8	77
Acenaphthene-d10	76
Phenanthrene-d10	77
Chrysene-d12	69
Perylene-d12	76

Surrogates	% Rec
Nitrobenzene-d5	104
2-Fluorobiphenyl	97
Terphenyl-d14	98

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS303 1.9-2.0	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531774	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC1.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.5	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	87
Naphthalene-d8	85
Acenaphthene-d10	86
Phenanthrene-d10	86
Chrysene-d12	78
Perylene-d12	76

Surrogates	% Rec
Nitrobenzene-d5	53
2-Fluorobiphenyl	54
Terphenyl-d14	70

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH306 1.6-1.8	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531775	**Date Booked in:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC3.D	**Date Analysed:**	24-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.6	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	94
Naphthalene-d8	93
Acenaphthene-d10	94
Phenanthrene-d10	89
Chrysene-d12	79
Perylene-d12	86

Surrogates	% Rec
Nitrobenzene-d5	63
2-Fluorobiphenyl	67
Terphenyl-d14	86

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH306 4.0-4.3	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531776	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	84
Naphthalene-d8	85
Acenaphthene-d10	85
Phenanthrene-d10	84
Chrysene-d12	69
Perylene-d12	68

Surrogates	% Rec
Nitrobenzene-d5	66
2-Fluorobiphenyl	69
Terphenyl-d14	106

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH302 6.0-6.2	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531777	**Date Booked in:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.2	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	83
Naphthalene-d8	80
Acenaphthene-d10	81
Phenanthrene-d10	76
Chrysene-d12	66
Perylene-d12	70

Surrogates	% Rec
Nitrobenzene-d5	71
2-Fluorobiphenyl	71
Terphenyl-d14	93

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH302 7.0-7.2	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531778	**Date Booked in:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	86
Naphthalene-d8	83
Acenaphthene-d10	82
Phenanthrene-d10	79
Chrysene-d12	72
Perylene-d12	74

Surrogates	% Rec
Nitrobenzene-d5	49
2-Fluorobiphenyl	52
Terphenyl-d14	74

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH304 0.1-0.3	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531779	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC4.D	**Date Analysed:**	24-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	15.00	0.6	99	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	17.51	1.7	91	U
Pyrene	129-00-0	17.96	1.5	93	U
Benzo[a]anthracene	56-55-3	20.53	0.9	94	U
Chrysene	218-01-9	20.60	0.9	97	U
Benzo[b]fluoranthene	205-99-2	22.68	0.9	98	U
Benzo[k]fluoranthene	207-08-9	22.73	0.4	97	U
Benzo[a]pyrene	50-32-8	23.36	0.7	98	U
Indeno[1,2,3-cd]pyrene	193-39-5	26.56	0.5	69	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	27.25	0.5	94	U
Total (USEPA16) PAHs	-	-	< 10.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	82
Naphthalene-d8	80
Acenaphthene-d10	79
Phenanthrene-d10	78
Chrysene-d12	70
Perylene-d12	76

Surrogates	% Rec
Nitrobenzene-d5	55
2-Fluorobiphenyl	57
Terphenyl-d14	76

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH304 6.5-6.8	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531780	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	82
Naphthalene-d8	80
Acenaphthene-d10	80
Phenanthrene-d10	79
Chrysene-d12	68
Perylene-d12	69

Surrogates	% Rec
Nitrobenzene-d5	48
2-Fluorobiphenyl	53
Terphenyl-d14	80

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS304 0.3-0.5	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531781	**Date Booked in:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	17.50	0.6	90	U
Pyrene	129-00-0	17.96	0.6	94	U
Benzo[a]anthracene	56-55-3	20.53	0.4	95	U
Chrysene	218-01-9	20.60	0.4	98	U
Benzo[b]fluoranthene	205-99-2	22.68	0.4	93	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	23.36	0.2	95	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 5.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	82
Naphthalene-d8	82
Acenaphthene-d10	81
Phenanthrene-d10	81
Chrysene-d12	70
Perylene-d12	75

Surrogates	% Rec
Nitrobenzene-d5	41
2-Fluorobiphenyl	51
Terphenyl-d14	89

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS304 0.8-0.9	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531782	**Date Booked in:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	80
Naphthalene-d8	76
Acenaphthene-d10	78
Phenanthrene-d10	77
Chrysene-d12	69
Perylene-d12	72

Surrogates	% Rec
Nitrobenzene-d5	64
2-Fluorobiphenyl	66
Terphenyl-d14	96

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS305 2.5-2.7 (NVM)	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531783	**Date Booked in:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	24-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.6	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	85
Naphthalene-d8	82
Acenaphthene-d10	82
Phenanthrene-d10	80
Chrysene-d12	65
Perylene-d12	64

Surrogates	% Rec
Nitrobenzene-d5	35
2-Fluorobiphenyl	37
Terphenyl-d14	54

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS308 0.2-0.3	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531784	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	24-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	83
Naphthalene-d8	79
Acenaphthene-d10	80
Phenanthrene-d10	77
Chrysene-d12	62
Perylene-d12	64

Surrogates	% Rec
Nitrobenzene-d5	57
2-Fluorobiphenyl	64
Terphenyl-d14	82

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2691
Sample Details:	E-BH306 1.6-1.8	**Date Booked In:**	30-Nov-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0531775	**Date Extracted:**	21-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4538M	**Date Analysed:**	24-Dec-05	**Directory/Quant File:**	1223ABN.MS6\ 1223CCC3.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 11.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	-	< 0.2	-	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.2	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	94
Naphthalene-d8	93
Acenaphthene-d10	94
Phenanthrene-d10	89
Chrysene-d12	79
Perylene-d12	86

Surrogates	% Rec
2-Fluorophenol	70
Phenol-d5	64
Nitrobenzene-d5	63
2-Fluorobiphenyl	67
2,4,6-Tribromophenol	63
Terphenyl-d14	86

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2691
Sample Details:	E-BH302 6.0-6.2	**Date Booked In:**	30-Nov-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0531777	**Date Extracted:**	21-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4538M	**Date Analysed:**	23-Dec-05	**Directory/Quant File:**	1223ABN.MS6\ 1223CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 3.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.7	-	U
2-Chlorophenol	95-57-8	-	< 3.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.7	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.7	-	U
Benzyl alcohol	100-51-6	-	< 0.7	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.7	-	U
2-Methylphenol	95-48-7	-	< 0.7	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.7	-	U
Hexachloroethane	67-72-1	-	< 0.7	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.7	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 3.0	-	UM
Nitrobenzene	98-95-3	-	< 0.7	-	UM
Isophorone	78-59-1	-	< 0.7	-	UM
2-Nitrophenol	88-75-5	-	< 3.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 3.0	-	UM
Benzoic Acid	65-85-0 *	-	< 13.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.7	-	U
2,4-Dichlorophenol	120-83-2	-	< 3.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.7	-	UM
Naphthalene	91-20-3	-	< 0.3	-	UM
4-Chlorophenol	106-48-9	-	< 3.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.7	-	U
Hexachlorobutadiene	87-68-3	-	< 0.7	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.7	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.3	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.3	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.7	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 3.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 3.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.3	-	U
Biphenyl	92-52-4	-	< 0.3	-	UM
Diphenyl ether	101-84-8	-	< 0.3	-	UM
2-Nitroaniline	88-74-4	-	< 0.7	-	UM
Acenaphthylene	208-96-8	-	< 0.3	-	UM
Dimethylphthalate	131-11-3	-	< 0.7	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.7	-	UM
Acenaphthene	83-32-9	-	< 0.3	-	UM
3-Nitroaniline	99-09-2	-	< 0.7	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.7	-	UM
4-Nitrophenol	100-02-7	-	< 7.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.7	-	UM
Fluorene	86-73-7	-	< 0.3	-	UM
Diethylphthalate	84-66-2	-	< 0.7	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.7	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 7.0	-	U
4-Nitroaniline	100-01-6	-	< 0.7	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.7	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.7	-	UM
Hexachlorobenzene	118-74-1	-	< 0.7	-	UM
Pentachlorophenol	87-86-5	-	< 7.0	-	U
Phenanthrene	85-01-8	-	< 0.3	-	UM
Anthracene	120-12-7	-	< 0.3	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.7	-	UM
Fluoranthene	206-44-0	-	< 0.3	-	UM
Pyrene	129-00-0	-	< 0.3	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.7	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.3	-	UM
Chrysene	218-01-9	-	< 0.3	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 3.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	20.92	3.4	99	U
Di-n-octylphthalate	117-84-0	-	< 0.3	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.3	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	83
Naphthalene-d8	80
Acenaphthene-d10	81
Phenanthrene-d10	76
Chrysene-d12	66
Perylene-d12	70

Surrogates	% Rec
2-Fluorophenol	79
Phenol-d5	65
Nitrobenzene-d5	71
2-Fluorobiphenyl	71
2,4,6-Tribromophenol	69
Terphenyl-d14	93

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2691
Sample Details:	E-BH304 6.5-6.8	**Date Booked In:**	30-Nov-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0531780	**Date Extracted:**	21-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4538M	**Date Analysed:**	23-Dec-05	**Directory/Quant File:**	1223ABN.MS6\ 1223CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 3.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 3.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 3.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 3.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 3.0	-	UM
Benzoic Acid	65-85-0 *	-	< 13.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 3.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.3	-	UM
4-Chlorophenol	106-48-9	-	< 3.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.3	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.3	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 3.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 3.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.3	-	U
Biphenyl	92-52-4	-	< 0.3	-	UM
Diphenyl ether	101-84-8	-	< 0.3	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.3	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.3	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.3	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	-	< 0.3	-	UM
Anthracene	120-12-7	-	< 0.3	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.3	-	UM
Pyrene	129-00-0	-	< 0.3	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.3	-	UM
Chrysene	218-01-9	-	< 0.3	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 3.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.3	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.3	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	82
Naphthalene-d8	80
Acenaphthene-d10	80
Phenanthrene-d10	79
Chrysene-d12	68
Perylene-d12	69

Surrogates	% Rec
2-Fluorophenol	57
Phenol-d5	51
Nitrobenzene-d5	48
2-Fluorobiphenyl	53
2,4,6-Tribromophenol	51
Terphenyl-d14	80

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details: Entec UK Ltd : HMS Daedalus (E)
Job Number: S05_4538
QC Batch Number: 52733
Directory: O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\072B2901.D
Method: ASE

Separation: Silica gel
Eluents: Pentane, DCM

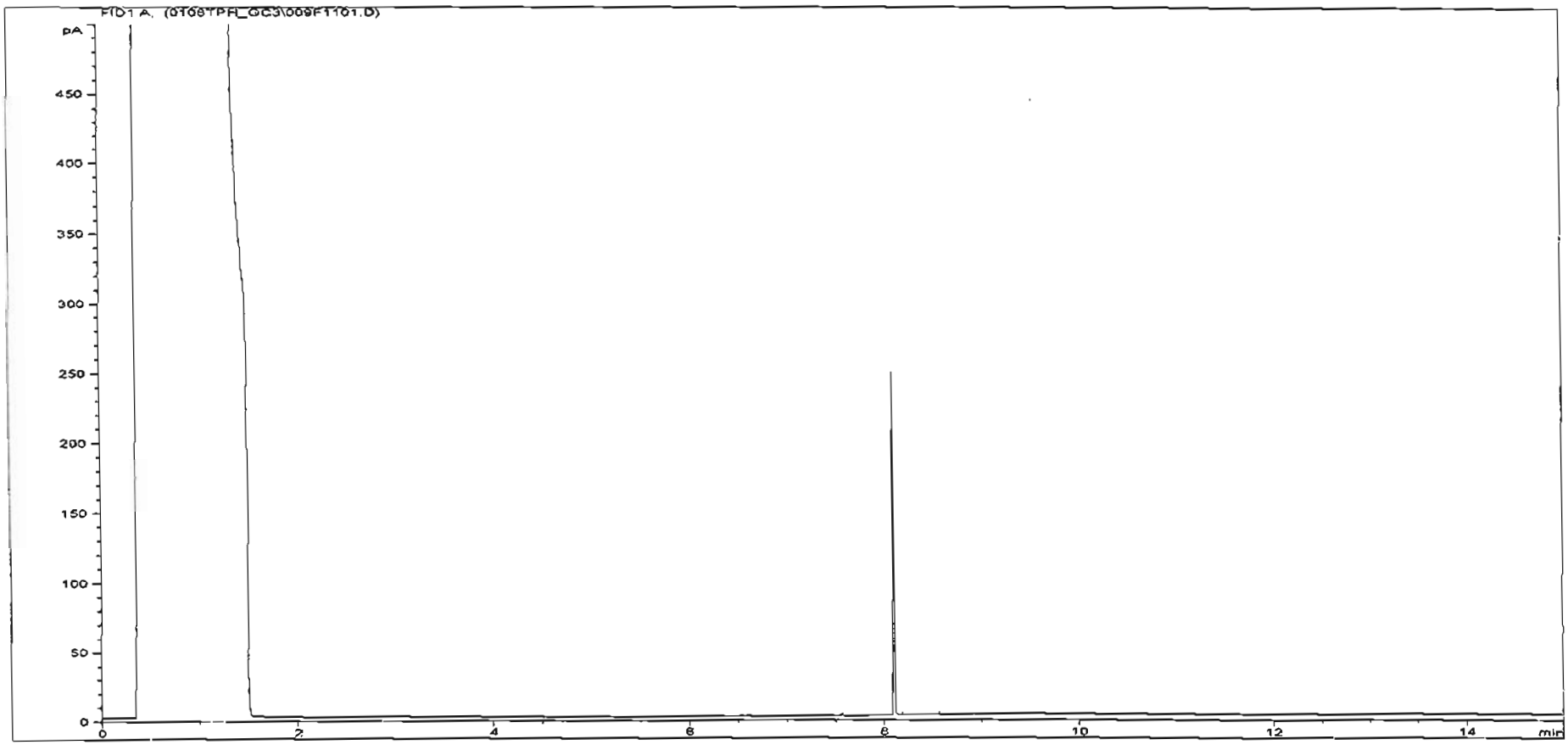
Matrix: Soil
Date Booked in: 30-Nov-05
Date Extracted: 31-Dec-05
Date Analysed: 07-Jan-06

This sample data is not accredited.

		Concentration, (mg/kg) - as dry weight.									
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35	
Sample ID	Client ID	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics
CL0531770	E-WS301 0.9-1.0	<0.80	<0.80	<0.80	<0.80	<1.59	<1.59	<1.98	<1.98	<5.56	<5.56
CL0531771	E-WS301 0.1-0.2	<0.84	<0.84	<0.84	<0.84	<1.68	<1.68	<2.09	<2.09	<5.86	<5.86
CL0531772	E-WS302 1.1-1.2	<0.87	<0.87	<0.87	<0.87	<1.74	<1.74	<2.16	<2.16	<6.06	<6.06
CL0531773	E-WS302 0.2-0.3	<0.84	<0.84	<0.84	<0.84	<1.69	<1.69	<2.11	5.58	<5.90	24.7
CL0531774	E-WS303 1.9-2.0	<0.75	<0.75	<0.75	<0.75	<1.49	<1.49	<1.86	<1.86	<5.21	<5.21
CL0531775	E-BH306 1.6-1.8	<0.78	<0.78	<0.78	<0.78	<1.57	<1.57	<1.95	<1.95	<5.48	<5.48
CL0531776	E-BH306 4.0-4.3	<0.87	<0.87	<0.87	<0.87	<1.75	<1.75	<2.18	<2.18	<6.11	<6.11
CL0531777	E-BH302 6.0-6.2	<0.90	<0.90	<0.90	<0.90	<1.79	<1.79	2.35	2.59	<6.27	<6.27
CL0531778	E-BH302 7.0-7.2	<0.85	<0.85	<0.85	<0.85	<1.70	<1.70	<2.12	<2.12	<5.94	<5.94
CL0531779	E-BH304 0.1-0.3	<0.82	<0.82	<0.82	<0.82	<1.63	<1.63	<2.04	3.49	<5.70	13.7
CL0531780	E-BH304 6.5-6.8	<0.88	<0.88	<0.88	<0.88	<1.76	<1.76	<2.19	<2.19	<6.13	<6.13
CL0531781	E-WS304 0.3-0.5	<0.83	<0.83	<0.83	<0.83	<1.67	<1.67	<2.08	<2.08	<5.83	<5.83
CL0531782	E-WS304 0.8-0.9	<0.85	<0.85	<0.85	<0.85	<1.70	<1.70	<2.12	<2.12	<5.93	<5.93
CL0531783	E-WS305 2.5-2.7 (NVM)	<0.77	<0.77	<0.77	<0.77	<1.53	<1.53	<1.91	<1.91	<5.36	<5.36
CL0531784	E-WS308 0.2-0.3	<0.83	<0.83	<0.83	<0.83	<1.66	<1.66	<2.07	<2.07	<5.80	<5.80

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

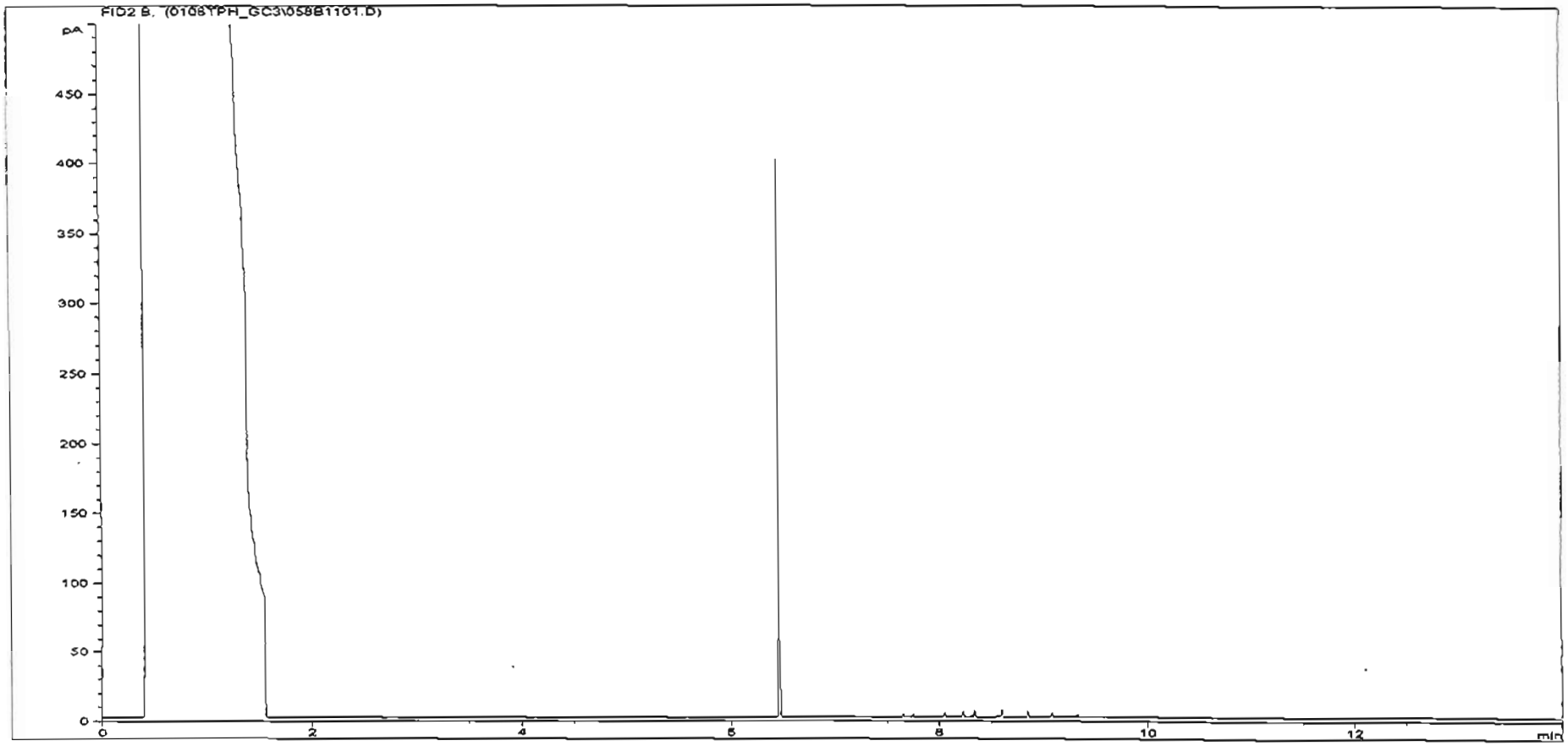
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531770ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS301 0.9-1.0
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\009F1101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard

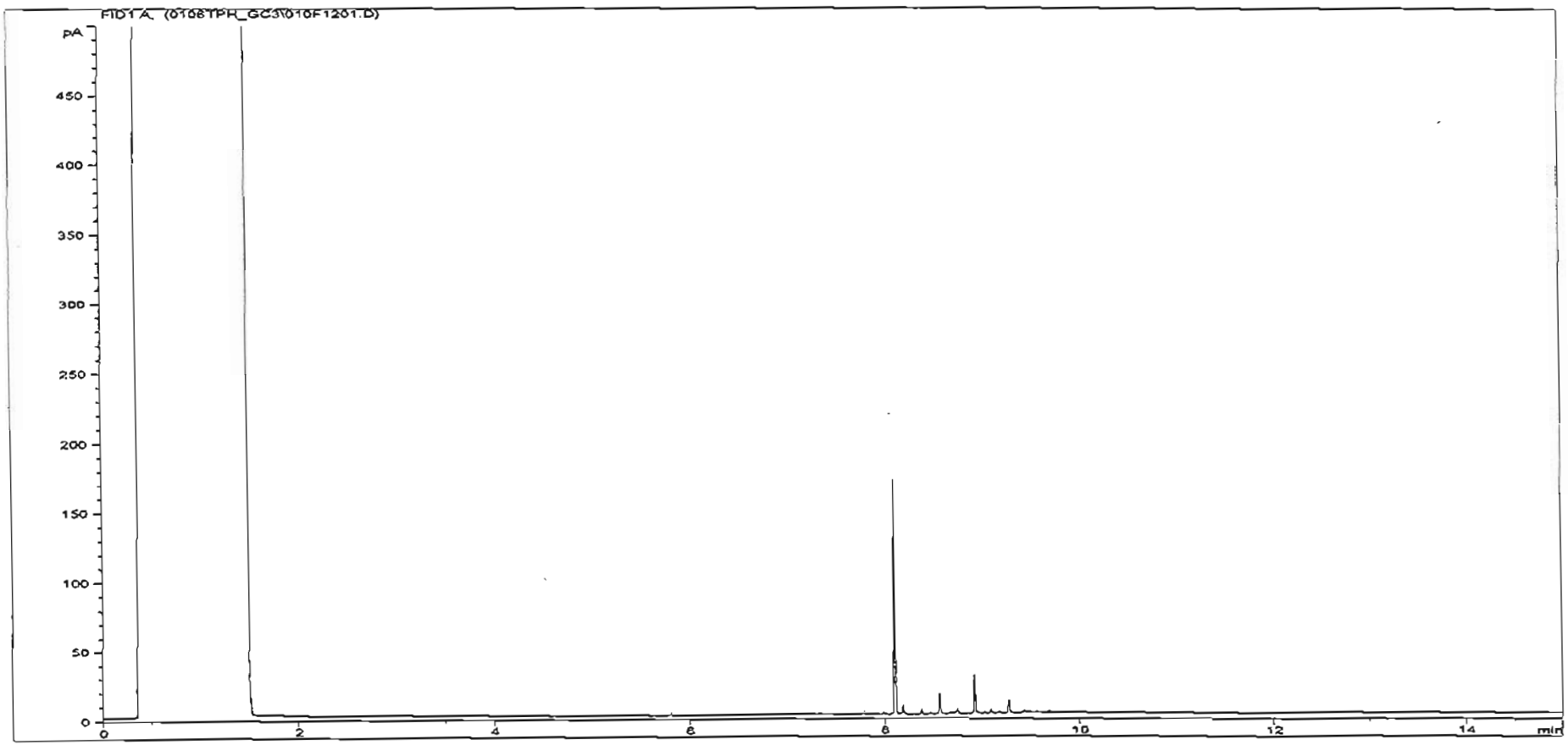
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531770ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS301 0.9-1.0
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\058B1101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

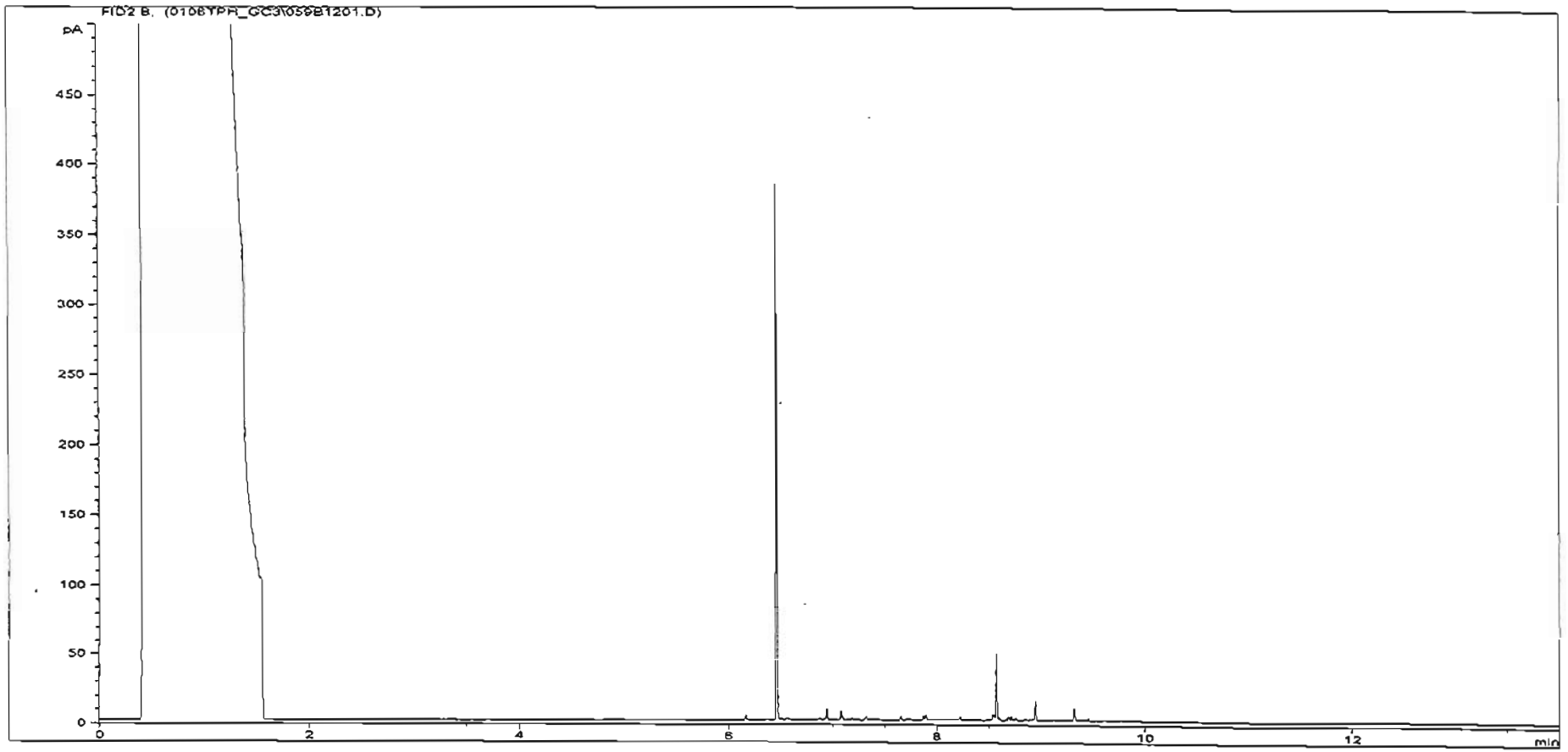
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531771ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS301 0.1-0.2
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\010F1201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

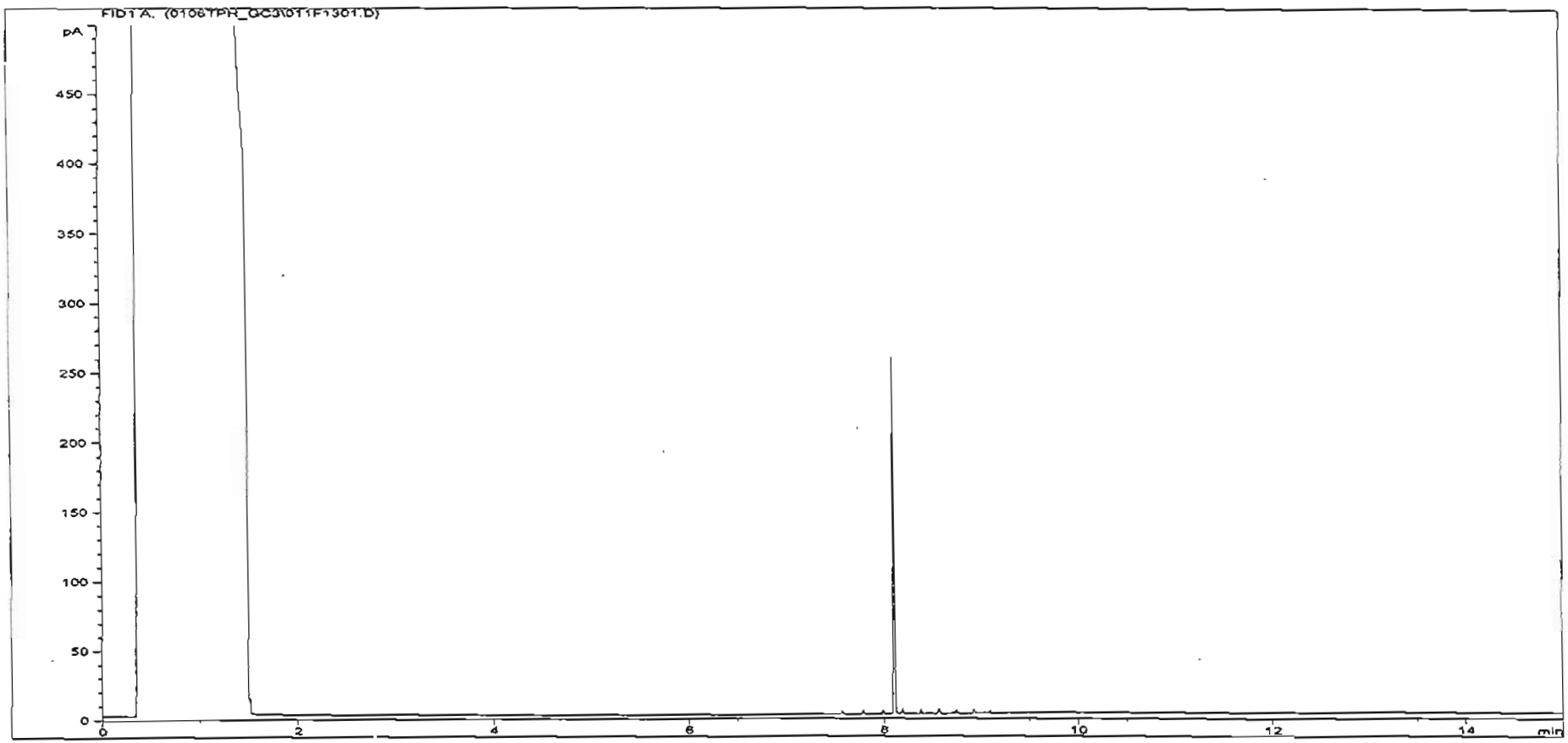
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531771ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS301 0.1-0.2
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\059B1201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

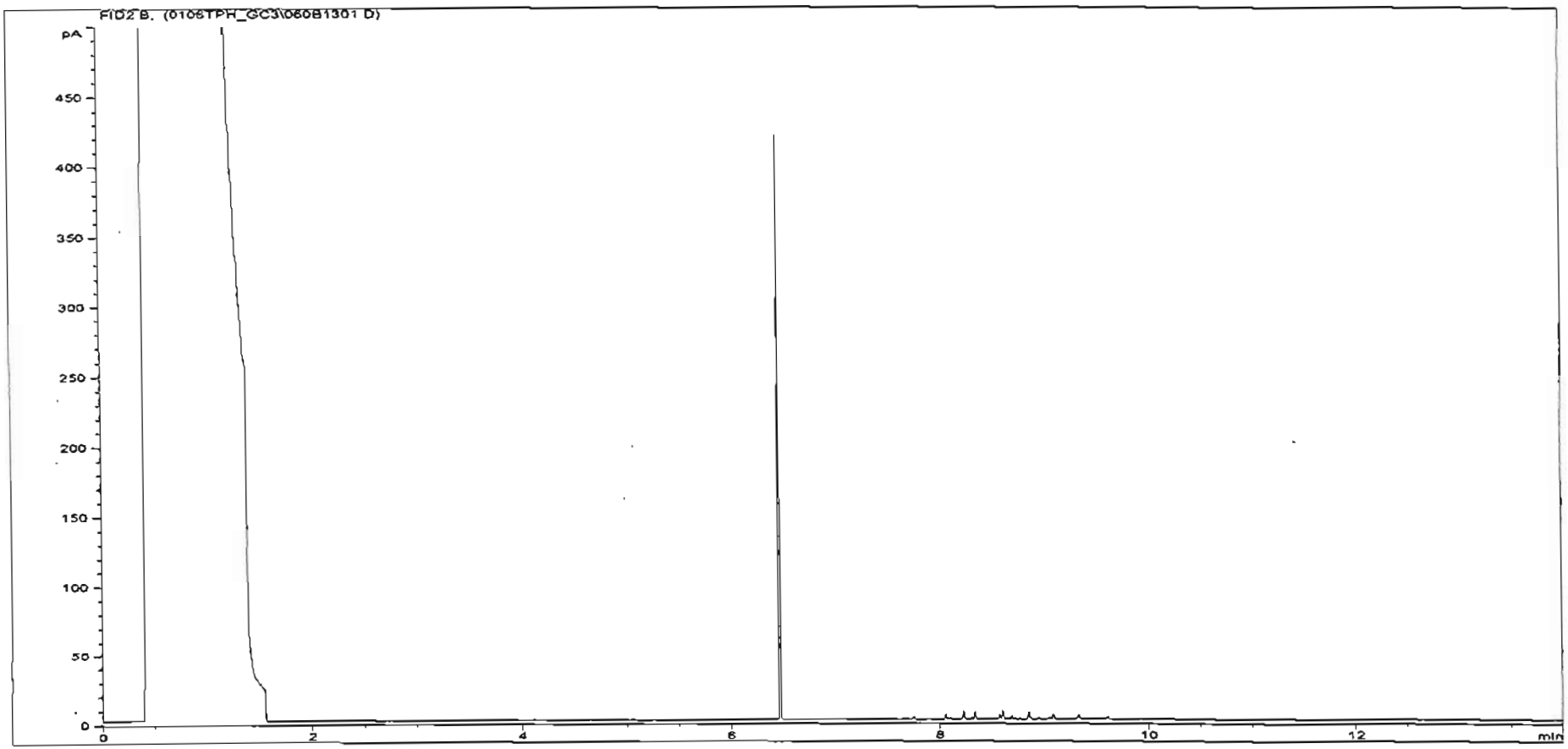
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531772ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS302 1.1-1.2
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\011F1301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

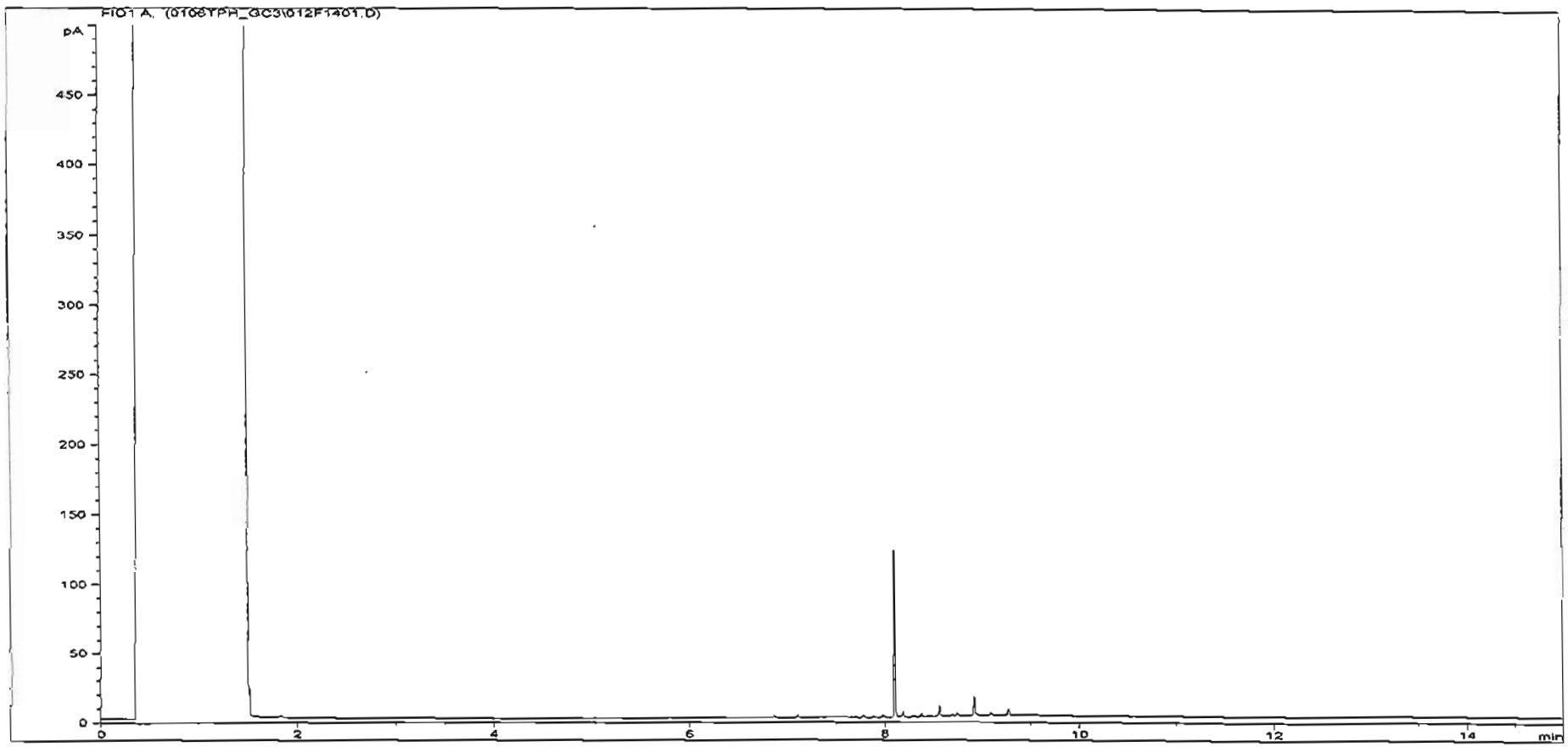
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531772ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS302 1.1-1.2
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\060B1301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

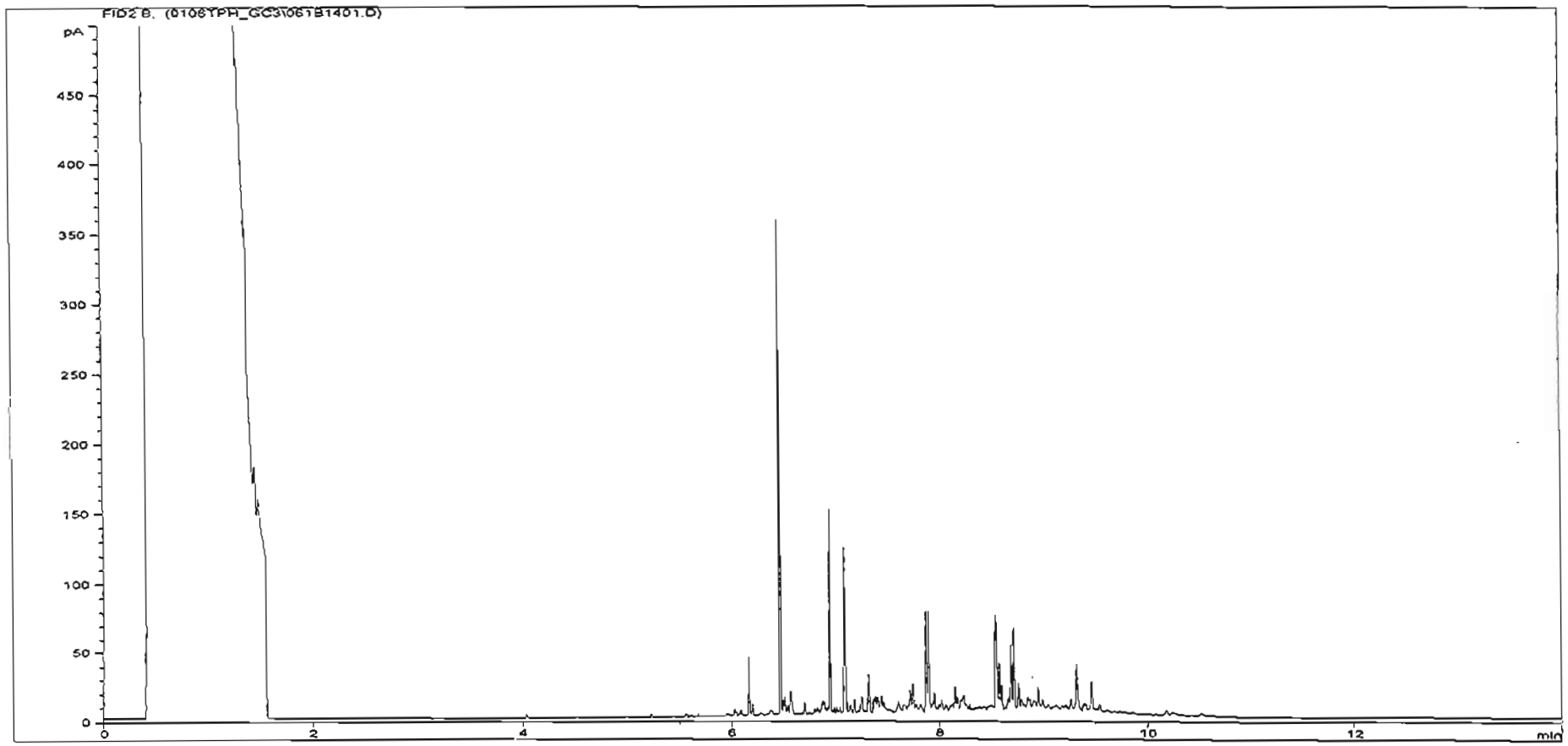
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531773ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS302 0.2-0.3
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\012F1401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

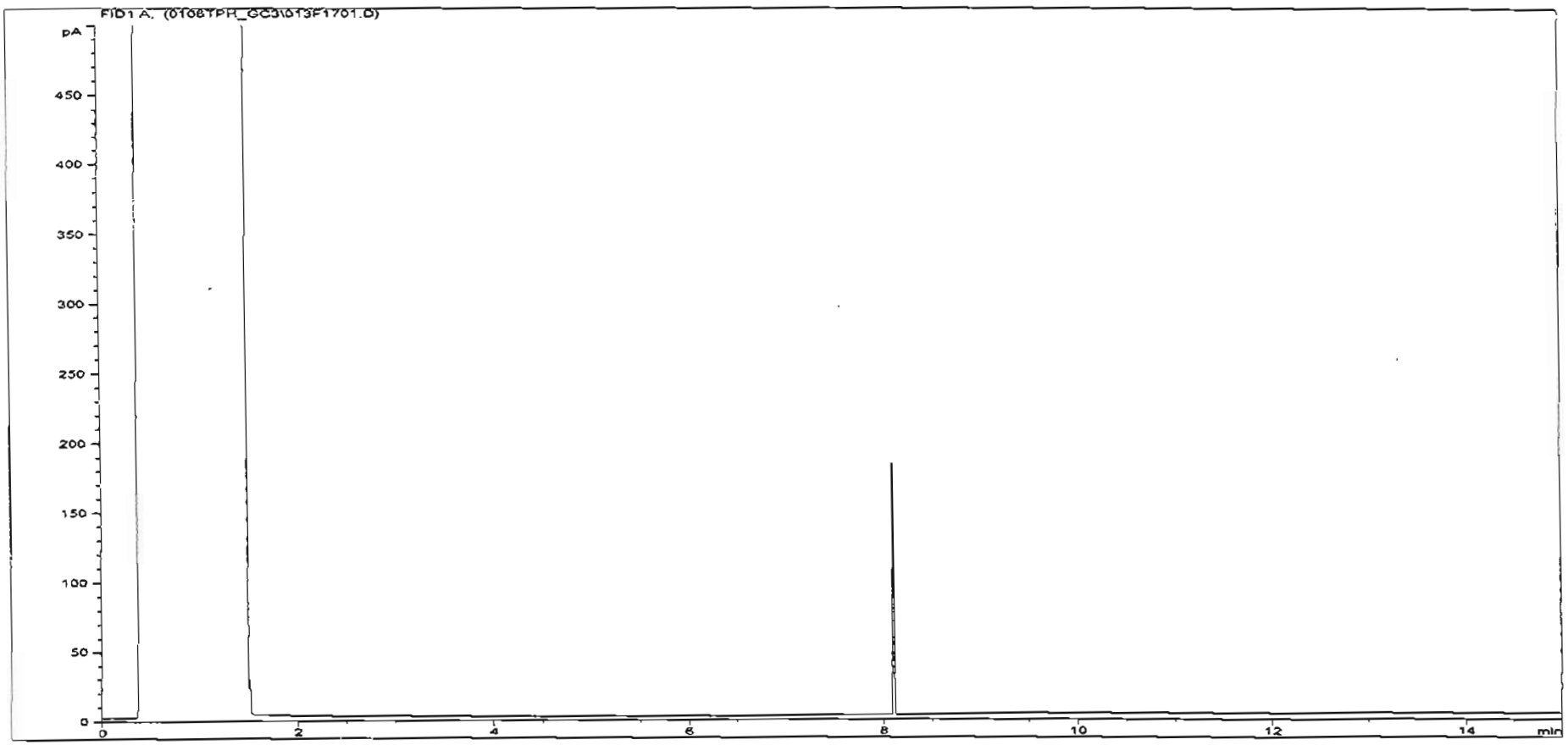
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531773ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS302 0.2-0.3
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\061B1401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

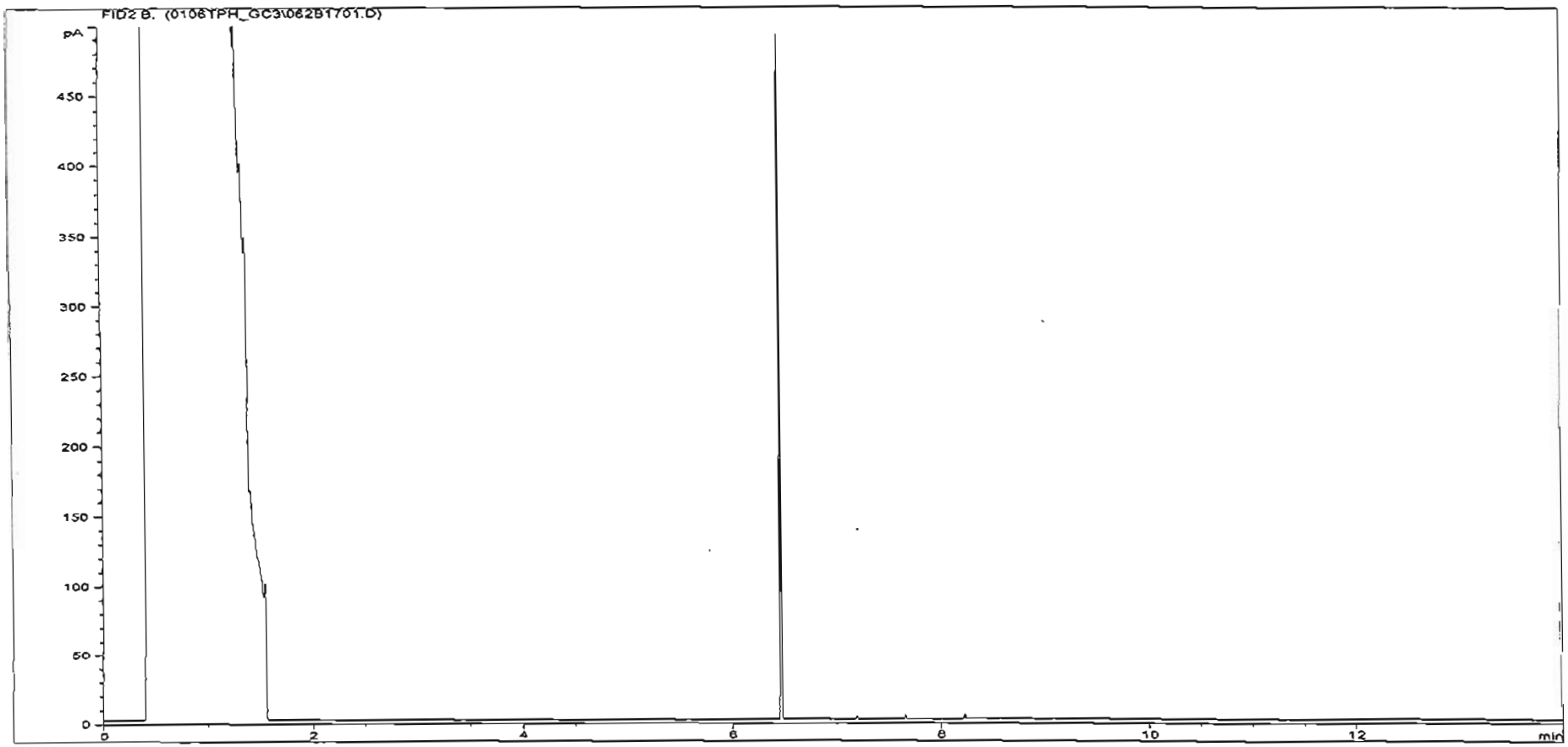
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531774ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS303 1.9-2.0
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\013F1701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

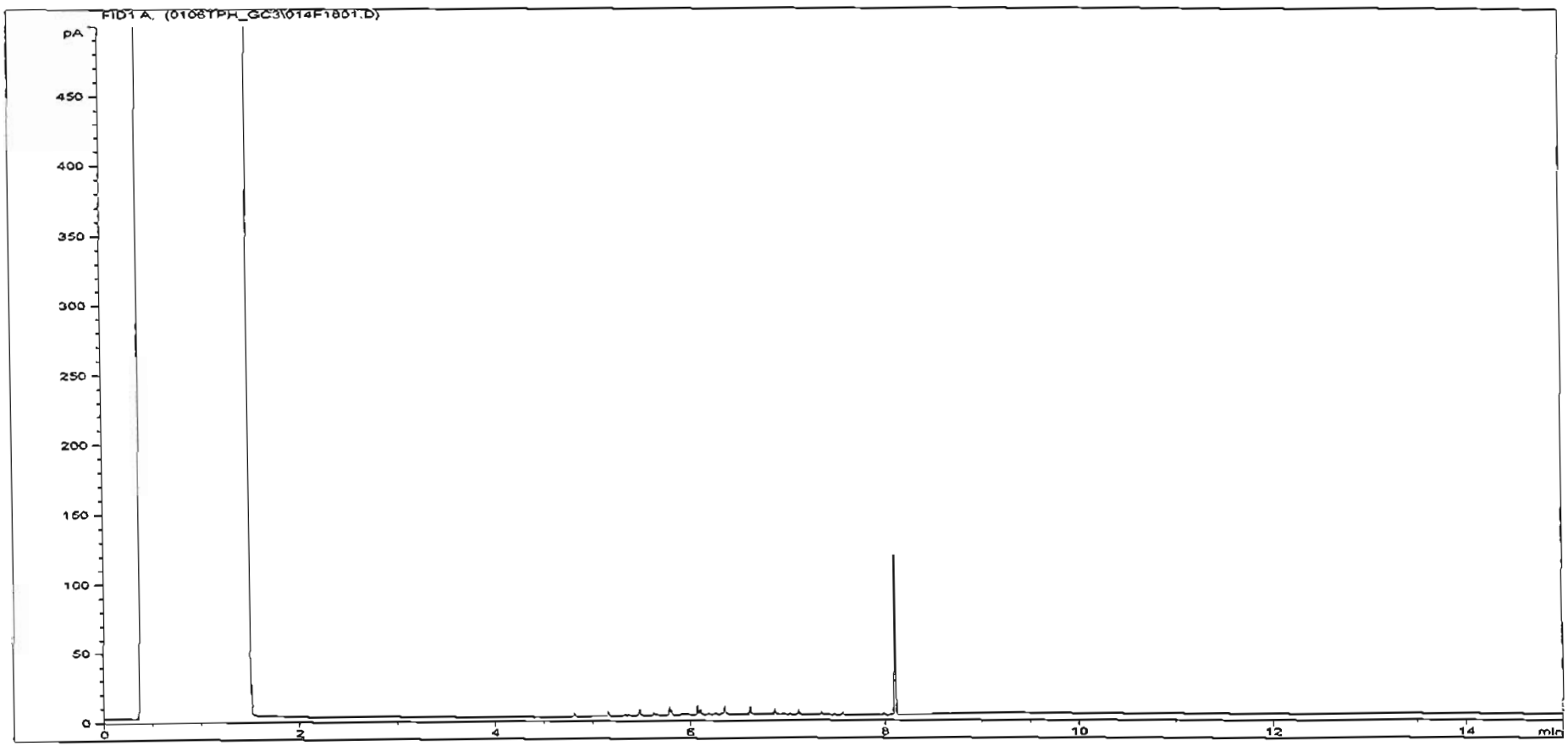
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531774ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS303 1.9-2.0
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\062B1701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

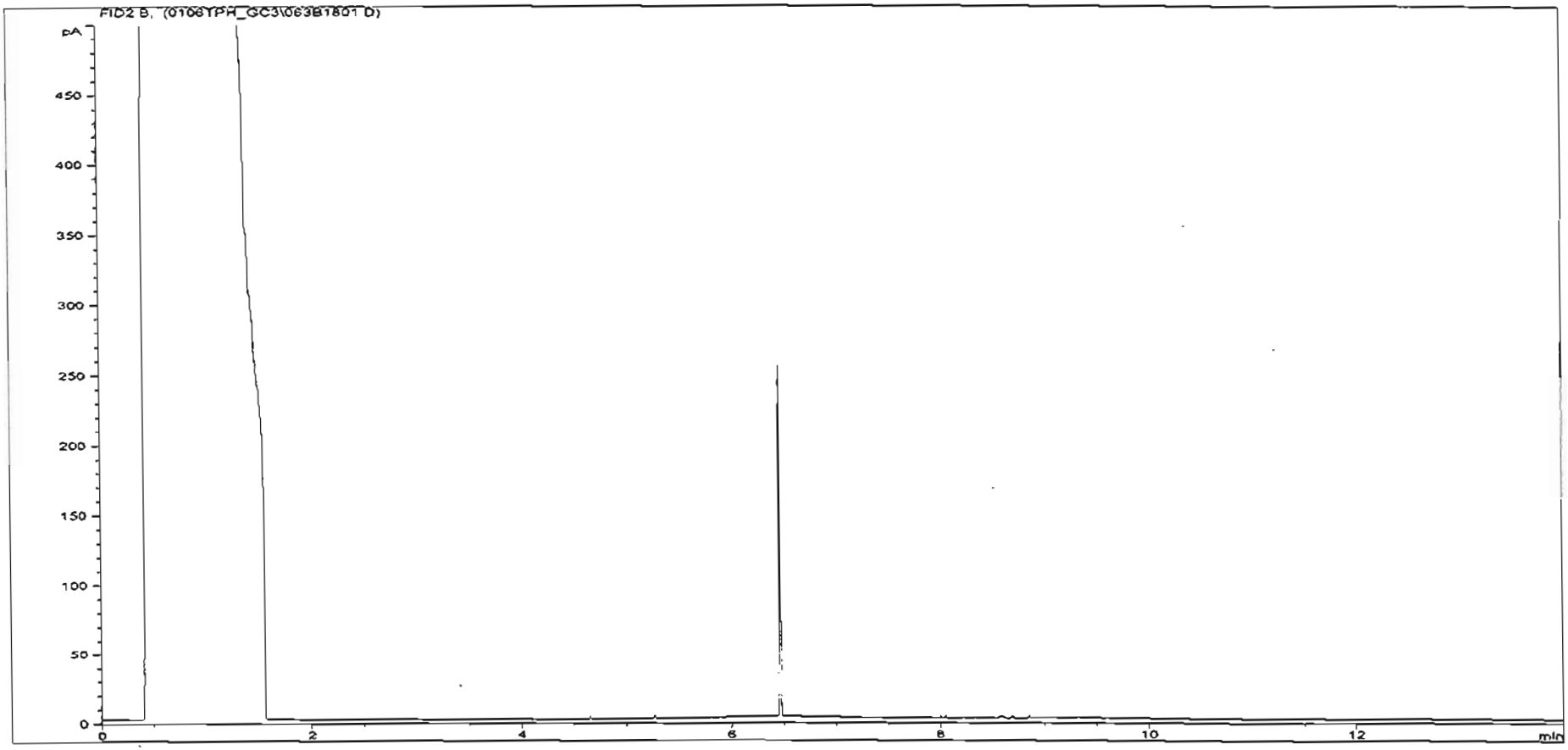
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531775ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH306 1.6-1.8
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\014F1801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

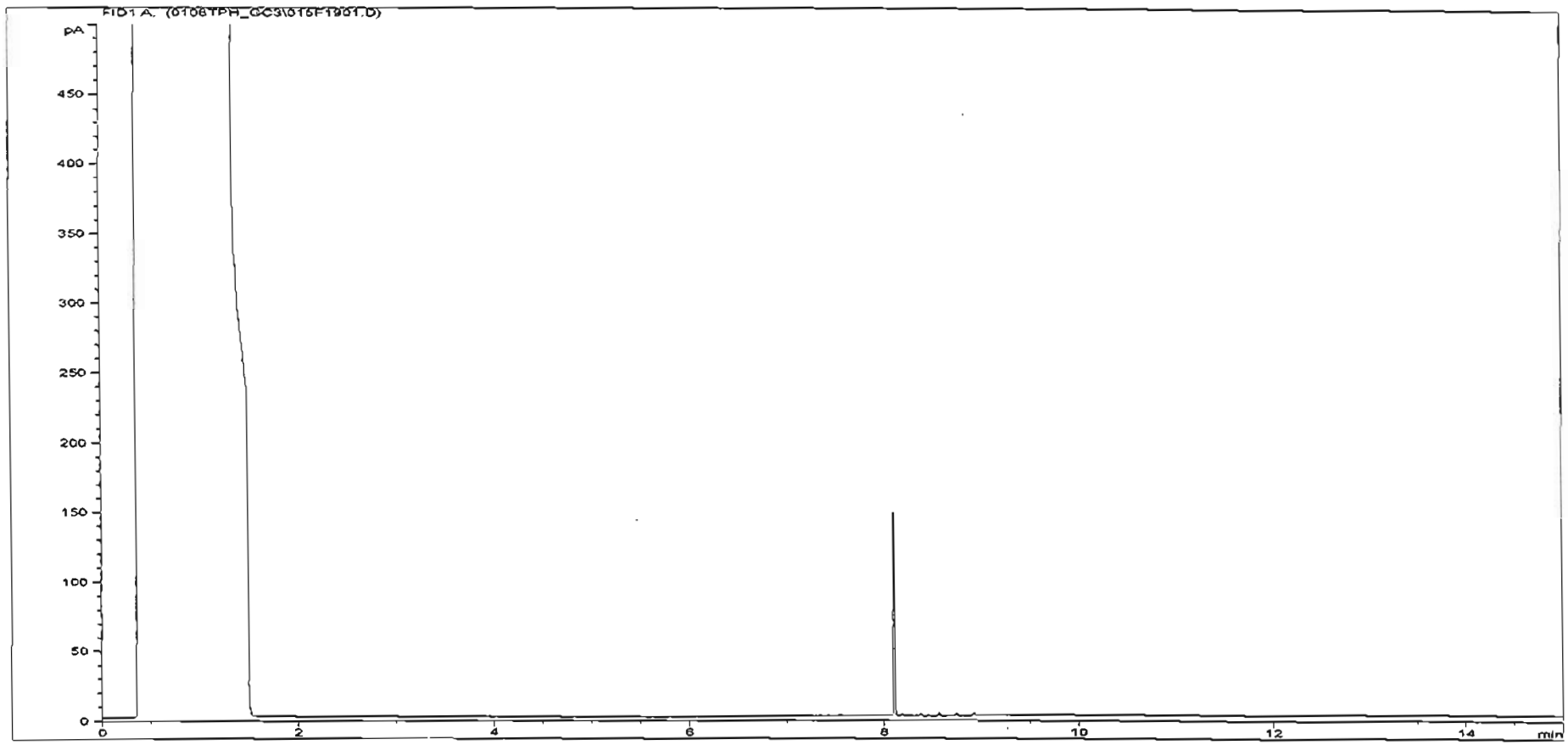
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531775ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH306 1.6-1.8
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\063B1801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

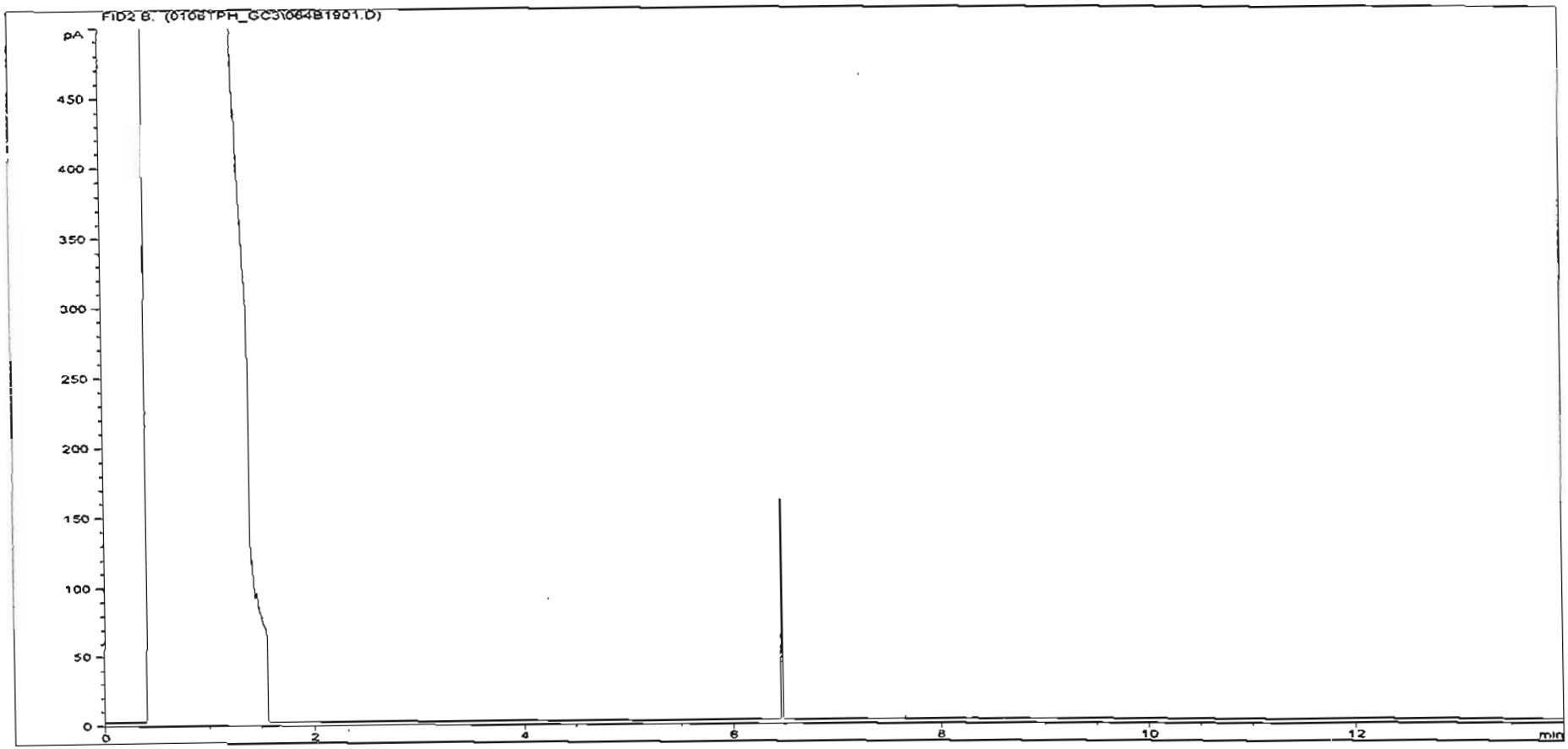
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531776ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH306 4.0-4.3
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\015F1901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

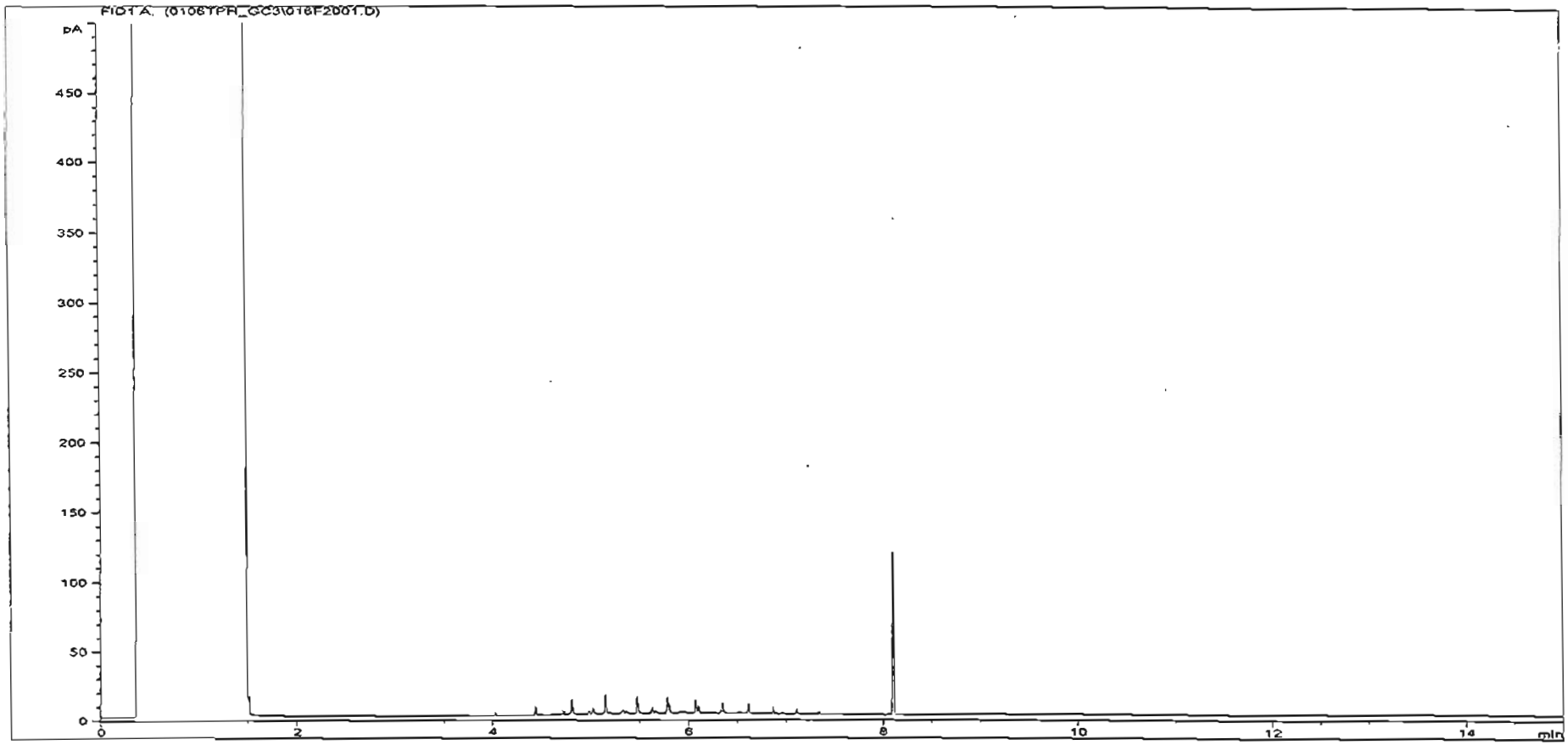
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531776ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH306 4.0-4.3
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\064B1901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

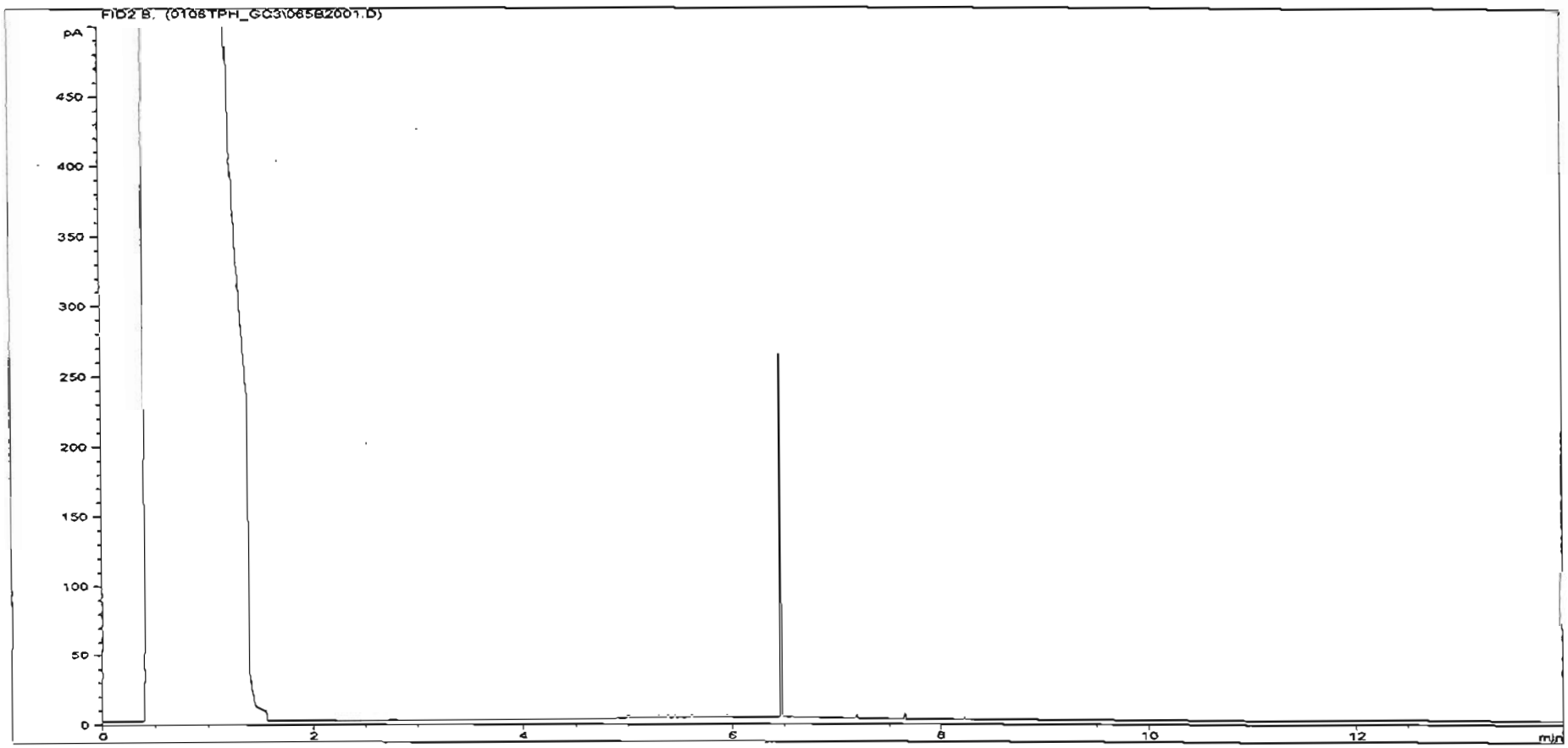
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531777ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH302 6.0-6.2
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\016F2001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

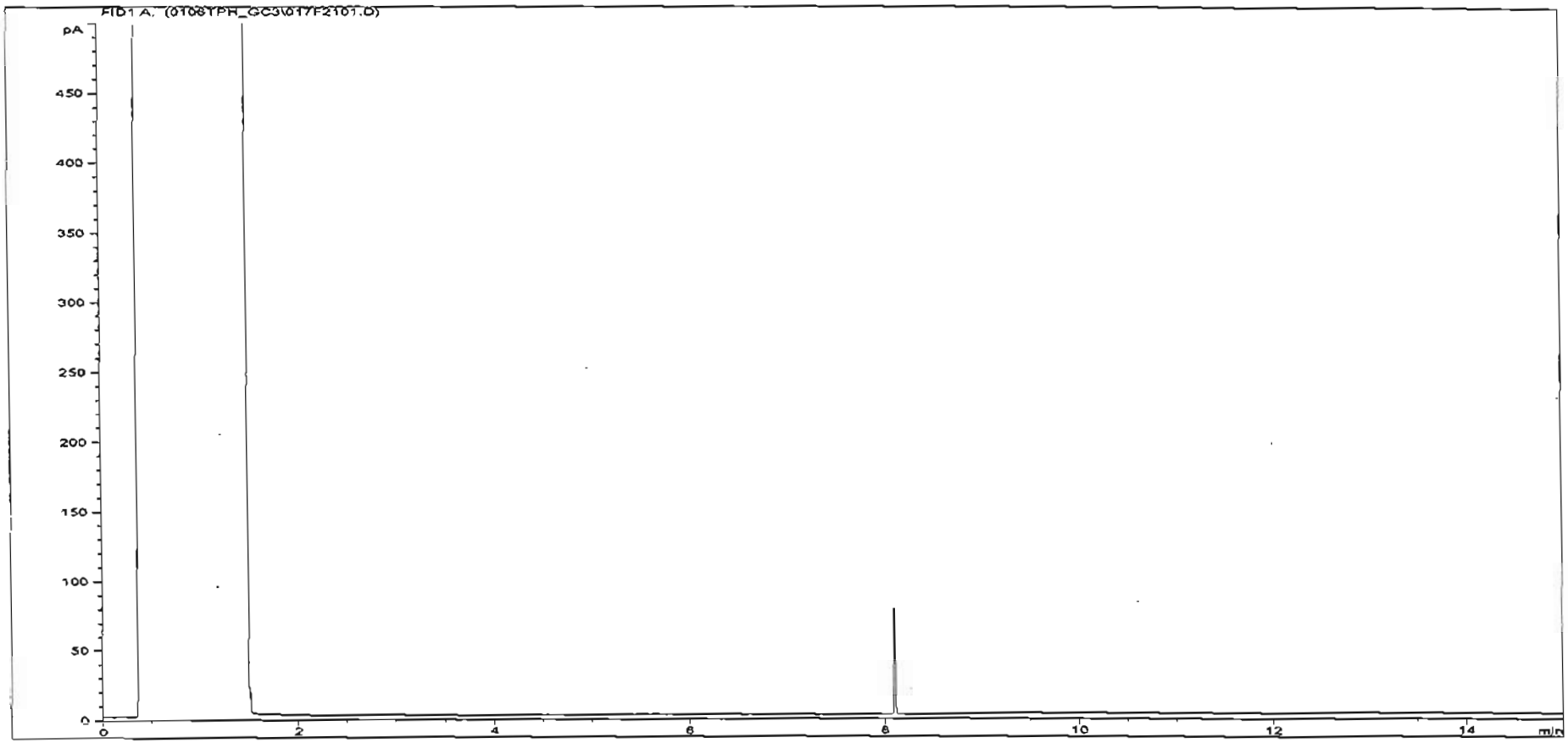
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531777ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH302 6.0-6.2
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\065B2001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

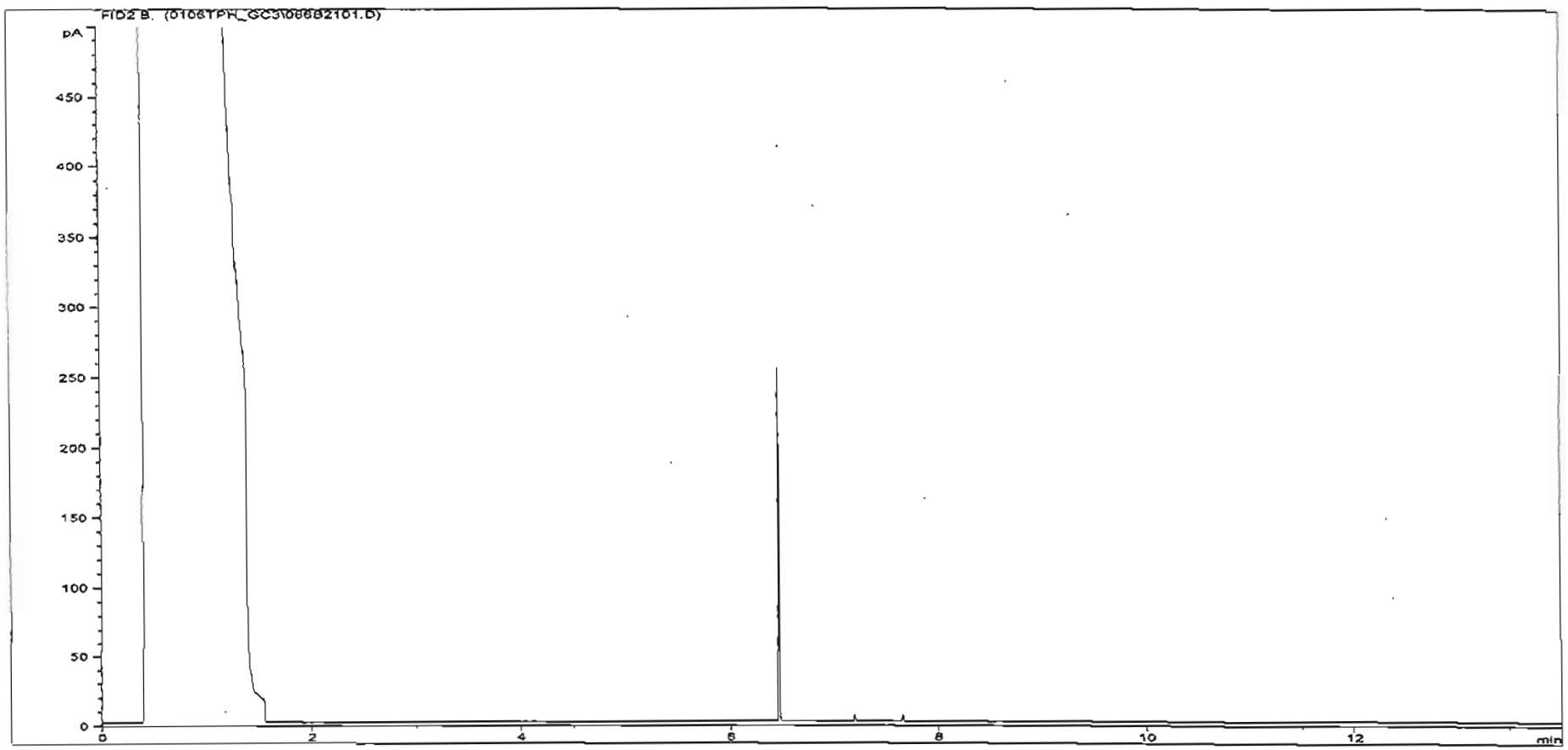
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531778ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH302 7.0-7.2
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\017F2101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

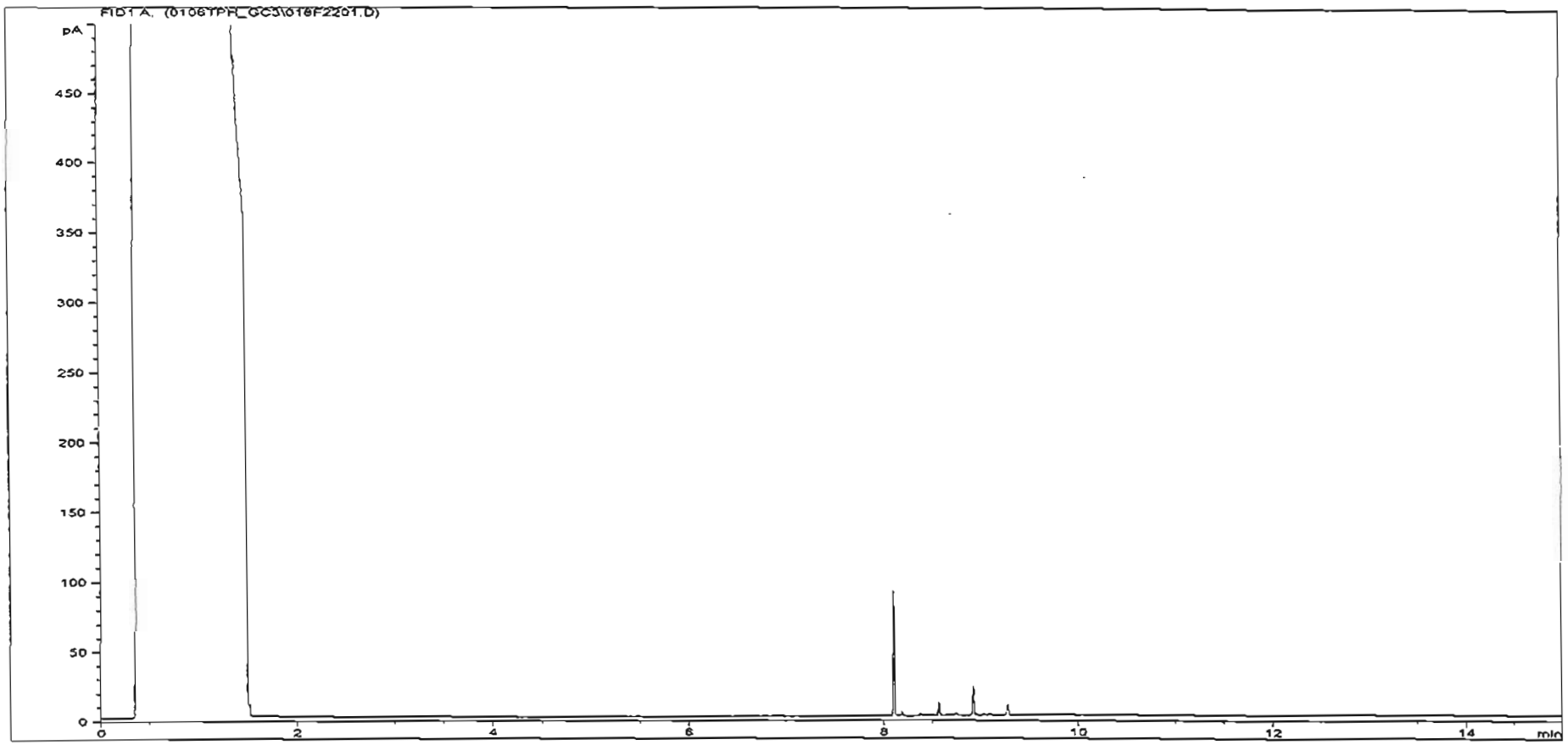
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531778ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH302 7.0-7.2
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\066B2101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

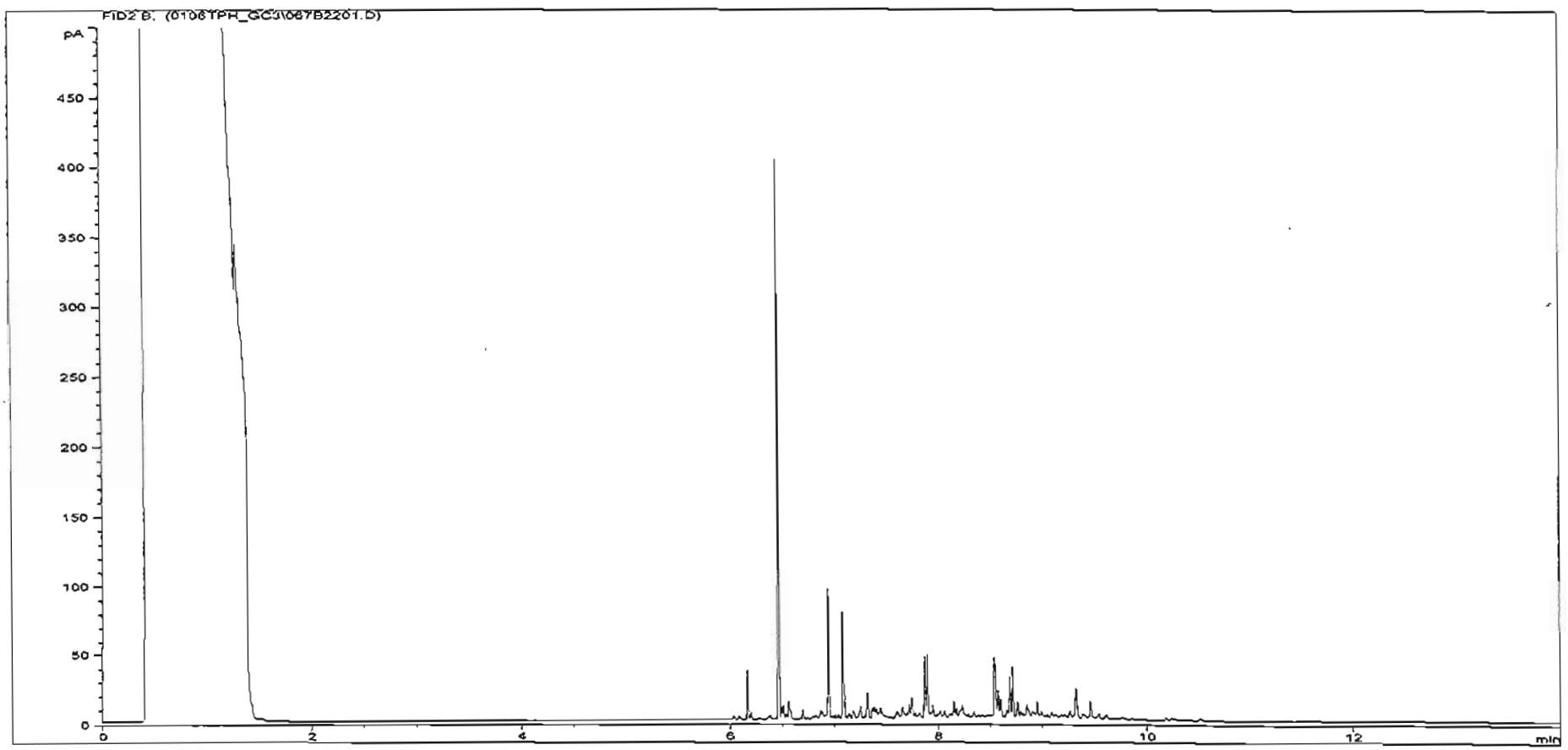
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531779ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH304 0.1-0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\018F2201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

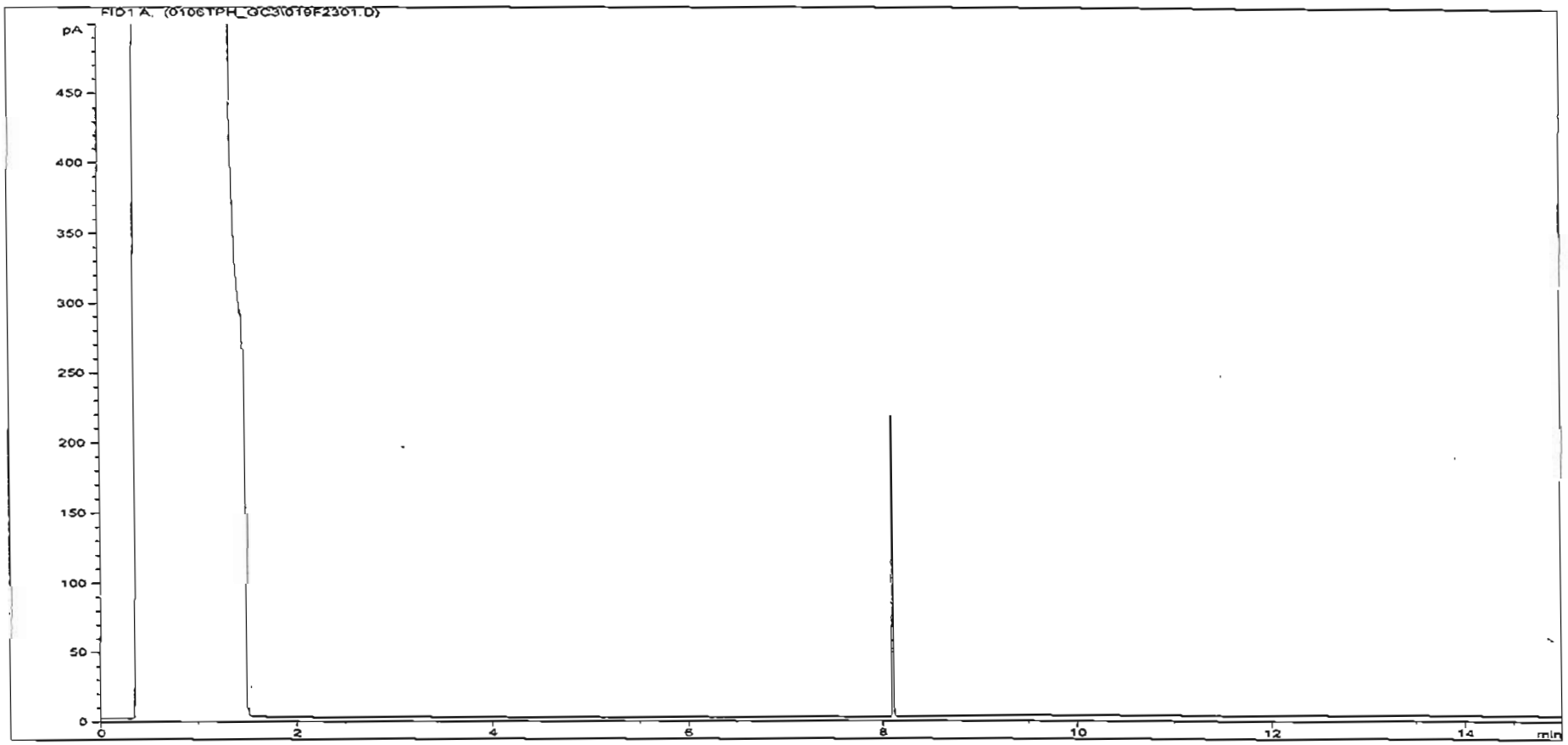
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531779ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH304 0.1-0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\067B2201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

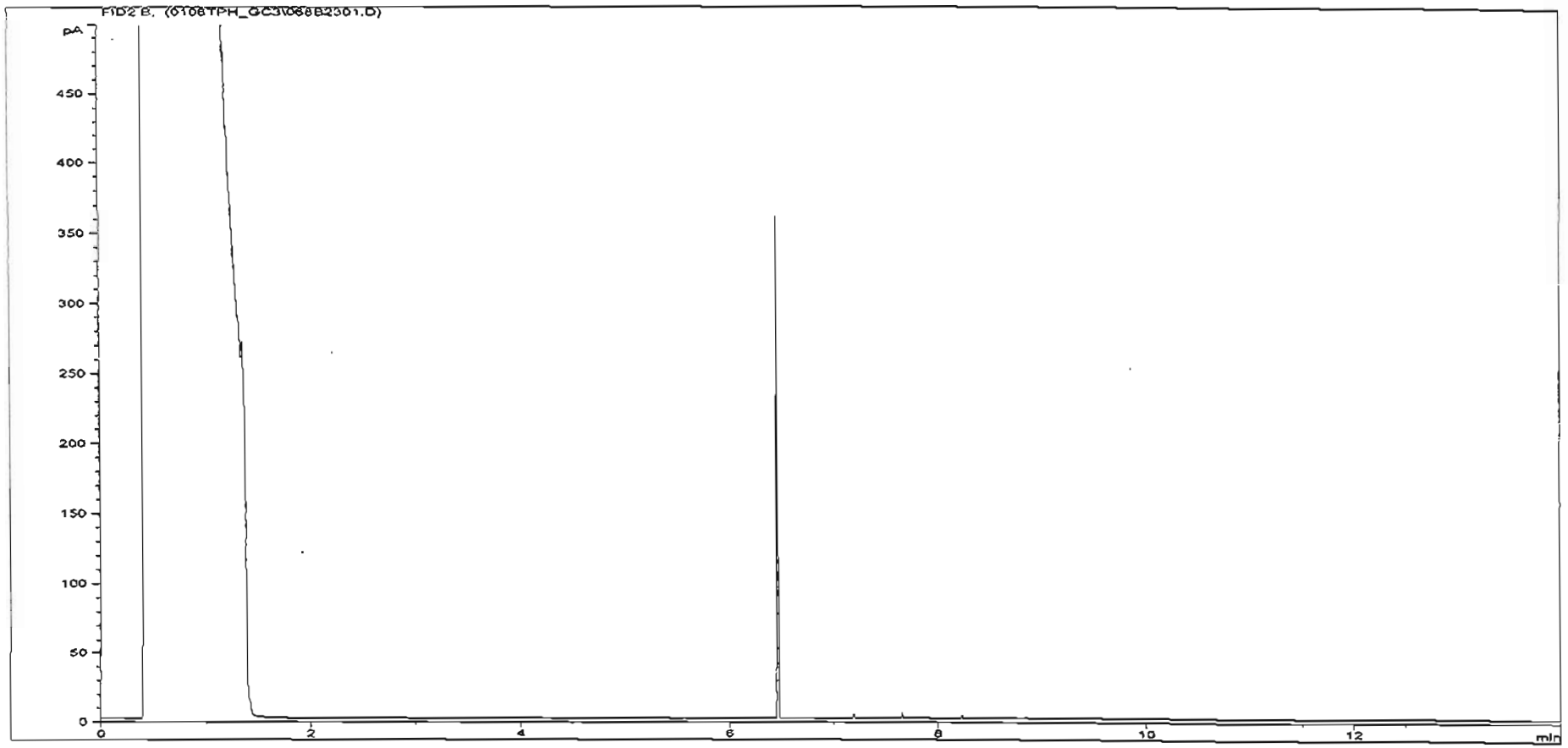
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531780ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH304 6.5-6.8
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\019F2301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

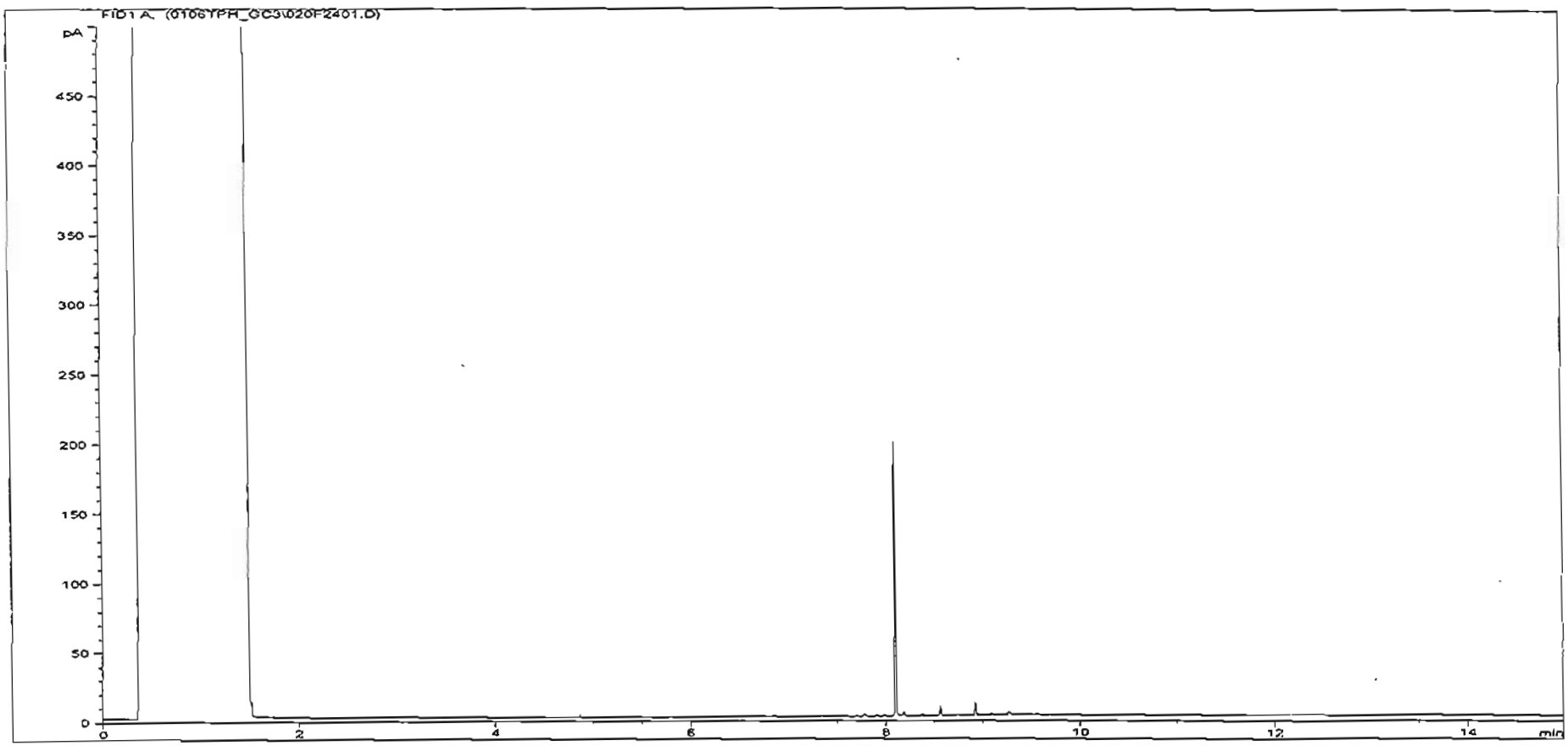
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531780ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH304 6.5-6.8
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\068B2301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

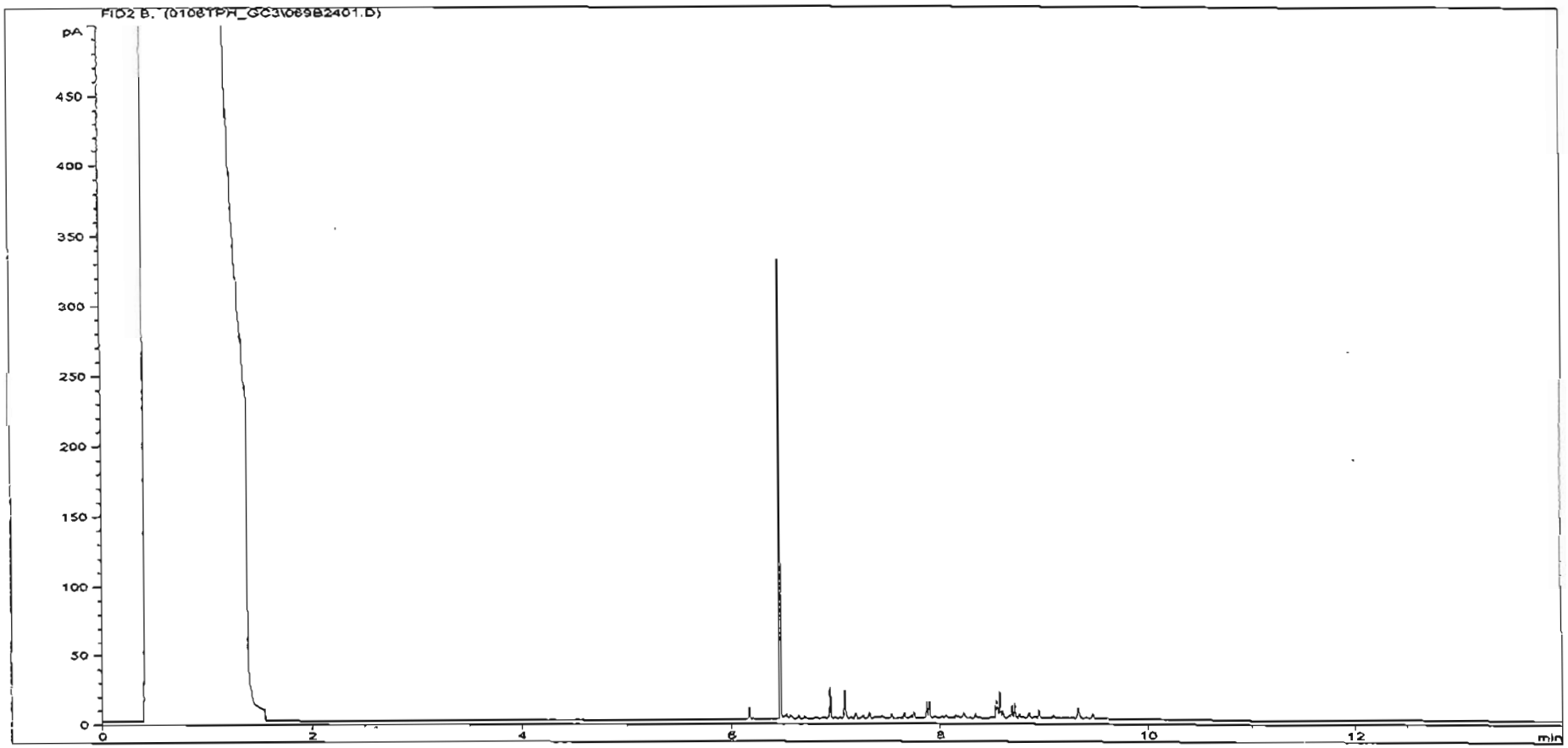
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531781ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS304 0.3-0.5
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\020F2401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

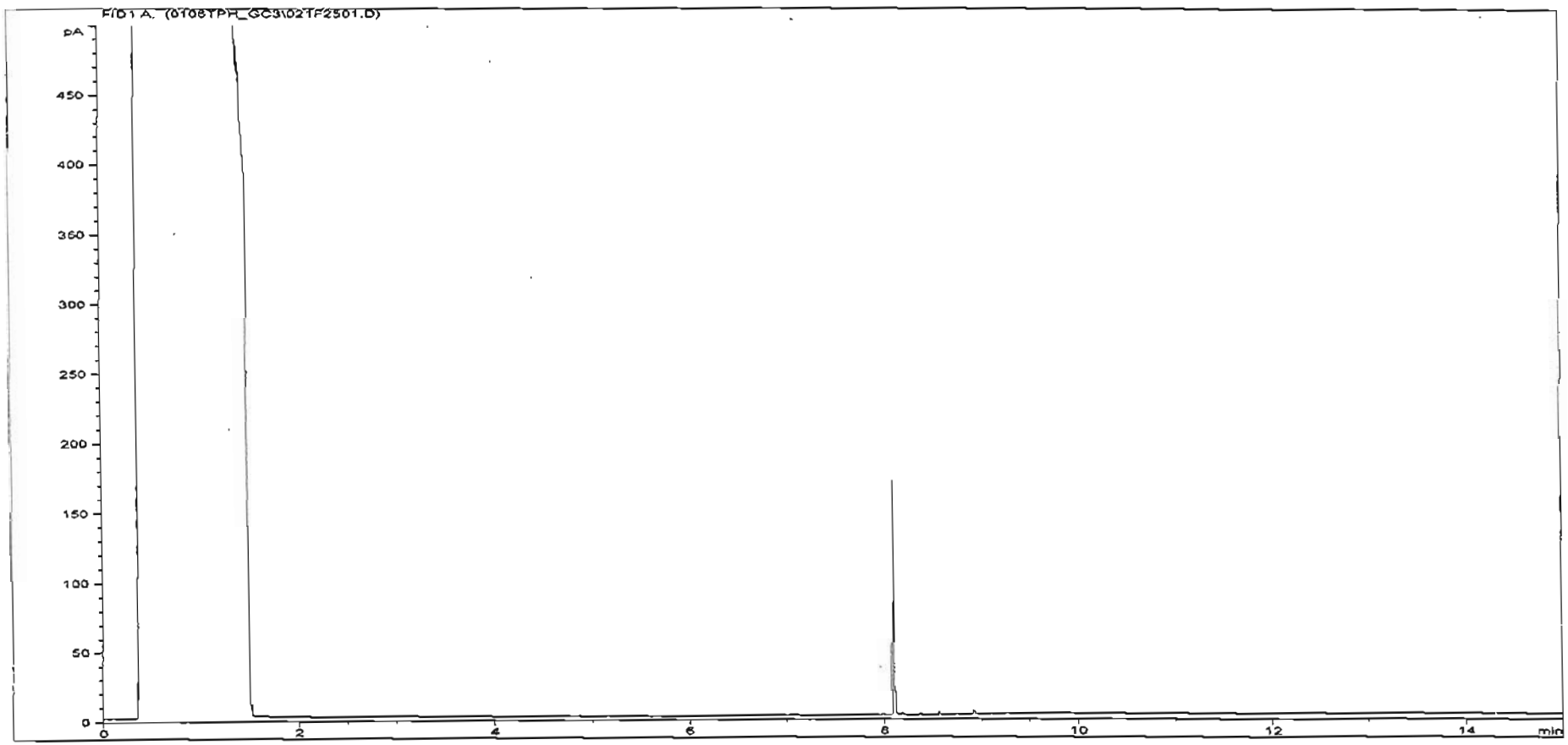
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531781ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS304 0.3-0.5
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\069B2401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

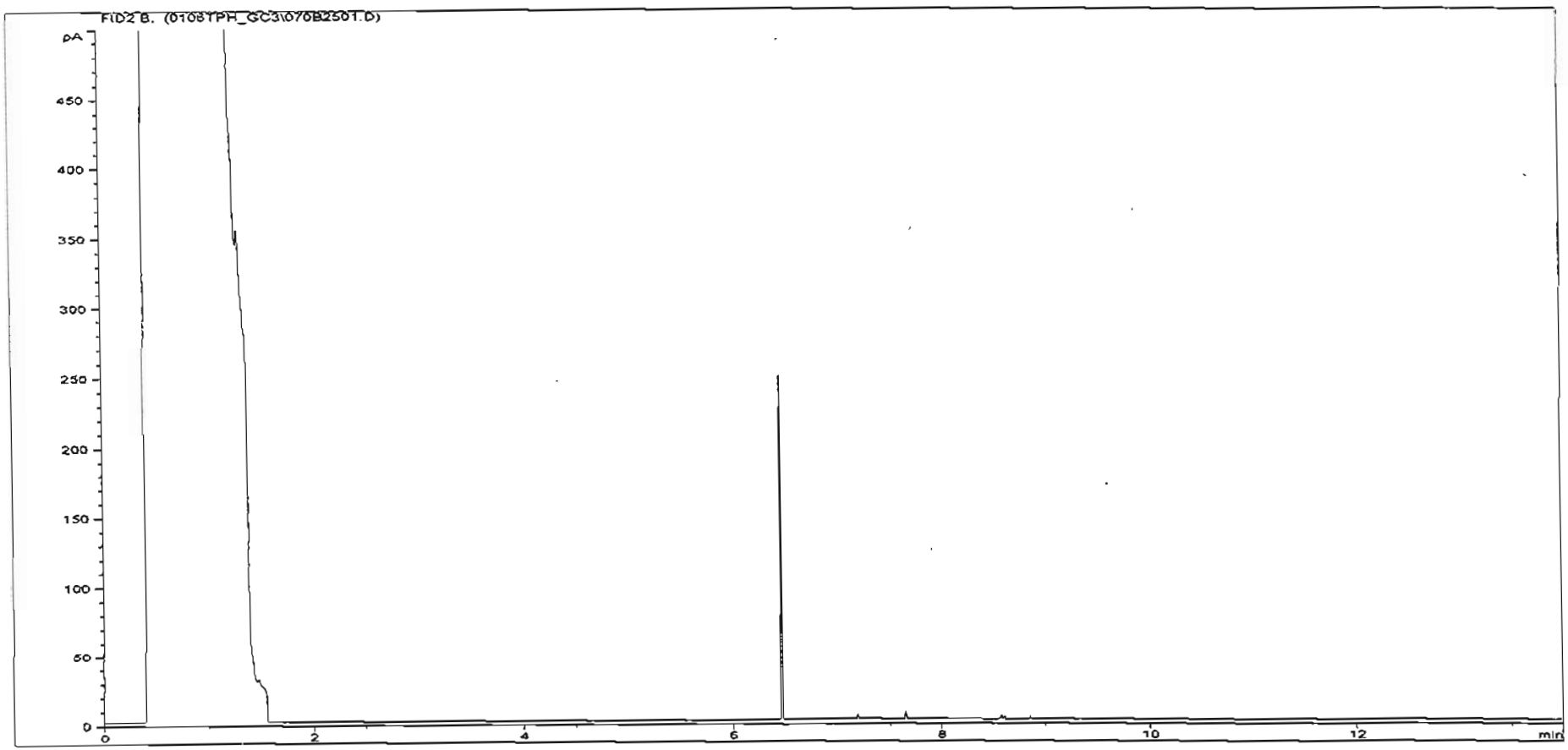
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531782ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS304 0.8-0.9
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\021F2501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

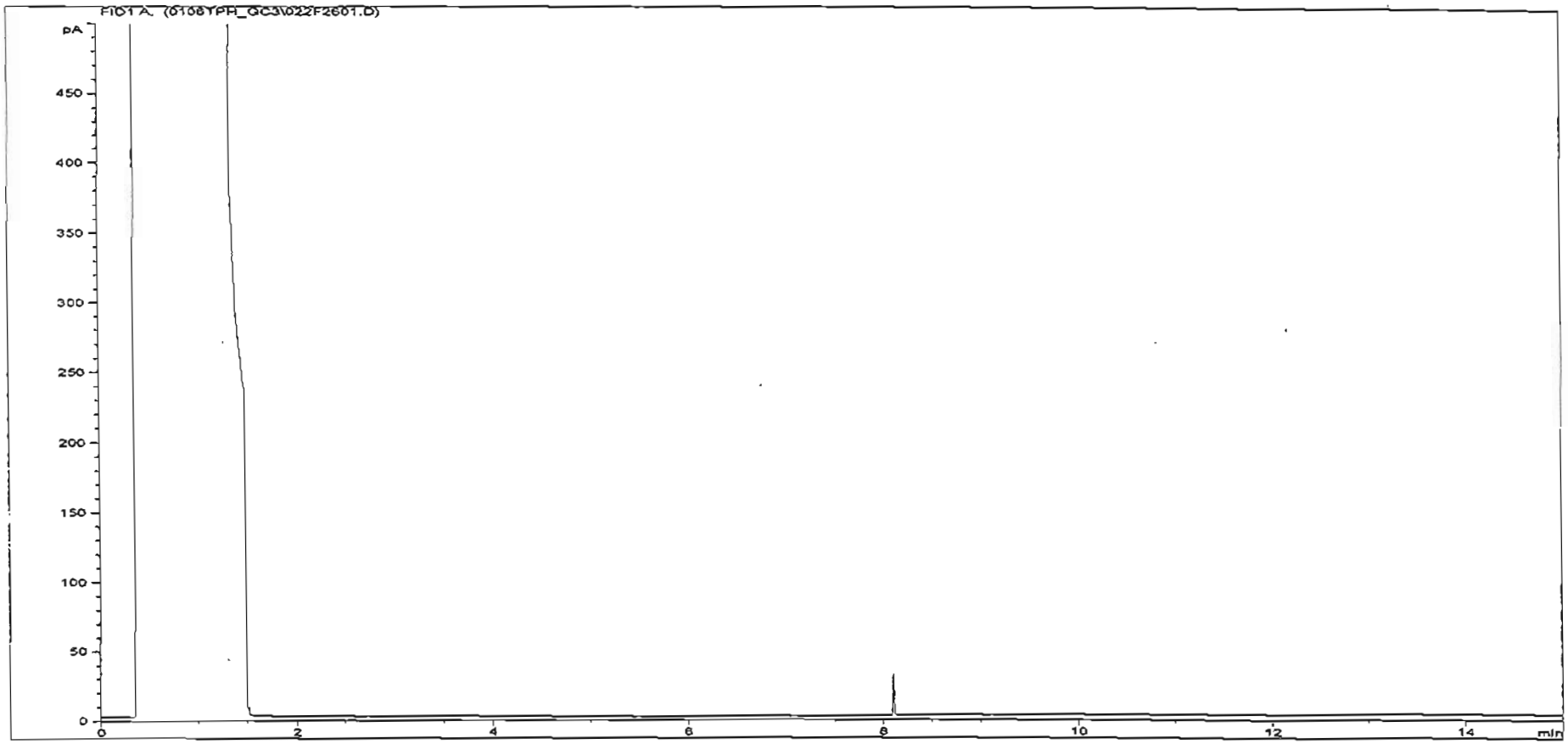
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531782ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS304 0.8-0.9
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\070B2501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

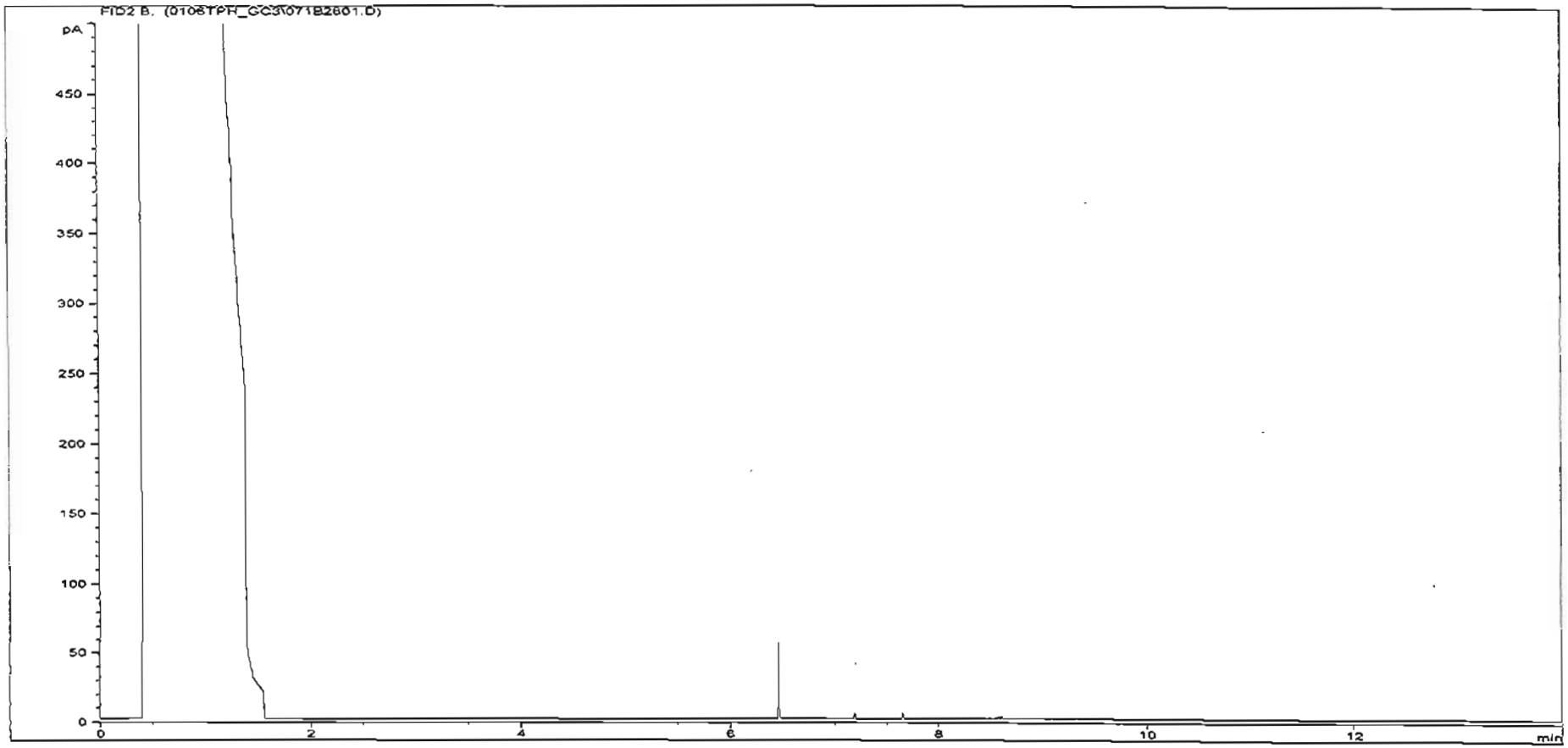
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531783ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS305 2.5-2.7 (NVM)
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\022F2601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

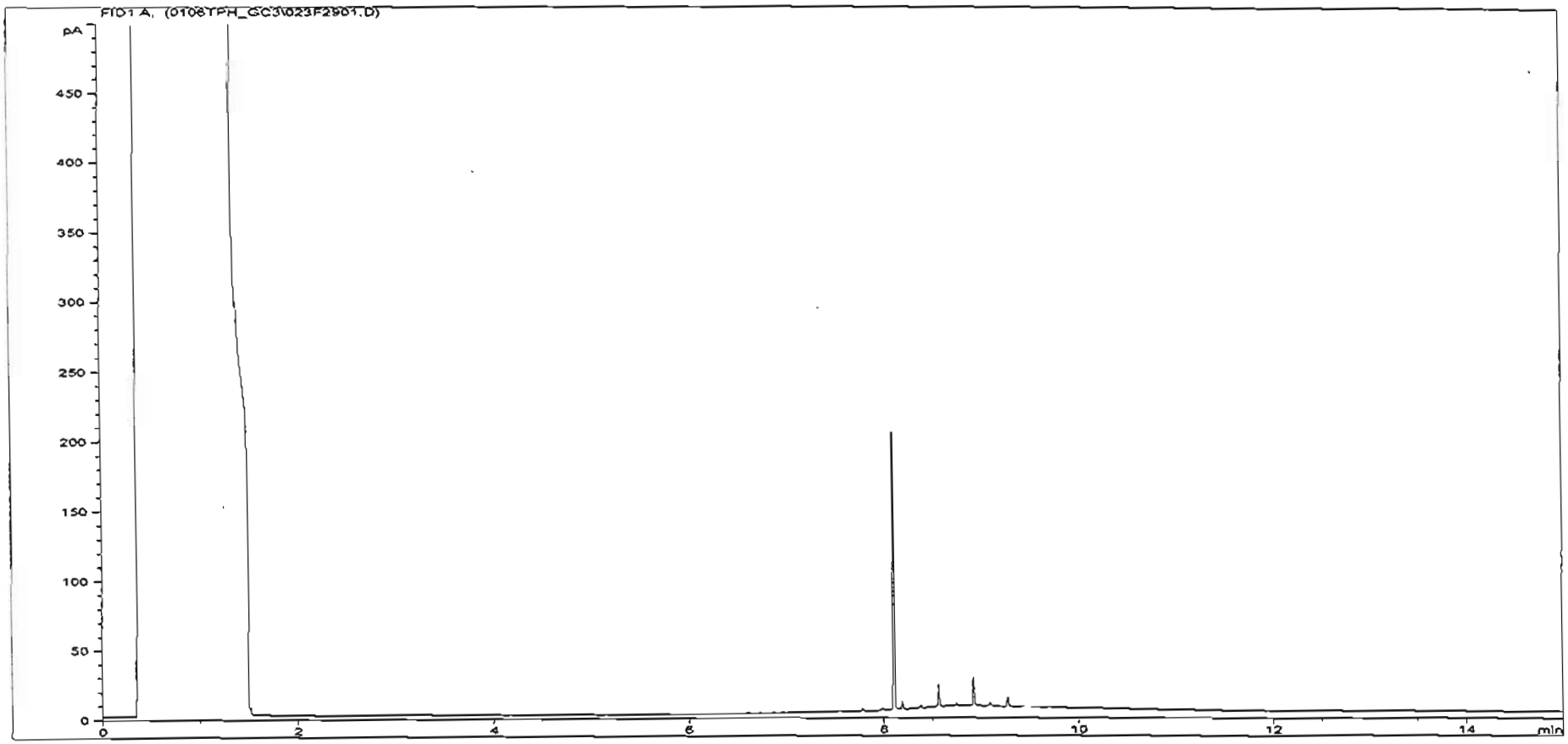
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531783ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS305 2.5-2.7 (NVM)
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\071B2601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

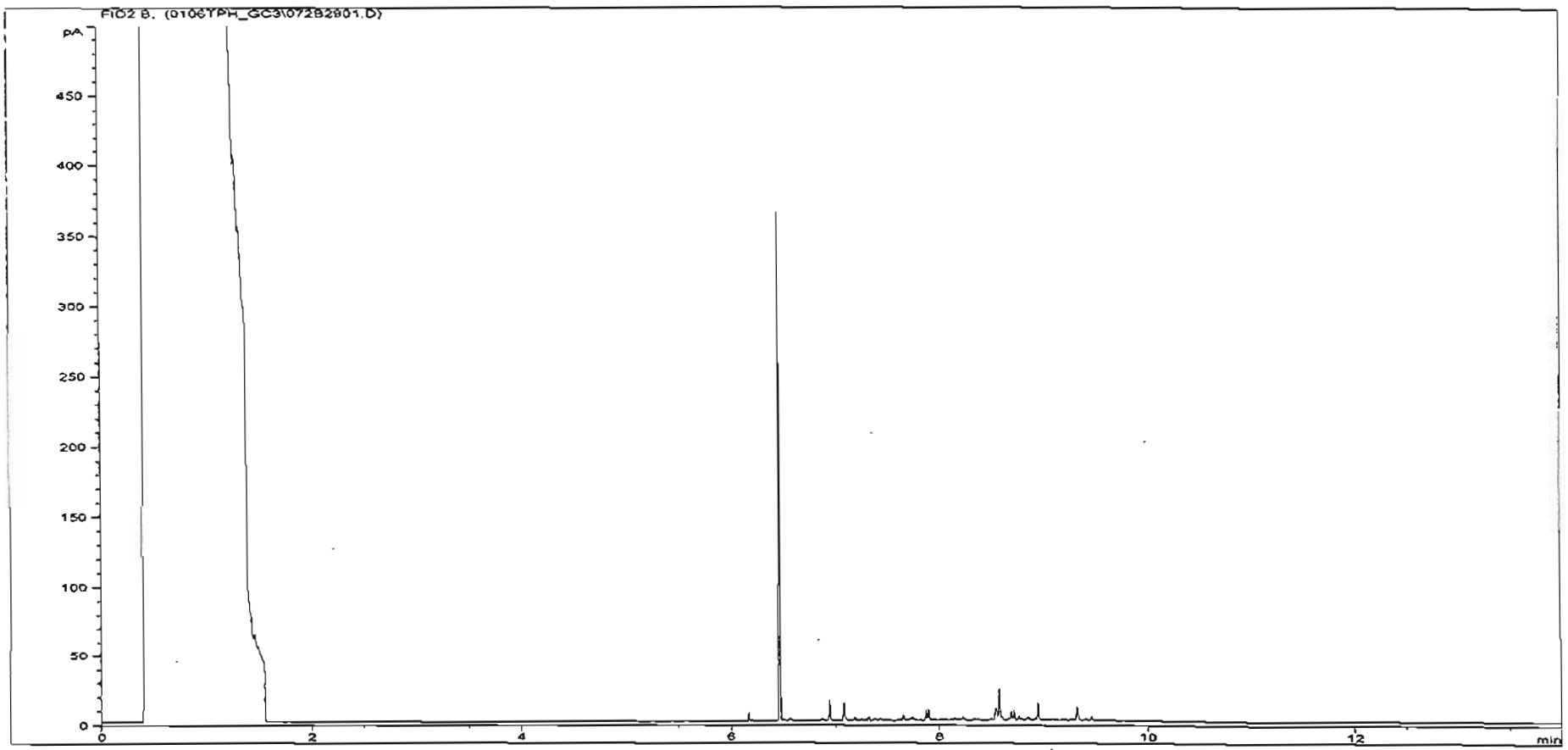
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531784ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS308 0.2-0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\023F2901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531784ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS308 0.2-0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\072B2901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1209VOC.MS1\ 1209CCC2.D	**Matrix:**	Soil
Sample Details:	E-BH306 1.6-1.8	**Date Booked In:**	30-Nov-05	**Method:**	Purge & trap
LIMS ID Number:	CL0531775	**Date Analysed:**	09-Dec-05	**Multiplier:**	5
Job Number:	S05_4538M	**Operator:**	SH	**Position:**	4

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 28	-	U
Chloroethane	75-00-3 *	-	< 28	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 28	-	UM
1,3-Dichloropropane	142-28-9 ?	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 28	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 28	-	U
Hexachlorobutadiene	87-68-3	-	< 28	-	U
Naphthalene	91-20-3	-	< 28	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 28	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.80	105	Dibromofluoromethane	108
1,4-Difluorobenzene	13.10	103	Toluene-d8	103
Chlorobenzene-d5	18.04	105	Bromofluorobenzene	102
1,4-Dichlorobenzene-d4	22.01	107		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by TGCMS

Accredited?: Yes

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Sample Details: E-BH302 6.0-6.2
LIMS ID Number: CL0531777
Job Number: S05_4538M

Directory/Quant file: 1209VOC.MS1\ 1209CCC2.D
Date Booked in: 30-Nov-05
Date Analysed: 09-Dec-05
Operator: SH

Matrix: Soil
Method: Purge & trap
Multiplier: 5
Position: 5

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 7	-	U
Chloromethane	74-87-3	-	< 7	-	UM
Vinyl Chloride	75-01-4	-	< 7	-	UM
Bromomethane	74-83-9 *	-	< 33	-	U
Chloroethane	75-00-3 *	-	< 33	-	U
Trichlorofluoromethane	75-69-4	-	< 7	-	U
1,1-Dichloroethene	75-35-4 *	-	< 7	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 7	-	UM
1,1-Dichloroethane	75-34-3	-	< 7	-	UM
2,2-Dichloropropane	594-20-7	-	< 7	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 7	-	UM
Bromochloromethane	74-97-5	-	< 7	-	UM
Chloroform	67-66-3	-	< 7	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 7	-	UM
Carbon Tetrachloride	56-23-5	-	< 7	-	UM
1,1-Dichloropropene	563-58-6	-	< 7	-	UM
Benzene	71-43-2	-	< 7	-	UM
1,2-Dichloroethane	107-06-2	-	< 7	-	UM
Trichloroethene	79-01-6	-	< 7	-	UM
1,2-Dichloropropane	78-87-5	-	< 7	-	UM
Dibromomethane	74-95-3	-	< 7	-	UM
Bromodichloromethane	75-27-4	-	< 7	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 7	-	UM
Toluene	108-88-3	-	< 7	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 7	-	U
1,1,2-Trichloroethane	79-00-5	-	< 7	-	UM
Tetrachloroethene	127-18-4	16.64	41	95	UM
1,3-Dichloropropane	142-28-9 ?	-	< 7	-	U
Dibromochloromethane	124-48-1	-	< 7	-	U
1,2-Dibromoethane	106-93-4	-	< 7	-	U
Chlorobenzene	108-90-7	-	< 7	-	UM
Ethylbenzene	100-41-4	-	< 7	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 7	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 7	-	UM
o-Xylene	95-47-6	-	< 7	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 7	-	UM
Bromoform	75-25-2	-	< 7	-	U
iso-Propylbenzene	98-82-8	-	< 7	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 7	-	U
Propylbenzene	103-65-1	-	< 7	-	UM
Bromobenzene	108-86-1	-	< 7	-	U
1,2,3-Trichloropropane	96-18-4	-	< 7	-	U
2-Chlorotoluene	95-49-8	-	< 7	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 7	-	UM
4-Chlorotoluene	106-43-4	-	< 7	-	UM
tert-Butylbenzene	98-06-6	-	< 7	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 7	-	UM
sec-Butylbenzene	135-98-8	-	< 7	-	UM
p-Isopropyltoluene	99-87-6	-	< 7	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 7	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 7	-	U
n-Butylbenzene	104-51-8	-	< 7	-	U
1,2-Dichlorobenzene	95-50-1	-	< 7	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 33	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 33	-	U
Hexachlorobutadiene	87-68-3	-	< 33	-	U
Naphthalene	91-20-3	-	< 33	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 33	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.81	97	Dibromofluoromethane	111
1,4-Difluorobenzene	13.10	98	Toluene-d8	102
Chlorobenzene-d5	18.03	98	Bromofluorobenzene	101
1,4-Dichlorobenzene-d4	22.01	97		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

Customer and Site Details: Entec UK Ltd: HMS Daedalus (E)
Sample Details: E-BH304 6.5-6.8
LIMS ID Number: CL0531780
Job Number: S05_4538M

Accredited?: Yes
Directory/Quant file: 1209VOC.MS1\ 1209CCC2.D
Date Booked In: 30-Nov-05
Date Analysed: 09-Dec-05
Operator: SH

Matrix: Soil
Method: Purge & trap
Multiplier: 5
Position: 7

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 32	-	U
Chloroethane	75-00-3 *	-	< 32	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 32	-	UM
1,3-Dichloropropane	142-28-9 ?	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 32	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 32	-	U
Hexachlorobutadiene	87-68-3	-	< 32	-	U
Naphthalene	91-20-3	-	< 32	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 32	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.81	92	Dibromofluoromethane	114
1,4-Difluorobenzene	13.10	93	Toluene-d8	105
Chlorobenzene-d5	18.04	97	Bromofluorobenzene	102
1,4-Dichlorobenzene-d4	22.01	95		

This analysis was conducted on an 'As Recieved' basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample
co-eluted with benzo(b)fluoranthene
co-eluted with Indeno(123-cd)pyrene
BTEX analysis expressed as ug/kg As Received
Phenol HPLC results expressed as mg/kg As Received

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15°C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysolite
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed
T Trace
L Low (2-15%)
M Medium (15-50%)
H High (>50%)

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S Insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
? Denotes that an element of the quality control system is currently exhibiting sustained bias from its normal working pattern. The QC has not failed action limits and the cause of this is being investigated and rectified.
This does not invalidate the data but our quality policy specifies that you will be kept informed when this happens.
* denotes the accreditation has been removed by the laboratory for this result only
Accreditation Codes:
N - Not Accredited, **U** - UKAS, **UM** - UKAS & MCERTS
If **'Accredited? = No'** then the accreditation has been removed for the entire dataset
'Accreditation Code:' or 'Accr. Code:' indicates the status of the accreditation held by the laboratory

 Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Our Ref: EFS/054638M (Ver. 1)
Your Ref: 17275

January 9, 2006

TES Bretby
PO Box 100
Bretby Business Park
Ashby Road
Burton-on-Trent
Staffordshire
DE15 0XD

Telephone: 01283 554400
Facsimile: 01283 554422

Mr N Keyworth
Entec UK Ltd
Cannon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
SY2 5DE

For the attention of Mr N Keyworth

Dear Mr Keyworth

SOIL Sample Analysis - HMS Daedalus (E)

Samples from the above site have been analysed in accordance with the schedule supplied.
The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Where appropriate the samples will be kept until 11/01/06 when they will be discarded. Please call 01283 554403 for an extension of this date.
Please be aware that from 1 January 2003 our policy for the retention of paper based laboratory records and analysis reports will be 3 years.

The work was carried out in accordance with Environmental Services Group Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for TES Bretby

J Hannah

J Hannah
Project Co-ordinator
01283 554403

Entec
- 9 JAN 2006
Project File Number
17275KL024
Copies

Bretby

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

TES Report No. EFS/054538M

Entec UK Ltd
Cannon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
SY2 5DE

Site: HMS Daedalus (E)

The 15 samples described in this report were logged for analysis by TES Bretby on 30-Nov-2005.
The analysis was completed by: 09-Jan-2006

Tests marked as 'not accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS or MCERTS accreditation held by TES Bretby Laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of GRO Results (Page 4)
Table of PAH (MS) Results (Pages 5 to 19)
Table of SVOC Results (Pages 20 to 22)
Table of TPH (SI) banding (std) (Page 23)
GC-FID Chromatograms (Pages 24 to 53)
Table of VOC Results (Pages 54 to 56)
Sample Chain of Custody Record (Pages 57 to 58)
Table of Report Notes (Page 59)

On behalf of
TES Bretby:
J Hannah

J Hannah
Project Co-ordinator

Date of Issue: 09-Jan-2006

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)
Tests marked '**N**' have been subcontracted to another laboratory.
(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.
All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)
TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Sample Descriptions

Client : Entec UK Ltd
Site : HMS Daedalus
Report Number : S05_4538M

Lab ID Number	Client ID	Description
CL/0531770	E-WS301 0.9-1.0	Brown Gravel SAND
CL/0531771	E-WS301 0.1-0.2	Brown SILT
CL/0531772	E-WS302 1.1-1.2	Brown CLAY
CL/0531773	E-WS302 0.2-0.3	Brown SILT
CL/0531774	E-WS303 1.9-2.0	Brown Gravel SAND
CL/0531775	E-BH306 1.6-1.8	Brown Gravel SILT
CL/0531776	E-BH306 4.0-4.3	Brown CLAY
CL/0531777	E-BH302 6.0-6.2	Brown Gravel SILT
CL/0531778	E-BH302 7.0-7.2	Brown Gravel SILT
CL/0531779	E-BH304 0.1-0.3	Brown Gravel SILT
CL/0531780	E-BH304 6.5-6.8	Grey Gravel SILT
CL/0531781	E-WS304 0.3-0.5	Brown Gravel CLAY
CL/0531782	E-WS304 0.8-0.9	Brown Gravel CLAY
CL/0531783	E-WS305 2.5-2.7 (NVM)	Brown Silt GRAVEL
CL/0531784	E-WS308 0.2-0.3	Brown Gravel SILT

Units :	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	ug/kg
Method Codes :	GROHSA	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPWSS	ICTSCN28	SVOCSW	SVOCSW	TMSS	VOCSW
Method Reporting Limits :	0.1	0.5	0.1	0.5	0.5	0.6	0.10	0.5	0.5	3.0	0.3	5	0.2-10.0	0.2-10.0	0.2	5
Accreditation Code:		UM	U	U	U	U	U	U	U	U	UM	U			U	

TES ID Number CU	Client Sample Description	GRO (AA)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SO4 - (H2O soil) mg/l	Sulphide	PAH by MS	SVOC	TotMoisture @ 105oC	VOC
0531777	E-BH302 6.0-6.2	Req	6.7	<0.1	13.6	3.9?	3.9	<0.1	5.9?	0.88	12.8?	14.98	<5	Req	Req	23.1	Req
0531778	E-BH302 7.0-7.2	Req	5.4	<0.1	12	3.2?	3.9	<0.1	4.4?	0.55	13.0?	16.27	<5	Req		18.9	
0531779	E-BH304 0.1-0.3	Req	8.9	0.16	18.6	12.8?	42.6	<0.1	12.7?	<0.5	51.3?	18.23	<5	Req		15.5	
0531780	E-BH304 6.5-6.8	Req	9.2	<0.1	18	3.1?	5.1	<0.1	11.2?	<0.5	27.6?	273	<5	Req	Req	21.4	Req
0531775	E-BH306 1.6-1.8	Req	2.2	<0.1	9.1	2.9?	4.6	<0.1	5.0?	<0.5	12.1?	13.22	<5	Req	Req	12.0	Req
0531776	E-BH306 4.0-4.3	Req	14.5	0.5	25.8	5.8?	10.3	<0.1	18.5?	0.8	33.2?	478	<5	Req		21.1	
0531771	E-WS301 0.1-0.2	Req	7.1	0.12	19.4	14.6?	126	<0.1	9.8?	<0.5	39.0?	35.7	<5	Req		17.8	
0531770	E-WS301 0.9-1.0	Req	8.5	<0.1	18	6.2?	7.8	<0.1	7.1?	<0.5	19.3?	9.61	<5	Req		13.3	
0531773	E-WS302 0.2-0.3	Req	7.5	0.21	19	15.7?	57	<0.1	12.4?	<0.5	52.0?	27	<5	Req		18.3	
0531772	E-WS302 1.1-1.2	Req	3.2	<0.1	19	4.9?	11	<0.1	10.2?	<0.5	31.8?	9.35	<5	Req		20.5	
0531774	E-WS303 1.9-2.0	Req	1.5	<0.1	8	3.4?	4.1	<0.1	4.4?	<0.5	8.4?	11.97	<5	Req		7.6	
0531781	E-WS304 0.3-0.5	Req	10.3	0.16	19.4	21.6?	158.2	<0.1	11.3?	<0.5	78.8?	21.1	<5	Req		17.3	
0531782	E-WS304 0.8-0.9	Req	9.3	<0.1	27.4	11.2?	22.1	<0.1	18.4?	<0.5	52.9?	17.17	<5	Req		18.7	
0531783	E-WS305 2.5-2.7 (NVM)	Req	7.2	<0.1	5.7	3.7?	3.6	<0.1	5.0?	<0.5	8.6?	8.43	<5	Req		10.0	
0531784	E-WS308 0.2-0.3	Req	8.7	0.34	22	22.1?	150.1	<0.1	14.1?	<0.5	100.7?	25.2	<5	Req		16.8	

TES Bretby
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Client Name: Entec UK Ltd
Contact: Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	09-Jan-06
Report Number	EFS/054536/1
Table Number	1

TES Bretby

As received baby weight at 105°C where appropriate, in accordance with the MCERTS standard.

	Units :	pH Units	mg/kg	mg/kg	% M/M														
	Method Codes :	WSLM3	WSLM4	TPHFID	WSLM59														
	Method Reporting Limits :		0.5	10.0	0.02														
	Accreditation Code:	U	U		N														
TES ID Number CL/	Client Sample Description	pH units	Phenol Index	TPH GCFID (AR) (SI)	F.O.C. %														
0531777	E-BH302 6.0-6.2	7.9	<0.5	Req	0.03														
0531778	E-BH302 7.0-7.2	8.0	<0.5	Req															
0531779	E-BH304 0.1-0.3	8.4	1	Req															
0531780	E-BH304 6.5-6.8	8.6	<0.5	Req	0.18														
0531775	E-BH305 1.6-1.8	8.0	<0.5	Req	0.04														
0531776	E-BH308 4.0-4.3	7.1	<0.5	Req															
0531771	E-WS301 0.1-0.2	8.4	<0.5	Req															
0531770	E-WS301 0.9-1.0	7.3	<0.5	Req															
0531773	E-WS302 0.2-0.3	8.9	1	Req															
0531772	E-WS302 1.1-1.2	7.7	<0.5	Req	0.13														
0531774	E-WS303 1.8-2.0	7.4	<0.5	Req															
0531781	E-WS304 0.3-0.5	7.6	<0.5	Req															
0531782	E-WS304 0.8-0.9	7.4	<0.5	Req															
0531783	E-WS305 2.5-2.7 (NVM)	7.5	<0.5	Req															
0531784	E-WS308 0.2-0.3	7.2	<0.5	Req															

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Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Soils Sample Analysis

Date Printed	09-Jan-06
Report Number	EFS/0545321M
Table Number	1

TES Bretby

Results corrected to dry weight at 105°C where appropriate. In accordance with the MCERTS standard

9-01-2006 14:28 FROM-TES FINANCE & PURCHASING 01283 554468 T-032 P.006/061 F-144

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	Matrix:	SOIL
Job Number:	S05_4536	Date Booked In:	30-Nov-05
Directory:	1213HSA1_GC6	Date extracted:	13-Dec-05
Method:	Headspace GCFID	Date Analysed:	14-Dec-05
Accreditation Code:	U		

* denotes the accreditation has been removed by the laboratory for this result only

		Concentration, (mg/kg) - as dry weight					Aliphatics				
Sample ID	Client ID	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	C5 - C6	>C6 - C7	>C7 - C8	>C8 - C10	Total GRO
CL0531770	E-WS301 0.9-1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531771	E-WS301 0.1-0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531772	E-WS302 1.1-1.2	<0.031	<0.031	<0.031	<0.031	<0.031	<0.6	<0.6	<0.6	<0.6	<0.6
CL0531773	E-WS302 0.2-0.3	<0.031	<0.031	<0.031	<0.031	<0.031	<0.6	<0.6	<0.6	<0.6	<0.6
CL0531774	E-WS303 1.9-2.0	<0.027	<0.027	<0.027	<0.027	<0.027	<0.5	<0.5	<0.5	<0.5	<0.5
CL0531775	E-BH306 1.6-1.8	<0.028	<0.028	<0.028	<0.028	<0.028	<0.6	<0.6	<0.6	<0.6	<0.6
CL0531776	E-BH306 4.0-4.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
CL0531777	E-BH302 6.0-6.2	<0.33	<0.33	<0.33	<0.33	<0.33	<7	<7	<7	<7	<7
CL0531778	E-BH302 7.0-7.2	<0.31	<0.31	<0.31	<0.31	<0.31	<6	<6	<6	<6	<6
CL0531779	E-BH304 0.1-0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531780	E-BH304 6.5-6.8	<0.032	<0.032	<0.032	<0.032	<0.032	<0.6	<0.6	<0.6	<0.6	<0.6
CL0531781	E-WS304 0.3-0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	0.2	<0.2	<0.2	0.3
CL0531782	E-WS304 0.8-0.9	<0.031	<0.031	<0.031	<0.031	<0.031	<0.6	<0.6	<0.6	<0.6	<0.6
CL0531783	E-WS305 2.5-2.7 (NVM)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
CL0531784	E-WS308 0.2-0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS301 0.9-1.0	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531770	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC1.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.7	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	87
Naphthalene-d8	85
Acenaphthene-d10	87
Phenanthrene-d10	88
Chrysene-d12	80
Perylene-d12	82

Surrogates	% Rec
Nitrobenzene-d5	60
2-Fluorobiphenyl	68
Terphenyl-d14	96

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS301 0.1-0.2	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531771	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC1.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	15.00	0.2	98	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	83
Naphthalene-d8	84
Acenaphthene-d10	85
Phenanthrene-d10	86
Chrysene-d12	85
Perylene-d12	90

Surrogates	% Rec
Nitrobenzene-d5	56
2-Fluorobiphenyl	67
Terphenyl-d14	97

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS302 1.1-1.2	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531772	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC1.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	87
Naphthalene-d8	84
Acenaphthene-d10	87
Phenanthrene-d10	89
Chrysene-d12	83
Perylene-d12	83

Surrogates	% Rec
Nitrobenzene-d5	64
2-Fluorobiphenyl	63
Terphenyl-d14	78

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS302 0.2-0.3	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531773	**Date Booked in:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC4.D	**Date Analysed:**	24-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	5.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 1.0	-	U
Acenaphthylene	208-96-8	-	< 1.0	-	U
Acenaphthene	83-32-9	-	< 1.0	-	U
Fluorene	86-73-7	-	< 1.0	-	U
Phenanthrene	85-01-8	16.00	2.1	98	U
Anthracene	120-12-7	-	< 1.0	-	U
Fluoranthene	206-44-0	17.51	5.8	91	U
Pyrene	129-00-0	17.95	5.3	93	U
Benzo[a]anthracene	56-55-3	20.53	3.3	95	U
Chrysene	218-01-9	20.60	3.2	98	U
Benzo[b]fluoranthene	205-99-2	22.68	3.2	94	U
Benzo[k]fluoranthene	207-08-9	22.74	1.3	96	U
Benzo[a]pyrene	50-32-8	23.36	2.6	99	U
Indeno[1,2,3-cd]pyrene	193-39-5	26.56	1.5	68	U
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-	U
Benzo[g,h,i]perylene	191-24-2	27.24	1.6	95	U
Total (USEPA16) PAHs	-	-	< 37.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	78
Naphthalene-d8	77
Acenaphthene-d10	76
Phenanthrene-d10	77
Chrysene-d12	69
Perylene-d12	76

Surrogates	% Rec
Nitrobenzene-d5	104
2-Fluorobiphenyl	97
Terphenyl-d14	98

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS303 1.9-2.0	**Job Number:**	S05_4536M
LIMS ID Number:	CL0531774	**Date Booked in:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC1.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.5	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	87
Naphthalene-d8	85
Acenaphthene-d10	86
Phenanthrene-d10	86
Chrysene-d12	78
Perylene-d12	76

Surrogates	% Rec
Nitrobenzene-d5	53
2-Fluorobiphenyl	54
Terphenyl-d14	70

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH306 1.6-1.8	**Job Number:**	S05_4638M
LIMS ID Number:	CL0531775	**Date Booked In:**	30-Nov-05
QC Batch Number:	2891	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC3.D	**Date Analysed:**	24-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.6	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	94
Naphthalene-d8	93
Acenaphthene-d10	94
Phenanthrene-d10	89
Chrysene-d12	79
Perylene-d12	86

Surrogates	% Rec
Nitrobenzene-d5	63
2-Fluorobiphenyl	67
Terphenyl-d14	88

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH306 4.0-4.3	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531776	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	84
Naphthalene-d8	85
Acenaphthene-d10	85
Phenanthrene-d10	84
Chrysene-d12	69
Perylene-d12	68

Surrogates	% Rec
Nitrobenzene-d5	66
2-Fluorobiphenyl	69
Terphenyl-d14	106

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH302 6.0-6.2	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531777	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.2	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	83
Naphthalene-d8	80
Acenaphthene-d10	81
Phenanthrene-d10	76
Chrysene-d12	66
Perylene-d12	70

Surrogates	% Rec
Nitrobenzene-d5	71
2-Fluorobiphenyl	71
Terphenyl-d14	93

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH302 7.0-7.2	**Job Number:**	805_4538M
LIMS ID Number:	CL0531778	**Date Booked in:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	86
Naphthalene-d8	83
Acenaphthene-d10	82
Phenanthrene-d10	79
Chrysene-d12	72
Perylene-d12	74

Surrogates	% Rec
Nitrobenzene-d5	49
2-Fluorobiphenyl	52
Terphenyl-d14	74

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH304 0.1-0.3	**Job Number:**	S05_4638M
LIMS ID Number:	CL0531779	**Date Booked in:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC4.D	**Date Analysed:**	24-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	16.00	0.6	99	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	17.51	1.7	91	U
Pyrene	129-00-0	17.96	1.6	93	U
Benzo[a]anthracene	56-55-3	20.53	0.9	94	U
Chrysene	218-01-9	20.60	0.9	97	U
Benzo[b]fluoranthene	205-99-2	22.68	0.9	98	U
Benzo[k]fluoranthene	207-08-9	22.73	0.4	97	U
Benzo[a]pyrene	50-32-8	23.36	0.7	98	U
Indeno[1,2,3-cd]pyrene	193-39-5	26.56	0.5	69	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	27.25	0.5	94	U
Total (USEPA16) PAHs	-	-	< 10.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	82
Naphthalene-d8	80
Acenaphthene-d10	79
Phenanthrene-d10	78
Chrysene-d12	70
Perylene-d12	76

Surrogates	% Rec
Nitrobenzene-d5	55
2-Fluorobiphenyl	57
Terphenyl-d14	76

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-BH304 6.5-6.8	**Job Number:**	S05_4536M
LIMS ID Number:	CL0531780	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.3	-	U
Acenaphthylene	208-96-8	-	< 0.3	-	U
Acenaphthene	83-32-9	-	< 0.3	-	U
Fluorene	86-73-7	-	< 0.3	-	U
Phenanthrene	85-01-8	-	< 0.3	-	U
Anthracene	120-12-7	-	< 0.3	-	U
Fluoranthene	206-44-0	-	< 0.3	-	U
Pyrene	129-00-0	-	< 0.3	-	U
Benzo[a]anthracene	56-55-3	-	< 0.3	-	U
Chrysene	218-01-9	-	< 0.3	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	U
Benzo[a]pyrene	50-32-8	-	< 0.3	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	U
Total (USEPA16) PAHs	-	-	< 4.1	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	82
Naphthalene-d8	80
Acenaphthene-d10	80
Phenanthrene-d10	79
Chrysene-d12	68
Perylene-d12	69

Surrogates	% Rec
Nitrobenzene-d5	48
2-Fluorobiphenyl	53
Terphenyl-d14	80

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS304 0.3-0.5	**Job Number:**	S05_4536M
LIMS ID Number:	CL0531781	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Acor. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	17.50	0.6	90	U
Pyrene	129-00-0	17.98	0.6	94	U
Benzo[a]anthracene	56-55-3	20.53	0.4	95	U
Chrysene	218-01-9	20.60	0.4	98	U
Benzo[b]fluoranthene	205-99-2	22.68	0.4	93	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	23.36	0.2	95	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 5.0	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	82
Naphthalene-d8	82
Acenaphthene-d10	81
Phenanthrene-d10	81
Chrysene-d12	70
Perylene-d12	75

Surrogates	% Rec
Nitrobenzene-d5	41
2-Fluorobiphenyl	51
Terphenyl-d14	89

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS304 0.8-0.9	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531782	**Date Booked in:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	23-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	80
Naphthalene-d8	76
Acenaphthene-d10	78
Phenanthrene-d10	77
Chrysene-d12	69
Perylene-d12	72

Surrogates	% Rec
Nitrobenzene-d5	64
2-Fluorobiphenyl	66
Terphenyl-d14	96

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS306 2.6-2.7 (NVM)	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531783	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	24-Dec-05
Directory:	1223ABN.MS8\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.6	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	85
Naphthalene-d8	82
Acenaphthene-d10	82
Phenanthrene-d10	80
Chrysene-d12	65
Perylene-d12	64

Surrogates	% Rec
Nitrobenzene-d5	35
2-Fluorobiphenyl	37
Terphenyl-d14	54

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)		
Sample Details:	E-WS308 0.2-0.3	**Job Number:**	S05_4538M
LIMS ID Number:	CL0531784	**Date Booked In:**	30-Nov-05
QC Batch Number:	2691	**Date Extracted:**	21-Dec-05
Quantitation File:	1223CCC2.D	**Date Analysed:**	24-Dec-05
Directory:	1223ABN.MS6\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Soxhlet

Accredited?: No

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.2	-	U
Acenaphthylene	208-96-8	-	< 0.2	-	U
Acenaphthene	83-32-9	-	< 0.2	-	U
Fluorene	86-73-7	-	< 0.2	-	U
Phenanthrene	85-01-8	-	< 0.2	-	U
Anthracene	120-12-7	-	< 0.2	-	U
Fluoranthene	206-44-0	-	< 0.2	-	U
Pyrene	129-00-0	-	< 0.2	-	U
Benzo[a]anthracene	56-55-3	-	< 0.2	-	U
Chrysene	218-01-9	-	< 0.2	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	U
Benzo[a]pyrene	50-32-8	-	< 0.2	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	U
Total (USEPA16) PAHs	-	-	< 3.9	-	U

Internal Standards	% Area
1,4-Dichlorobenzene-d4	63
Naphthalene-d8	79
Acenaphthene-d10	80
Phenanthrene-d10	77
Chrysene-d12	62
Perylene-d12	64

Surrogates	% Rec
Nitrobenzene-d5	57
2-Fluorobiphenyl	64
Terphenyl-d14	82

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			Matrix:	Soil	QC Batch Number:	2591
Sample Details:	E-BH308 1.6-1.8	Date Booked In:	30-Nov-05	Ext Method:	Soxhlet	Multiplier:	0.066667
LIMS ID Number:	CL0531775	Date Extracted:	21-Dec-05	Operator:	AB	Dilution Factor:	1
Job Number:	S05_4538M	Date Analysed:	24-Dec-05	Directory/Quant File:	1223ABN.MS6\ 1223CCC3.D	GPC (Y/N)	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 2.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 2.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	UM
Benzoic Acid	65-85-0 *	-	< 11.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.2	-	UM
4-Chlorophenol	106-48-9	-	< 2.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.2	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.2	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.2	-	U
Biphenyl	92-52-4	-	< 0.2	-	UM
Diphenyl ether	101-84-8	-	< 0.2	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.2	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.2	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Acc cod
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.2	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	-	< 0.2	-	UM
Anthracene	120-12-7	-	< 0.2	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.2	-	UM
Pyrene	129-00-0	-	< 0.2	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.2	-	UM
Chrysene	218-01-9	-	< 0.2	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.2	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.2	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	94
Naphthalene-d8	93
Acenaphthene-d10	94
Phenanthrene-d10	89
Chrysene-d12	79
Perylene-d12	86

Surrogates	% Rec
2-Fluorophenol	70
Phenol-d5	64
Nitrobenzene-d5	63
2-Fluorobiphenyl	67
2,4,6-Tribromophenol	63
Terphenyl-d14	86

* denotes the accreditation has been removed by the laboratory for this result only
Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corr) dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

3-01-2006 14:34 FROM-TES FINANCE & PURCHASING 01283 554469 T-032 P.022/061 F-144

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Enlec UK Ltd: HMS Daedalus (E)			Matrix:	Soil	QC Batch Number:	2591
Sample Details:	E-BH302 6.0-6.2	Date Booked In:	30-Nov-05	Ext Method:	Soxhlet	Multiplier:	0.066667
LIMS ID Number:	CL0531777	Date Extracted:	21-Dec-05	Operator:	AB	Dilution Factor:	1
Job Number:	S05_4538M	Date Analysed:	23-Dec-05	Directory/Quant File:	1223ABN_MS6\ 1223CCC2.D	GPC (Y/N)	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 3.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.7	-	U
2-Chlorophenol	95-57-8	-	< 3.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.7	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.7	-	U
Benzyl alcohol	100-51-6	-	< 0.7	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.7	-	U
2-Methylphenol	95-48-7	-	< 0.7	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.7	-	U
Hexachloroethane	67-72-1	-	< 0.7	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.7	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 3.0	-	UM
Nitrobenzene	98-95-3	-	< 0.7	-	UM
Isophorone	78-59-1	-	< 0.7	-	UM
2-Nitrophenol	88-75-5	-	< 3.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 3.0	-	UM
Benzoic Acid	65-85-0 *	-	< 13.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.7	-	U
2,4-Dichlorophenol	120-83-2	-	< 3.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.7	-	UM
Naphthalene	91-20-3	-	< 0.3	-	UM
4-Chlorophenol	106-48-9	-	< 3.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.7	-	U
Hexachlorobutadiene	87-68-3	-	< 0.7	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.7	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.3	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.3	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.7	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 3.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 3.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.3	-	U
Biphenyl	92-52-4	-	< 0.3	-	UM
Diphenyl ether	101-84-8	-	< 0.3	-	UM
2-Nitroaniline	88-74-4	-	< 0.7	-	UM
Acenaphthylene	208-96-8	-	< 0.3	-	UM
Dimethylphthalate	131-11-3	-	< 0.7	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.7	-	UM
Acenaphthene	83-32-9	-	< 0.3	-	UM
3-Nitroaniline	99-09-2	-	< 0.7	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.7	-	UM
4-Nitrophenol	100-02-7	-	< 7.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.7	-	UM
Fluorene	86-73-7	-	< 0.3	-	UM
Diethylphthalate	84-66-2	-	< 0.7	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.7	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 7.0	-	U
4-Nitroaniline	100-01-6	-	< 0.7	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.7	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.7	-	UM
Hexachlorobenzene	118-74-1	-	< 0.7	-	UM
Pentachlorophenol	87-86-5	-	< 7.0	-	U
Phenanthrene	85-01-8	-	< 0.3	-	UM
Anthracene	120-12-7	-	< 0.3	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.7	-	UM
Fluoranthene	206-44-0	-	< 0.3	-	UM
Pyrene	129-00-0	-	< 0.3	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.7	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.3	-	UM
Chrysene	218-01-9	-	< 0.3	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 3.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	20.92	3.4	99	U
Di-n-octylphthalate	117-84-0	-	< 0.3	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.3	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	83
Naphthalene-d8	80
Acenaphthene-d10	81
Phenanthrene-d10	76
Chrysene-d12	66
Perylene-d12	70

Surrogates	% Rec
2-Fluorophenol	79
Phenol-d5	65
Nitrobenzene-d5	71
2-Fluorobiphenyl	71
2,4,6-Tribromophenol	69
Terphenyl-d14	93

This analysis was conducted on an 'As Recieved' basis.

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard

09-01-2006 14:35 FROM-TES FINANCE & PURCHASING 01283 554468 T-032 P.023/061 F-144

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)			**Matrix:**	Soil	**QC Batch Number:**	2691
Sample Details:	E-BH304 6.5-6.8	**Date Booked In:**	30-Nov-05	**Ext Method:**	Soxhlet	**Multiplier:**	0.066667
LIMS ID Number:	CL0531780	**Date Extracted:**	21-Dec-05	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S05_4538M	**Date Analysed:**	23-Dec-05	**Directory/Quant File:**	1223ABN.MSB\ 1223CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 3.0	-	UM
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	U
2-Chlorophenol	95-57-8	-	< 3.0	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	U
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	U
Benzyl alcohol	100-51-6	-	< 0.6	-	UM
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	U
2-Methylphenol	95-48-7	-	< 0.6	-	UM
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	U
Hexachloroethane	67-72-1	-	< 0.6	-	U
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	UM
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 3.0	-	UM
Nitrobenzene	98-95-3	-	< 0.6	-	UM
Isophorone	78-59-1	-	< 0.6	-	UM
2-Nitrophenol	88-75-5	-	< 3.0	-	UM
2,4-Dimethylphenol	105-67-9	-	< 3.0	-	UM
Benzoic Acid	65-85-0 *	-	< 13.0	-	U
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	U
2,4-Dichlorophenol	120-83-2	-	< 3.0	-	UM
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	UM
Naphthalene	91-20-3	-	< 0.3	-	UM
4-Chlorophenol	106-48-9	-	< 3.0	-	UM
4-Chloroaniline	106-47-8 *	-	< 0.6	-	U
Hexachlorobutadiene	87-68-3	-	< 0.6	-	UM
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	UM
2-Methylnaphthalene	91-57-6	-	< 0.3	-	UM
1-Methylnaphthalene	90-12-0	-	< 0.3	-	UM
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	U
2,4,6-Trichlorophenol	88-06-2	-	< 3.0	-	UM
2,4,5-Trichlorophenol	95-95-4	-	< 3.0	-	UM
2-Chloronaphthalene	91-58-7	-	< 0.3	-	U
Biphenyl	92-52-4	-	< 0.3	-	UM
Diphenyl ether	101-84-8	-	< 0.3	-	UM
2-Nitroaniline	88-74-4	-	< 0.6	-	UM
Acenaphthylene	208-96-8	-	< 0.3	-	UM
Dimethylphthalate	131-11-3	-	< 0.6	-	UM
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	UM
Acenaphthene	83-32-9	-	< 0.3	-	UM
3-Nitroaniline	99-09-2	-	< 0.6	-	U

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	U
Dibenzofuran	132-64-9	-	< 0.6	-	UM
4-Nitrophenol	100-02-7	-	< 6.0	-	U
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	UM
Fluorene	86-73-7	-	< 0.3	-	UM
Diethylphthalate	84-66-2	-	< 0.6	-	UM
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	UM
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	U
4-Nitroaniline	100-01-6	-	< 0.6	-	U
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	U
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	UM
Hexachlorobenzene	118-74-1	-	< 0.6	-	UM
Pentachlorophenol	87-86-5	-	< 6.0	-	U
Phenanthrene	85-01-8	-	< 0.3	-	UM
Anthracene	120-12-7	-	< 0.3	-	UM
Di-n-butylphthalate	84-74-2	-	< 0.6	-	UM
Fluoranthene	206-44-0	-	< 0.3	-	UM
Pyrene	129-00-0	-	< 0.3	-	UM
Butylbenzylphthalate	85-68-7	-	< 0.6	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.3	-	UM
Chrysene	218-01-9	-	< 0.3	-	UM
3,3'-Dichlorobenzidine	91-94-1	-	< 3.0	-	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	U
Di-n-octylphthalate	117-84-0	-	< 0.3	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.3	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.3	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.3	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.3	-	UM

Internal Standards	% Area
1,4-Dichlorobenzene-d4	82
Naphthalene-d8	80
Acenaphthene-d10	80
Phenanthrene-d10	79
Chrysene-d12	68
Perylene-d12	69

Surrogates	% Rec
2-Fluorophenol	57
Phenol-d5	51
Nitrobenzene-d5	48
2-Fluorobiphenyl	53
2,4,6-Tribromophenol	51
Terphenyl-d14	80

* denotes the accreditation has been removed by the laboratory for this result only

Concentrations are reported on a dry weight basis.

This analysis was conducted on an 'As Recieved' basis.

Results corr... to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

19-01-2006 14:36 FROM-TES FINANCE & PURCHASING 01283 564468 T-032 P.024/061 F-144

ALIPHATIC / AROMATIC FRACTION BY GC/FID

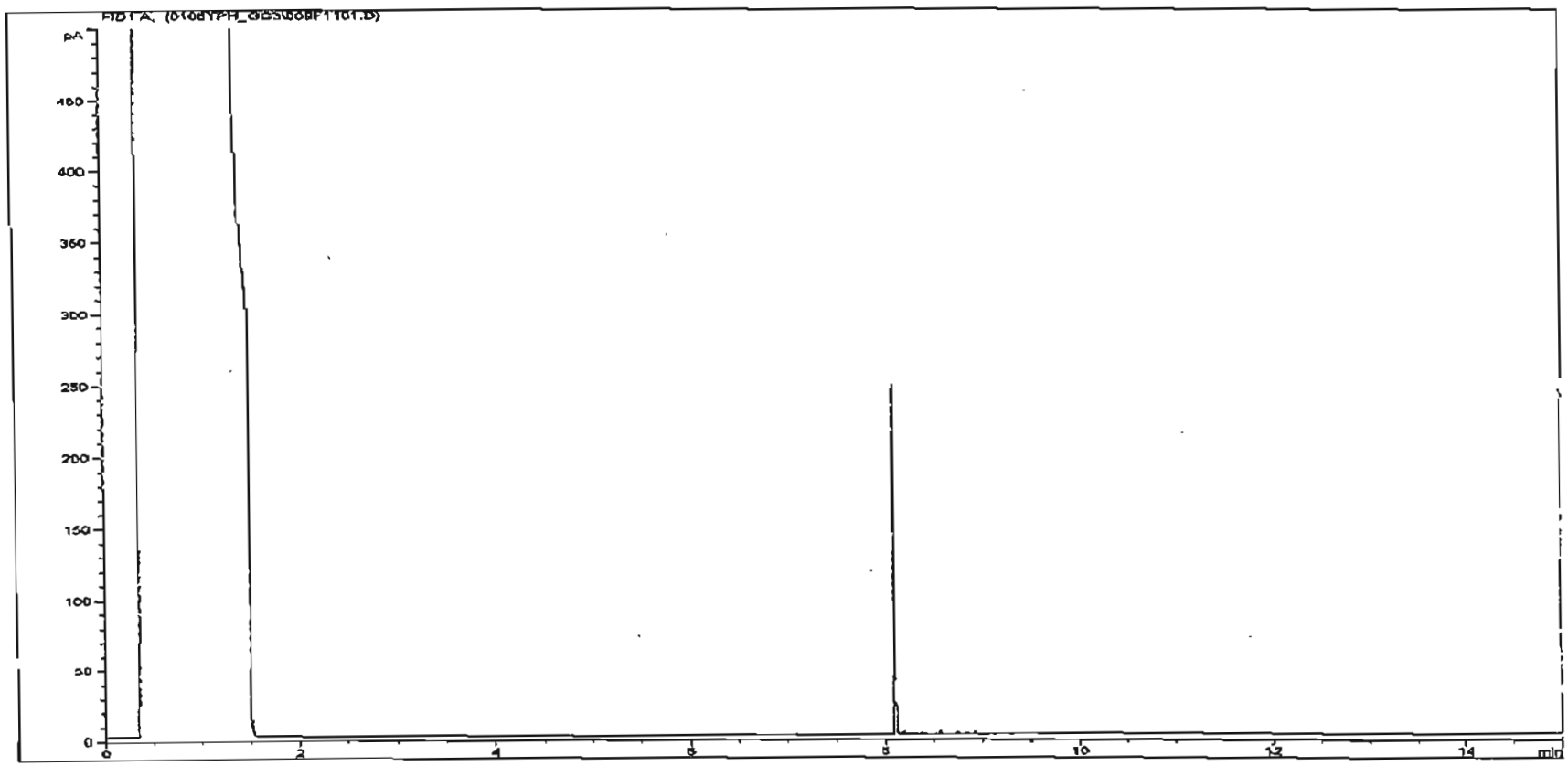
Customer and Site Details:	Entec UK Ltd : HMS Daedalus (E)			Matrix:	Soil
Job Number:	S05_4536	Separation:	Silica gel	Date Booked in	30-Nov-05
QC Batch Number:	52733	Eluents:	Pentane, DCM	Date Extracted	31-Dec-05
Directory:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\072B2901.D			Date Analysed:	07-Jan-06
Method:	ASE				

This sample data is not accredited.

		Concentration, (mg/kg) - as dry weight.									
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35	
Sample ID	Client ID	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics
CL0531770	E-WS301 0.8-1.0	<0.80	<0.80	<0.80	<0.80	<1.59	<1.59	<1.98	<1.98	<5.56	<5.56
CL0531771	E-WS301 0.1-0.2	<0.84	<0.84	<0.84	<0.84	<1.68	<1.68	<2.09	<2.09	<5.86	<5.86
CL0531772	E-WS302 1.1-1.2	<0.87	<0.87	<0.87	<0.87	<1.74	<1.74	<2.16	<2.16	<6.08	<6.08
CL0531773	E-WS302 0.2-0.3	<0.84	<0.84	<0.84	<0.84	<1.69	<1.69	<2.11	5.58	<5.90	24.7
CL0531774	E-WS303 1.9-2.0	<0.75	<0.75	<0.75	<0.75	<1.49	<1.49	<1.86	<1.86	<5.21	<5.21
CL0531775	E-BH306 1.6-1.8	<0.78	<0.78	<0.78	<0.78	<1.57	<1.57	<1.95	<1.95	<5.48	<5.48
CL0531776	E-BH306 4.0-4.3	<0.87	<0.87	<0.87	<0.87	<1.75	<1.76	<2.18	<2.18	<6.11	<6.11
CL0531777	E-BH302 6.0-6.2	<0.90	<0.90	<0.90	<0.90	<1.79	<1.79	2.35	2.59	<6.27	<6.27
CL0531778	E-BH302 7.0-7.2	<0.85	<0.85	<0.85	<0.85	<1.70	<1.70	<2.12	<2.12	<5.94	<5.94
CL0531779	E-BH304 0.1-0.3	<0.82	<0.82	<0.82	<0.82	<1.63	<1.63	<2.04	3.49	<5.70	13.7
CL0531780	E-BH304 6.5-6.8	<0.88	<0.88	<0.88	<0.88	<1.76	<1.76	<2.19	<2.19	<6.13	<6.13
CL0531781	E-WS304 0.3-0.5	<0.83	<0.83	<0.83	<0.83	<1.67	<1.67	<2.08	<2.08	<5.83	<5.83
CL0531782	E-WS304 0.8-0.9	<0.85	<0.85	<0.85	<0.85	<1.70	<1.70	<2.12	<2.12	<5.93	<5.93
CL0531783	E-WS305 2.5-2.7 (NVM)	<0.77	<0.77	<0.77	<0.77	<1.53	<1.53	<1.91	<1.91	<5.36	<5.36
CL0531784	E-WS308 0.2-0.3	<0.83	<0.83	<0.83	<0.83	<1.66	<1.66	<2.07	<2.07	<5.80	<5.80

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS sta...

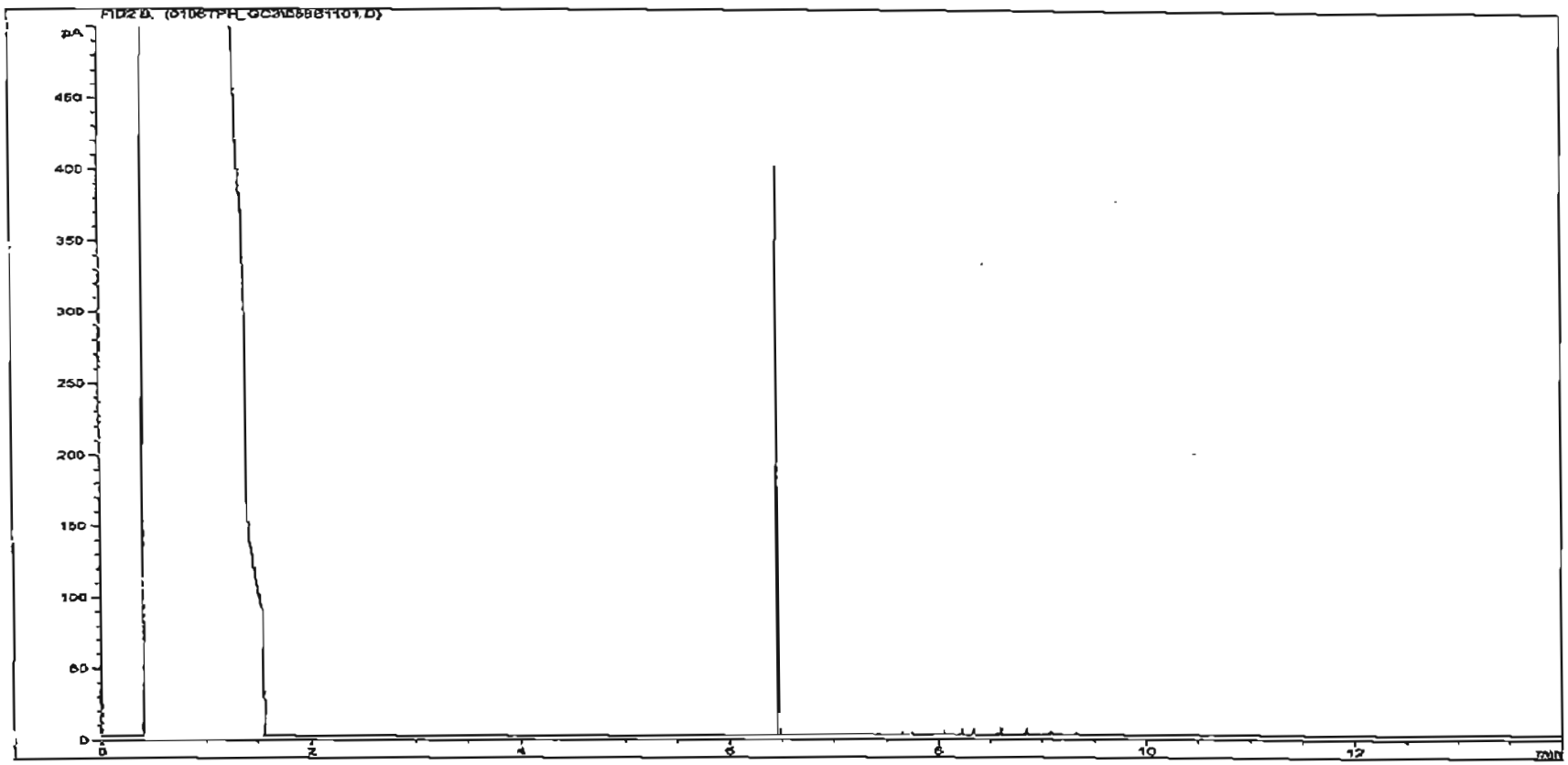
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531770ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS301 0.9-1.0
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\009F1101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

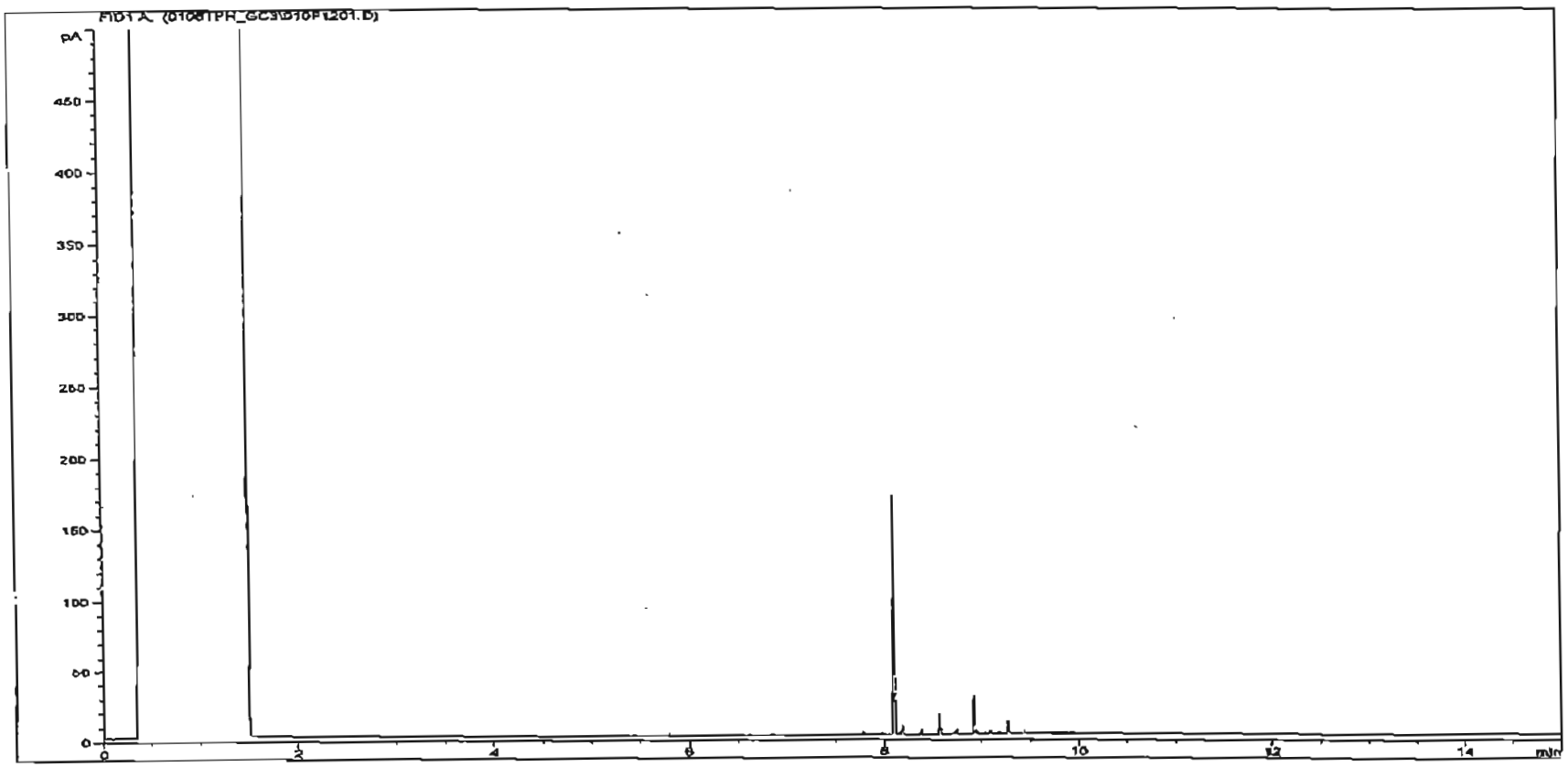
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531770ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS301 0.9-1.0
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\058B1101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

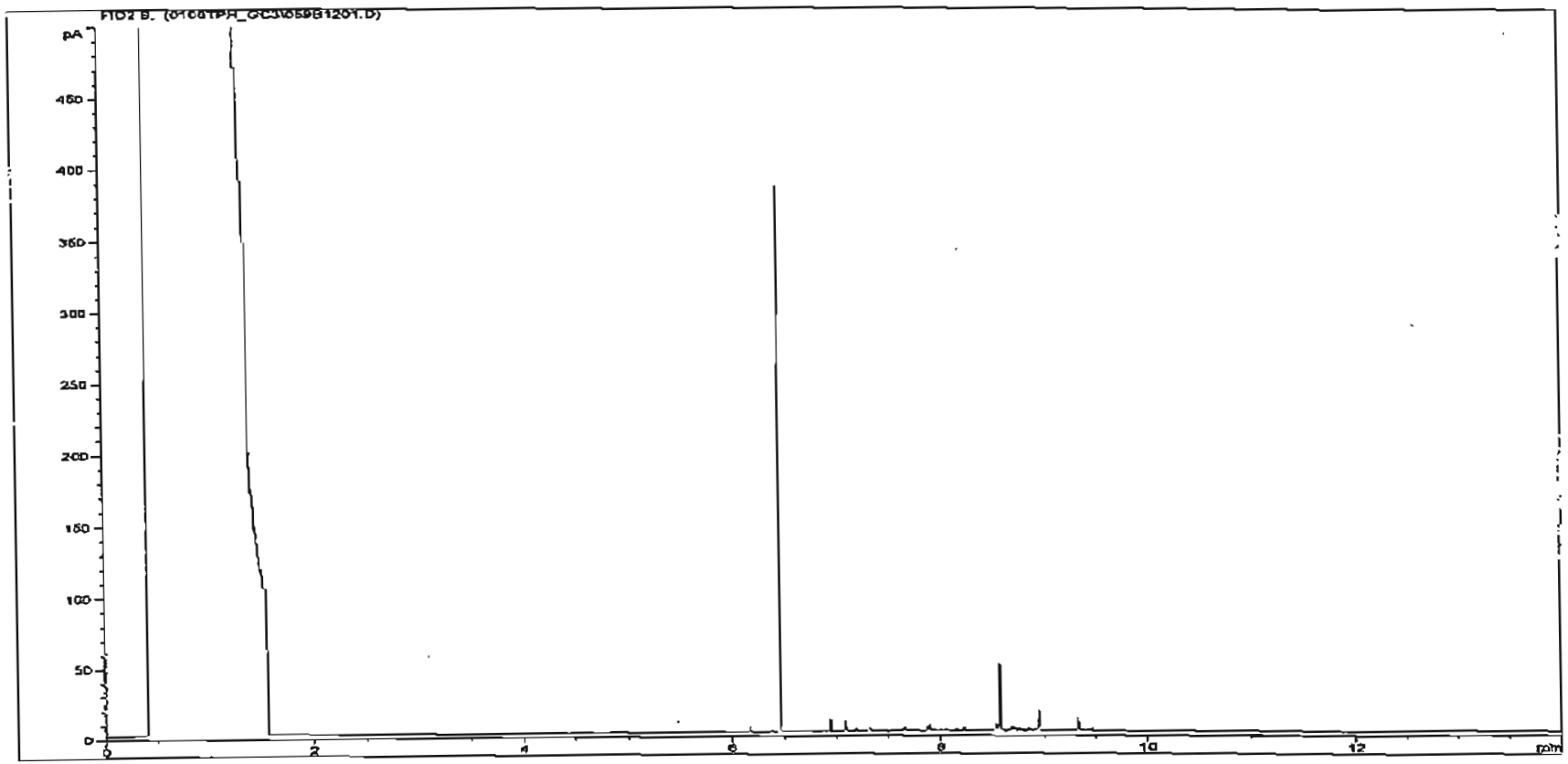
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531771ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS301 0.1-0.2
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\010F1201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

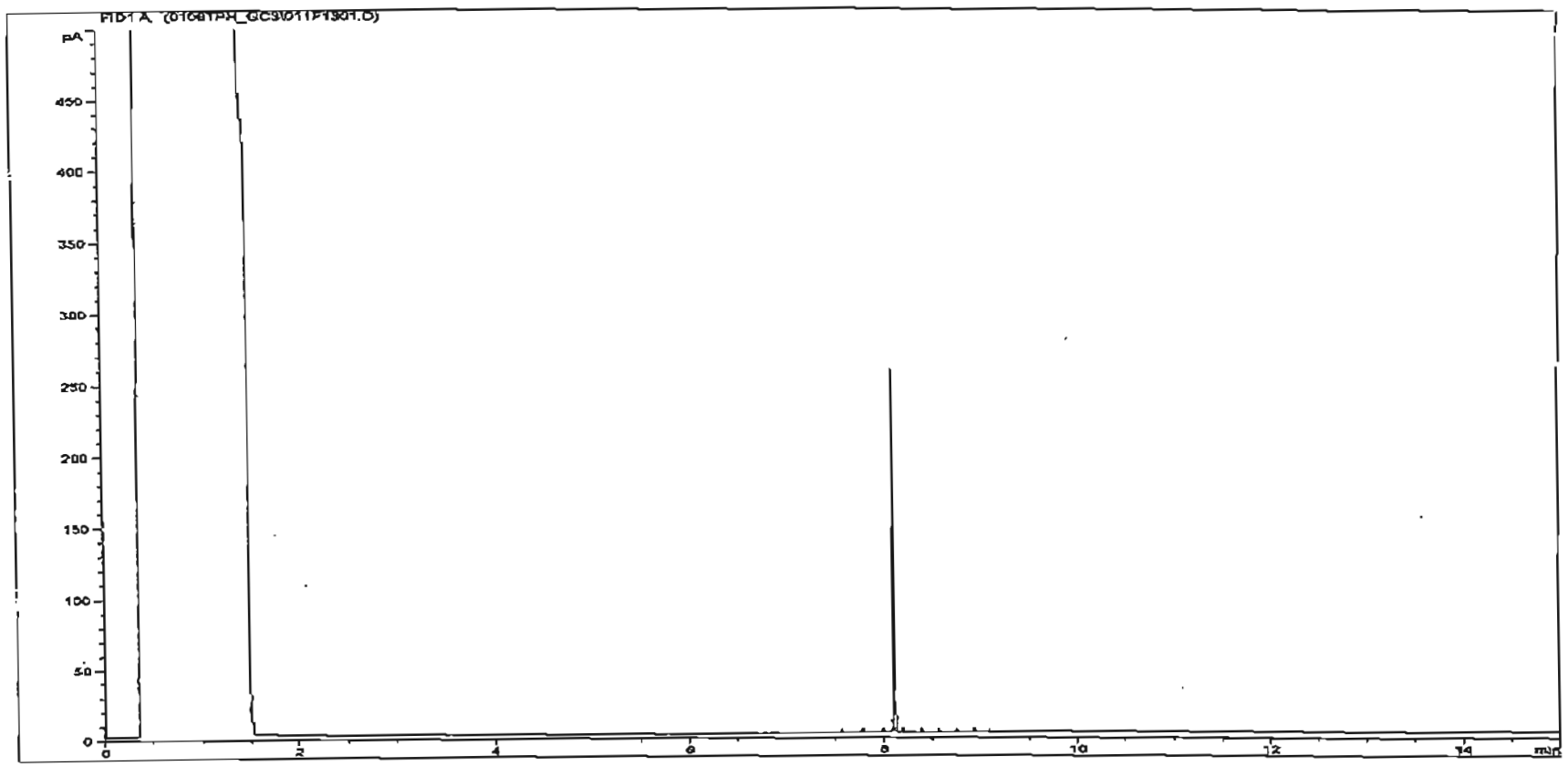
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531771ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS301 0.1-0.2
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\059B1201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

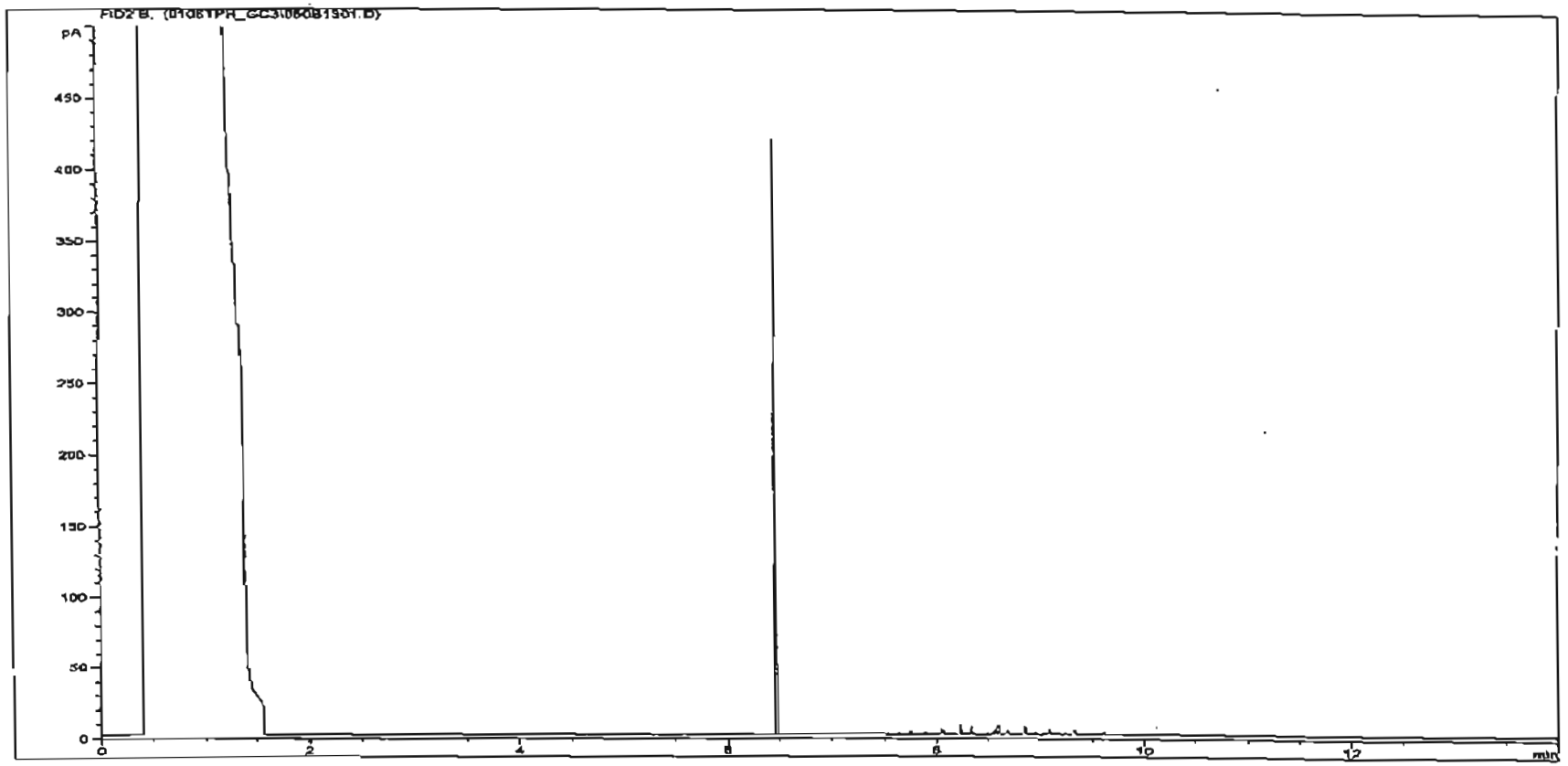
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531772ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS302 1.1-1.2
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\011F1301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

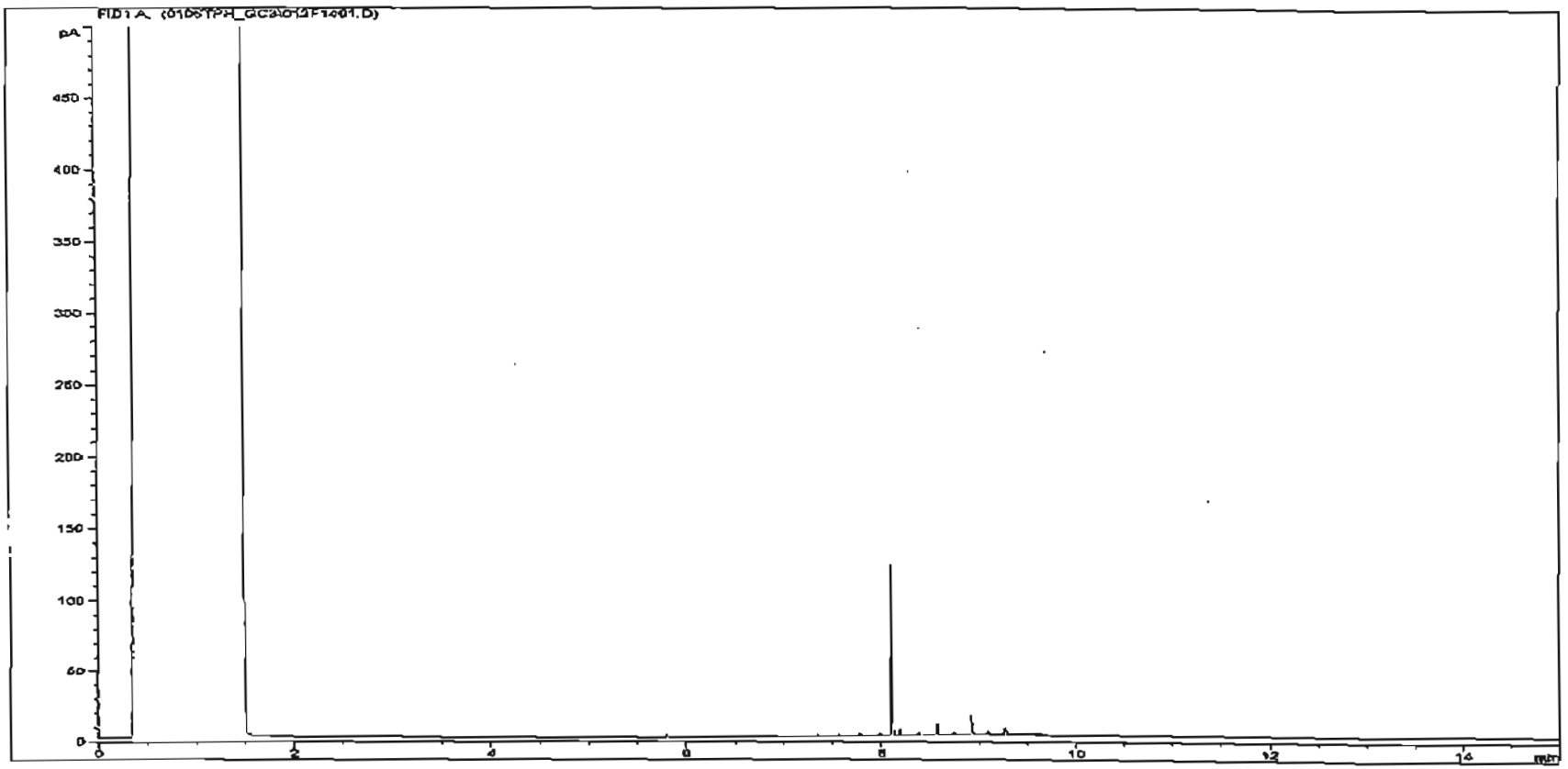
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531772ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS302 1.1-1.2
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\060B1301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

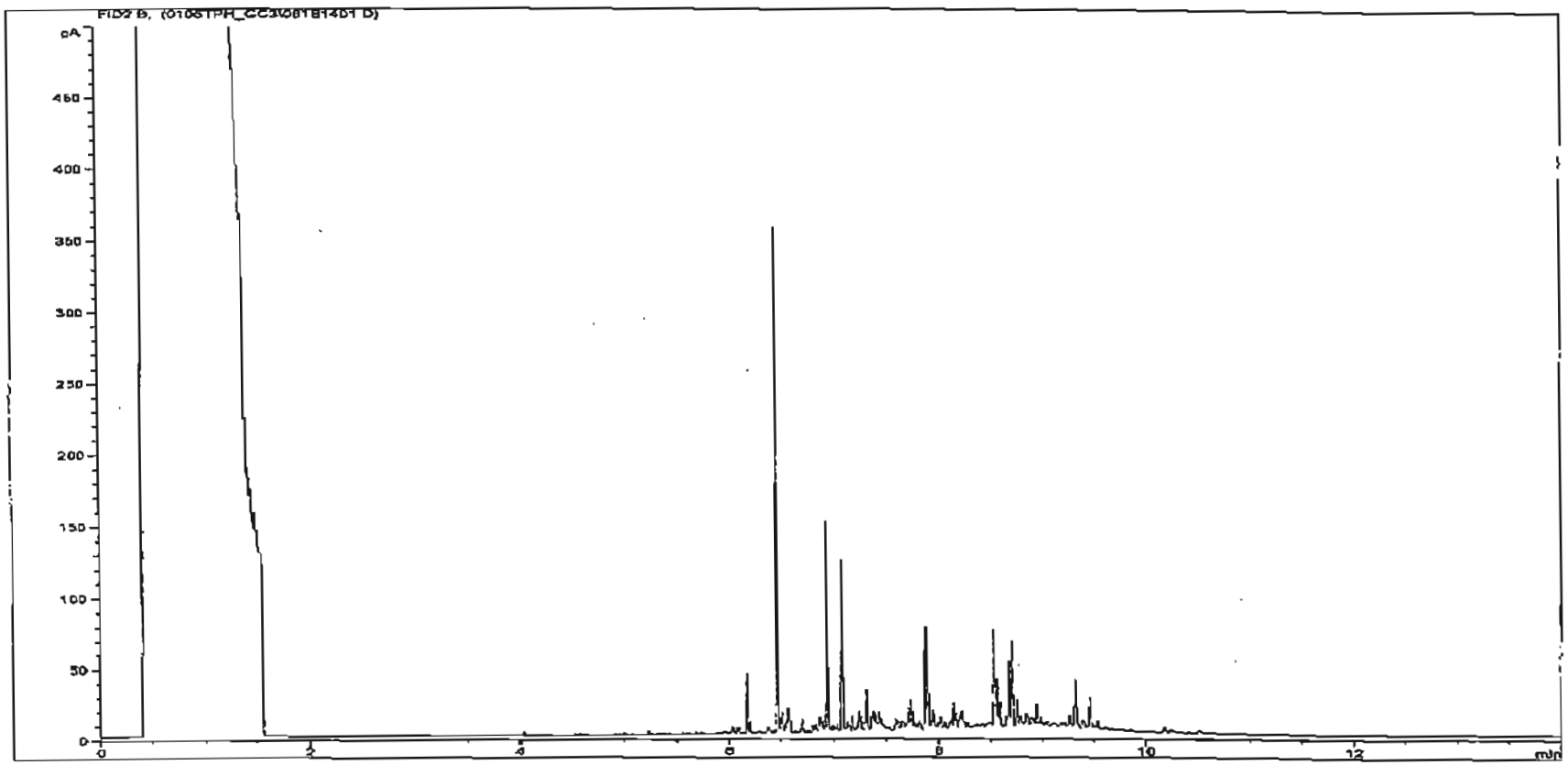
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531773ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS302 0.2-0.3
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\012F1401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

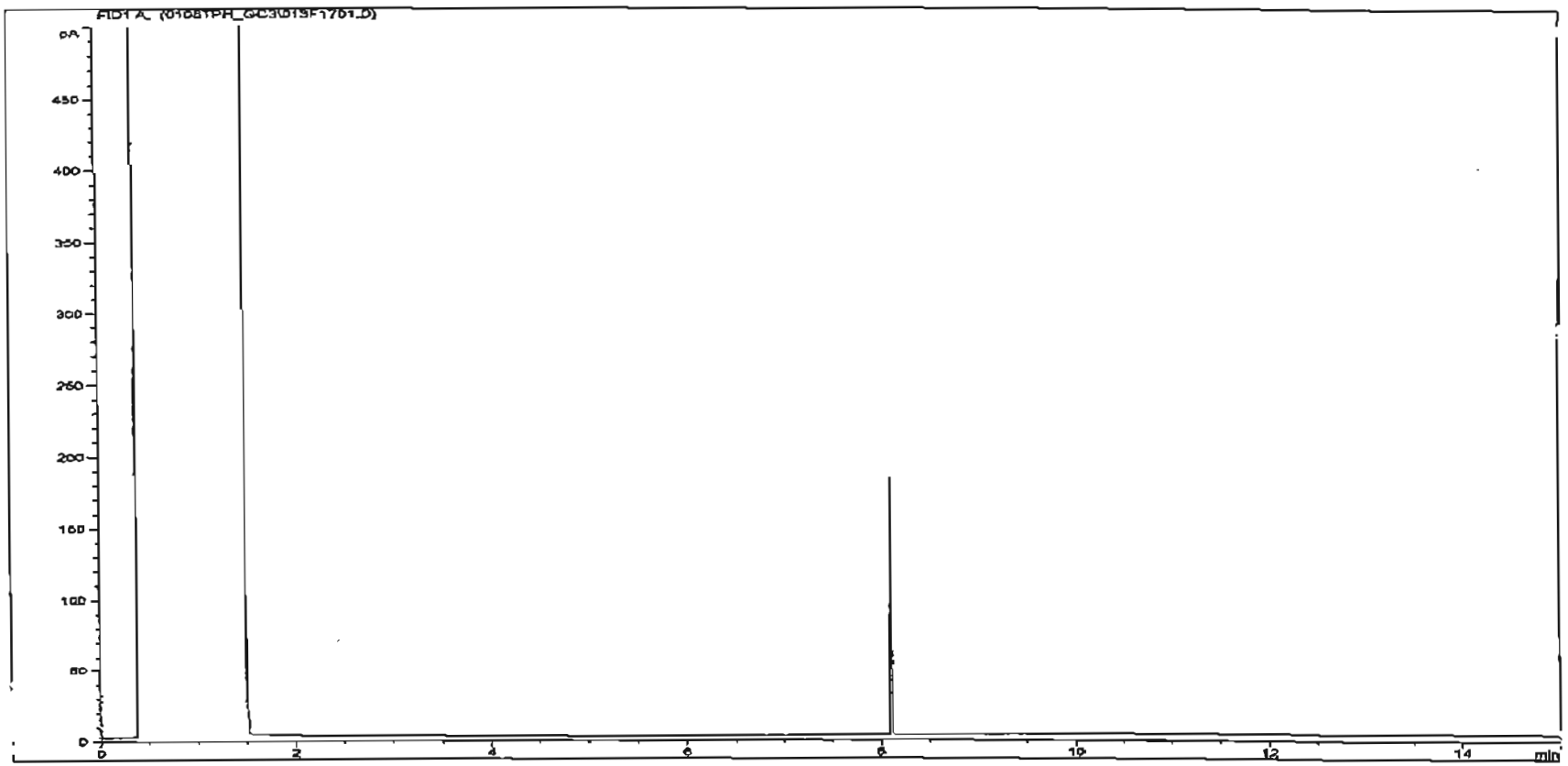
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531773ARO	**Job Number:**	S05_4535M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS302 0.2-0.3
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\061B1401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

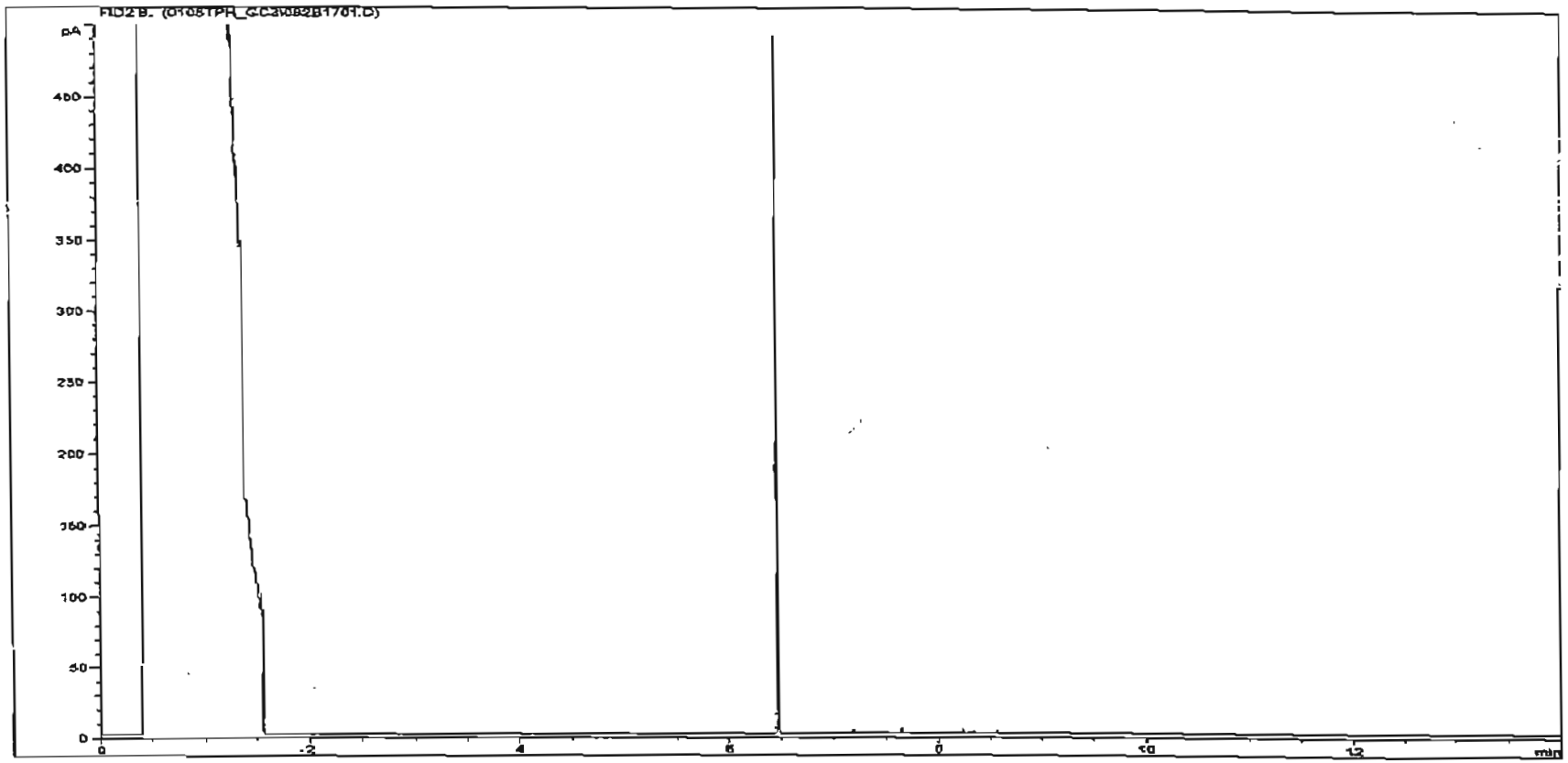
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531774ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS303 1.9-2.0
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\013F1701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

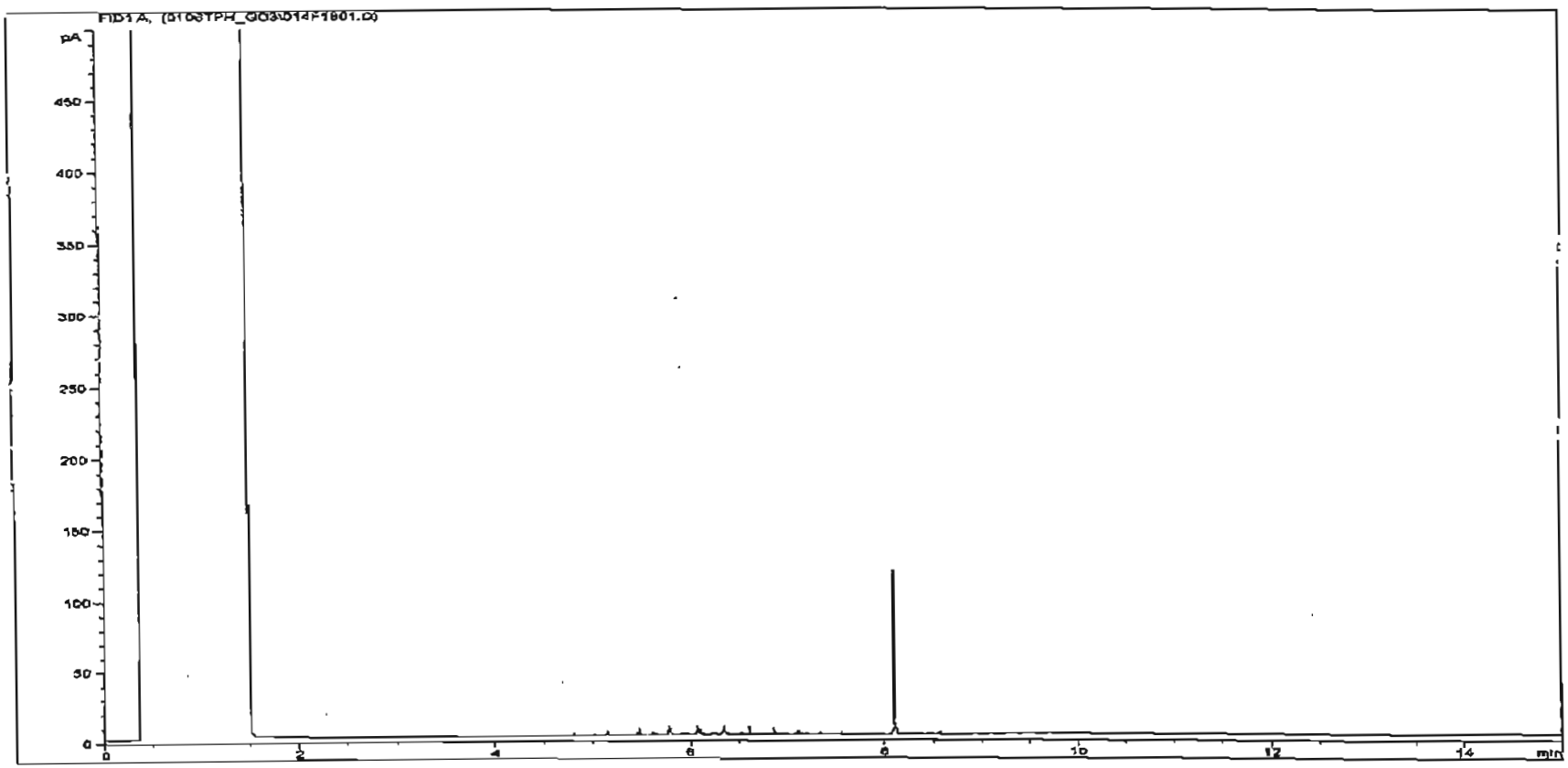
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531774ARO	**Job Number:**	S05_4536M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS303 1.9-2.0
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\062B1701.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

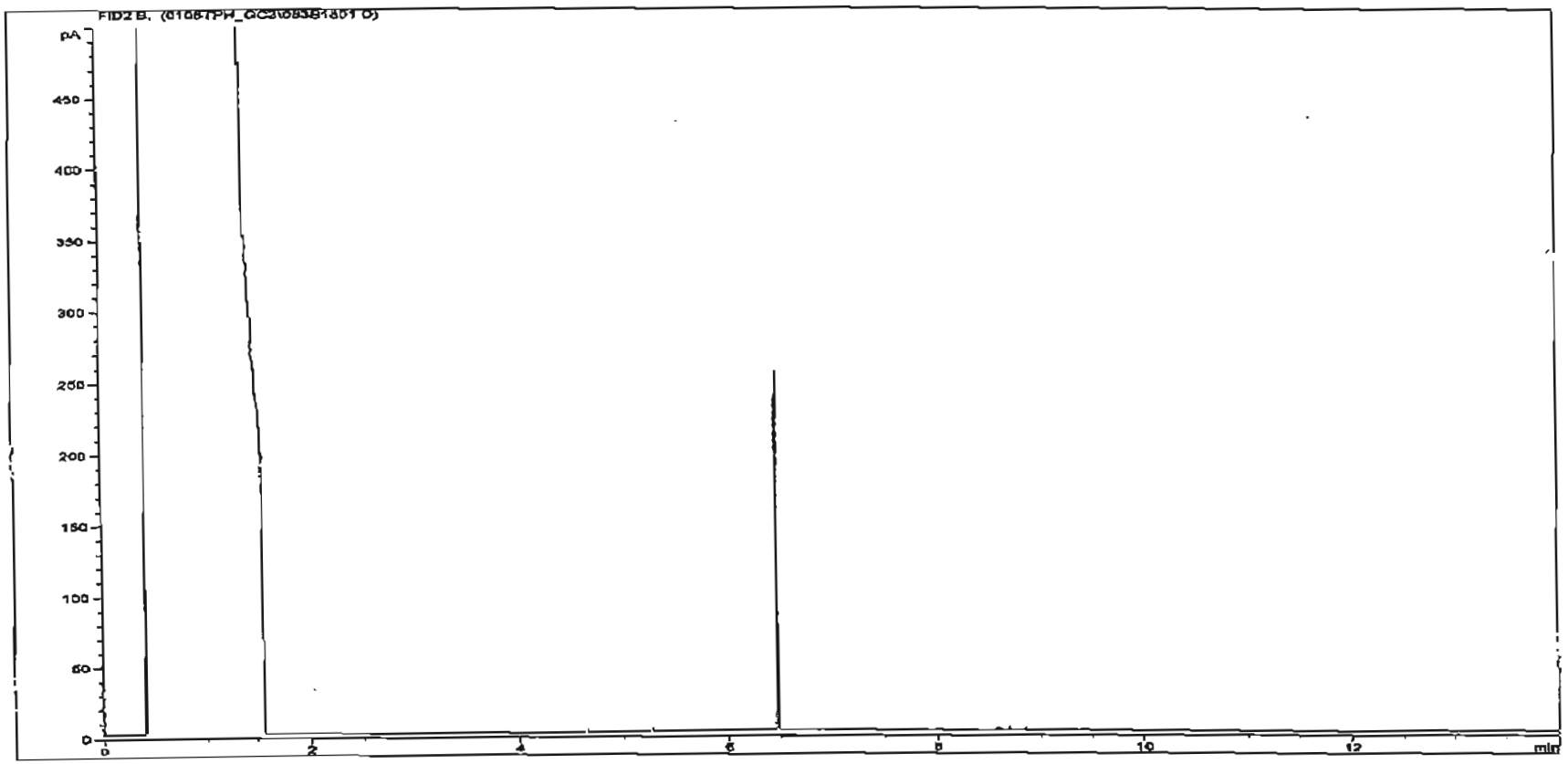
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531775ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH306 1.6-1.8
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\014F1801.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

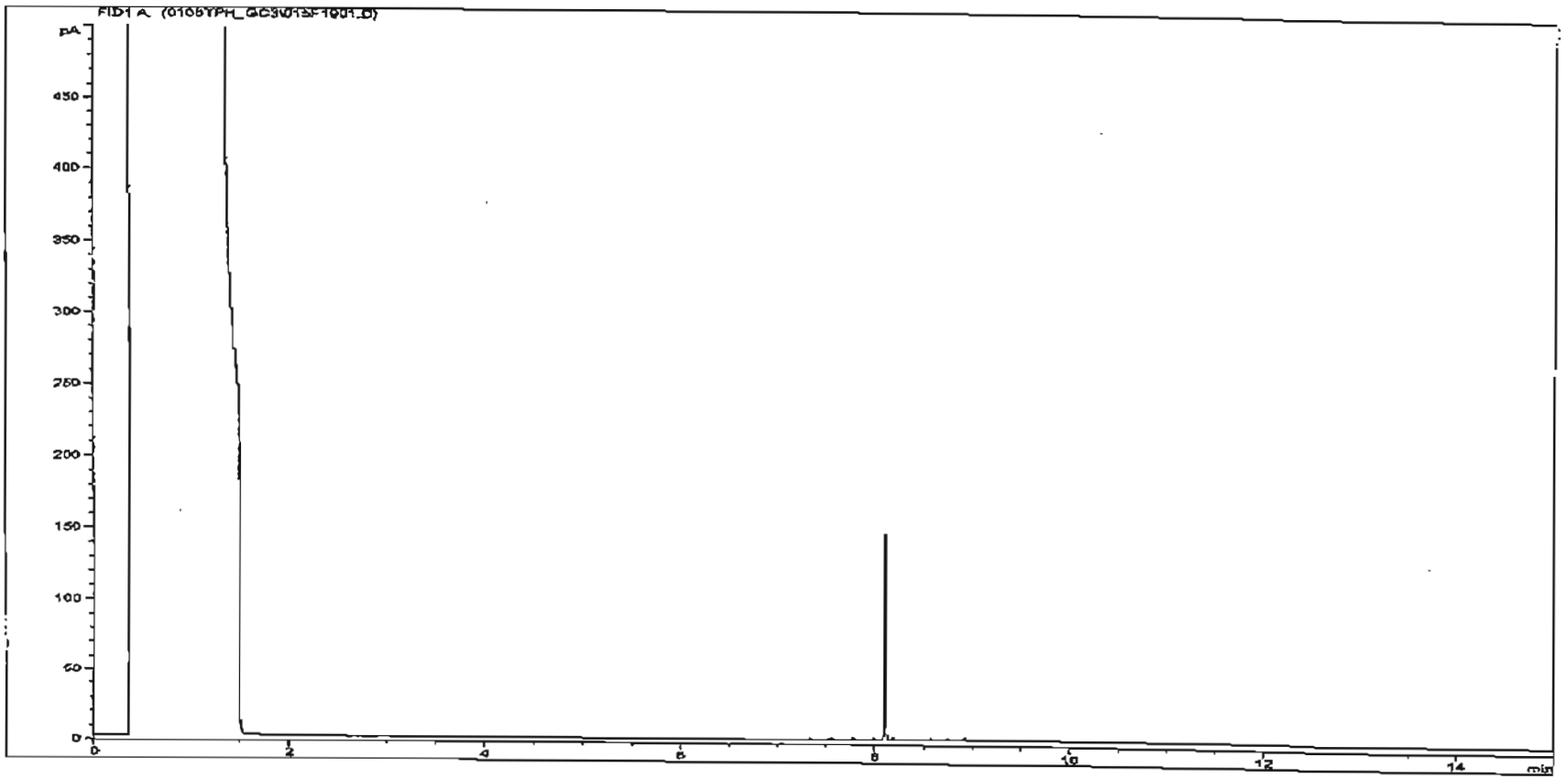
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531775ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH306 1.6-1.8
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\063B1801.D		

Results corrected to dry weight at 105°C where appropriate, In accordance with the MCERTS standard.

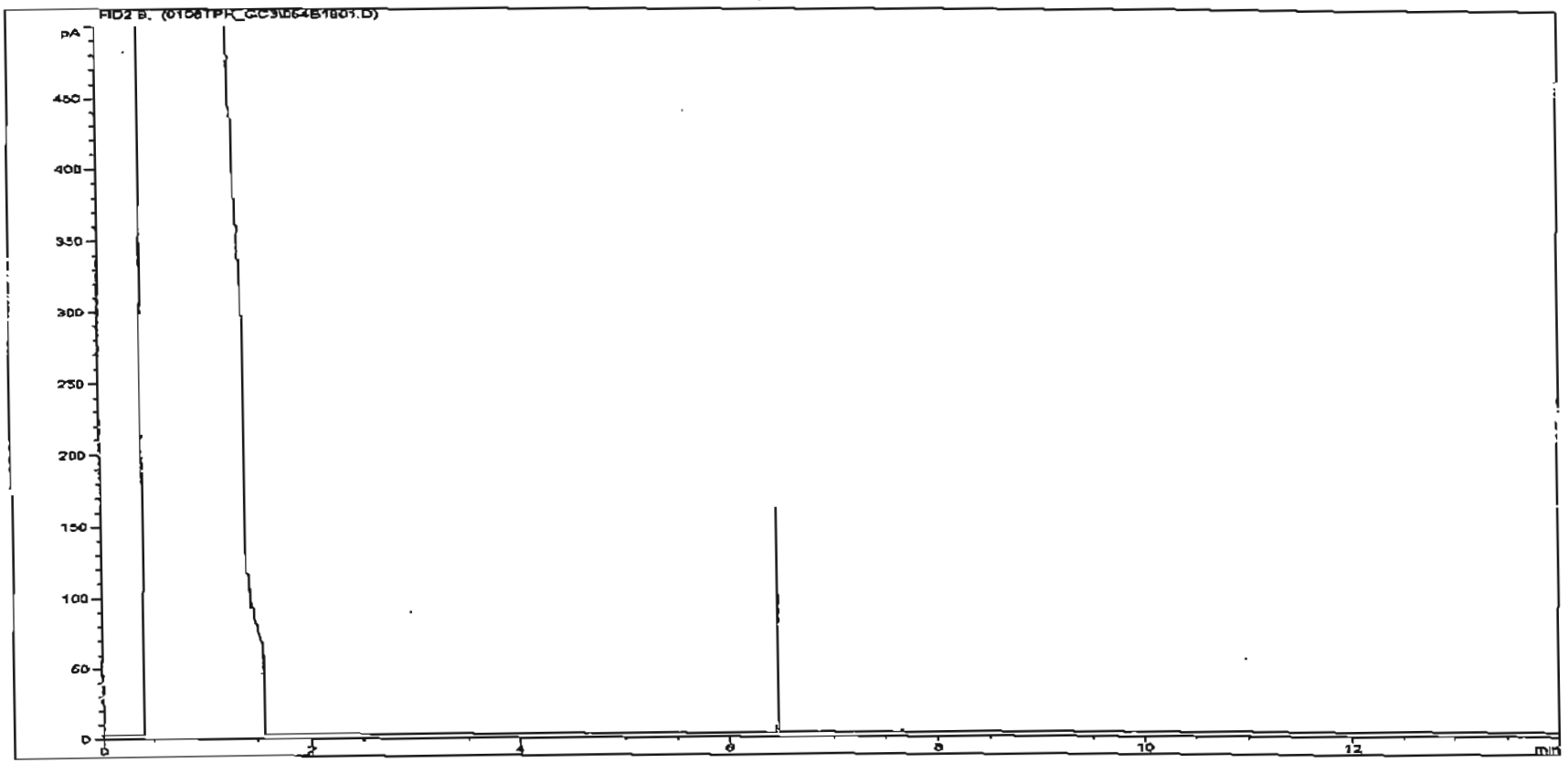
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531776ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH306 4.0-4.3
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\015F1901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

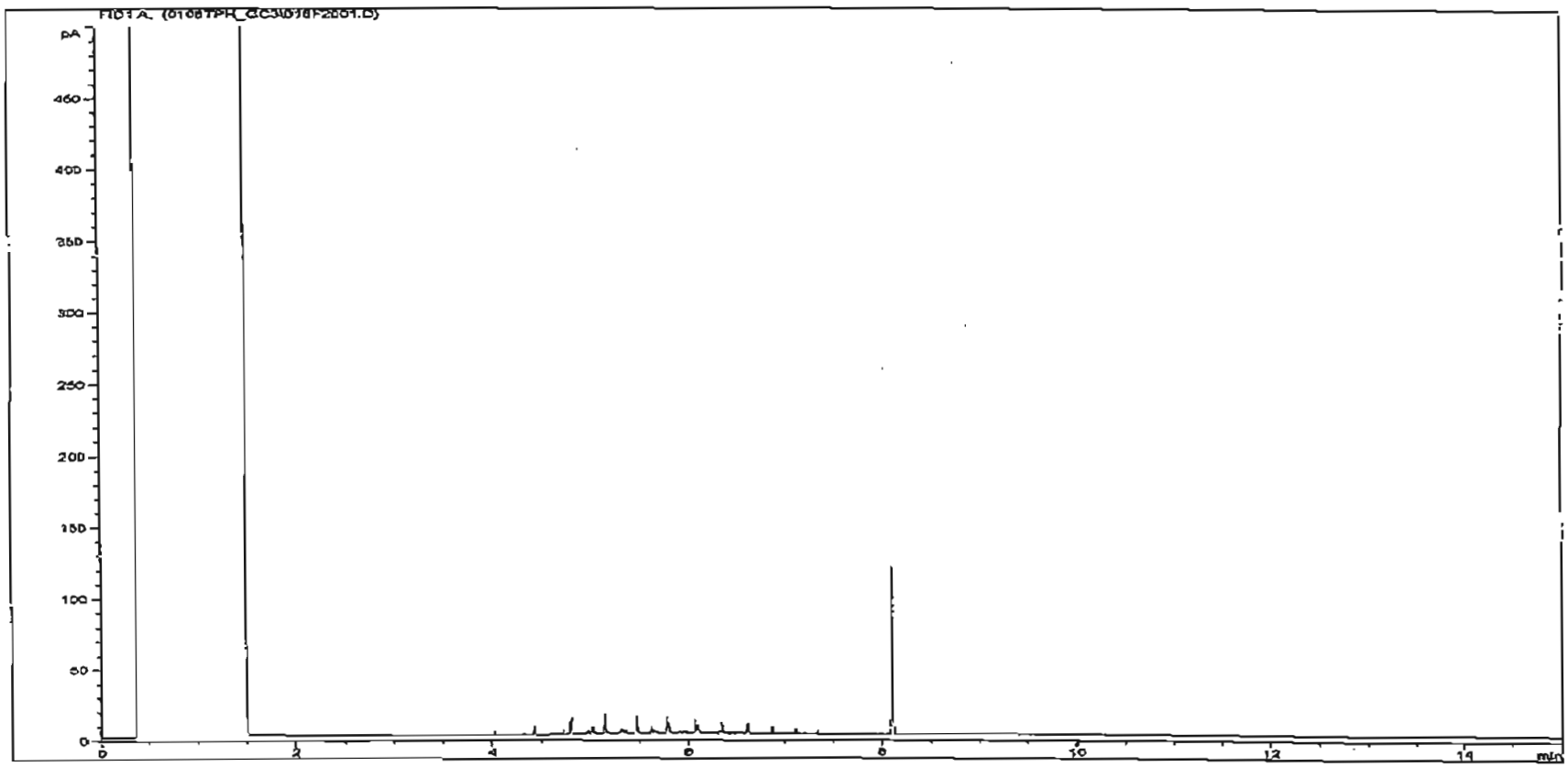
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531776ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH308 4.0-4.3
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\064B1901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.

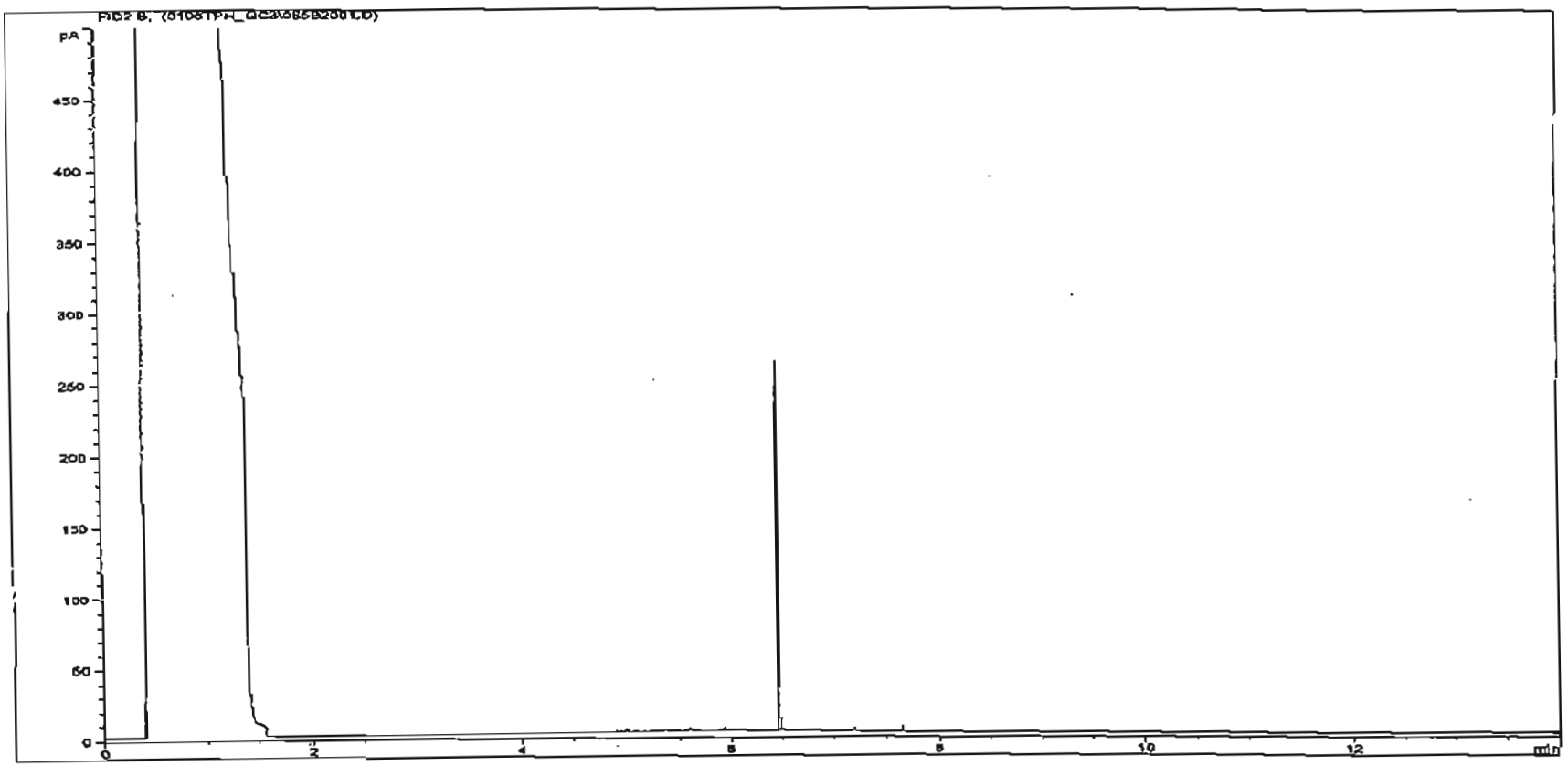


Sample ID:	CL0531777AL1	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH302 6.0-6.2.
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\016F2001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

09-01-2008 14:40 FROM-TES FINANCE & PURCHASING 01283 554488 T-032 P.040/061 F-144

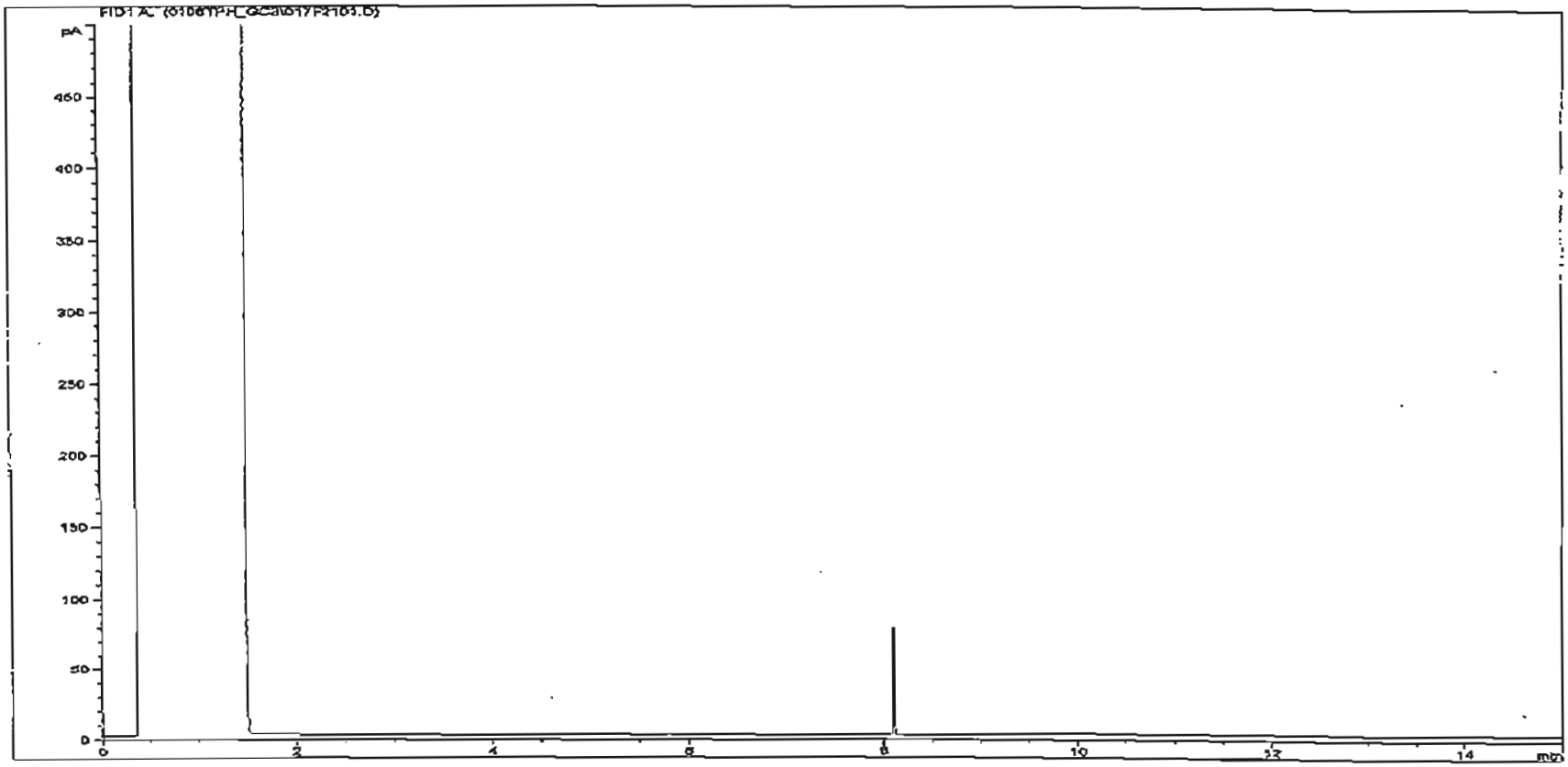
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531777ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH302 6.0-6.2
Acquisition Date/Time:	01/06/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\065B2001.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

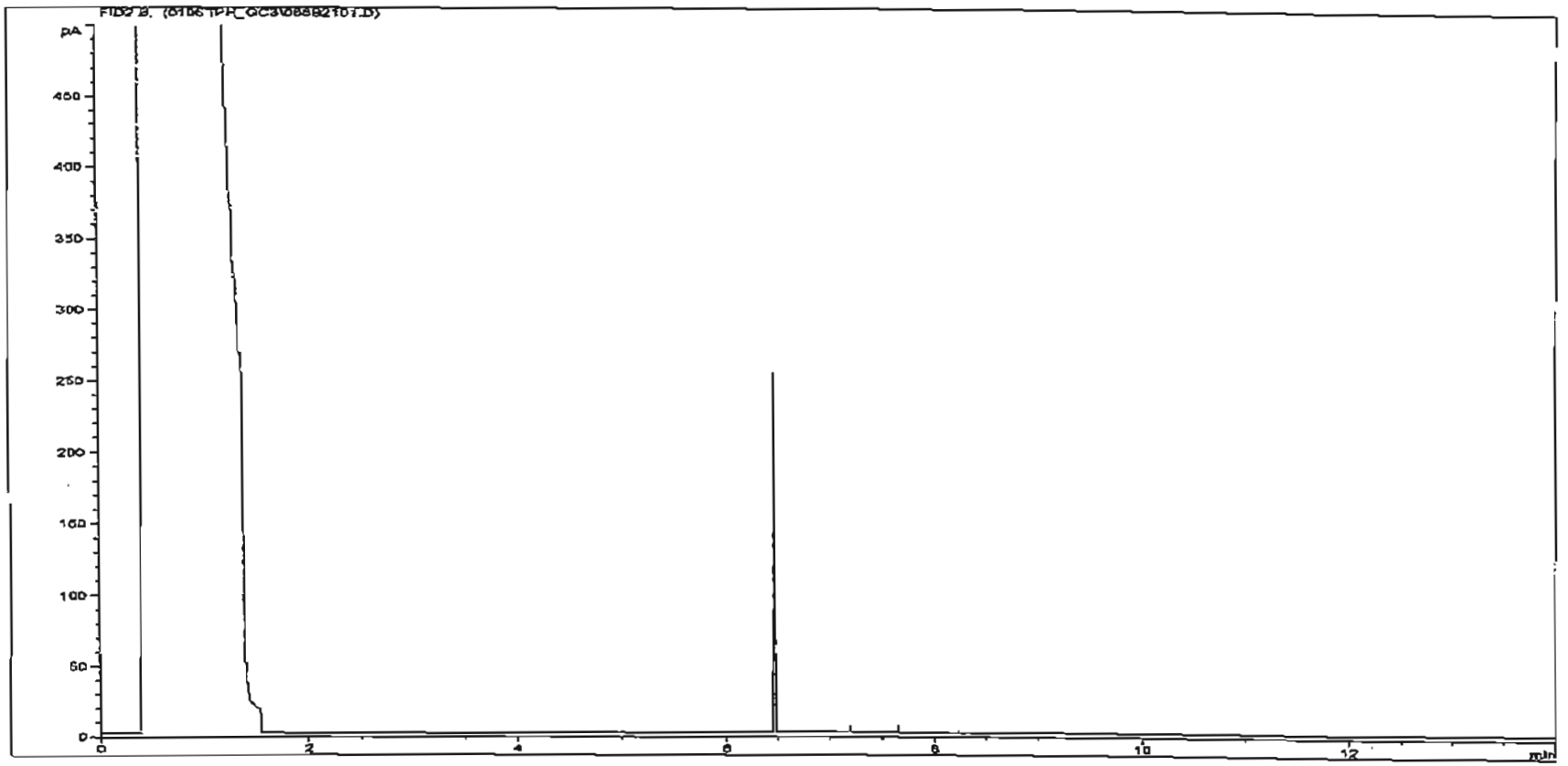
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531778ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH302 7.0-7.2
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\017F2101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

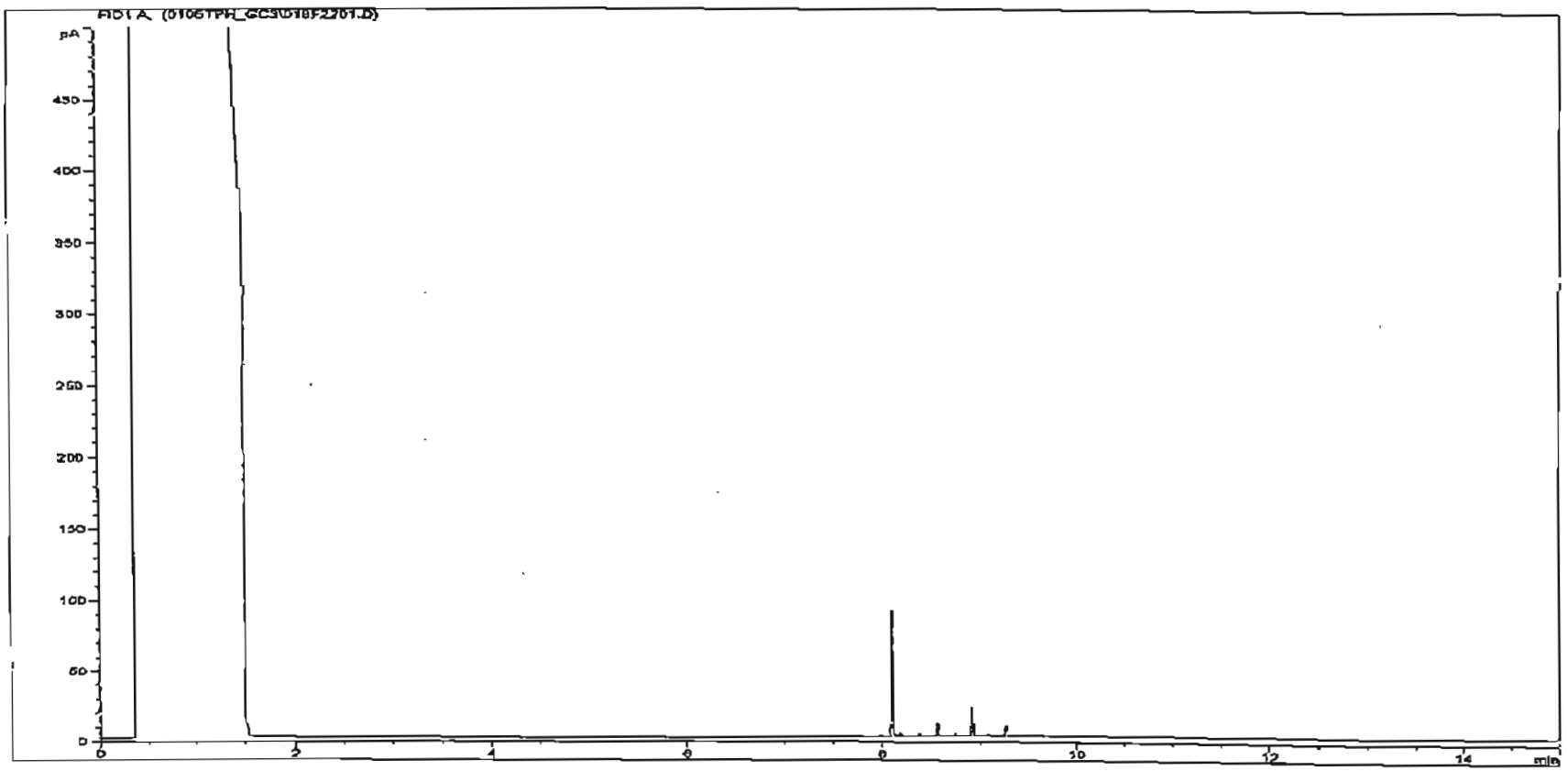
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531778ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH302 7.0-7.2
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\066B2101.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

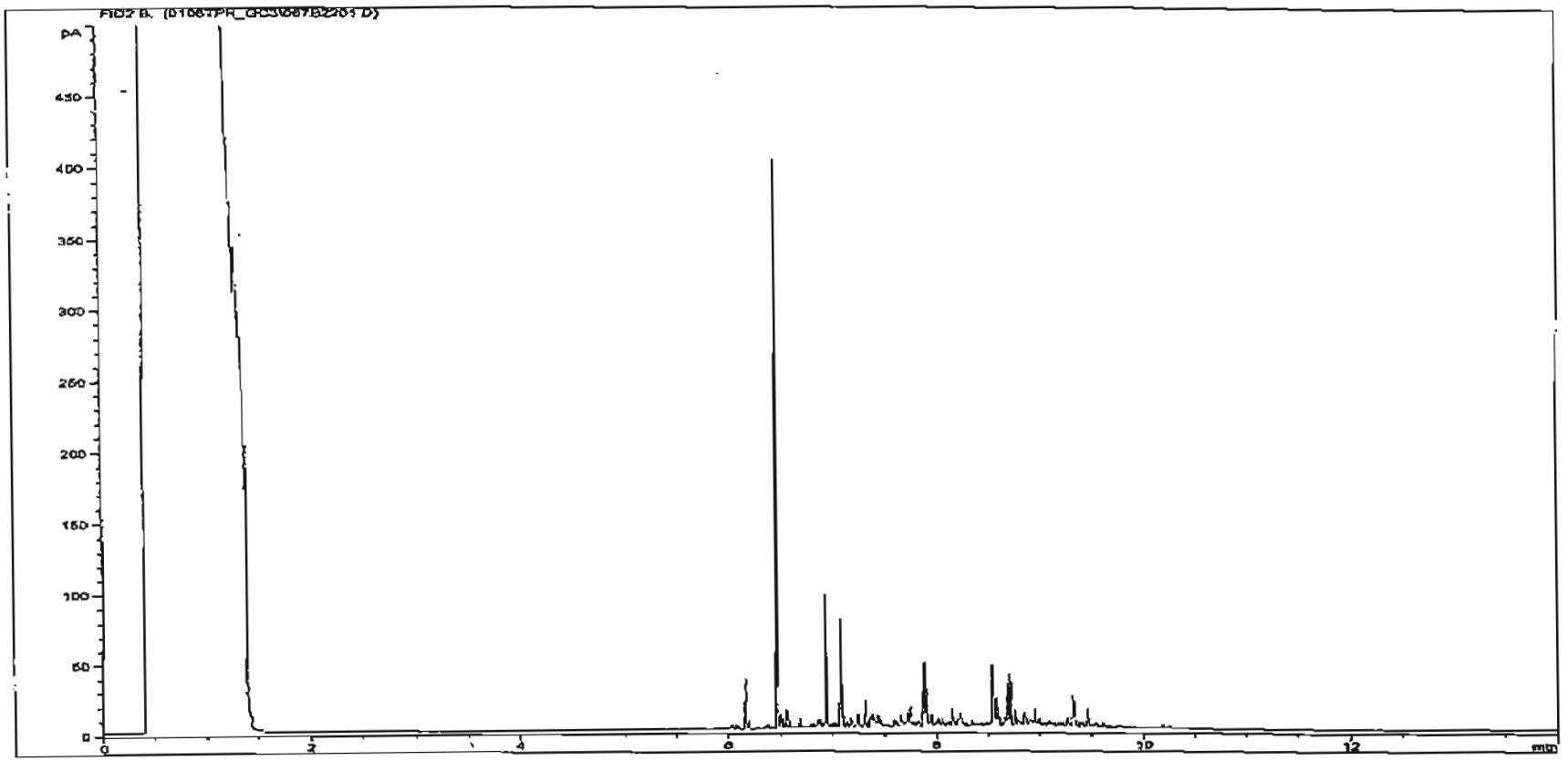
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531779ALI	**Job Number:**	S05_4536M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH304 0.1-0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\018F2201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

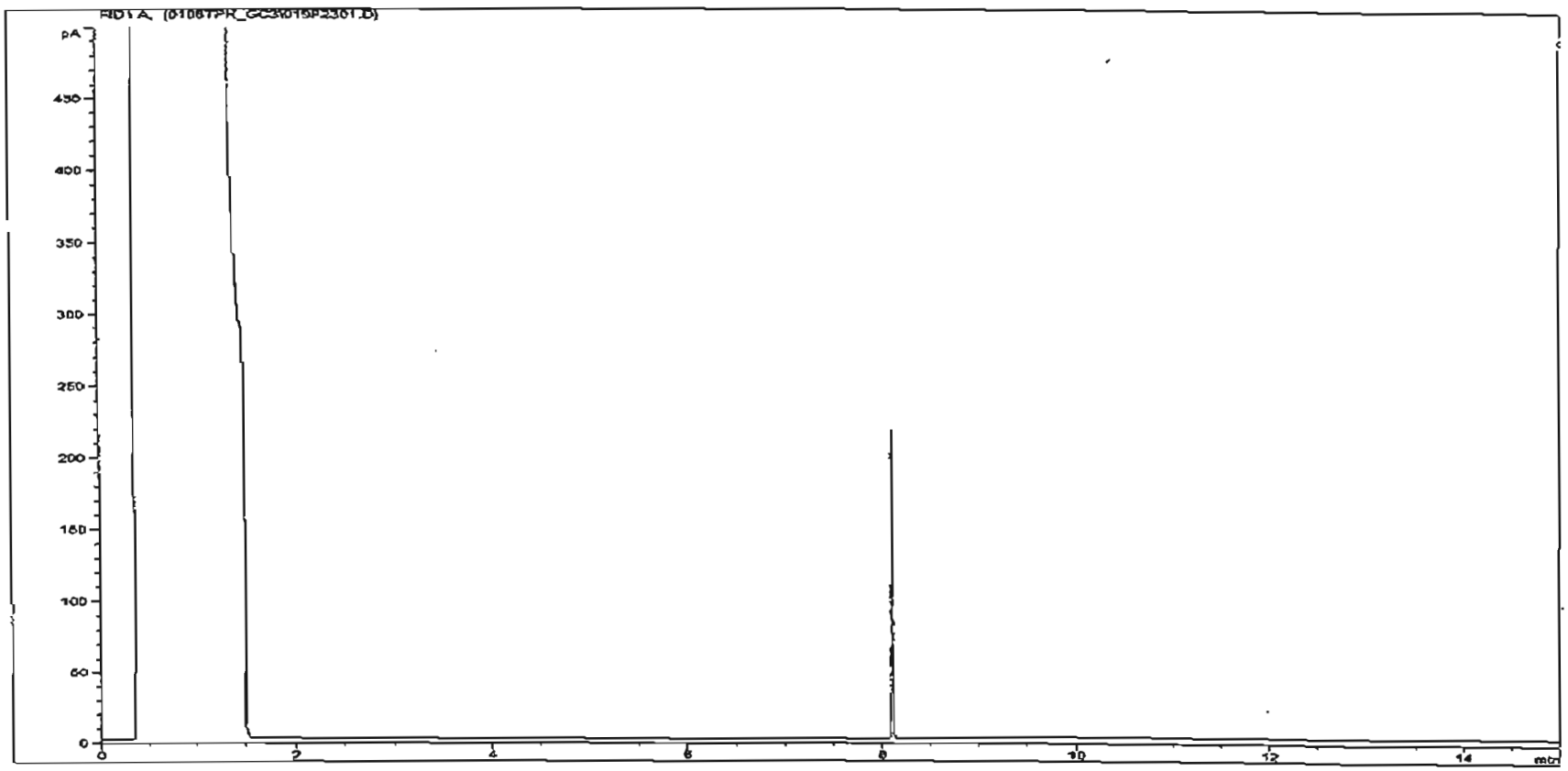
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531779ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH304 0.1-0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\067B2201.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

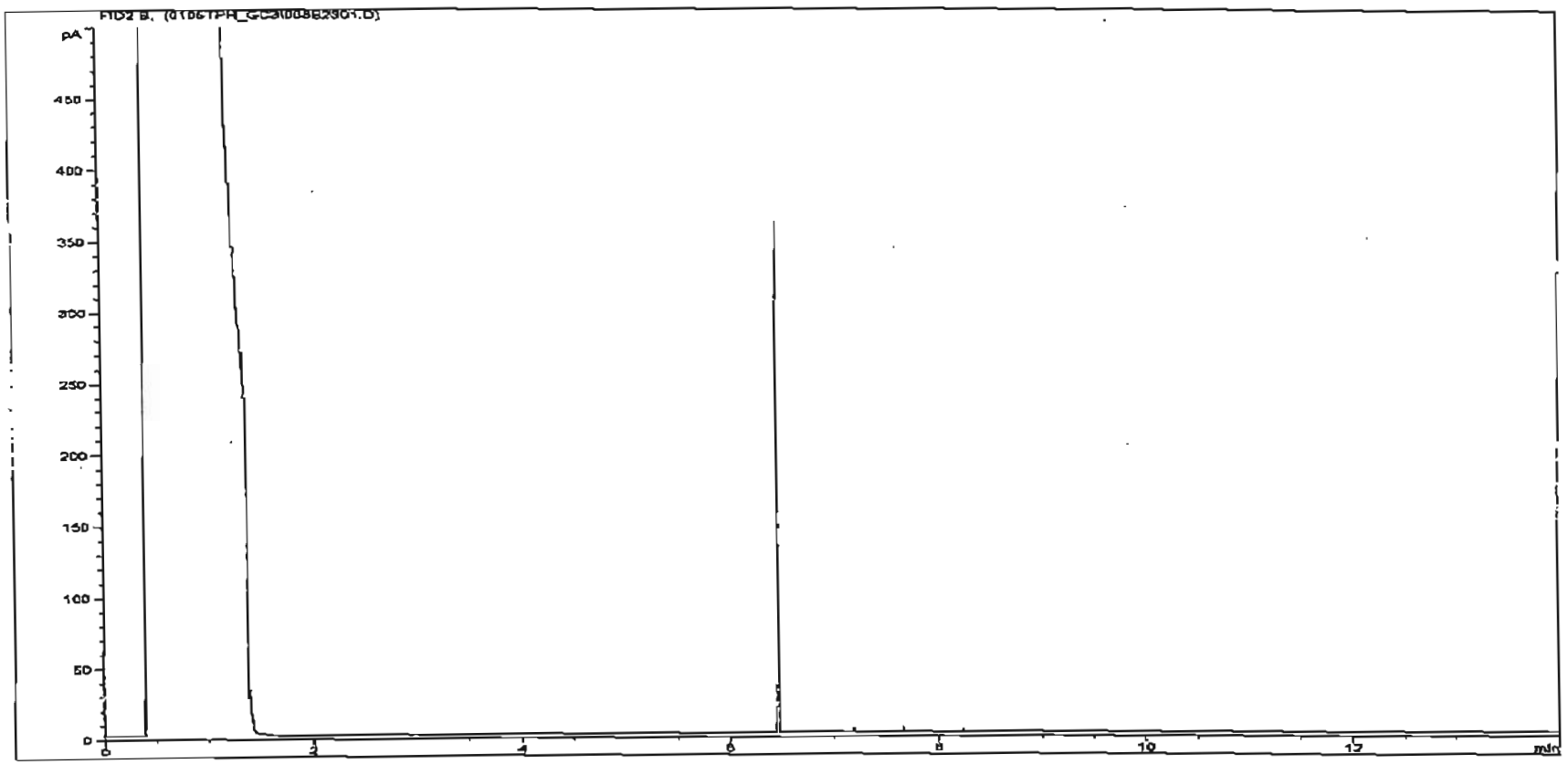
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531780ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH304 6.5-6.8
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\019F2301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

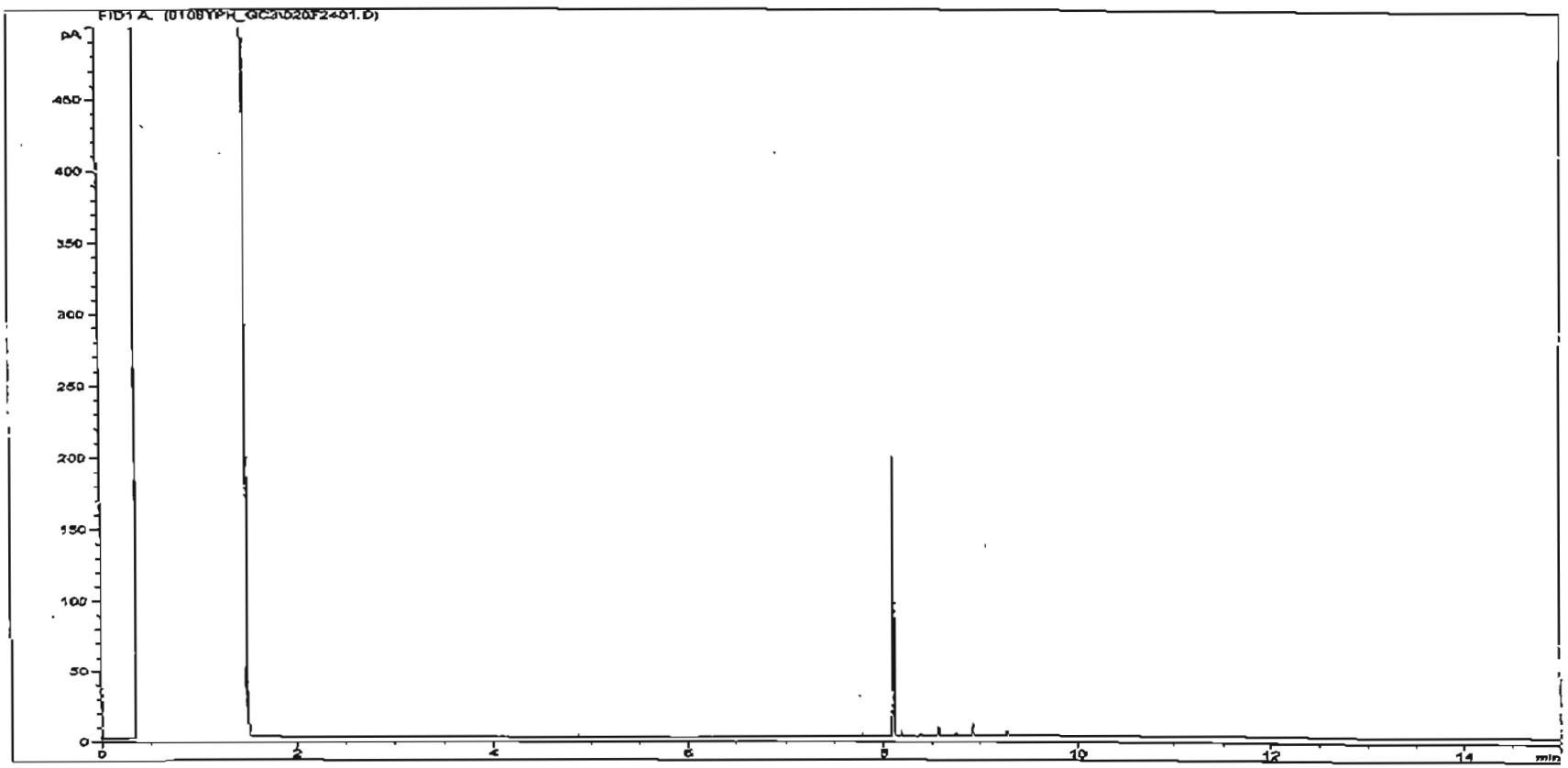
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531780ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-BH304 6.5-6.8
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\068B2301.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

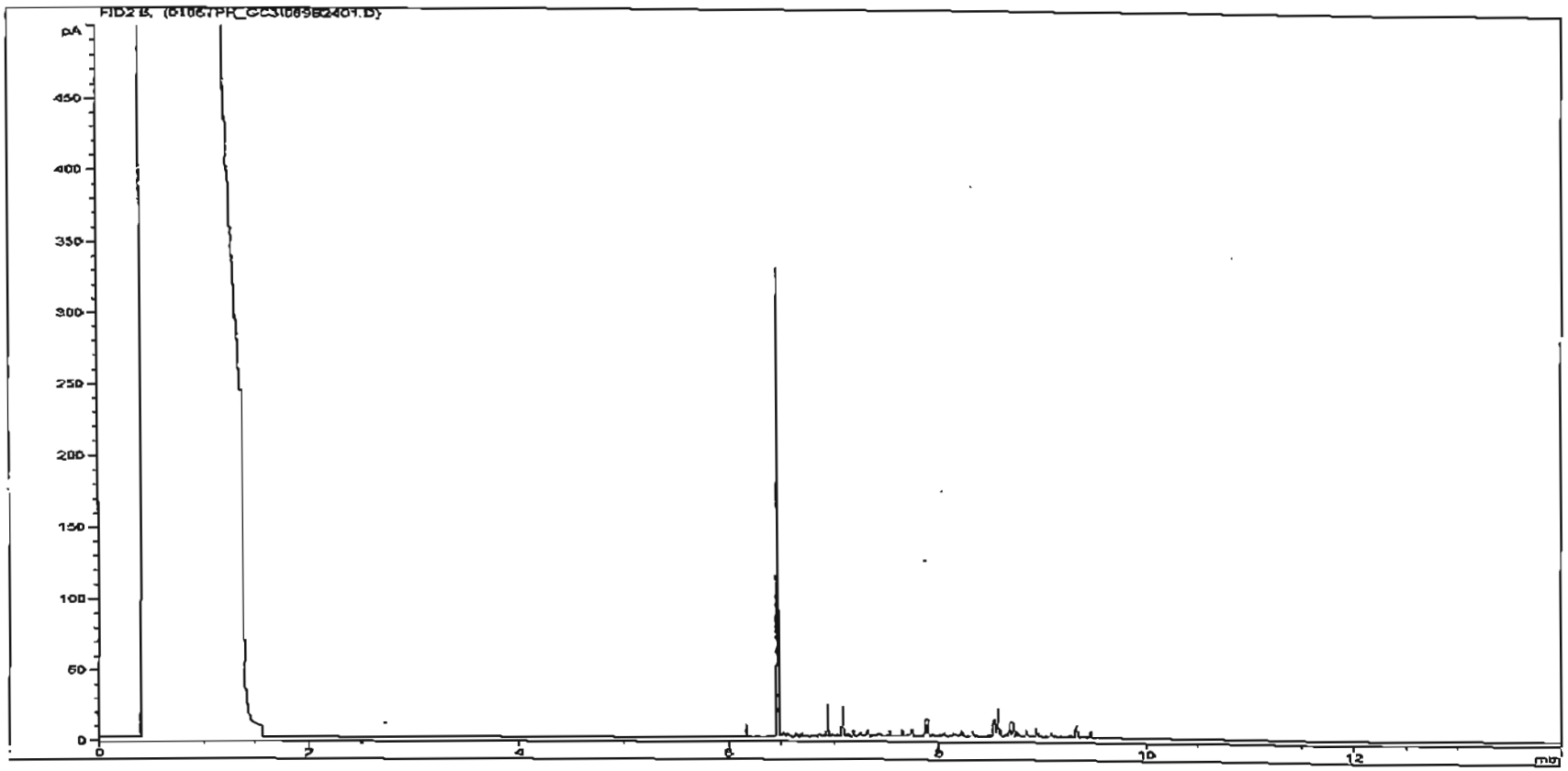
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531781ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS304 0.3-0.5
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\020F2401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

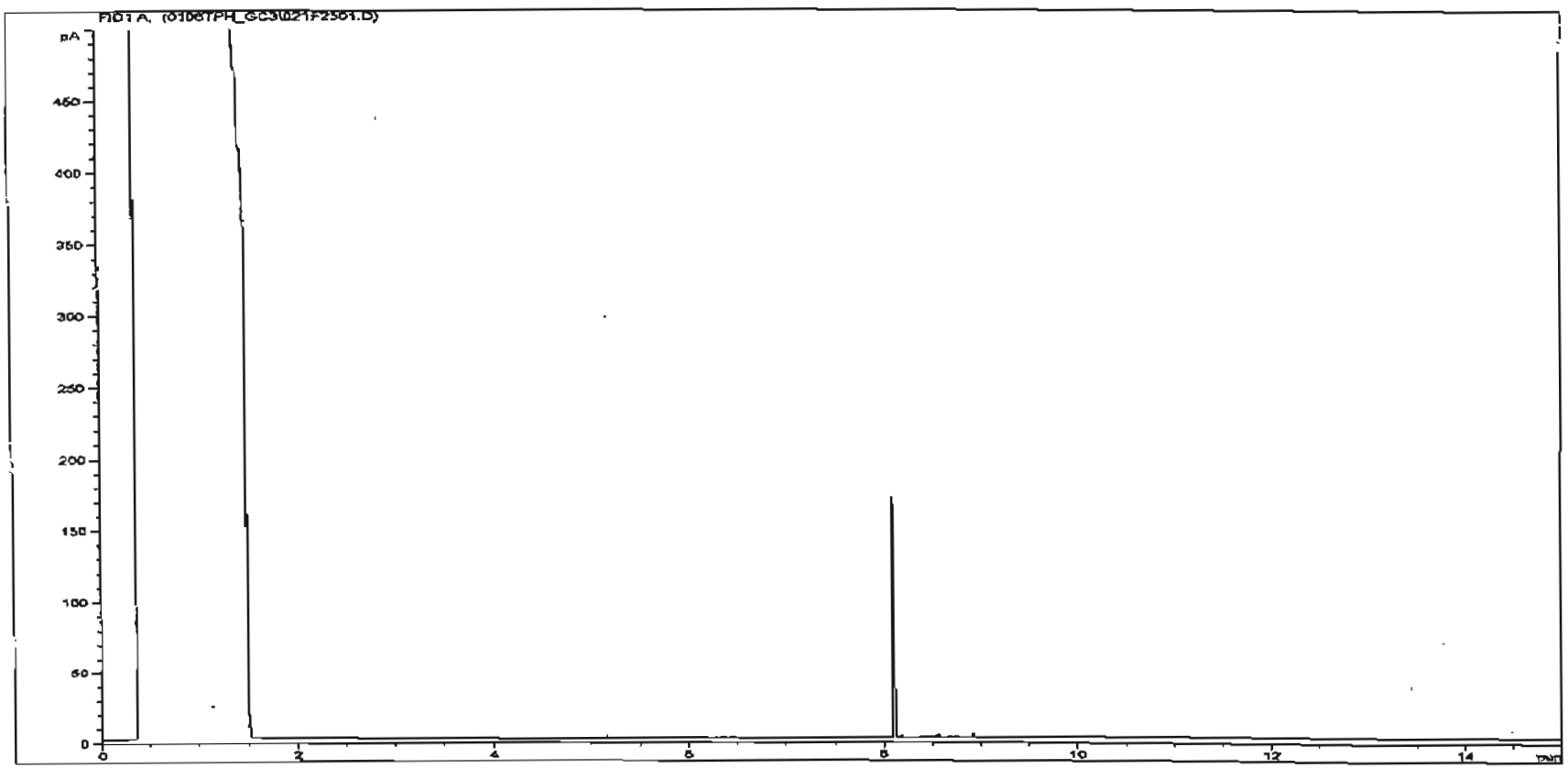
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531781ARO	**Job Number:**	SQ5_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS304 0.3-0.5
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\069B2401.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

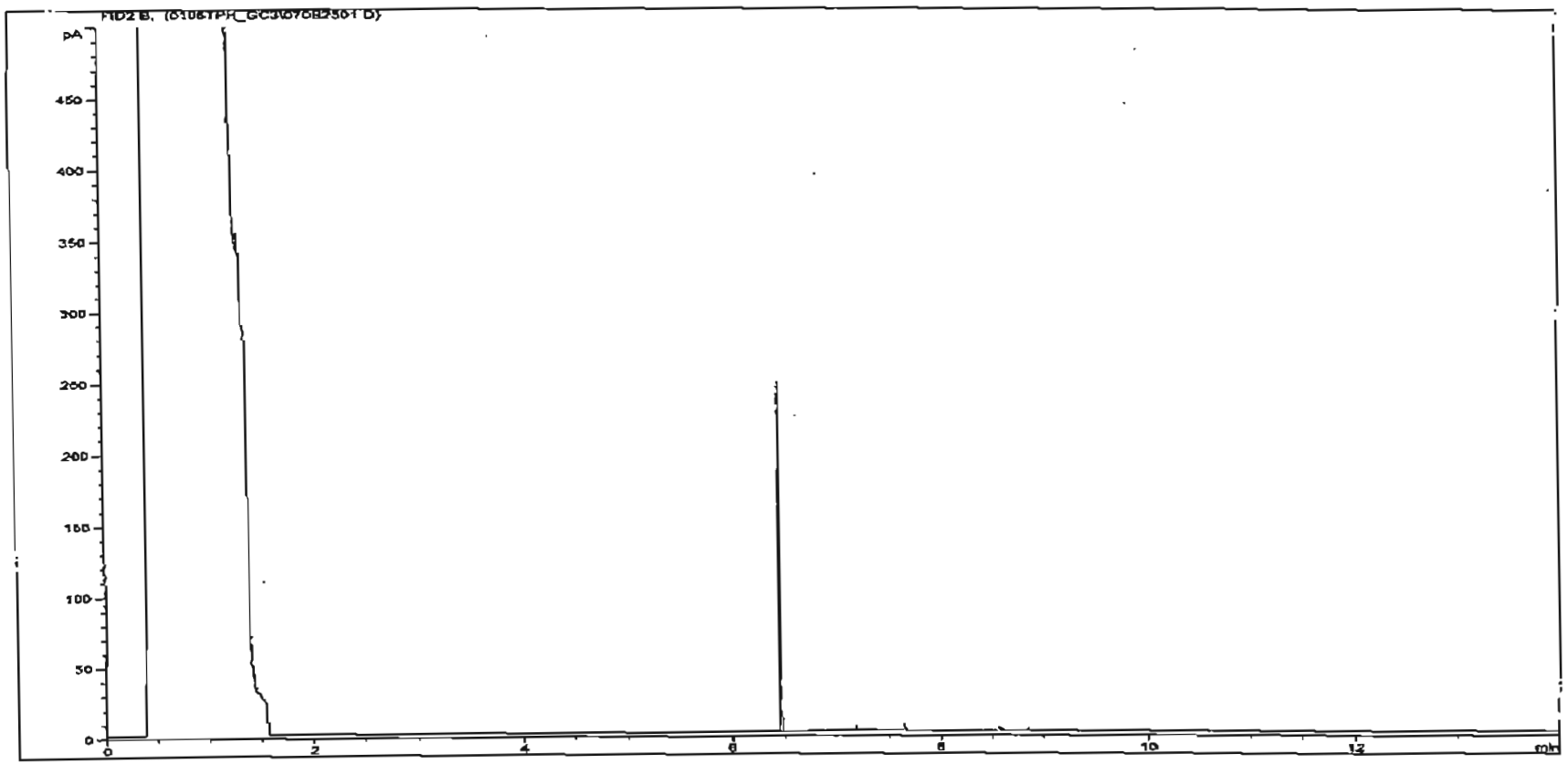
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531782ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS304 0.8-0.9
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\021F2501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

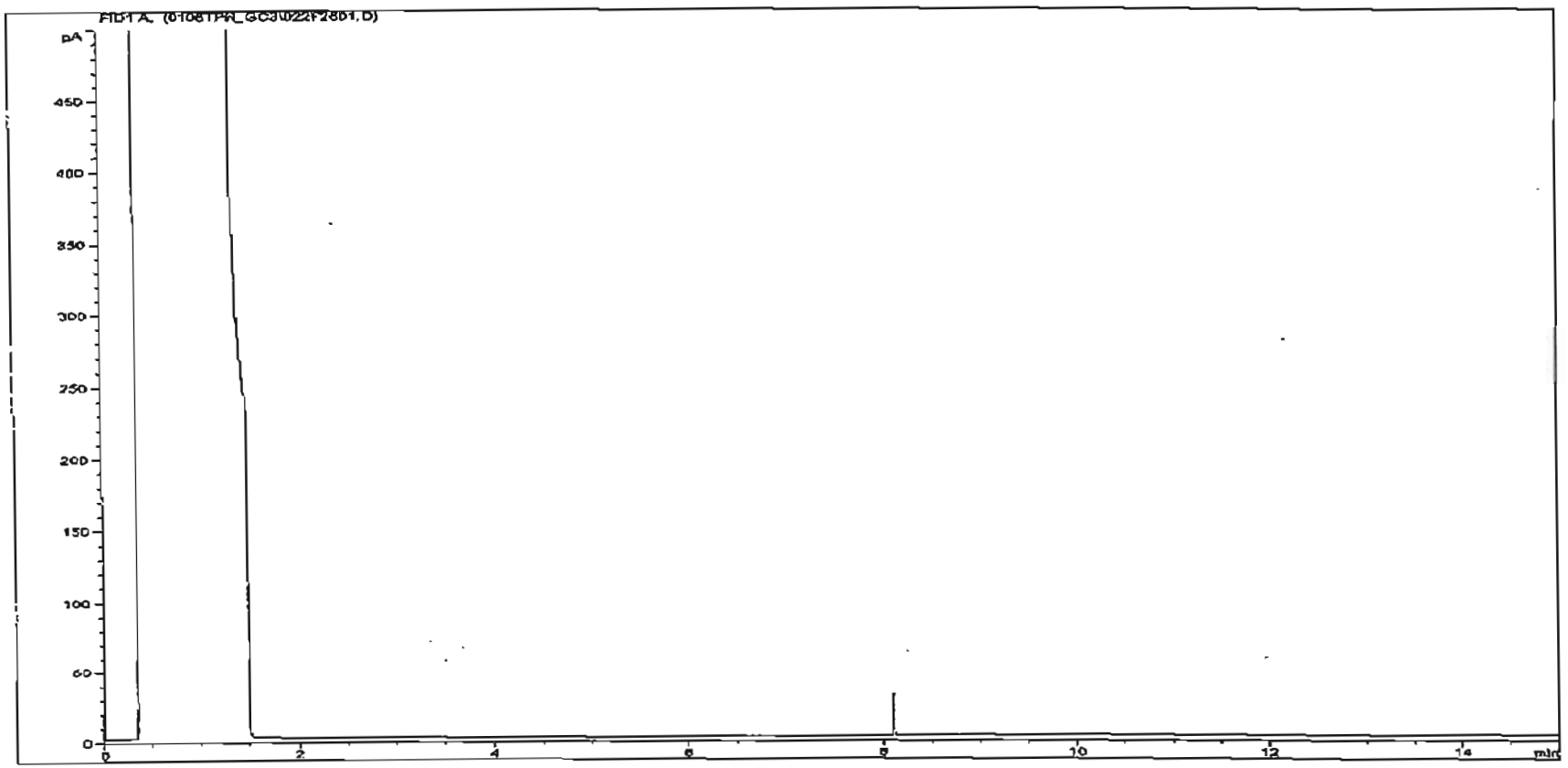
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531782ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS304 0.8-0.9
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\070B2501.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

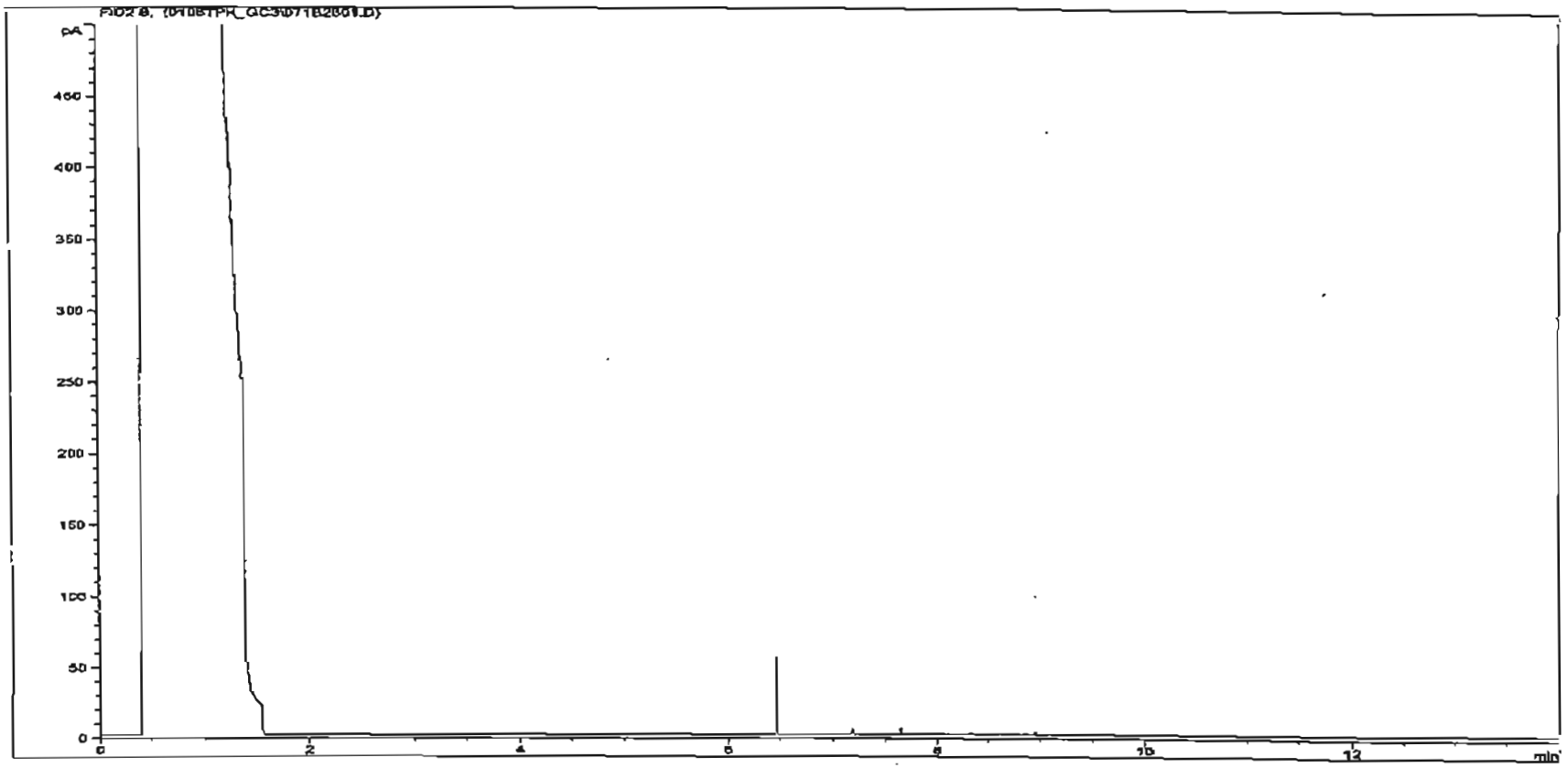
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531783ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS305 2.5-2.7 (NVM)
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\022F2601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

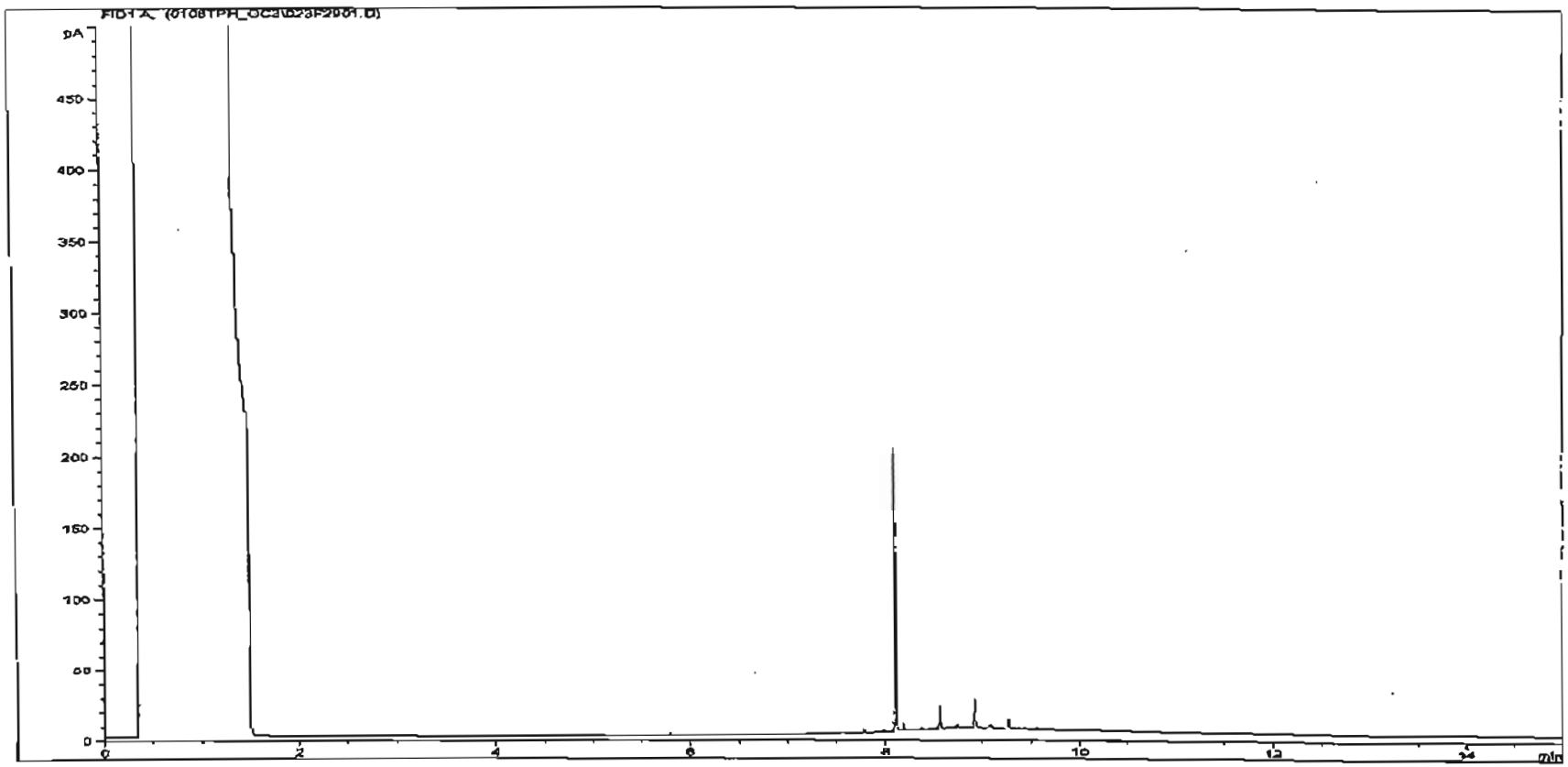
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531783ARO	**Job Number:**	S05_453BM
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS305 2.5-2.7 (NVM)
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\071B2601.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

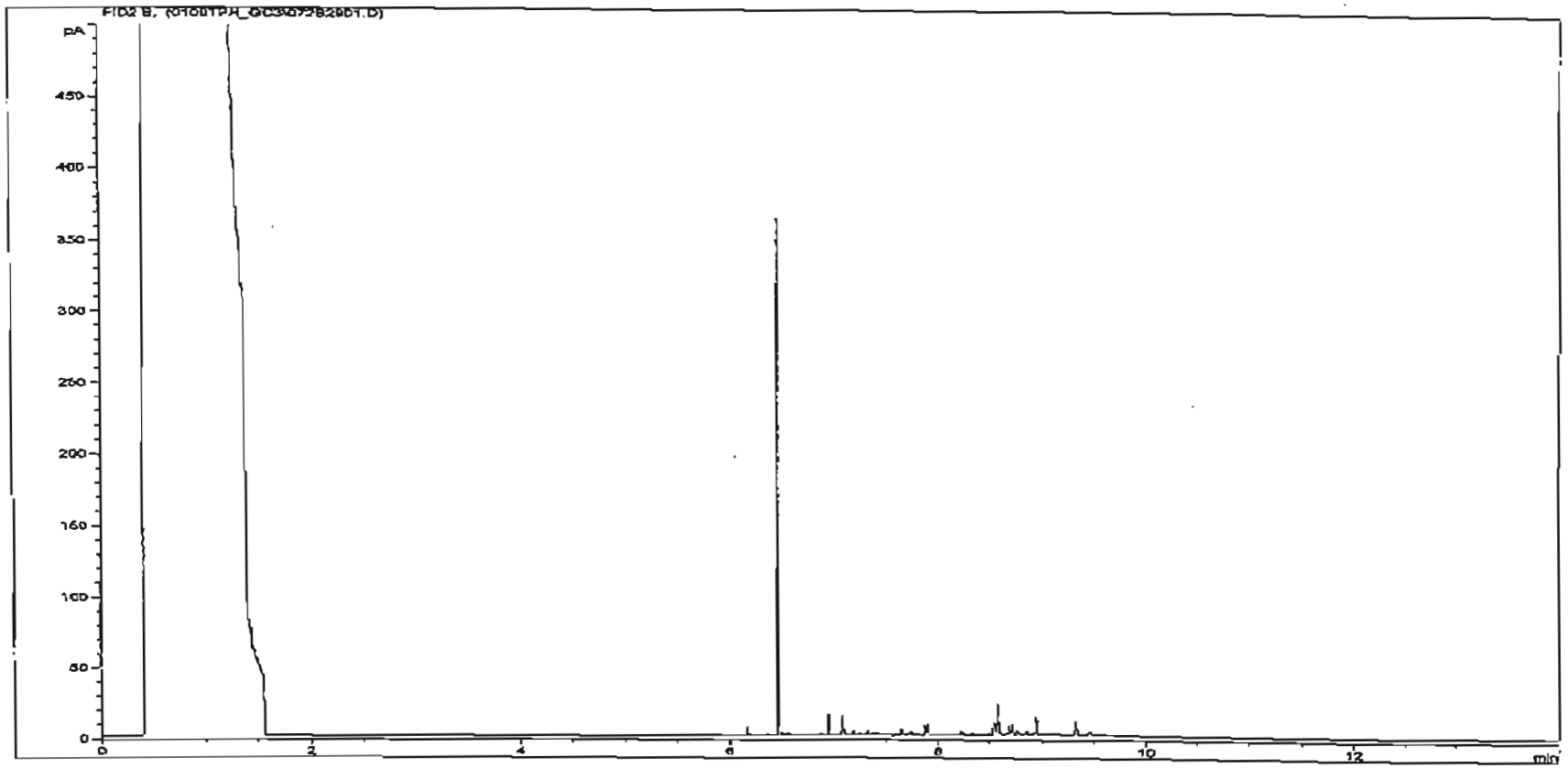
Petroleum Hydrocarbons (C8 to C37) by GC/FID Aliphatics Fraction.



Sample ID:	CL0531784ALI	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS308 0.2-0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\023F2901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C37) by GC/FID Aromatics Fraction.



Sample ID:	CL0531784ARO	**Job Number:**	S05_4538M
Multiplier:	0.1	**Client:**	Entec UK Ltd
Dilution:	1	**Site:**	HMS Daedalus (E)
Acquisition Method:	WMF_FASF.M	**Client Sample Ref:**	E-WS308 0.2-0.3
Acquisition Date/Time:	01/07/2006		
Datafile:	O:\LAB_DATA\GC3\GC\TES\DATA\0106TPH_GC3\072B2901.D		

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	Directory/Quant file:	1209VOC.MS1\ 1209CCC2.D	Matrix:	Soil
Sample Details:	E-BH308 1.6-1.8	Date Booked In:	30-Nov-05	Method:	Purge & trap
LIMS ID Number:	CL0531775	Date Analysed:	09-Dec-05	Multiplier:	5
Job Number:	S05_4538M	Operator:	SH	Position:	4

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 28	-	U
Chloroethane	75-00-3 *	-	< 28	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 28	-	UM
1,3-Dichloropropane	142-28-9 ?	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Acc cod
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
Iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 28	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 28	-	U
Hexachlorobutadiene	87-68-3	-	< 28	-	U
Naphthalene	91-20-3	-	< 28	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 28	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %
Pentafluorobenzene	11.60	105
1,4-Difluorobenzene	13.10	103
Chlorobenzene-d5	18.04	105
1,4-Dichlorobenzene-d4	22.01	107

Surrogates	% Rec
Dibromofluoromethane	108
Toluene-d8	103
Bromofluorobenzene	102

This analysis was conducted on an 'As Recieved' basis.

Results c[illegible]d to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

29-01-2006 14:43 FROM-TES FINANCE & PURCHASING 01283 554469 T-032 P.058/081 F-144

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details:	Entec UK Ltd: HMS Daedalus (E)	**Directory/Quant file:**	1209VOC.MS1\ 1209CCC2.D	**Matrix:**	Soil
Sample Details:	E-EH302 6.0-6.2	**Date Booked In:**	30-Nov-05	**Method:**	Purge & trap
LIMS ID Number:	CL0531777	**Date Analysed:**	09-Dec-05	**Multiplier:**	5
Job Number:	SDS_4536M	**Operator:**	SH	**Position:**	5

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 7	-	U
Chloromethane	74-87-3	-	< 7	-	UM
Vinyl Chloride	75-01-4	-	< 7	-	UM
Bromomethane	74-83-9 *	-	< 33	-	U
Chloroethane	75-00-3 *	-	< 33	-	U
Trichlorofluoromethane	75-69-4	-	< 7	-	U
1,1-Dichloroethene	75-35-4 *	-	< 7	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 7	-	UM
1,1-Dichloroethane	75-34-3	-	< 7	-	UM
2,2-Dichloropropane	594-20-7	-	< 7	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 7	-	UM
Bromochloromethane	74-97-5	-	< 7	-	UM
Chloroform	67-66-3	-	< 7	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 7	-	UM
Carbon Tetrachloride	56-23-5	-	< 7	-	UM
1,1-Dichloropropene	563-58-6	-	< 7	-	UM
Benzene	71-43-2	-	< 7	-	UM
1,2-Dichloroethane	107-06-2	-	< 7	-	UM
Trichloroethene	79-01-6	-	< 7	-	UM
1,2-Dichloropropane	78-87-5	-	< 7	-	UM
Dibromomethane	74-95-3	-	< 7	-	UM
Bromodichloromethane	75-27-4	-	< 7	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 7	-	UM
Toluene	108-88-3	-	< 7	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 7	-	U
1,1,2-Trichloroethane	79-00-5	-	< 7	-	UM
Tetrachloroethene	127-18-4	16.64	41	95	UM
1,3-Dichloropropane	142-28-9 ?	-	< 7	-	U
Dibromochloromethane	124-48-1	-	< 7	-	U
1,2-Dibromoethane	106-93-4	-	< 7	-	U
Chlorobenzene	108-90-7	-	< 7	-	UM
Ethylbenzene	100-41-4	-	< 7	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 7	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 7	-	UM
o-Xylene	95-47-6	-	< 7	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 7	-	UM
Bromoform	75-25-2	-	< 7	-	U
Iso-Propylbenzene	98-82-8	-	< 7	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 7	-	U
Propylbenzene	103-65-1	-	< 7	-	UM
Bromobenzene	108-86-1	-	< 7	-	U
1,2,3-Trichloropropane	96-18-4	-	< 7	-	U
2-Chlorotoluene	95-49-8	-	< 7	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 7	-	UM
4-Chlorotoluene	106-43-4	-	< 7	-	UM
tert-Butylbenzene	98-06-6	-	< 7	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 7	-	UM
sec-Butylbenzene	135-98-8	-	< 7	-	UM
p-Isopropyltoluene	99-87-6	-	< 7	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 7	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 7	-	U
n-Butylbenzene	104-51-8	-	< 7	-	U
1,2-Dichlorobenzene	95-50-1	-	< 7	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 33	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 33	-	U
Hexachlorobutadiene	87-68-3	-	< 33	-	U
Naphthalene	91-20-3	-	< 33	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 33	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %
Pentafluorobenzene	11.81	97
1,4-Difluorobenzene	13.10	98
Chlorobenzene-d5	18.09	98
1,4-Dichlorobenzene-d4	22.01	97

Surrogates	% Rec
Dibromofluoromethane	111
Toluene-d8	102
Bromofluorobenzene	101

This analysis was conducted on an "As Recieved" basis.

Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

09-01-2006 14:44 FROM-TES FINANCE & PURCHASING 01283 554469 T-032 P.057/061 F-144

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details:	Entec UK Ltd: RMS Daedalus (E)	**Directory/Quant file:**	1208VOC.MS1\	1208CCC2.D	**Matrix:** Soil
Sample Details:	E-BH304 6.5-6.8	**Date Booked In:**	30-Nov-05		**Method:** Purge & trap
LIMS ID Number:	CL0531780	**Date Analysed:**	09-Dec-05		**Multiplier:** 5
Job Number:	S05_4538M	**Operator:**	SH		**Position:** 7

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	U
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4	-	< 6	-	UM
Bromomethane	74-83-9 *	-	< 32	-	U
Chloroethane	75-00-3 *	-	< 32	-	U
Trichlorofluoromethane	75-69-4	-	< 6	-	U
1,1-Dichloroethene	75-35-4 *	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5 ?	-	< 6	-	UM
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5	-	< 6	-	UM
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6	-	< 6	-	U
1,1,2-Trichloroethene	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 32	-	UM
1,3-Dichloropropane	142-28-9 ?	-	< 6	-	U
Dibromochloromethane	124-48-1	-	< 6	-	U
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Acc code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	U
Isa-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	UM
Bromobenzene	108-86-1	-	< 6	-	U
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	UM
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	U
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	U
1,2-Dibromo-3-chloropropane	96-12-8	-	< 32	-	U
1,2,4-Trichlorobenzene	120-82-1	-	< 32	-	U
Hexachlorobutadiene	87-68-3	-	< 32	-	U
Naphthalene	91-20-3	-	< 32	-	U
1,2,3-Trichlorobenzene	87-61-6	-	< 32	-	U

Concentrations are reported on a dry weight basis

* denotes the accreditation has been removed by the laboratory for this result only

Internal standards	R.T.	Area %
Pentafluorobenzene	11.81	92
1,4-Difluorobenzene	13.10	93
Chlorobenzene-d5	18.04	97
1,4-Dichlorobenzene-d4	22.01	95

Surrogates	% Rec
Dibromofluoromethane	114
Toluene-d8	105
Bromofluorobenzene	102

This analysis was conducted on an 'As Recieved' basis.

Results r[illegible]d to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

09-01-2006 14:44 FROM-TES FINANCE & PURCHASING 01283 554468 T-032 P.056/081 F-144

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
SO4 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample
co-eluted with benzo(b)fluoranthene
co-eluted with indeno(123-cd)pyrene
BTEX analysis expressed as ug/kg As Received
Phenol HPLC results expressed as mg/kg As Received

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15°C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed
T Trace
L Low (2-15%)
M Medium (15-50%)
H High (>50%)

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S Insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
▷ Raised detection limit due to nature of sample
? Denotes that an element of the quality control system is currently exhibiting sustained bias from its normal working pattern. The QC has not failed action limits and the cause of this is being investigated and rectified.
This does not invalidate the data but our quality policy specifies that you will be kept informed when this happens.
***** denotes the accreditation has been removed by the laboratory for this result only
Accreditation Codes:
N - Not Accredited, **U** - UKAS, **UM** - UKAS & MCERTS
If **'Accredited? = No'** then the accreditation has been removed for the entire dataset
'Accreditation Code' or 'Accr. Code' indicates the status of the accreditation held by the laboratory

 Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

TEST REPORT
SOIL SAMPLE ANALYSIS

TES Report No. EFS/054569

Entec UK Ltd
Cannon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
SY2 5DE

Site: HMS Daedalus (E)

The 1 sample described in this report were logged for analysis by TES Bretby on 03-Dec-2005.
The analysis was completed by: 14-Dec-2005

The following tables are contained in this report:

Table 1 Main Analysis Results (Page 2)
Sample Chain of Custody Record (Page 3)
Table of Report Notes (Page 4)

On behalf of
TES Bretby :
J Hannah

J Hannah
Project Co-ordinator

Date of Issue: 14-Dec-2005

TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Units :																		
Method Codes :																		
Method Reporting Limits :																		
TES ID Number CU	Client Sample Description	^Asbestos ID																
0531979	E-BH310 0.2	CH - L																

TES Bretby PO Box 100, Bretby Business Park, Burton-on-Trent, Staffordshire, DE15 0XD Tel +44 (0) 1283 554400 Fax +44 (0) 1283 554422	**Client Name**	**Entec UK Ltd**	**Soil Sample Analysis**
	Contact	Mr N Keyworth	
	HMS Daedalus (E)		**Date Printed** 14-Dec-05 **Report Number** EFS/054569 **Table Number** 1

TES Bretby

TEST REPORT
SOIL SAMPLE ANALYSIS

TES Report No. EFS/054549

Entec UK Ltd
Cannon Court North
Abbey Lawn
Abbey Foregate
Shrewsbury
SY2 5DE

Site: HMS Daedalus (E)

The 1 sample described in this report were logged for analysis by TES Bretby on 01-Dec-2005.
The analysis was completed by: 09-Dec-2005

The following tables are contained in this report:

Table 1 Main Analysis Results (Page 2)
Table of Report Notes (Page 3)

On behalf of
TES Bretby :
J Hannah

J Hannah
Project Co-ordinator

Date of Issue: 09-Dec-2005

TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Units :																		
Method Codes :																		
Method Reporting Limits :																		
TES ID Number CL/	Client Sample Description	^Asbestos ID																
0531846	E-BH305 0.4-0.45	NADIS																

TES Bretby
PO Box 100, Bretby Business Park
Burton-on-Trent, Staffordshire, DE15 0XD
Tel +44 (0) 1283 554400
Fax +44 (0) 1283 554422

Client Name	Entec UK Ltd
Contact	Mr N Keyworth

HMS Daedalus (E)

Sample Analysis

Date Printed	09-Dec-05
Report Number	EFS/054549
Table Number	1

TES Bretby

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample
co-eluted with benzo(b)fluoranthene
co-eluted with Indeno(123-cd)pyrene
BTEX analysis expressed as ug/kg As Received
Phenol HPLC results expressed as mg/kg As Received

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15°C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed
T Trace
L Low (2-15%)
M Medium (15-50%)
H High (>50%)

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
? Denotes that an element of the quality control system is currently exhibiting sustained bias from its normal working pattern. The QC has not failed action limits and the cause of this is being investigated and rectified.
This does not invalidate the data but our quality policy specifies that you will be kept informed when this happens.
* denotes the accredilation has been removed by the laboratory for this result only

Appendix E
Formatted Laboratory Data

13 Pages

Entec UK Ltd
HMS Daedalus
Summary of Groundwater Analysis Results

Method Code		Analyte:	pH units	Conductivity uS/cm @ 25C	Chloride as Cl w	Total Sulphur as SO4 (Dissolved)	Nickel as Ni (Dissolved)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Arsenic as As (Dissolved)	Mercury as Hg (Dissolved)	Selenium as Se (Dissolved)	Nitrate as N	Sulphide (Free) as S	Total Organic Carbon	Phenol Index as C6H5OH	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	C5 - C6	>C6 - C7	>C7 - C8	>C8 - C10	Total GRO	Aliphatics >C8 - C10	Aromatics >C8 - C10	Aliphatics >C10 - C12	Aromatics >C10 - C12	Aliphatics >C12 - C16	Aromatics >C12 - C16	Aliphatics >C16 - C21	Aromatics >C16 - C21	Aliphatics >C21 - C35	Aromatics >C21 - C35
Units.			ANLYS	ANLYS	KONENS	EPHYS-HGX	EPAWA	EPAWA	EPAWA	EPAWA	EPAWA	EPAWA	EPAWA	EPAWA	EPAWA	KONENS	ECSHZX	WSLWH	SVAN	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	TPHS_FB_C01	TPHS_FB_C01	TPHS_FID_C10	TPHS_FID_C12	TPHS_FID_C12	TPHS_FID_C16	TPHS_FID_C16	TPHS_FID_C21	TPHS_FID_C21	TPHS_FID_C35	TPHS_FID_C35
Sample ID	Sample Desc	Date Sampled		uS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
EX/0525444	E-BH301	08/12/2005	7	438	26	39.8	0.005	0.002	<0.0001	<0.001	<0.001	0.008	<0.001	<0.0001	0.002	2.3	<0.2	2.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0007	0.0008	0.0014	0.0021	0.0111	<0.0014	0.0295	0.0037	0.0102	0.0061
EX/0525734	E-BH302	08/12/2005	8.6	1330	86	126	0.033	0.019	0.0006	0.043	0.018	0.307	0.013	<0.0001	0.012	0.4	<0.2	120	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	0.01	0.0035	0.0051	0.0049	0.0057	0.0204	0.0068	0.0995	0.0485	0.159	0.149
EX/0525446	E-BH303	08/12/2005	7.4	797	28	151	0.004	0.003	0.0001	<0.001	<0.001	0.071	<0.001	<0.0001	0.002	5.9	<0.2	4.6	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	0.01	<0.0012	0.0015	<0.0012	0.0039	<0.0023	<0.0023	<0.0029	0.0051	<0.008	0.0104
EX/0525735	E-BH304	08/12/2005	7.3	991	30	108	0.004	<0.001	<0.0001	<0.001	<0.001	0.012	0.001	<0.0001	0.005	0.4	<0.2	6.3	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	0.0022	0.0012	0.0022	0.0022	<0.0014	<0.0014	<0.0017	0.0024	<0.0048	0.0067
EX/0525443	E-BH305	08/12/2005	7.1	576	25	33.3	0.004	0.003	<0.0001	<0.001	<0.001	0.016	<0.001	<0.0001	0.002	3.8	<0.2	3.2	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	0.02	<0.01	0.03	<0.0007	0.001	<0.0007	0.0032	0.0084	0.0035	<0.0017	0.0037	<0.0048	0.0051
EX/0525736	E-BH306	08/12/2005	8.6	1690	91	109	0.016	0.015	0.0003	0.011	0.006	0.064	0.051	<0.0001	0.041	0.6	<0.2	200		<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	0.0047	0.0033	0.0064	0.0052	0.0655	0.0269	0.187	0.152	0.188	0.202
EX/0525448	E-BH307	08/12/2005	7	920	100	37.3	0.003	0.002	0.0002	<0.001	0.002	0.032	<0.001	<0.0001	<0.001	<0.2	2.1	7.7	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	0.02	0.13	0.16	0.0356	0.0079	0.0412	0.037	0.0849	0.0691	0.0167	0.0244	0.014	0.0259
EX/0525445	E-BH308	08/12/2005	7	1340	217	93	0.008	0.003	<0.0001	<0.001	<0.001	0.022	0.001	<0.0001	0.001	<0.2	<0.2	4.3	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0009	0.001	<0.0009	0.0021	<0.0017	<0.0017	0.0065	0.0042	0.0098	<0.006
EX/0525449	E-BH309	08/12/2005	9.9	616	68	41.7	0.004	0.001	<0.0001	<0.001	<0.001	0.003	0.025	<0.0001	0.002	<0.2	1.3	13	<0.05	0.005	0.018	0.005	<0.005	0.012	0.4	0.82	1.79	0.21	3.21	0.0502	0.0556	0.0162	0.0522	0.0082	0.0115	0.0082	0.0111	0.0204	0.0185
EX/0525447	E-BH310	08/12/2005	6.2	533	25	39.9	0.008	0.002	<0.0001	<0.001	<0.001	0.019	<0.001	<0.0001	0.006	0.7	<0.2	5.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0008	0.0013	0.0008	0.003	<0.0016	0.002	0.0024	0.0057	<0.0054	0.0101
Screening Criteria	UK DWS			2500	250		0.05	0.05	0.005	2	0.025	5	0.01	0.001	0.01	50			0.005																				
	EQS Freshwater						0.05	0.25	0.005		0.25		0.05	0.001	0.01				0.03		0.05		0.03	0.03															
	Dutch IV						0.075	0.03	0.006	0.075	0.075	0.8	0.06	0.003											0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

Note
1: Drinking Water Standards given in Water Supply (Water Quality) Regulations 2000
2. EQS are Environmental Quality Standards for freshwaters given by the Environment Agency
3 Dutch Intervention Values are maximum tolerable concentration given in the Netherlands for Soil and Groundwater

Cli[illegible] Entec UK Ltd
S[illegible] HMS Daedalus
Summary of Groundwater Analysis Results

Method Code			Phenol	bis(2-Chloroethyl)ether	2-Chlorophenol	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Benzyl alcohol	1,2-Dichlorobenzene	2-Methylphenol	bis(2-Chloroisopropyl)ether	Hexachloroethane	N-Nitroso-di-n-propylamine	3- & 4-Methylphenol	Nitrobenzene	Isophorone	2-Nitrophenol	2,4-Dimethylphenol	Benzoic Acid	bis(2-Chloroethoxy)methane	2,4-Dichlorophenol	1,2,4-Trichlorobenzene	Naphthalene	4-Chloroaniline	Hexachlorobutadiene	4-Chloro-3-methylphenol	2-Methylnaphthalene	1-Methylnaphthalene	Hexachlorocyclopentadiene	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	2-Chloronaphthalene	Biphenyl	Diphenyl ether	2-Nitroaniline	Acenaphthylene	Dimethylphthalate	2,6-Dinitrotoluene	Acenaphthene	3-Nitroaniline	2,4-Dinitrophenol	Dibenzofuran	4-Nitrophenol	2,4-Dinitrotoluene	Fluorene	Diethylphthalate	4-Chlorophenyl-phenylether	4,6-Dinitro-2-methylphenol	4-Nitroaniline
Units			ug/l	Sample ID	Sample Desc																																																
EX/0525444	E-BH301		<0.400	<0.100	<0.400	<0.100	<0.100	<50.000	<0.100	<0.100	<0.100	<0.100	<0.100	<0.400	<20.000	<0.100	<0.400	<0.400	<2.000	<0.100	<0.400	<0.100	<0.040	<0.400	<0.100	<0.100	<0.100	<0.040	<0.040	<50.000	<0.400	<0.400	<0.040	<0.040	<0.040	<0.040	<20.000	<0.040	<0.100	<20.000	<0.040	<0.100	<100.000	<0.100	<1.000	<0.100	<0.040	<0.100	<0.100	<1.000	<20.000
EX/0525734	E-BH302																																																				
EX/0525446	E-BH303		<0.400	<0.100	<0.400	<0.100	<0.100	<50.000	<0.100	<0.100	<0.100	<0.100	<0.100	<0.400	<20.000	<0.100	<0.400	<0.400	<2.000	<0.100	<0.400	<0.100	<0.040	<0.400	<0.100	<0.100	<0.100	<0.040	<0.040	<50.000	<0.400	<0.400	<0.040	<0.040	<0.040	<0.040	<20.000	<0.040	<0.100	<20.000	<0.040	<0.100	<100.000	<0.100	<1.000	<0.100	<0.040	<0.100	<0.100	<1.000	<20.000
EX/0525735	E-BH304		<0.400	<0.100	<0.400	<0.100	<0.100	<50.000	<0.100	<0.100	<0.100	<0.100	<0.100	<0.400	<20.000	<0.100	<0.400	<0.400	<2.000	<0.100	<0.400	<0.100	0.163	<0.400	<0.100	<0.100	<0.100	<0.040	<0.040	<50.000	<0.400	<0.400	<0.040	<0.040	<0.040	<0.040	<20.000	<0.040	<0.100	<20.000	<0.040	<0.100	<100.000	<0.100	<1.000	<0.100	<0.040	<0.100	<0.100	<1.000	<20.000
EX/0525443	E-BH305		<0.400	<0.100	<0.400	<0.100	<0.100	<50.000	<0.100	<0.100	<0.100	<0.100	<0.100	<0.400	<20.000	<0.100	<0.400	<0.400	<2.000	<0.100	<0.400	<0.100	<0.040	<0.400	<0.100	<0.100	<0.100	<0.040	<0.040	<50.000	<0.400	<0.400	<0.040	<0.040	<0.040	<0.040	<20.000	<0.040	<0.100	<20.000	<0.040	<0.100	<100.000	<0.100	<1.000	<0.100	<0.040	<0.100	<0.100	<1.000	<20.000
EX/0525736	E-BH306		<0.400	<0.100	<0.400	<0.100	<0.100	<50.000	<0.100	<0.100	<0.100	<0.100	<0.100	<0.400	<20.000	<0.100	<0.400	<0.400	<2.000	<0.100	<0.400	<0.100	<0.040	<0.400	<0.100	<0.100	<0.100	<0.040	<0.040	<50.000	<0.400	<0.400	<0.040	<0.040	<0.040	<0.040	<20.000	<0.040	<0.100	<20.000	<0.040	<0.100	<100.000	<0.100	<1.000	<0.100	<0.040	<0.100	<0.100	<1.000	<20.000
EX/0525448	E-BH307		<0.400	<0.100	<0.400	<0.100	<0.100	<50.000	<0.100	<0.100	<0.100	<0.100	<0.100	<0.400	<20.000	<0.100	<0.400	<0.400	<2.000	<0.100	<0.400	<0.100	<0.040	<0.400	<0.100	<0.100	<0.100	<0.040	0.812	<50.000	<0.400	<0.400	<0.040	<0.040	<0.040	<0.040	<20.000	0.943	<0.100	<100.000	0.72	<1.000	<0.100	1.311	<0.100	<0.100	<1.000	<20.000
EX/0525445	E-BH308		<0.400	<0.100	<0.400	<0.100	<0.100	<50.000	<0.100	<0.100	<0.100	<0.100	<0.100	<0.400	<20.000	<0.100	<0.400	<0.400	<2.000	<0.100	<0.400	<0.100	<0.040	<0.400	<0.100	<0.100	<0.100	<0.040	<0.040	<50.000	<0.400	<0.400	<0.040	<0.040	<0.040	<0.040	<20.000	<0.040	<0.100	<20.000	<0.040	<0.100	<100.000	<0.100	<1.000	<0.100	<0.040	<0.100	<0.100	<1.000	<20.000
EX/0525449	E-BH309		1.319	<0.100	<0.400	<0.100	<0.100	<50.000	<0.100	<0.100	<0.100	<0.100	<0.100	<0.400	<20.000	<0.100	<0.400	<0.400	<2.000	<0.100	<0.400	<0.100	0.42	<0.400	<0.100	<0.100	<0.100	0.643	0.864	<50.000	<0.400	<0.400	<0.040	<0.040	<0.040	<0.040	<20.000	0.076	<0.100	<20.000	0.817	<0.100	<100.000	0.236	<1.000	<0.100	0.476	<0.100	<0.100	<1.000	<20.000
EX/0525447	E-BH310		<0.400	<0.100	<0.400	<0.100	<0.100	<50.000	<0.100	<0.100	<0.100	<0.100	<0.100	<0.400	<20.000	<0.100	<0.400	<0.400	<2.000	<0.100	<0.400	<0.100	<0.040	<0.400	<0.100	<0.100	<0.100	<0.040	<0.040	<50.000	<0.400	<0.400	<0.040	<0.040	<0.040	<0.040	<20.000	<0.040	<0.100	<20.000	<0.040	<0.100	<100.000	<0.100	<1.000	<0.100	<0.040	<0.100	<0.100	<1.000	<20.000
Screening Criteria	UK DWS		0.5																																																	
	EQS Freshwater		30																				0.4																														
	Dutch IV		2000		100	50	50		50												30	10								10	10	6																				

Client: Entec UK Ltd
S[illegible] HMS Daedalus
Su[illegible]y of Groundwater Analysis Result

Method Code		N-Nitrosodiphenylamine	4-Bromophenyl-phenylether	Hexachlorobenzene	Pentachlorophenol	Phenanthrene	Anthracene	Di-n-butylphthalate	Fluoranthene	Pyrene	Butylbenzylphthalate	Benzo(a)anthracene	Chrysene	3,3'-Dichlorobenzidine	bis(2-Ethylhexyl)phthalate	Di-n-octylphthalate	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene	Dichlorodifluoromethane	Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Trichlorofluoromethane	1,1-Dichloroethene	trans 1,2-Dichloroethene	1,1-Dichloroethane	2,2-Dichloropropane	cis 1,2-Dichloroethene	Bromochloromethane	Chloroform
		SVOC/EA	SVOC/W	SVOC/W	SVOC/W	SVOC/EA	SVOC/W	SVOC/W	SVOC/EA	SVOC/W	SVOC/W	SVOC/W	SVOC/W	SVOC/W	SVOC/W	SVOC/W	SVOC/EA	SVOC/EA	SVOC/EA	SVOC/W	SVOC/EA	SVOC/W	VOC/EA/HSA	VOC/EA/HSA	VOC/EA/HSA	VOC/EA/HSA	VOC/EA/HSA	VOC/EA/HSA	VOC/EA/HSA	VOC/EA/HSA	VOC/EA/HSA	VOC/EA/HSA	VOC/EA/HSA	VOC/EA/HSA	VOC/EA/HSA
Units:		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Sample ID	Sample Desc																																		
EX/0525444	E-BH301	<0.100	<0.100	<0.100	<1.000	<0.040	<0.040	<0.100	<0.040	<0.040	<20.000	<0.040	<0.040	<0.400	<20.000	<40.000	<8.000	<0.040	<0.040	<0.040	<0.040	<0.040	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525734	E-BH302																						<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525446	E-BH303	<0.100	<0.100	<0.100	<1.000	<0.040	<0.040	0.349	<0.040	<0.040	<20.000	<0.040	<0.040	<0.400	<20.000	<40.000	<8.000	<0.040	<0.040	<0.040	<0.040	<0.040	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	6
EX/0525735	E-BH304	<0.100	<0.100	<0.100	<1.000	<0.040	<0.040	0.246	<0.040	0.047	<20.000	<0.040	<0.040	<0.400	<20.000	<40.000	<8.000	<0.040	<0.040	<0.040	<0.040	<0.040	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525443	E-BH305	<0.100	<0.100	<0.100	<1.000	<0.040	<0.040	<0.100	<0.040	<0.040	<20.000	<0.040	<0.040	<0.400	<20.000	<40.000	<8.000	<0.040	<0.040	<0.040	<0.040	<0.040	<1	4	<1	<5	<5	<1	<1	<1	<1	<1	1	<1	4
EX/0525736	E-BH306	<0.100	<0.100	<0.100	<1.000	<0.040	<0.040	0.533	<0.040	0.128	<20.000	<0.040	<0.040	<0.400	<20.000	<40.000	<8.000	<0.040	<0.040	<0.040	<0.040	<0.040	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525448	E-BH307	<0.100	<0.100	<0.100	<1.000	1.825	0.26	0.367	1.122	1.082	<20.000	0.236	0.729	<0.400	<20.000	<40.000	<8.000	0.048	0.068	<0.040	<0.040	0.048	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525445	E-BH308	<0.100	<0.100	<0.100	<1.000	<0.040	<0.040	<0.100	<0.040	<0.040	<20.000	<0.040	<0.040	<0.400	<20.000	<40.000	<8.000	<0.040	<0.040	<0.040	<0.040	<0.040	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525449	E-BH309	<0.100	<0.100	<0.100	<1.000	1.748	0.574	0.503	2.728	3.026	<20.000	1.136	1.096	<0.400	<20.000	<40.000	<8.000	1.148	1.116	1.648	0.26	1.849	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525447	E-BH310	<0.100	<0.100	<0.100	<1.000	1.955	0.313	2.412	1.373	0.124	<20.000	<0.040	0.042	<0.400	<20.000	<40.000	<8.000	<0.040	<0.040	<0.040	<0.040	<0.040	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1
Screening Criteria	UK DWS																		0.01																100
	EQS Freshwater																																		12
	Dutch IV			0.5	3	5	5		1			0.5	0.2					0.05	0.05	0.05		0.05			5				10	20	900				400

Client: Entec UK Ltd
Site: HMS Daedalus
Summary of Groundwater Analysis Results

Method Code		VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA	VOC6/HSA
Units:		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Sample ID	Sample Desc	1,1,1-Trichloroethane	Carbon Tetrachloride	1,1-Dichloropropene	Benzene	1,2-Dichloroethane	Trichloroethene	1,2-Dichloropropane	Dibromomethane	Bromodichloromethane	cis 1,3-Dichloropropene	Toluene	trans 1,3-Dichloropropene	1,1,2-Trichloroethane	Tetrachloroethene	1,3-Dichloropropane	Dibromochloromethane	1,2-Dibromoethane	Chlorobenzene	Ethylbenzene	1,1,1,2-Tetrachloroethane	m and p-Xylene	o-Xylene	Styrene	Bromoform	Iso-Propylbenzene	1,1,2,2-Tetrachloroethane	Propylbenzene	Bromobenzene	1,2,3-Trichloropropane	2-Chlorotoluene	1,3,5-Trimethylbenzene	4-Chlorotoluene	tert-Butylbenzene	1,2,4-Trimethylbenzene	sec-Butylbenzene	p-Isopropyltoluene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	n-Butylbenzene	1,2-Dichlorobenzene	1,2-Dibromo-3-chloropropane	1,2,4-Trichlorobenzene	Hexachlorobutadiene	Naphthalene	1,2,3-Trichlorobenzene
EX/0525444	E-BH301	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525734	E-BH302	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	49	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525446	E-BH303	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525735	E-BH304	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525443	E-BH305	<1	<1	<1	<1	<1	6	<1	<1	<1	<1	<1	<1	<1	185	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525736	E-BH306	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525448	E-BH307	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	7	<1	<1	<1	<1	2	<1	<1
EX/0525445	E-BH308	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EX/0525449	E-BH309	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	3	<1	4	1	<1	<1	<1	6	<1	<1	<1	<1	<1	<1	<1	2	34	5	3	<1	<1	<1	<1
EX/0525447	E-BH310	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Screening Criteria	DrDWS				1	3	10	0.1		100					10		100								100																		
	EQS freshwater	100			10	10						0.05		400								30	30																			
	Dutch IV	300			30		500					1000		130	40	80			180	150		70	70	300																		

Client: Entec UK Ltd
Site: HMS Daedalus
Results of Leaching Test Analysis

Sample ID	Sample Desc	Analyte	pH units	Conductivity uS/cm @ 25C	Chloride as Cl w	Total Sulphur as SO4 (Dissolved)	Nickel as Ni (Dissolved)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Iron as Fe (Dissolved)	Arsenic as As (Dissolved)	Boron as B (Dissolved)	Mercury as Hg (Dissolved)	Selenium as Se (Dissolved)	Ammoniacal Nitrogen as N	Sulphide (Free) as S	Chemical Oxygen Demand	Cyanide (Free) as CN	Phenol Index as C6H5OH	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo[a]anthracene	Chrysene	Benzo[b]fluoranthene	Benzo[k]fluoranthene	Benzo[a]pyrene	Indeno[1,2,3-cd]pyrene	Dibenzo[a,h]anthracene	Benzo[g,h,i]perylene	Total (USEPA16) PAHs
		Method Code:	WSLM9	WSLM2	KONDS	ICPWATER	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPWATER	ICPMSW	ICPWATER	ICPMSW	ICPMSW	ICPMSW	KONDS	SE3SW2M	WSLM11	KONECN	SFA3	PAHLMS	PAHLMS	PAHLMS	PAHLMS	PAHLMS	PAHLMS	PAHLMS	PAHLMS	PAHLMS	PAHLMS	PAHLMS	PAHLMS	PAHLMS	PAHLMS	PAHLMS	PAHLMS
		Units:		uS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
		Date Sampled																																					
EX/0526469	E-TP311 0.5		7.2	107	4	6.94	<0.001	0.005	<0.0001	0.01	0.009	0.041	0.03	0.002	<0.05	<0.0001	<0.001	0.02	<0.2	<5	<0.01	<0.05	0.039	<0.012	<0.012	0.013	0.018	0.016	0.019	0.02	0.017	0.013	0.017	0.016	0.017	0.017	0.014	0.018	<0.278
EX/0525580	E-TP319 0.45		7.5	104	4	8.66	0.01	0.002	<0.0001	0.032	0.044	0.222	0.34	0.022	0.05	<0.0001	<0.001	<0.01	<0.2	12	<0.01	<0.05	0.022	<0.010	0.024	<0.010	0.014	<0.010	0.01	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.190
	Screening Criteria	UK DWS		2500	250		0.05	0.05	0.005	2	0.025	5		0.01		0.001	0.01	0.5			0.05												0.1	0.1		0.1		0.1	0.1
		EQS Freshwater			250		0.05	0.25	0.005		0.25		1	0.05		0.001	0.01					0.3																		
		Dutch IV					0.075	0.03	0.006	0.075	0.075	0.8		0.06		0.003					1.5	2	70					5	5	1		0.5	0.2		0.05	0.05	0.05		0.05	

Client: Entec UK Ltd
Site: HMS Daedalus

Analyte			Arsenic (AS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SOM – (H2O2 x e0) mg/l	Sulphide	Tot.Moisture @ 105oC	pH	Phenol Index	F.O.C.	Benzene	Toluene	Ethylbenzene	m/p-Xylene	o-Xylene	C5 - C6	>C6 - C7	>C7 - C8	>C8 - C10	Total GRO	Aliphatics >C5 - C10	Aromatics >C5 - C10	Aliphatics >C10 - C12	Aromatics >C10 - C12	Aliphatics >C12 - C16	Aromatics >C12 - C16	Aliphatics >C16 - C21	Aromatics >C16 - C21	Aliphatics >C21 - C35	Aromatics >C21 - C35	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene
Method Code			ICPMS6	ICPMS6	ICPMS6	ICPMS6	ICPMS6	ICPMS6	ICPMS6	ICPMS6	ICPMS6	ICPMS6	KITSPOON	TMS6	WSLM3	WSLM4	WSLM5	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	TPHGI_FID_STD	TPHGI_FID_STD	TPHGI_FID_STD	TPHGI_FID_STD	TPHGI_FID_STD	TPHGI_FID_STD	TPHGI_FID_STD	TPHGI_FID_STD	TPHGI_FID_STD	TPHGI_FID_STD	PAH_MS	PAH_MS	PAH_MS	PAH_MS	PAH_MS	PAH_MS	PAH_MS	PAH_MS	PAH_MS	PAH_MS
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	pH Units	mg/kg	% M/M	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample ID	Sample Desc	Soil Type																																												
CL/0532195	E-BH303 6.0-6.2	Bracklesham Beds	12.5	0.13	23.3	4.5	9.2	0.12	14.1	0.68	40.2	93.6	<5	20.8	7.7	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3	<0.87	<0.87	<0.87	<0.87	<1.74	<1.74	<2.17	<2.17	<6.09	10.53	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
CL/0532197	E-BH303 6.0-6.2 (dup)	Bracklesham Beds	14.6	0.5	25.8	6.9	10.3	<0.1	18.6	0.8	33.2	476	<5	21.1	7.1	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3	<0.87	<0.87	<0.87	<0.87	<1.75	<1.75	<2.18	<2.18	<6.11	<6.11	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
CL/0531776	E-BH306 4.0-4.3	Bracklesham Beds	11.2	<0.1	22.3	6.2	12.5	<0.1	19.5	0.69	45	160.2	<5	18.7	8	<0.5		<0.01	<0.01	<0.01	0.043	<0.01	<0.2	<0.2	<0.2	0.3	<0.85	<0.85	<0.85	<0.85	<0.85	<1.70	<1.70	<2.12	<2.12	<5.93	<5.93										
CL/0532138	E-BH307 5.5-5.7	Bracklesham Beds	6.8	<0.1	10.2	3.2	5.1	<0.1	7.9	<0.5	23.8	28.7	<5	18.7	6.9	<0.5	0.06	0.213	1.827	0.77	0.686	0.764	6.6	13.8	44.7	10.7	80.1	<0.85	<0.85	<0.85	<0.85	<1.70	6.06	3.04	8.59	22.3	65.4	0.4	<0.2	<0.2	<0.2	0.5	<0.2	<0.2	<0.2	<0.2
CL/0531972	E-BH309 3.1-3.2	Bracklesham Beds	7.8	<0.1	12.9	2.2	5.2	<0.1	9.7	0.96	36.6	57.9	<5	19.4	8.2	<0.5		<0.01	0.06	0.04	0.125	0.027	<0.2	<0.2	0.3	<0.2	0.8	<0.88	<0.88	<0.86	<0.86	<1.71	<1.71	<2.13	<2.13	<5.98	<5.98	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531973	E-BH309 9.0-9.2	Bracklesham Beds	7.8	<0.1	16.2	14.9	29.9	<0.1	42.3	<0.5	88.4	312	<5	32.8	8	<0.5		<0.37	<0.37	<0.37	<0.37	<0.37	13.1	<7	<7	<7	14.6	<1.03	<1.03	<1.03	<1.03	<2.05	<2.05	<2.56	<2.56	<7.17	<7.17	<0.2	<0.2	<0.2	<0.2	0.4	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0532144	E-TP307 4.0	Bracklesham Beds	14.8	<0.1	29.2	13	23.1	<0.1	19.7	0.78	87	65.9		14.4	7.8	<0.5	0.13	<0.01	0.02	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2												<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531834	E-WS309 2.6-2.8	Bracklesham Beds	14.8	<0.1	24.1	15	14	<0.1	13.6	<0.5	47.2	187.1	<5	19	10.2	<0.5	0.18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2																					
CL/0531842	E-BH301 1.2-1.4	Brickearth	9.5	<0.1	18.3	8	16	<0.1	8.9	<0.5	36	134	<5	14.3	4.9	<0.5	0.12	<0.029	<0.029	<0.029	<0.029	<0.029	<0.6	<0.6	<0.6	<0.6	<0.6	<0.81	<0.81	<0.81	<0.81	<1.61	<1.61	<2.01	<2.01	<5.62	<5.62										
CL/0532194	E-BH303 1.5-1.7	Brickearth	4.8	<0.1	16.3	8	16	<0.1	8.9	<0.5	36	134	<5	14.3	4.9	<0.5	0.12	<0.029	<0.029	<0.029	<0.029	<0.029	<0.6	<0.6	<0.6	<0.6	<0.6	<0.82	<0.82	<0.82	<0.82	<1.64	<1.64	<2.04	7.3	<5.71	18.7	<0.2	<0.2	<0.2	<0.2	<0.2	0.6	<0.2	0.7	0.7	0.4	0.4
CL/0532196	E-BH303 1.5-1.7 (dup)	Brickearth	12.5	<0.1	21.6	22	39.3	<0.1	13.2	<0.5	53.5	164.5	<5	15.6	5	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<4.31	<4.31	<4.31	<4.31	<8.6	67	<10.7	26.9	<30.1	252										
CL/0532136	E-BH308 1.5-1.7	Brickearth	12.9	<0.1	29	12.5	18	<0.1	20	<0.5	59.8	21.8	<5	19.9	8	<0.5	0.21	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.78	<0.78	<0.78	<0.78	<1.55	<1.55	<1.93	<1.93	<5.42	<5.42	<0.2	<0.2	<0.2	<0.2	0.4	<0.2	0.7	0.6	0.4	0.4
CL/0531971	E-BH310 2.0-2.2	Brickearth	14.2	<0.1	19	8.9	12.1	<0.1	11.1	0.58	42.7	16.6	<5	11.1	7.9	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2												<0.2	<0.2	<0.2	<0.2	0.4	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531831	E-TP301 0.6	Brickearth	9.5	<0.1	27.3	6.2	37.6	<0.1	9.8	<0.5	34.1	3.36	<5	17.7	7.3	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2												<0.2	<0.2	<0.2	<0.2	0.4	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531829	E-TP302 0.3	Brickearth	8.2	0.15	15.1	16.9	47.8	<0.1	9.3	<0.5	44.6	75.1	<5	17	7.8	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.88	<0.88	<0.88	<0.88	<1.75	<1.75	<2.18	<2.18	<6.12	<6.12	<0.8	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
CL/0531956	E-TP304 0.8	Brickearth	25.6	<0.1	35.1	14.8	22	<0.1	20.1	<0.7	82	5.8	<7	21.2	7.6	<0.7	0.41	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3	<0.83	<0.83	<0.83	<0.83	<1.65	<1.65	<2.06	<2.06	<5.77	<5.77	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0532140	E-TP308 0.3	Brickearth	10.4	0.16	23	9.6	16	<0.1	21.1	0.66	43.8	25.7	<5	16.4	7.6	<0.6	0.11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.85	<0.85	<0.85	<0.85	<1.69	<1.69	<2.11	<2.11	<5.91	<5.91	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0532272	E-TP311 0.9	Brickearth	16.1	1.21	32.8	69.6	128.1	0.2	26.5	0.55	578.3	319	<5	18.5	8.9	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.78	<0.78	<0.78	<0.78	<1.55	<1.55	<1.93	<1.93	<5.42	<5.42										
CL/0532279	E-TP314 0.5	Brickearth	9.8	0.2	27.2	11.9	15.9	<0.1	21.1	0.55	48	48.7	<5	20	8	<0.5	0.26	<0.31	<0.31	<0.31	<0.31	<0.31	<6	<6	<6	<6	<6	<0.86	<0.86	<0.86	<0.86	<1.72	<1.72	<2.14	<2.14	<6.00	<6.00										
CL/0532280	E-TP314 0.5 (dup) LOK 2	Brickearth	10.2	0.3	28.4	12.7	16.2	<0.1	23.4	<0.5	51.3	60.3	<5	19.7	8.1	<0.5	0.23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.79	<0.79	<0.79	<0.79	<1.58	<1.58	<1.96	<1.96	<5.50	<5.50	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0532276	E-TP315 1.0	Brickearth	14.1	0.22	19.8	9.8	11.7	<0.1	14.1	<0.5	43.8	4.77	<5	12.4	7.4	0.8	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.86	<0.86	<0.86	<0.86	<1.71	<1.71	<2.14	<2.14	<5.99	<5.99	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0532275	E-TP315 1.0 (dup) LOK 4	Brickearth	8.6	0.21	21.7	18.6	42.2	<0.1	15.1	<0.5	61.5	18.02	<5	19.6	8.7	<0.5	1.06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.83	<0.83	<0.83	<0.83	<1.66	<1.66	<2.07	<2.07	<5.80	<5.80	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0532388	E-TP320 0.6	Brickearth	9.2	<0.1	24.6	13	21.7	<0.1	16.5	0.52	69.4	33.9	<5	16.9	6.7	<0.5	0.58	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.83	<0.83	<0.83	<0.83	<1.73	<1.73	<2.15	<2.15	<6.03	<6.03	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
CL/0532273	E-TP322 0.5	Brickearth	12.4	0.17	29	51.8	51.3	<0.1	17.4	<0.5	92.8	71.2	<5	20.1	7.9	<0.5	0.39	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3	<0.86	<0.86	<0.86	<0.86	<1.73	<1.73	<2.15	<2.15	<6.03	<6.03	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
CL/0532274	E-TP322 0.5 (dup) LOK 3	Brickearth	8.9	0.32	19	11.4	12.1	<0.1	12.3	<0.5	35.7	7.62	<5	9.2	7.4	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.76	<0.76	<0.76	<0.76	<1.52	<1.52	<1.89	<1.89	<5.31	<5.31	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
[illegible]0531770	E-WS301 0.9-1.0	Brickearth	8.5	<0.1	18	6.2	7.9	<0.1	7.1	<0.5	19.3	3.61	<5	13.3	7.3	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.90	<0.90	<0.90	<0.90	<1.59	<1.59	<1.98	<1.98	<5.56	<5.56	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
531772	E-WS302 1.1-1.2	Brickearth	3.2	<0.1	19	4.9	11	<0.1	10.2	<0.6	31.8	9.35	<5	20.5	7.7	<0.6	0.13	<0.031	<0.031	<0.031	<0.031	<0.031	<0.6	<0.6	<0.6	<0.6	<0.6	<0.87	<0.87	<0.87	<0.87	<1.74	<1.74	<2.16	<2.16	<6.06	<6.06	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
531782	E-WS304 0.8-0.9	Brickearth	9.3	<0.1	27.4	11.2	22.1	<0.1	18.4	<0.5	52.9	17.17	<5	18.7	7.4	<0.5	0.29	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.82	<0.82	<0.82	<0.82	<1.64	<1.64	<2.05	<2.05	<5.74	<5.74	<0.2	<0.2	<0.2	<0.2	0.9	<0.2	2.1	1.6	1	1
CL/0531969	E-WS306 1.2-1.4	Brickearth	10.7	<0.1	22	11.8	14.8	<0.1	15.6	<0.5	48.6	10.28	<5	18.1	7.4	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2												<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531838	E-WS310 1.5-1.7	Brickearth	6	0.21	12.8	787.5	1130	0.13	49.6	<0.5	141.6	112.4	<5	18.5	8.3	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2												<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531836	E-WS311 1.4-1.6	Brickearth	13.9	0.28	27.1	31.2	104.3	<0.1	37.9	0.97	117.8	42.7		16.4	8.3	<0.5	0.35	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2												<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531843	E-BH301 7.8-8.0	Terrace	3.5	<0.1	6.9	2.1	3.4	<0.1	10.5	<0.5	20.8	15.52	<5	11.1	8.4	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.90	<0.90	<0.90	<0.90	<1.79	<1.79	2.35	2.59	<6.27	<6.27	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
CL/0531777	E-BH302 6.0-6.2	Terrace	6.7	<0.1	13.6	3.9	3.9	<0.1	5.9	0.88	12.6	14.96	<5	23.1	7.9	<0.5	0.03	<0.33	<0.33	<0.33	<0.33	<0.33	<7	<7	<7	<7	<7	<0.85	<0.85	<0.85	<0.85	<1.70	<1.70	<2.12	<2.12	<5.94	<5.94	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531778	E-BH302 7.0-7.2	Terrace	5.4	<0.1	12	3.2	3.3	<0.1	4.4	0.55	13	16.27	<5	18.9	8	<0.5		<0.31	<0.31	<0.31	<0.31	<0.31	<6	<6	<6	<6	<6	<0.88	<0.88	<0.88	<0.88	<1.76	<1.76	<2.19	<2.19	<6.13	<6.13	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
CL/0531780	E-BH304 6.6-6.8	Terrace	3.2	<0.1	18	3.1	6.1	<0.1	11.2	<0.6	27.6	273	<5	23.2	8.3	<0.5	0.08	<0.01	<0.01	<0.01	0.165	<0.01	<0.3	<0.3	<0.3	0.3	0.6												<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531841	E-BH305 5.5-6.0	Terrace	5.6	<0.1	10	3.6	5.6	<0.1	8.2	<0.5	21	12.17	<5	12	8	<0.5	0.04	<0.028	<0.028	<0.028	<0.028	<0.028	<0.6	<0.6	<0.6	<0.6	<0.6	<0.78	<0.78	<0.78	<0.78	<1.57	<1.57	<1.95	<1.95	<5.48	<5.48	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531775	E-BH306 1.6-1.8	Terrace	2.2	<0.1	9.1	2.9	4.5	<0.1	5	<0.6	12.1	13.22	<5	15.8	7.6	<0.5	0.04	<0.01	0.542	0.13	0.055	0.571	<0.2	0.5	6.7	6.1	14.7	<0.82	<0.82	<0.82	<0.82	<1.64	6.4	<2.04	4.76	6.62	48.9										
CL/0532137	E-BH307 3.5-3.7	Terrace	3.9	<0.1	8.6	1.9	3.2	<0.1	8.7	<0.5	12.6	31.6	<5	28.3	7.8	<0.6	0.06	<0.35	<0.35	<0.35	<0.35	<0.35	<7	<7	<7	<7	<7	<0.96	<0.96	<0.96	<0.96	<1.92	<1.92	<2.40	<2.40	7.89	<6.72										
CL/0532143	E-TP307 3.2	Terrace	9.7	0.2	15.8	4.1	9	<0.1	16.2	<0.6	33.4	20.12	<5	5	7.5	<0.5	0.17	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.73	<0.73	<0.73	<0.73	<1.46	<1.45	<1.81	<1.81	<5.07	<5.07	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0532201	E-TP318 1.3	Terrace	7	<0.1	16.9	5	9.5	<0.1	6.2	<0.5	19.4	9.07	<5	7.3	7.6	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.74	<0.74	<0.74	<0.74	<1.49	<1.49	<1.86	<1.86	<5.20	<5.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0532203	E-TP319 1.7	Terrace	4.9	<0.1	10.6	3.9	9.7	<0.1	6.1	<0.6	16.5	22.1	<5	17.5	7.3	<0.5		<0.30	<0.30	<0.30	<0.30	<0.30	<6	<6	<6	<6	<6	<0.84	<0.84	<0.84	<0.84	<1.67	<1.67	<2.08	<2.08	<5.84	7.07	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0532278	E-TP321 2.5	Terrace	6.2	0.12	8.9	4.3	5.2	<0.1	6	<0.5	20.2	17.35	<5	17.5	7.3	3.6		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.84	<0.84	<0.84	<0.84	<1.67	<1.67	<2.08	<2.08	<5.84	<5.84	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0532134	E-TP323 1.3	Terrace	8.9	0.17	15.3	23	85	<0.1	10.6	<0.5	50.3	19.91	<5	17.6	7.5	<0.5	0.06	<0.29	<0.29	<0.29	<0.29	<0.29	40.7	<6	14.7	27.5	86.6	<0.80	<0.80	<0.80	<0.80	<1.60	<1.60	<1.99	<1.99	<5.59	<5.59	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531978	E-TP325 3.0	Terrace	4.3	<0.1	9	2.2	5.1	<0.1	10	<0.5	24.7	26.2	<5	13.7	7.7	<0.5		<0.027	<0.027	<0.027	<0.027	<0.027	<0.5	<0.5	<0.5	<0.5	<0.5	<0.75	<0.75	<0.75	<0.75	<1.49	<1.49	<1.86	<1.86	<5.21	<5.21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531774	E-WS303 1.9-2.0	Terrace	1.5	<0.1	6	3.4	4.1	<0.1	4.4	<0.5	8.4	11.97	<5	7.5	7.4	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.77	<0.77	<0.77	<0.77	<1.53	<1.53	<1.91	<1.91	<5.36	<5.36	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531783	E-WS305 2.5-2.7	Terrace	7.2	<0.1	6.7	3.7	3.6	<0.1	6	<0.5	8.8	8.43	<5	10	7.5	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2												<0.2	<0.2	<0.2	<0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531833	E-WS309 1.2-1.4	Terrace	10.3	0.1	26.9	12.9	16.3	<0.1	19.3	0.79	60	12.01	<5	15.1	7.8	<0.5	0.35	<0.01	<0.01	0.045	0.036	0.043	<0.2	<0.2	<0.2	1.7	1.9																					
CL/0531845	E-WS312 2.7-2.9	Terrace	8.9	<0.1	18.6	7.2	10	<0.1	17.3	0.53	51.1	9.52	<5	18.4	8	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3	<0.90	<0.90	<0.90	<0.90	<1.81	<1.81	<2.25	<2.25	<6.32	<6.32										
CL/0532385	Skip 1		7.7	0.2	13.7	7	22.6	<0.1	8.9	<0.5	48.7	59.4	<5	23.7	7.8	<0.5	0.17	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3																					

Screening Criteria																																														
	SGV Residential		20	1, 2, 8	130		450	8	50	35									3	9																										
	SGV Allotment		20	1, 2, 8	130		450	8	50	35									31	18																										
	SGV Industrial		500	1400	5000		750	480	5000	6600									150	48000																										
	Dutch IV																	0.02	26	10	5	5																									
	Soil Code (Tolerated Max)					500					2000																																				

Note
1. The Soil Guideline Value for Cadmium is pH dependent
2. Dutch IVs have been used where no SGVs are available
3. Asbestos does not have a screening criteria. Its presence justifies further risk assessment
4. Benzo(a)pyrene screening criteria are in-house Generic Assessment Criteria (GAC)

Client: Enfield UK Ltd
Site: HMS Daedalus

Analyte			Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene	Total (USEPA 16) PAHs	Cyanide	Phenol	bis(2-Chloroethyl)ether	2-Chlorophenol	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Benzyl alcohol	1,2-Dichlorobenzene	2-Methylphenol	bis(2-Chloroisopropyl)ether	Hexachloroethane	N-Nitroso-di-n-propylamine	3- & 4-Methylphenol	Nitrobenzene	Isophorone	2-Nitrophenol	2,4-Dimethylphenol	Benzoic Acid	bis(2-Chloroethoxy)methane	2,4-Dichlorophenol	1,2,4-Trichlorobenzene	Naphthalene	4-Chloroaniline	2-Chloronaphthalene	Hexachlorobutadiene	4-Chloro-3-methylphenol	2-Methylnaphthalene	1-Methylnaphthalene	Hexachlorocyclopentadiene	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	2-Chloronaphthalene	Biphenyl	Diphenyl ether	2-Nitroaniline	Acenaphthylene	Dimethylphthalate	2,6-Dinitrotoluene	Acenaphthene	3-Nitroaniline	2,4-Dinitrophenol
Method Code			PAH_MS	PAH_MS	PAH_MS	PAH_MS	PAH_MS	PAH_MS	PAH_MS	PAH_MS	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample ID	Sample Desc	Soil Type																																																
CL/0532195	E-BH303 6.0-6.2	Brackleshem Beds	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20.0																																									
CL/0532197	E-BH303 6.0-6.2 (dup)	Brackleshem Beds	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20.0																																								
CL/0531776	E-BH306 4.0-4.3	Brackleshem Beds	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<4.1																																								
CL/0532138	E-BH307 5.5-5.7	Brackleshem Beds	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<4.3																																								
CL/0531972	E-BH309 3.1-3.2	Brackleshem Beds									<2.0	<0.6	<2.0	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<2.0	<0.6	<0.6	<2.0	<2.0	<12.0	<0.6	<2.0	<0.6	<0.2	<2.0	<0.6	<0.6	<0.6	<0.2	<0.2	<0.6	<2.0	<2.0	<0.2	<0.2	<0.2	<0.6	<0.2	<0.6	<0.6	<0.2	<0.6	<1.0
CL/0531973	E-BH309 9.0-9.2	Brackleshem Beds	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<4.0																																								
CL/0532144	E-TP307 4.0	Brackleshem Beds	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<4.8																																								
CL/0531834	E-WS309 2.6-2.8	Brackleshem Beds	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.9		<2.0	<0.6	<2.0	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<2.0	<0.6	<0.6	<2.0	<2.0	<12.0	<0.6	<2.0	<0.6	<0.2	<2.0	<0.6	<0.6	<0.6	<0.2	<0.2	<0.6	<2.0	<2.0	<0.2	<0.2	<0.2	<0.6	<0.2	<0.6	<0.6	<0.2	<0.6	<1.0
CL/0531842	E-BH301 1.2-1.4	Brickearth	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<4.0		<2.0	<0.6	<2.0	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<2.0	<0.6	<0.6	<2.0	<2.0	<12.0	<0.6	<2.0	<0.6	<0.2	<2.0	<0.6	<0.6	<0.6	<0.2	<0.2	<0.6	<2.0	<2.0	<0.2	<0.2	<0.2	<0.6	<0.2	<0.6	<0.6	<0.2	<0.6	<1.0
CL/0532194	E-BH303 1.5-1.7	Brickearth									<2.0	<0.6	<2.0	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<2.0	<0.6	<0.6	<2.0	<2.0	<12.0	<0.6	<2.0	<0.6	<0.2	<2.0	<0.6	<0.6	<0.6	<0.2	<0.2	<0.6	<2.0	<2.0	<0.2	<0.2	<0.2	<0.6	<0.2	<0.6	<0.6	<0.2	<0.6	<1.0
CL/0532196	E-BH303 1.5-1.7 (dup)	Brickearth	0.2	<0.2	0.2	<0.2	<0.2	<0.2	<5.3																																								
CL/0532136	E-BH308 1.5-1.7	Brickearth									<2.0	<0.6	<2.0	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<2.0	<0.6	<0.6	<2.0	<2.0	<12.0	<0.6	<2.0	<0.6	<0.2	<2.0	<0.6	<0.6	<0.6	<0.2	<0.2	<0.6	<2.0	<2.0	<0.2	<0.2	<0.2	<0.6	<0.2	<0.6	<0.6	<0.2	<0.6	<1.0
CL/0531971	E-BH310 2.0-2.2	Brickearth	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.6																																							
CL/0531831	E-TP301 0.6	Brickearth	0.4	<0.2	0.4	<0.2	<0.2	<0.2	<5.3																																							
CL/0531829	E-TP302 0.3	Brickearth	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<4.0																																							
CL/0531966	E-TP304 0.8	Brickearth	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<4.1																																							
CL/0532140	E-TP308 0.3	Brickearth	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.6																																							
CL/0532272	E-TP311 0.9	Brickearth	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.9																																							
CL/0532279	E-TP314 0.5	Brickearth																																																
CL/0532280	E-TP314 0.5 (dup) LOK 2	Brickearth																																															
CL/0532276	E-TP315 1.0	Brickearth	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.7																																							
CL/0532275	E-TP315 1.0 (dup) LOK 4	Brickearth	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<4.0																																							
CL/0532388	E-TP320 0.6	Brickearth	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<4.2	<0.4																																							
CL/0532273	E-TP322 0.5	Brickearth	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<4.0																																							
CL/0532274	E-TP322 0.6 (dup) LOK 3	Brickearth	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.5																																							
CL/0531770	E-WS301 0.9-1.0	Brickearth	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.7																																							
531772	E-WS302 1.1-1.2	Brickearth	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<4.0																																							
531782	E-WS304 0.8-0.9	Brickearth	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.9																																							
CL/0531969	E-WS306 1.2-1.4	Brickearth									<2.0	<0.6	<2.0	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<2.0	<0.6	<0.6	<2.0	<2.0	<12.0	<0.6	<2.0	<0.6	<0.2	<2.0	<0.6	<0.6	<0.6	<0.2	<0.2	<0.6	<2.0	<2.0	<0.2	<0.2	<0.2	<0.6	<0.2	<0.6	<0.6	<0.2	<0.6	<1.0
CL/0531838	E-WS310 1.5-1.7	Brickearth	1.1	<0.2	1.1	0.6	<0.2	0.6	<11.5																																								
CL/0531836	E-WS311 1.4-1.6	Brickearth	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.8																																							
CL/0531843	E-BH301 7.8-8.0	Terrace	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.6																																							
CL/0531777	E-BH302 6.0-6.2	Terrace	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<4.2		<3.0	<0.7	<3.0	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<3.0	<0.7	<0.7	<3.0	<3.0	<13.0	<0.7	<3.0	<0.7	<0.3	<3.0	<0.7	<0.7	<0.7	<0.3	<0.3	<0.7	<3.0	<3.0	<0.3	<0.3	<0.3	<0.7	<0.3	<0.7	<0.7	<0.3	<0.7	<1.0
CL/0531778	E-BH302 7.0-7.2	Terrace	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.9																																							
CL/0531780	E-BH304 6.6-6.8	Terrace	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<4.1		<3.0	<0.6	<3.0	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<3.0	<0.6	<0.6	<3.0	<3.0	<13.0	<0.6	<3.0	<0.6	<0.3	<3.0	<0.6	<0.6	<0.6	<0.3	<0.3	<0.6	<3.0	<3.0	<0.3	<0.3	<0.3	<0.6	<0.3	<0.6	<0.6	<0.3	<0.6	<1.0
CL/0531841	E-BH305 5.5-6.0	Terrace	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<4.2		<3.0	<0.7	<3.0	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<3.0	<0.7	<0.7	<3.0	<3.0	<13.0	<0.7	<3.0	<0.7	<0.3	<3.0	<0.7	<0.7	<0.7	<0.3	<0.3	<0.7	<3.0	<3.0	<0.3	<0.3	<0.3	<0.7	<0.3	<0.7	<0.7	<0.3	<0.7	<1.0
CL/0531775	E-BH306 1.6-1.8	Terrace	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.6		<2.0	<0.6	<2.0	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<2.0	<0.6	<0.6	<2.0	<2.0	<11.0	<0.6	<2.0	<0.6	<0.2	<2.0	<0.6	<0.6	<0.6	<0.2	<0.2	<0.6	<2.0	<2.0	<0.2	<0.2	<0.2	<0.6	<0.2	<0.6	<0.6	<0.2	<0.6	<1.0
CL/0532137	E-BH307 3.5-3.7	Terrace									<2.0	<0.6	<2.0	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<2.0	<0.6	<0.6	<2.0	<2.0	<12.0	<0.6	<2.0	<0.6	<0.2	<2.0	<0.6	<0.6	<0.6	<0.2	<0.2	<0.6	<2.0	<2.0	<0.2	<0.2	<0.2	<0.6	<0.2	<0.6	<0.6	<0.2	<0.6	<1.0
CL/0532143	E-TP307 3.2	Terrace									<3.0	<0.7	<3.0	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<3.0	<0.7	<0.7	<3.0	<3.0	<14.0	<0.7	<3.0	<0.7	<0.3	<3.0	<0.7	<0.7	<0.7	<0.3	<0.3	<0.7	<3.0	<3.0	<0.3	<0.3	<0.3	<0.7	<0.3	<0.7	<0.7	<0.3	<0.7	<1.0
CL/0532201	E-TP318 1.3	Terrace	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.4																																							
CL/0532203	E-TP319 1.7	Terrace	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.6																																							
CL/0533278	E-TP321 2.5	Terrace	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.9																																							
CL/0532134	E-TP323 1.3	Terrace	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<4.0																																							
CL/0532135	E-TP325 3.0	Terrace	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.7																																							
CL/0531774	E-WS303 1.9-2.0	Terrace	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.5																																							
CL/0531783	E-WS305 2.5-2.7	Terrace	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.6																																							
CL/0531833	E-WS309 1.2-1.4	Terrace	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.8		<2.0	<0.6	<2.0	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<2.0	<0.6	<0.6	<2.0	<2.0	<12.0	<0.6	<2.0	<0.6	<0.2	<2.0	<0.6	<0.6	<0.6	<0.2	<0.2	<0.6	<2.0	<2.0	<0.2	<0.2	<0.2	<0.6	<0.2	<0.6	<0.6	<0.2	<0.6	<1.0
CL/0531845	E-WS312 2.7-2.9	Terrace	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<4.7																																							
CL/0532385	Skip 1										<3.0	<0.7	<3.0	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<3.0	<0.7	<0.7	<3.0	<3.0	<13.0	<0.7	<3.0	<0.7	<0.3	<3.0	<0.7	<0.7	<0.7	<0.3	<0.3	<0.7	<3.0	<3.0	<0.3	<0.3	<0.3	<0.7	<0.3	<0.7	<0.7	<0.3	<0.7	<1.0
Screening Criteria	SGV Residential				0.66						78																																					
	SGV Allotment				1.1						80																																					
	SGV Industrial				9						21900																																					
	Dutch IV																																														
Note:	Soil Code (Tolerated Max)																																													

1. The Soil Guideline Value for Cadmium is pH dependent
2. Dutch IVs have been used where no SGVs are available
3. Asbestos does not have a screening criteria, its presence justifies further risk assessment
4. Benzo(a)pyrene screening criteria are In-house Generic Assessment Criteria (GAC)

Client: Enec UK Ltd
Site: HMS Daedalus

Analyte			Dibenzofuran	4-Nitrophenol	2,4-Dinitrotoluene	Fluorene	Diethylphthalate	4-Chlorophenyl-phenylether	1,6-Dinitro-2-methylphenol	4-Nitroaniline	4,6-Dinitro-2-methylaniline	4-Bromophenyl-phenylether	Hexachlorobenzene	Pentachlorophenol	Phenanthrene	Anthracene	Di-n-butylphthalate	Fluoranthene	Pyrene	Butylbenzylphthalate	Benzo(a)anthracene	Chrysene	3,3'-Dichlorobenzidine	bis(2-Ethylhexyl)phthalate	Di-n-octylphthalate	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene	Dichlorodifluoromethane	Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Trichlorofluoromethane	1,1-Dichloroethene	trans 1,2-Dichloroethene	1,1-Dichloroethane	1,2-Dichloropropane	cis 1,2-Dichloroethene	Bromochloromethane	Chloroform	1,1,1-Trichloroethane	Carbon Tetrachloride	1,1-Dichloropropene	Benzene	1,2-Dichloroethane	Trichloroethene	1,2-Dichloropropane	Dibromomethane	Bromodichloromethane
Method Code			svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	svoocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw	voocsw
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Sample ID	Sample Desc	Soil Type																																																		
CL/0532195	E-BH303 6.0-6.2	Bracklesham Beds																																																	
CL/0532197	E-BH303 6.0-6.2 (dup)	Bracklesham Beds																																																	
CL/0531776	E-BH306 4.0-4.3	Bracklesham Beds																																																
CL/0532138	E-BH307 5.5-5.7	Bracklesham Beds																																																
CL/0531972	E-BH309 3.1-3.2	Bracklesham Beds	<0.6	<6.0	<0.6	<0.2	<0.6	<0.6	<6.0	<0.6	<0.6	<0.6	<0.6	<6.0	<0.2	<0.2	<0.6	<0.2	<0.2	<0.6	<0.2	<0.2	<2.0	<0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<6	<6	<6	<31	<31	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
CL/0531973	E-BH309 9.0-9.2	Bracklesham Beds																																																
CL/0532144	E-TP307 4.0	Bracklesham Beds																																																
CL/0531834	E-WS309 2.6-2.8	Bracklesham Beds	<0.6	<6.0	<0.6	<0.2	<0.6	<0.6	<6.0	<0.6	<0.6	<0.6	<0.6	<6.0	0.4	<0.2	<0.6	<0.2	<0.2	<0.6	<0.2	<0.2	<2.0	1.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<6	<6	<6	<29	<29	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
CL/0531842	E-BH301 1.2-1.4	Brickearth	<0.6	<6.0	<0.6	<0.2	<0.6	<0.6	<6.0	<0.6	<0.6	<0.6	<0.6	<6.0	<0.2	<0.2	<0.6	<0.2	<0.2	<0.6	<0.2	<0.2	<2.0	<0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<6	<6	<6	<31	<31	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
CL/0532194	E-BH303 1.5-1.7	Brickearth	<0.6	<6.0	<0.6	<0.2	<0.6	<0.6	<6.0	<0.6	<0.6	<0.6	<0.6	<6.0	0.7	<0.2	<0.6	0.8	0.6	<0.6	0.5	0.5	<2.0	<0.6	<0.2	<0.2	0.5	0.5	0.5	0.2	<0.2	0.4	<6	<6	<6	<29	<29	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
CL/0532196	E-BH303 1.5-1.7 (dup)	Brickearth																																																
CL/0532136	E-BH308 1.5-1.7	Brickearth	<0.6	<6.0	<0.6	<0.2	<0.6	<0.6	<6.0	<0.6	<0.6	<0.6	<0.6	<6.0	<0.2	<0.2	<0.6	<0.2	<0.2	<0.6	<0.2	<0.2	<2.0	<0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<6	<6	<6	<31	<31	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
CL/0531971	E-BH310 2.0-2.2	Brickearth																																															
CL/0531831	E-TP301 0.6	Brickearth																																															
CL/0531829	E-TP302 0.3	Brickearth																																															
CL/0531966	E-TP304 0.8	Brickearth																																															
CL/0532140	E-TP308 0.3	Brickearth																																															
CL/0533272	E-TP311 0.9	Brickearth																																															
CL/0533279	E-TP314 0.6	Brickearth																																															
CL/0533280	E-TP314 0.5 (dup) LOK 2	Brickearth																																															
CL/0533276	E-TP315 1.0	Brickearth																																															
CL/0533275	E-TP315 1.0 (dup) LOK 4	Brickearth																																															
CL/0532388	E-TP320 0.6	Brickearth																																															
CL/0533273	E-TP322 0.5	Brickearth																																															
CL/0533274	E-TP322 0.5 (dup) LOK 3	Brickearth																																															
[illegible]/0531770	E-WS301 0.9-1.0	Brickearth																																															
[illegible]/0531772	E-WS302 1.1-1.2	Brickearth																																															
[illegible]/0531782	E-WS304 0.8-0.9	Brickearth																																															
CL/0531969	E-WS306 1.2-1.4	Brickearth	<0.6	<6.0	<0.6	<0.2	<0.6	<0.6	<6.0	<0.6	<0.6	<0.6	<0.6	<6.0	<0.2	<0.2	<0.6	<0.2	<0.2	<0.6	<0.2	<0.2	<2.0	<0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<6	<6	<6	<30	<30	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
CL/0531838	E-WS310 1.5-1.7	Brickearth																																																
CL/0531836	E-WS311 1.4-1.6	Brickearth	<0.6	<6.0	<0.6	<0.2	<0.6	<0.6	<6.0	<0.6	<0.6	<0.6	<0.6	<6.0	<0.2	<0.2	<0.6	<0.2	<0.2	<0.6	<0.2	<0.2	<2.0	<0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<6	<6	<6	<30	<30	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
CL/0531843	E-BH301 7.8-8.0	Terrace																																																
CL/0531777	E-BH302 6.0-6.2	Terrace	<0.7	<7.0	<0.7	<0.3	<0.7	<0.7	<7.0	<0.7	<0.7	<0.7	<0.7	<7.0	<0.3	<0.3	<0.7	<0.3	<0.3	<0.7	<0.3	<0.3	<3.0	3.4	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<7	<7	<7	<33	<33	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
CL/0531778	E-BH302 7.0-7.2	Terrace																																															
CL/0531780	E-BH304 6.5-6.8	Terrace	<0.6	<6.0	<0.6	<0.3	<0.6	<0.6	<6.0	<0.6	<0.6	<0.6	<0.6	<6.0	<0.3	<0.3	<0.6	<0.3	<0.3	<0.6	<0.3	<0.3	<3.0	<0.6	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<6	<6	<6	<32	<32	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
CL/0531841	E-BH305 5.5-6.0	Terrace	<0.7	<7.0	<0.7	<0.3	<0.7	<0.7	<7.0	<0.7	<0.7	<0.7	<0.7	<7.0	<0.3	<0.3	<0.7	<0.3	<0.3	<0.7	<0.3	<0.3	<3.0	<0.7	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<7	<7	<7	<33	<33	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
CL/0531775	E-BH306 1.6-1.8	Terrace	<0.6	<6.0	<0.6	<0.2	<0.6	<0.6	<6.0	<0.6	<0.6	<0.6	<0.6	<6.0	<0.2	<0.2	<0.6	<0.2	<0.2	<0.6	<0.2	<0.2	<2.0	<0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<6	<6	<6	<28	<28	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
CL/0532137	E-BH307 3.5-3.7	Terrace	<0.6	<6.0	<0.6	<0.2	<0.6	<0.6	<6.0	<0.6	<0.6	<0.6	<0.6	<6.0	<0.2	<0.2	<0.6	<0.2	<0.2	<0.6	<0.2	<0.2	<2.0	<0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<6	<6	<6	<30	<30	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
CL/0532143	E-TP307 3.2	Terrace	<0.7	<7.0	<0.7	<0.3	<0.7	<0.7	<7.0	<0.7	<0.7	<0.7	<0.7	<7.0	<0.3	<0.3	<0.7	<0.3	<0.3	<0.7	<0.3	<0.3	<3.0	<0.7	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<7	<7	<7	<35	<35	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
CL/0532201	E-TP318 1.3	Terrace																																															
CL/0532208	E-TP319 1.7	Terrace																																															
CL/0533278	E-TP321 2.5	Terrace																																															
CL/0532134	E-TP323 1.3	Terrace																																															
CL/0531978	E-TP326 3.0	Terrace																																															
CL/0531774	E-WS303 1.9-2.0	Terrace																																															
CL/0531783	E-WS305 2.5-2.7	Terrace																																															
CL/0531833	E-WS309 1.2-1.4	Terrace	<0.6	<6.0	<0.6	<0.2	<0.6	<0.6	<6.0	<0.6	<0.6	<0.6	<0.6	<6.0	<0.2	<0.2	<0.6	<0.2	<0.2	<0.6	<0.2	<0.2	<2.0	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<6	<6	<6	<29	<29	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
CL/0531845	E-WS312 2.7-2.8	Terrace																																															
CL/0532385	Skip 1		<0.7	<7.0	<0.7	<0.3	<0.7	<0.7	<7.0	<0.7	<0.7	<0.7	<0.7	<7.0	<0.3	<0.3	<0.7	<0.3	<0.3	<0.7	<0.3	<0.3	<3.0	<0.7	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<7	<7	<7	<33	<33	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7

Screening Criteria	
	SGV Residential
	SGV Allotment
	SGV Industrial
	Dutch IV
	Soil Code (Tolerated Max)

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Client: Enlec UK Ltd
Site: HMS Daedalus

Analyte / Method Code / Units / Sample ID	Sample Desc	Soil Type	cis 1,3-Dichloropropene VOCSW ug/kg	Toluene VOCSW ug/kg	trans 1,3-Dichloropropene VOCSW ug/kg	1,1,2-Trichloroethane VOCSW ug/kg	Tetrachloroethene VOCSW ug/kg	1,3-Dichloropropane VOCSW ug/kg	Dibromochloromethane VOCSW ug/kg	1,2-Dibromoethane VOCSW ug/kg	Chlorobenzene VOCSW ug/kg	Ethylbenzene VOCSW ug/kg	1,1,1,2-Tetrachloroethane VOCSW ug/kg	m and p-Xylene VOCSW ug/kg	o-Xylene VOCSW ug/kg	Styrene VOCSW ug/kg	Bromoform VOCSW ug/kg	iso-Propylbenzene VOCSW ug/kg	1,1,2,2-Tetrachloroethane VOCSW ug/kg	Propylbenzene VOCSW ug/kg	Bromobenzene VOCSW ug/kg	1,2,3-Trichloropropane VOCSW ug/kg	4-Chlorotoluene VOCSW ug/kg	1,3,5-Trimethylbenzene VOCSW ug/kg	4-Chlorotoluene VOCSW ug/kg	tert-Butylbenzene VOCSW ug/kg	1,2,4-Trimethylbenzene VOCSW ug/kg	sec-Butylbenzene VOCSW ug/kg	4-Isopropyltoluene VOCSW ug/kg	1,3-Dichlorobenzene VOCSW ug/kg	1,4-Dichlorobenzene VOCSW ug/kg	n-Butylbenzene VOCSW ug/kg	1,2-Dichlorobenzene VOCSW ug/kg	1,2-Dibromo-3-chloropropane VOCSW ug/kg	1,2,4-Trichlorobenzene VOCSW ug/kg	Hexachlorobutadiene VOCSW ug/kg	Naphthalene VOCSW ug/kg	1,2,3-Trichlorobenzene VOCSW ug/kg
CL/0532195	E-BH303 6.0-6.2	Brackfesham Beds																																							
CL/0532197	E-BH303 6.0-6.2 (dup)	Brackfesham Beds																																							
CL/0531776	E-BH306 4.0-4.3	Brackfesham Beds																																							
CL/0532138	E-BH307 5.5-5.7	Brackfesham Beds																																							
CL/0531972	E-BH309 3.1-3.2	Brackfesham Beds	<6	<6	<6	<6	<31	<6	<6	<6	<6	237	<6	582	<6	<6	<6	246	<6	279	<6	<6	<6	290	<6	18	982	65	46	<6	<6	35	<6	<31	<31	<31	37	<31
CL/0531973	E-BH309 9.0-9.2	Brackfesham Beds																																							
CL/0532144	E-TP307 4.0	Brackfesham Beds																																							
CL/0531834	E-WS309 2.6-2.8	Brackfesham Beds	<6	<6	<6	<6	<29	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	8	<6	16	<6	<6	<6	15	<6	<6	73	19	17	<6	<6	21	<6	<29	<29	<29	68	<29
CL/0531842	E-BH301 1.2-1.4	Brickearth	<6	<6	<6	<6	<31	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<31	<31	<31	<31	<31
CL/0532194	E-BH303 1.5-1.7	Brickearth	<6	<6	<6	<6	<29	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<29	<29	<29	<29	<29
CL/0532196	E-BH303 1.5-1.7 (dup)	Brickearth																																							
CL/0532136	E-BH308 1.5-1.7	Brickearth	<6	<6	<6	<6	<31	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<31	<31	<31	<31	<31
CL/0531971	E-BH310 2.0-2.2	Brickearth																																							
CL/0531831	E-TP301 0.6	Brickearth																																							
CL/0531829	E-TP302 0.3	Brickearth																																							
CL/0531966	E-TP304 0.8	Brickearth																																							
CL/0532140	E-TP308 0.3	Brickearth																																							
CL/0532272	E-TP311 0.9	Brickearth																																							
CL/0532279	E-TP314 0.5	Brickearth																																							
CL/0532280	E-TP314 0.5 (dup) LOK 2	Brickearth																																							
CL/0532276	E-TP315 1.0	Brickearth																																							
CL/0532275	E-TP315 1.0 (dup) LOK 4	Brickearth																																							
CL/0532388	E-TP320 0.5	Brickearth																																							
CL/0532273	E-TP322 0.5	Brickearth																																							
CL/0532274	E-TP322 0.5 (dup) LOK 3	Brickearth																																							
CL/0531770	E-WS301 0.9-1.0	Brickearth																																							
CL/0531772	E-WS302 1.1-1.2	Brickearth																																							
CL/0531782	E-WS304 0.8-0.9	Brickearth																																							
CL/0531968	E-WS306 1.2-1.4	Brickearth	<6	<6	<6	<6	<30	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<30	<30	<30	<30	<30
CL/0531838	E-WS310 1.5-1.7	Brickearth																																							
CL/0531836	E-WS311 1.4-1.6	Brickearth	<6	<6	<6	<6	<30	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<30	<30	<30	<30	<30
CL/0531843	E-BH301 7.8-8.0	Terrace																																							
CL/0531777	E-BH302 6.0-6.2	Terrace	<7	<7	<7	<7	41	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<33	<33	<33	<33	<33
CL/0531778	E-BH302 7.0-7.2	Terrace																																							
CL/0531780	E-BH304 6.5-6.8	Terrace	<6	<6	<6	<6	<32	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<32	<32	<32	<32	<32
CL/0531841	E-BH305 5.5-6.0	Terrace	<7	<7	<7	<7	177	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<33	<33	<33	<33	<33
CL/0531775	E-BH306 1.8-1.8	Terrace	<6	<6	<6	<6	<28	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<28	<28	<28	<28	<28
CL/0532137	E-BH307 3.5-3.7	Terrace	<6	<6	<6	<6	<30	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	18	19	<6	<6	<6	24	<6	<30	<30	<30	<30	<30
CL/0532143	E-TP307 3.2	Terrace	<7	<7	<7	<7	<35	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<35	<35	<35	<35	<35
CL/0532201	E-TP318 1.3	Terrace																																							
CL/0532203	E-TP319 1.7	Terrace																																							
CL/0532278	E-TP321 2.5	Terrace																																							
CL/0532134	E-TP326 1.3	Terrace																																							
CL/0531978	E-TP326 3.0	Terrace																																							
CL/0531774	E-WS303 1.9-2.0	Terrace																																							
CL/0531783	E-WS305 2.5-2.7	Terrace																																							
CL/0531833	E-WS309 1.2-1.4	Terrace	<6	<6	<6	<6	<29	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<29	<29	<29	<29	<29
CL/0531845	E-WS312 2.7-2.9	Terrace																																							
CL/0532385	Skip 1		<7	<56	<7	<7	<33	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<33	<33	<33	<33	<33
Screening Criteria	SGV Residential																																								
	SGV Allotment																																								
	SGV Industrial																																								
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										9000																																
										18000																																
										48000000																																
												5000	5000	20000																												

Note:
1 The SoP Guideline Value for Cadmium is pH dependent
2 Dutch IVs have been used where no SGVs are available
3 Asbestos does not have a screening criteria, its presence justifies further risk assessment
4 Benzo(a)pyrene screening criteria are In-house Generic Assessment Criteria (GAC)

Client: Entec UK Ltd
Site: HMS Daedalus

Analyte			Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SO4 - (H2O soly mg/l	Sulphide	Tot.Moisture @ 105oC	pH units	Phenol Index	F.O.C. %	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	C5 - C6	>C6 - C7	>C7 - C8	>C8 - C10	Total GRO	Aliphatics >C8 - C10	Aromatics >C8 - C10	Aliphatics >C10 - C12	Aromatics >C10 - C12	Aliphatics >C12 - C16	Aromatics >C12 - C16	Aliphatics >C16 - C21	Aromatics >C16 - C21	Aliphatics >C21 - C35	Aromatics >C21 - C35	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene
Method Code			ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICTSOIL	TMSS	WSLM5	WSLM4	WSLM59	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	GRO_HSA	TPHSI_FID_STD	TPHSI_FID_STD	TPHSI_FID_STD	TPHSI_FID_STD	TPHSI_FID_STD	TPHSI_FID_STD	TPHSI_FID_STD	TPHSI_FID_STD	TPHSI_FID_STD	TPHSI_FID_STD	PAH_MS	PAH_MS	PAH_MS	PAH_MS	PAH_MS	PAH_MS
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	pH units	mg/kg	% M/M	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample ID	Sample Desc	Soil Type																																									
CL/0532193	E-BH306 0.3-0.5	Made Ground	19.7	0.59	21.4	21.7	472.4	0.13	27.6	0.77	301.6	2750	15	18.5	8.9	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.85	<0.85	0.9	13	9.12	71.8	16.3	310	76.8	677						
CL/0531779	E-BH304 0.1-0.3	Made Ground	8.3	0.16	18.8	12.8	42.6	<0.1	12.7	<0.5	51.3	18.23	<5	15.5	8.4	1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.82	<0.82	<0.82	<0.82	<1.63	<1.63	<2.04	3.49	<6.70	13.7	<0.2	<0.2	<0.2	<0.2	0.6	<0.2
CL/0531839	E-BH305 0.2-0.4	Made Ground	6.8	0.82	17	41.3	142	0.12	13.1	0.63	110.6	96.1	<5	14.3	8.8	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2										<1.0	<1.0	<1.0	<1.0	7.4	2.2
CL/0532135	E-BH308 0.3-0.5	Made Ground	9.6	0.73	21.2	28.1	268.5	<0.1	19.8	<0.5	128	26.3	<5	17.2	8	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.83	<0.83	<0.83	<0.83	<1.67	<1.67	<2.08	<2.08	<6.82	<5.82	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
CL/0531970	E-BH310 0.2-0.4	Made Ground	7.2	0.47	22.8	39.6	161	<0.1	10.6	1.43	82	56.7	155	11.7	8.6	0.5	2.17	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<7.8	<7.8	<7.8	<7.8	<15.6	24	<19.5	228	<54.6	623						
CL/0531844	E-BH312 0.3-0.5	Made Ground	9.2	0.36	20.5	12	34.7	<0.1	15.3	0.85	71.1	18.97	<5	18.1	7.5	<0.5	1.11	<0.01	<0.01	0.038	0.045	0.048	<0.2	<0.2	<0.2	1.1	1.3										<12.0	<12.0	<12.0	<12.0	21.4	<12.0
CL/0531830	E-TP301 0.3	Made Ground	9.8	0.17	19.1	49.9	113.1	<0.1	11.1	0.6	77.9	55.2	<5	21.2	6.7	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3										<0.3	<0.3	<0.3	<0.3	0.3	<0.3
CL/0531832	E-TP303 0.3	Made Ground	5.9	<0.1	11.1	7.6	19.5	<0.1	6.6	0.6	43	16.03	<5	12.9	8.9	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	0.3										<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531965	E-TP304 0.3	Made Ground	9.3	0.16	16.7	29.9	53.1	<0.1	12.3	<0.5	55.6	51.1	<5	16	7.3	<0.5	1.31	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.82	<0.82	<0.82	<0.82	<1.64	<1.64	<2.05	<2.05	<5.74	<5.74	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531974	E-TP305B 0.3	Made Ground	10.2	0.39	13	28.4	74.2	<0.1	8.3	<0.5	49	16.72	<5	16.1	6.1	<0.5	1.85	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.82	<0.82	<0.82	<0.82	<1.64	<1.64	<2.05	<2.05	<5.74	<5.83	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531967	E-TP306 0.3	Made Ground	11.3	<0.1	16.3	10.4	28.6	<0.1	9.8	<0.5	39	12.76	<5	16.1	7	<0.5	0.74	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.82	<0.82	<0.82	<0.82	<1.64	<1.64	<2.05	<2.05	<5.74	<5.74	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0532142	E-TP307 0.2	Made Ground	8.1	0.23	19.3	18.3	268.5	<0.1	11.2	0.51	52.5	24.9	<5	20.2	8.1	0.7		<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3	<0.86	<0.86	<0.86	<0.86	<1.73	1.79	<2.16	<2.16	<6.04	8.25	<0.3	<0.3	<0.3	<0.3	0.3	<0.3
CL/0532141	E-TP310 0.3	Made Ground	8.4	<0.1	25.2	10.1	26.6	<0.1	14	0.55	49.1	13.88	<5	19.9	6.8	<0.5	0.47	<0.31	<0.31	<0.31	<0.31	<0.31	<6	<6	<6	<6	<6	<0.86	<0.86	<0.86	<0.86	<1.72	<1.72	<2.15	<2.15	<6.02	<6.02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0533271	E-TP311 0.5	Made Ground	23.4	3.46	46.1	20000	1400	0.47	48.2	1.32	7440	469	<5	26	10.6	<0.5	23.31	<0.034	<0.034	<0.034	<0.034	<0.034	<0.7	<0.7	<0.7	<0.7	<0.7	<0.93	<0.93	<0.93	<0.93	<1.86	1.86	<2.32	16.5	9.04	86.4						
CL/0533270	E-TP312 0.1	Made Ground	8.9	0.16	18.2	49	134.3	0.25	11.8	0.8	67.7	25.4	<5	21.8	7.3	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3	<0.88	<0.88	<0.88	<0.88	<1.76	<1.76	<2.20	<2.20	<6.16	<5.16	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
CL/0532386	E-TP316 0.4	Made Ground	7.3	0.29	15	17.8	105.6	<0.1	10.3	<0.5	101.6	56.9	<5	23.1	7	<0.5	2.73	<0.33	<0.33	<0.33	<0.33	<0.33	<7	<7	<7	<7	<7	<0.90	<0.90	<0.90	<0.90	<1.79	<1.79	<2.24	5.5	<6.27	24.3	<0.3	<0.3	<0.3	<0.3	0.5	<0.3
CL/0532198	E-TP317 0.1	Made Ground	9.3	0.21	21.4	18	83.3	0.3	16.1	0.53	68.1	19.53	<5	17.8	7.5	1.2	1.35	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.83	<0.83	<0.83	<0.83	<1.67	<1.67	<2.08	3.2	<5.83	15	<0.2	<0.2	<0.2	<0.2	0.5	<0.2
CL/0532199	E-TP317 0.1 (dup) LOK1	Made Ground	8.2	0.12	17.9	19.6	74.6	0.14	13.3	0.59	63.6	20.36	<5	22	7.4	0.6		<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3	<0.88	<0.88	<0.88	<0.88	<1.77	<1.77	<2.21	4.59	<6.18	21.2	<0.3	<0.3	<0.3	<0.3	0.9	<0.3
CL/0532200	E-TP318 0.25	Made Ground	8.3	0.16	16.8	22.6	99.5	0.15	9.2	0.4	67.8	28.5	<4	10.8	8.7	1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.77	<0.77	<0.77	<0.77	<1.55	<1.55	<1.93	2.29	<5.40	16.1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
CL/0532202	E-TP319 0.45	Made Ground	133.1	0.2	37.4	401.3	433.9	<0.1	61.1	1.07	243	1220	7	18	7.6	<0.5	9.28	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.84	<0.84	<0.84	<0.84	<1.68	<1.68	2.73	5.4	39.3	91.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
CL/0532387	E-TP320 0.2	Made Ground	7	0.19	17.5	14.1	56.1	<0.1	11.4	<0.5	47.3	37	<5	17.1	6.6	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.84	<0.84	<0.84	<0.84	<1.68	<1.68	2.73	5.4	39.3	91.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0533277	E-TP321 0.2	Made Ground	8.9	0.17	24	13.4	22	0.17	15.2	0.9	57.6	37.4	<5	19.3	6.8	<0.5		<0.31	<0.31	<0.31	<0.31	<0.31	<6	<6	<6	<6	<6	<0.86	<0.86	<0.86	<0.86	<1.71	<1.71	<2.13	<2.13	<5.97	<5.97	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0532133	E-TP323 0.3	Made Ground	2.8	<0.1	5.1	1.8	6.4	<0.1	4.7	<0.5	14	50.2	<5	10.3	7.6	<0.5	0.09	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.77	<0.77	<0.77	<0.77	<1.54	4.87	<1.92	<1.92	<5.37	21.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
CL/0532139	E-TP324 0.3	Made Ground	11	0.15	17.6	10.3	29.8	<0.1	10.8	<0.5	41	23.2	<5	14.5	7	<0.5		<0.29	<0.29	<0.29	<0.29	<0.29	<6	<6	<6	6.5	9.1	<0.81	<0.81	<0.81	<0.81	<1.61	<1.61	<2.01	<2.01	<5.64	10.9	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531977	E-TP325 0.3	Made Ground	10.5	0.25	21.6	28.9	67	<0.1	13.4	0.64	109.6	53.9	<5	16.9	7.7	<0.5	0.99	<0.030	<0.030	<0.030	<0.030	<0.030	<0.6	<0.6	<0.6	<0.6	<0.6	<0.83	<0.83	<0.83	<0.83	<1.66	<1.66	<2.07	<2.07	<5.80	<5.80	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531976	E-TP326 0.3	Made Ground	9	0.15	15.5	17.7	46.4	<0.1	15.2	<0.5	68.7	59.9	<5	21.7	7.2	<0.5	1.26	<0.032	<0.032	<0.032	<0.032	<0.032	<0.6	<0.6	<0.6	<0.6	<0.6	<0.88	<0.88	<0.88	<0.88	<1.78	<1.76	<2.20	<2.20	<6.16	<6.16	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
CL/0531976	E-TP326 1.0	Made Ground	6.5	<0.1	9.6	5.4	12.8	<0.1	13.4	<0.5	38.3	2090	<5	18.8	5.9	<0.5	0.37	<0.031	<0.031	<0.031	<0.031	<0.031	<0.6	<0.6	<0.6	<0.6	<0.6	<0.85	<0.85	<0.85	<0.85	<1.70	6.5	<2.12	<2.12	<5.94	<5.94	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531771	E-WS301 0.1-0.2	Made Ground	7.1	0.12	19.4	14.9	126	<0.1	9.8	<0.5	39	35.7	<5	17.8	6.4	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.84	<0.84	<0.84	<0.84	<1.68	<1.68	<2.09	<2.09	<5.66	<5.66	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531773	E-WS302 0.2-0.3	Made Ground	7.5	0.21	19	15.7	57	<0.1	12.4	<0.5	52	27	<5	18.3	6.9	1		<0.031	<0.031	<0.031	<0.031	<0.031	<0.6	<0.6	<0.6	<0.6	<0.6	<0.84	<0.84	<0.84	<0.84	<1.69	<1.69	<2.11	5.58	<5.90	24.7	<1.0	<1.0	<1.0	<1.0	2.1	<1.0
CL/0531781	E-WS304 0.3-0.5	Made Ground	10.3	0.15	19.4	21.6	158.2	<0.1	11.3	<0.5	78.9	21.1	<5	17.3	7.8	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	0.2	<0.2	<0.2	0.3	<0.83	<0.83	<0.83	<0.83	<1.67	<1.67	<2.08	<2.08	<5.83	<5.83	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531968	E-WS307 0.1-0.2	Made Ground	8.8	0.23	17.4	18.6	49.9	<0.1	12.9	0.63	112	24.7	<5	21.7	8.9	1.3	1.65	0.277	1.944	0.41	0.802	0.784	10	10.6	58.3	15.4	99.5	<0.88	<0.88	<0.88	<0.88	<1.76	<1.76	<2.20	<2.20	<6.16	8.25						
CL/0531784	E-WS308 0.2-0.3	Made Ground	8.7	0.34	22	22.1	150.1	<0.1	14.1	<0.5	100.7	25.2	<5	16.9	7.2	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.83	<0.83	<0.83	<0.83	<1.66	<1.66	<2.07	<2.07	<5.80	<5.80	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CL/0531837	E-WS310 1.1-1.4	Made Ground	10	1.68	28.2	23.9	151	0.16	16.9	0.79	595.7	306	<5	18.4	9.8	<0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2										<0.2	<0.2	0.5	0.5	9.4	3
CL/0531835	E-WS311 0.9-1.2	Made Ground	6.6	1.3	16	46.5	1.42	0.3	21.7	0.84	162.5	251	<5	10.3	10.8	<0.5	4.39	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2										0.2	<0.2	0.4	0.3	6.5	2
	Screening Criteria	SGV Residential	20	1, 2, 8	130		450	8	50	35									3	9																								
		SGV Allotment	20	1, 2, 8	130		450	8	60	35									31	18																								
		SGV Industrial	500	1400	5000		750	480	5000	8000									150	48000																								
		Dutch IV																0.02	26	10	5	5																						
		Soil Code (Tolerated Max)	500																2000																								

Note
1. The Soil Guideline Value for Cadmium is pH dependent
2. Dutch IVs have been used where no SGVs are available
3. Asbestos does not have a screening criteria, its presence justifies further risk assessment
4. Benzo(a)pyrene screening criteria are in-house Generic Assessment Criteria (GAC)

Client: Entec UK Ltd
Site: HMS Daedalus

Analytic			Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene	Total (USEPA 16) PAHs	Carbazole	Phenol	bis(2-Chloroethyl)ether	2-Chlorophenol	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Benzyl alcohol	1,2-Dichlorobenzene	2-Methylphenol	bis(2-Chloroisopropyl)ether	Hexachloroethane	N-Nitroso-di-n-propylamine	3- & 4-Methylphenol	Nitrobenzene	Isophorone	2-Nitrophenol	2,4-Dimethylphenol	Benzoic Acid	bis(2-Chloroethoxy)methane	2,4-Dichlorophenol	1,2,4-Trichlorobenzene	Naphthalene	4-Chloroaniline	2,6-Dichlorophenol	4-Chloroaniline	Hexachlorobutadiene	4-Chloro-3-methylphenol	2-Methylnaphthalene	1-Methylnaphthalene	Hexachlorocyclopentadiene	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	2-Chloronaphthalene	2-Nitroaniline
Method Code, Units:			PAH_MS mg/kg	PAH_MS mg/kg	PAH_MS mg/kg	PAH_MS mg/kg	PAH_MS mg/kg	PAH_MS mg/kg	PAH_MS mg/kg	PAH_MS mg/kg	PAH_MS mg/kg	PAH_MS mg/kg	PAH_MS mg/kg	PAH_MS mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg	SVOCSW mg/kg
Sample ID	Sample Desc	Soil Type																																														
CL/0532193	E-BH303 0.3-0.5	Made Ground																																														
CL/0531779	E-BH304 0.1-0.3	Made Ground	1.7	1.5	0.9	0.9	0.9	0.4	0.7	0.5	<0.2	0.5	<10.1																																				
CL/0531839	E-BH305 0.2-0.4	Made Ground	13.7	9.5	5.7	6	6	3	5.3	2	<1.0	2.7	<69.3																																				
CL/0532135	E-BH306 0.3-0.5	Made Ground	3.4	4.2	2	2.8	3.4	1	2.4	1.7	<1.0	1.7	<32.0																																				
CL/0531970	E-BH310 0.2-0.4	Made Ground													<11.0	<2.8	<11.0	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<11.0	<2.8	<2.8	<11.0	<11.0	<57.0	<2.8	<11.0	<2.8	<1.0	<11.0	<2.8	<2.8	<2.8	<1.0	<1.0	<2.8	<11.0	<11.0	<1.0	<1.0	<1.0	<2.8
CL/0531844	E-BH312 0.3-0.5	Made Ground	<12.0	<12.0	<12.0	<12.0	<12.0	<12.0	<12.0	<12.0	<12.0	<12.0	<204.6		<122.0	<31.0	<122.0	<31.0	<31.0	<31.0	<31.0	<31.0	<31.0	<31.0	<31.0	<31.0	<122.0	<31.0	<31.0	<122.0	<122.0	<611.0	<31.0	<122.0	<31.0	<12.0	<122.0	<31.0	<31.0	<31.0	16.4	13	<31.0	<122.0	<122.0	<12.0	<12.0	<12.0	<31.0
CL/0531830	E-TP301 0.3	Made Ground	0.6	0.5	0.3	0.4	0.4	<0.3	0.3	<0.3	<0.3	<0.3	<4.9																																				
CL/0531832	E-TP303 0.3	Made Ground	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.7																																				
CL/0531965	E-TP304 0.3	Made Ground	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.8																																				
CL/0531974	E-TP305B 0.3	Made Ground	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.8																																				
CL/0531967	E-TP306 0.3	Made Ground	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.8																																				
CL/0532142	E-TP307 0.2	Made Ground	0.3	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<4.0																																				
CL/0532141	E-TP310 0.3	Made Ground	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<4.0																																				
CL/0532271	E-TP311 0.5	Made Ground													<14.0	<3.4	<14.0	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<14.0	<3.4	<3.4	<14.0	<14.0	<68.0	<3.4	<14.0	<3.4	<1.0	<14.0	<3.4	<3.4	<3.4	<1.0	<1.0	<3.4	<14.0	<14.0	<1.0	<1.0	<1.0	<3.4
CL/0533270	E-TP312 0.1	Made Ground	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<4.1																																				
CL/0532386	E-TP316 0.4	Made Ground	1.2	1	0.7	0.8	0.7	0.3	0.6	0.3	<0.3	0.3	<8.1	<0.4																																				
CL/0532198	E-TP317 0.1	Made Ground	1	0.8	0.5	0.5	0.6	<0.2	0.5	0.2	<0.2	0.4	<6.7																																				
CL/0532199	E-TP317 0.1 (dup) LOK1	Made Ground	1.7	1	0.8	0.8	0.9	0.5	0.8	0.4	<0.3	0.5	<10.1																																				
CL/0532200	E-TP318 0.25	Made Ground	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<36.0																																				
CL/0532202	E-TP319 0.45	Made Ground	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20.0																																				
CL/0532387	E-TP320 0.2	Made Ground	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<4.2	<0.4																																				
CL/0533277	E-TP321 0.2	Made Ground	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<4.0																																				
CL/0532133	E-TP323 0.3	Made Ground	4.3	5.6	5	5.8	7.9	3.2	7.4	4.8	<1.0	5.1	<57.2																																				
CL/0532139	E-TP324 0.3	Made Ground	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.7																																				
CL/0531977	E-TP325 0.3	Made Ground	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.9																																				
CL/0531975	E-TP326 0.3	Made Ground	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<4.1																																				
CL/0531976	E-TP326 1.0	Made Ground	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.9																																				
CL/0531771	E-WS301 0.1-0.2	Made Ground	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.9																																				
CL/0531773	E-WS302 0.2-0.3	Made Ground	5.8	6.3	3.3	3.2	3.2	1.3	2.4	1.5	<1.0	1.6	<37.1																																				
CL/0531781	E-WS304 0.3-0.5	Made Ground	0.6	0.6	0.4	0.4	0.4	<0.2	0.2	<0.2	<0.2	<0.2	<5.0																																				
CL/0531968	E-WS307 0.1-0.2	Made Ground													<3.0	<0.6	<3.0	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<3.0	<0.6	<0.6	<3.0	<3.0	<13.0	<0.6	<3.0	<0.6	<0.3	<3.0	<0.6	<0.6	<0.6	<0.3	<0.3	<0.6	<3.0	<3.0	<0.3	<0.3	<0.3	<0.6
CL/0531784	E-WS308 0.2-0.3	Made Ground	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.9																																				
CL/0531837	E-WS310 1.1-1.4	Made Ground	11.9	8.9	5.3	4.8	5.4	2.2	5	2.1	0.8	2.5	<62.7																																				
CL/0531835	E-WS311 0.9-1.2	Made Ground	11.7	10.1	6.4	6	8.1	2.7	4.7	2	0.3	2.5	<64.2		<2.0	<0.6	<2.0	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<2.0	<0.6	<0.6	<2.0	<2.0	<11.0	<0.6	<2.0	<0.6	0.2	<2.0	<0.6	<0.6	<0.6	0.3	0.2	<0.6	<2.0	<2.0	<0.2	<0.2	<0.2	<0.6
	Screening Criteria	SGV Residential						0.88							78																																			
		SGV Allotment						1.1							80																																			
		SGV Industrial						9							21900																																			
		Dutch IV																																															
		Soil Code (Tolerated Max)																																														

Note
1. The Soil Guideline Value for Cadmium is pH dependent
2. Dutch IVs have been used where no SGVs are available
3. Asbestos does not have a screening criteria, its presence justifies further risk assessment
4. Benzo(a)pyrene screening criteria are in-house Generic Assessment Criteria (GAC)

Client: Entec UK Ltd
Site: HMS Daedalus

Analytes			Acenaphthylene	Dimethylphthalate	2,6-Dinitrotoluene	Acenaphthene	3-Nitroaniline	2,4-Dinitrophenol	Dibenzofuran	4-Nitrophenol	2,4-Dinitrotoluene	Fluorene	Diethylphthalate	4-Chlorophenyl-phenylether	4,6-Dinitro-2-methylphenol	4-Nitroaniline	N-nitrosodiphenylamine	4-Bromophenyl-phenylether	Hexachlorobenzene	Pentachlorophenol	Phenanthrene	Anthracene	Di-n-butylphthalate	Fluoranthene	Pyrene	Butylbenzylphthalate	Benzo[a]anthracene	Chrysene	3,3'-Dichlorobenzidine	bis(2-Ethylhexyl)phthalate	Di-n-octylphthalate	Benzo[b]fluoranthene	Benzo[k]fluoranthene	Benzo[a]pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo[g,h,i]perylene	Dichlorodifluoromethane	Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Trichlorofluoromethane	1,1-Dichloroethene	trans 1,2-Dichloroethene	1,1-Dichloroethane	2,2-Dichloropropane	cis 1,2-Dichloroethene	Bromochloromethane
Method Code			SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	SVOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Sample ID	Sample Desc	Soil Type																																															
CL/0532193	E-BH303 0.3-0.5	Made Ground																																															
CL/0531779	E-BH304 0.1-0.3	Made Ground																																															
CL/0531839	E-BH305 0.2-0.4	Made Ground																																															
CL/0532135	E-BH306 0.3-0.5	Made Ground																																															
CL/0531970	E-BH310 0.2-0.4	Made Ground	<1.0	<2.8	<2.8	2.9	<2.8	<6.0	<2.8	<28.0	<2.8	2.7	<2.8	<2.8	<28.0	<2.8	<2.8	<2.8	<2.8	<28.0	43.5	8.9	<2.8	55.7	43.8	<2.8	25	27	<11.0	<2.8	<1.0	32.4	14.3	22.2	7.5	2.6	8	<6	<6	<6	<28	<28	<6	<6	<6	<6	<6	<6	<6
CL/0531844	E-BH312 0.3-0.5	Made Ground	<12.0	<31.0	<31.0	<12.0	<31.0	<61.0	<31.0	<305.0	<31.0	<12.0	<31.0	<31.0	<305.0	<31.0	<31.0	<31.0	<31.0	<305.0	21.4	<12.0	<31.0	<12.0	<12.0	<31.0	<12.0	<12.0	<122.0	<31.0	<12.0	<12.0	<12.0	<12.0	<12.0	<12.0	<12.0	<6	<6	<6	<31	<31	<6	<6	<6	<6	<6	<6
CL/0531830	E-TP301 0.3	Made Ground																																															
CL/0531832	E-TP303 0.3	Made Ground																																															
CL/0531965	E-TP304 0.3	Made Ground																																															
CL/0531974	E-TP305B 0.3	Made Ground																																															
CL/0531967	E-TP306 0.3	Made Ground																																															
CL/0532142	E-TP307 0.2	Made Ground																																															
CL/0532141	E-TP310 0.3	Made Ground																																															
CL/0533271	E-TP311 0.5	Made Ground	<1.0	<3.4	<3.4	<1.0	<3.4	<7.0	<3.4	<34.0	<3.4	<1.0	<3.4	<3.4	<34.0	<3.4	<3.4	<3.4	<3.4	<34.0	1.5	<1.0	<3.4	15	16.8	<3.4	7.3	7	<14.0	<3.4	<1.0	7.7	2.8	6.4	4	<1.0	4	<7	<7	<7	<34	<34	<7	<7	<7	<7	<7	<7	<7
CL/0533270	E-TP312 0.1	Made Ground																																															
CL/0532386	E-TP316 0.4	Made Ground																																															
CL/0532198	E-TP317 0.1	Made Ground																																															
CL/0532199	E-TP317 0.1 (dup) LOK1	Made Ground																																															
CL/0532200	E-TP318 0.25	Made Ground																																															
CL/0532202	E-TP319 0.45	Made Ground																																															
CL/0532387	E-TP320 0.2	Made Ground																																															
CL/0533277	E-TP321 0.2	Made Ground																																															
CL/0532133	E-TP323 0.3	Made Ground																																															
CL/0532139	E-TP324 0.3	Made Ground																																															
CL/0531977	E-TP325 0.3	Made Ground																																															
CL/0531975	E-TP326 0.3	Made Ground																																															
CL/0531976	E-TP326 1.0	Made Ground																																															
CL/0531771	E-WS301 0.1-0.2	Made Ground																																															
CL/0531773	E-WS302 0.2-0.3	Made Ground																																															
CL/0531781	E-WS304 0.3-0.5	Made Ground																																															
CL/0531988	E-WS307 0.1-0.2	Made Ground	<0.3	<0.6	<0.6	<0.3	<0.6	<1.0	<0.6	<6.0	<0.6	<0.3	<0.6	<0.6	<6.0	<0.6	<0.6	<0.6	<0.6	<6.0	<0.3	<0.3	<0.6	<0.3	<0.3	<0.6	<0.3	<0.3	<3.0	<0.6	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<6	<6	<6	<32	<32	<6	<6	<6	<6	<6	<6	<6
CL/0531784	E-WS308 0.2-0.3	Made Ground																																															
CL/0531837	E-WS310 1.1-1.4	Made Ground																																															
CL/0531835	E-WS311 0.9-1.2	Made Ground	<0.2	<0.6	<0.6	0.4	<0.6	<1.0	<0.6	<6.0	<0.6	0.3	<0.6	<0.6	<6.0	<0.6	<0.6	<0.6	<0.6	<6.0	6.5	2	<0.6	11.7	10.1	<0.6	6.4	6	<2.0	<0.6	<0.2	6.1	2.7	4.7	2	0.3	2.5	<6	<6	<6	<28	<28	<6	<6	<6	<6	<6	<6	<6
	Screening Criteria	SGV Residential																																															
		SGV Allotment																																																
		SGV Industrial																																																
		Dutch IV																																																
		Soil Code (Tolerated Max)																																															

Note
1. The Soil Guideline Value for Cadmium is pH dependent
2. Dutch IVs have been used where no SGVs are available
3. Asbestos does not have a screening criteria, its presence justifies further risk assessment
4. Benzo(a)pyrene screening criteria are in-house Generic Assessment Criteria (GAC)

Client: Enlac UK Ltd
Site: HMS Daedalus

Analyte:			Chloroform	1,1,1-Trichloroethane	Carbon Tetrachloride	1,1-Dichloropropene	Benzene	1,2-Dichloroethane	Trichloroethene	1,2-Dichloropropane	Dibromomethane	Bromodichloromethane	cis 1,3-Dichloropropene	Toluene	trans 1,3-Dichloropropene	1,1,2-Trichloroethane	Tetrachloroethene	1,3-Dichloropropane	Dibromochloromethane	1,2-Dibromoethane	Chlorobenzene	Ethylbenzene	1,1,1,2-Tetrachloroethane	m and p-Xylene	o-Xylene	Styrene	Bromoform	Isopropylbenzene	1,1,2,2-Tetrachloroethane	Propylbenzene	Bromobenzene	1,2,3-Trichloropropane	2-Chlorotoluene	1,3,5-Trimethylbenzene	4-Chlorotoluene	tert-Butylbenzene	1,2,4-Trimethylbenzene	sec-Butylbenzene	p-Isopropyltoluene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	n-Butylbenzene	1,2-Dichlorobenzene	1,2-Dibromo-3-chloropropane	1,2,4-Trichlorobenzene	Hexachlorobutadiene	Naphthalene	1,2,3-Trichlorobenzene	^Asbestos ID
Method Code			VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	VOCSW	
Units			ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	
Sample ID	Sample Desc	Soil Type																																																
CL/0532193	E-BH303 0.3-0.5	Made Ground																																																
CL/0531779	E-BH304 0.1-0.3	Made Ground																																																
CL/0531839	E-BH305 0.2-0.4	Made Ground																																																
CL/0532135	E-BH308 0.3-0.5	Made Ground																																																
CL/0531970	E-BH310 0.2-0.4	Made Ground	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<28	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<28	<28	<28	<28	<28	Chrysotile 2-16%
CL/0531844	E-BH312 0.3-0.5	Made Ground	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<31	<6	<6	<6	<6	48	<6	88	56	<6	<6	58	<6	111	<6	<6	<6	349	<6	<6	908	251	164	<6	<6	<6	<6	<31	<31	<31	613	<31	
CL/0531830	E-TP301 0.3	Made Ground																																																
CL/0531832	E-TP303 0.3	Made Ground																																																
CL/0531985	E-TP304 0.3	Made Ground																																																
CL/0531974	E-TP305B 0.3	Made Ground																																																
CL/0531987	E-TP306 0.3	Made Ground																																																
CL/0532142	E-TP307 0.2	Made Ground																																																
CL/0532141	E-TP310 0.3	Made Ground																																																
CL/0533271	E-TP311 0.5	Made Ground	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<34	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<34	<34	<34	<34	<34	
CL/0533270	E-TP312 0.1	Made Ground																																																
CL/0532386	E-TP316 0.4	Made Ground																																																
CL/0532198	E-TP317 0.1	Made Ground																																																
CL/0532199	E-TP317 0.1 (dup) LOK1	Made Ground																																																
CL/0532200	E-TP318 0.25	Made Ground																																																
CL/0532202	E-TP318 0.45	Made Ground																																																
CL/0532387	E-TP320 0.2	Made Ground																																																
CL/0533277	E-TP321 0.2	Made Ground																																																
CL/0532133	E-TP323 0.3	Made Ground																																																
CL/0532139	E-TP324 0.3	Made Ground																																																
CL/0531977	E-TP325 0.3	Made Ground																																																
CL/0531975	E-TP326 0.3	Made Ground																																																
CL/0531976	E-TP326 1.0	Made Ground																																																
CL/0531771	E-WS301 0.1-0.2	Made Ground																																																
CL/0531773	E-WS302 0.2-0.3	Made Ground																																																
CL/0531781	E-WS304 0.3-0.5	Made Ground																																																
CL/0531968	E-WS307 0.1-0.2	Made Ground	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<32	<6	<6	<6	<6	<8	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<32	<32	<32	<32	<32	
CL/0531784	E-WS308 0.2-0.3	Made Ground																																																
CL/0531837	E-WS310 1.1-1.4	Made Ground																																																
CL/0531835	E-WS311 0.9-1.2	Made Ground	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<28	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<28	<28	<28	<28	<28	
	Screening Criteria	SGV Residential																					9000																												
		SGV Allotment																					18000																												
		SGV Industrial																					48000000																												
		Dutch IV																							5000	5000	20000																								
		Soil Code (Tolerated Max)																																																
			200																																															

Note
1 The Soil Guideline Value for Cadmium is pH dependent
2 Dutch IVs have been used where no SGVs are available
3 Asbestos does not have a screening criteria, its presence justifies further risk assessment
4 Benzo[a]pyrene screening criteria are in-house Generic Assessment Criteria (GAC)

10. Figures

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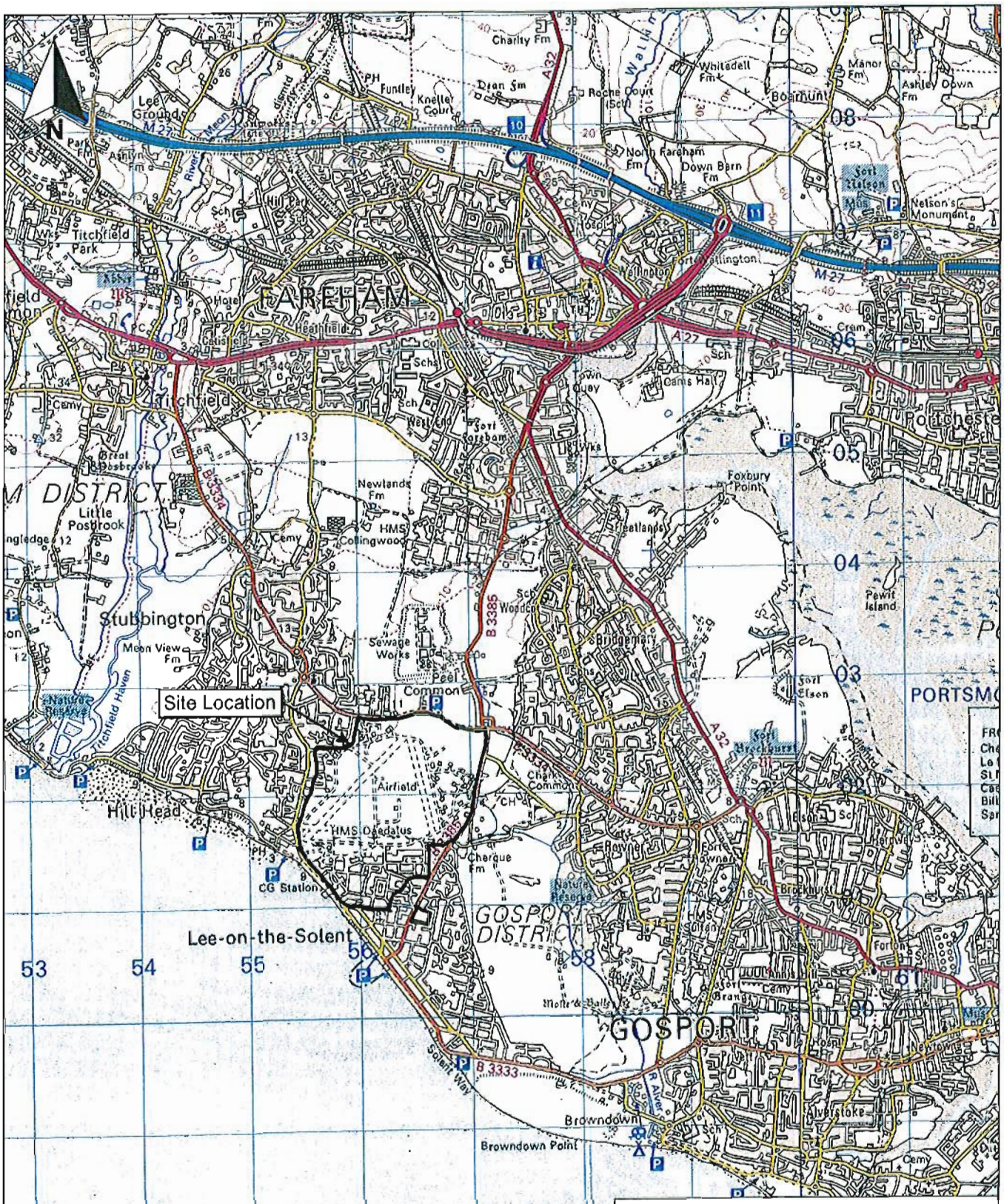

DEFENCE ESTATES
Delivering Estate Solutions to Defence Needs

HMS Daedalus, Lee-on-Solent
Land Quality Assessment
Phase Two Site Investigation

Figure 1
Site Location

March 2006
17275-S01.cdr xgeort

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N

456000E

456500E

457000E

102500N

102000N

101500N

101000N

Building 343

Building 353

Building 356

Former Fire Training Area

Scrap Compound

Disused Runway (17/35)

Building 301

Airfield

Active Runway (05/23)

Disused Runway (10/28)

Former Grounds Maintenance Area

Building 293

BROOM WAY

Air Traffic Control Tower

Argus Gate

Technical Area

Former BFI

Former Boiler House and Fuel Oil Tanks

MT Section

The Solent

Key

Site boundary

Internal boundary

0 m 400 m

Scale 1:7500 @ A3

Prepared for the Ministry of Defence, Defence Estates, contract DE11/4471

DEFENCE ESTATES

HMS Daedalus, Lee-on-Solent
Land Quality Assessment
Phase Two Site Investigation

Figure 2
Site Layout Plan

March 2006
17275-S02.dwg xgeort

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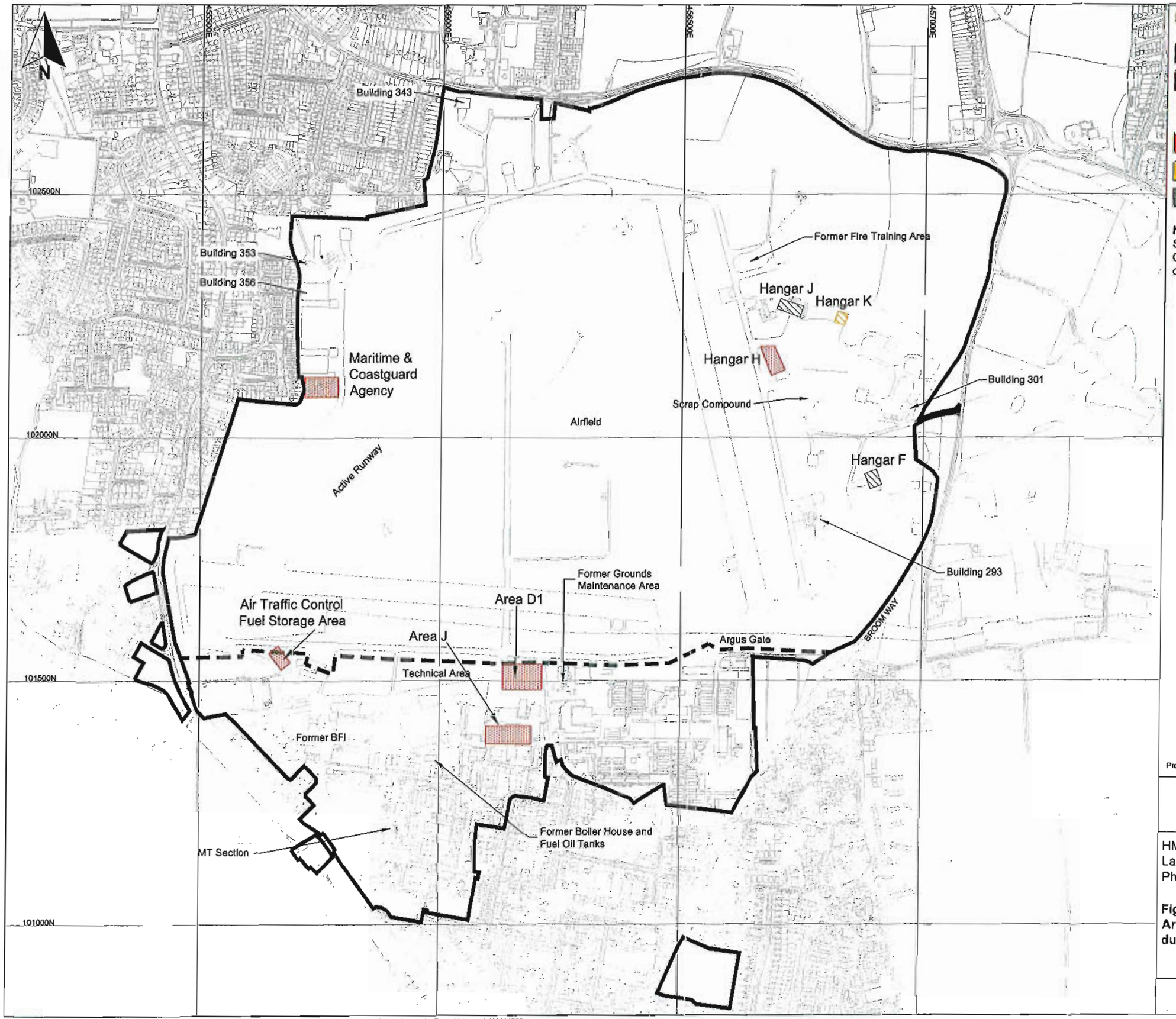

Key

- Site boundary
- Internal boundary

Area of potential contamination from current activities:

- Fuel and oil (POL)
- Chemicals
- Asbestos

Note:
Solid colour denotes potential source.
Coloured hatching or shading is used for areas of uncertainty over contaminant dispersal.

0 m — 400 m

Scale 1:7500 @ A3

Prepared for the Ministry of Defence, Defence Estates, contract DE11/4471

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HMS Daedalus, Lee-on-Solent
Land Quality Assessment
Phase Two Site Investigation

Figure 3
Areas of Potential Contamination due to Recent Activities

March 2006
17275-S03.dwg xgsort

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N

455500E

456000E

456500E

457000E

102500N

102000N

101500N

101000N

Building 343

Former Aircraft Breaking Area

Victorian Tip

Former Aircraft Breaking Area

Former Fire Training Area

Building 353

Building 356

Airfield

Active Runway

Scrap Compound

Building 301

Building 293

BROOMWAY

Former Grounds Maintenance Area

Argus Gate

Technical Area

Former BFI

MT Section

Former Boiler House and Fuel Oil Tanks

Key

- Site boundary
- Internal boundary
- Fuel and oil (POL)
- Waste disposal/disturbed ground
- Chemicals
- Electrical substation (Oil/PCBs)
- Workshops (including vehicle/plant storage, solvents, fuels, metals etc)
- Explosive Ordnance/residues and Ordnance metals
- Burning area/fire training area

Note:
Solid colour denotes potential source.
Coloured hatching or shading is used for areas of uncertainty over contaminant dispersal.

Explosive Ordnance risks are subject to review and clearance by Defence Logistics Organisation which will include full survey of the airfield.

0 m 400 m

Scale 1:7500 @ A3

Prepared for the Ministry of Defence, Defence Estates, contract DE11/4471

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HMS Daedalus, Lee-on-Solent
Land Quality Assessment
Phase Two Site Investigation

Figure 4
Areas of Potential Contamination due to Historical Activity

March 2006
17275-S04.dwg xgeort

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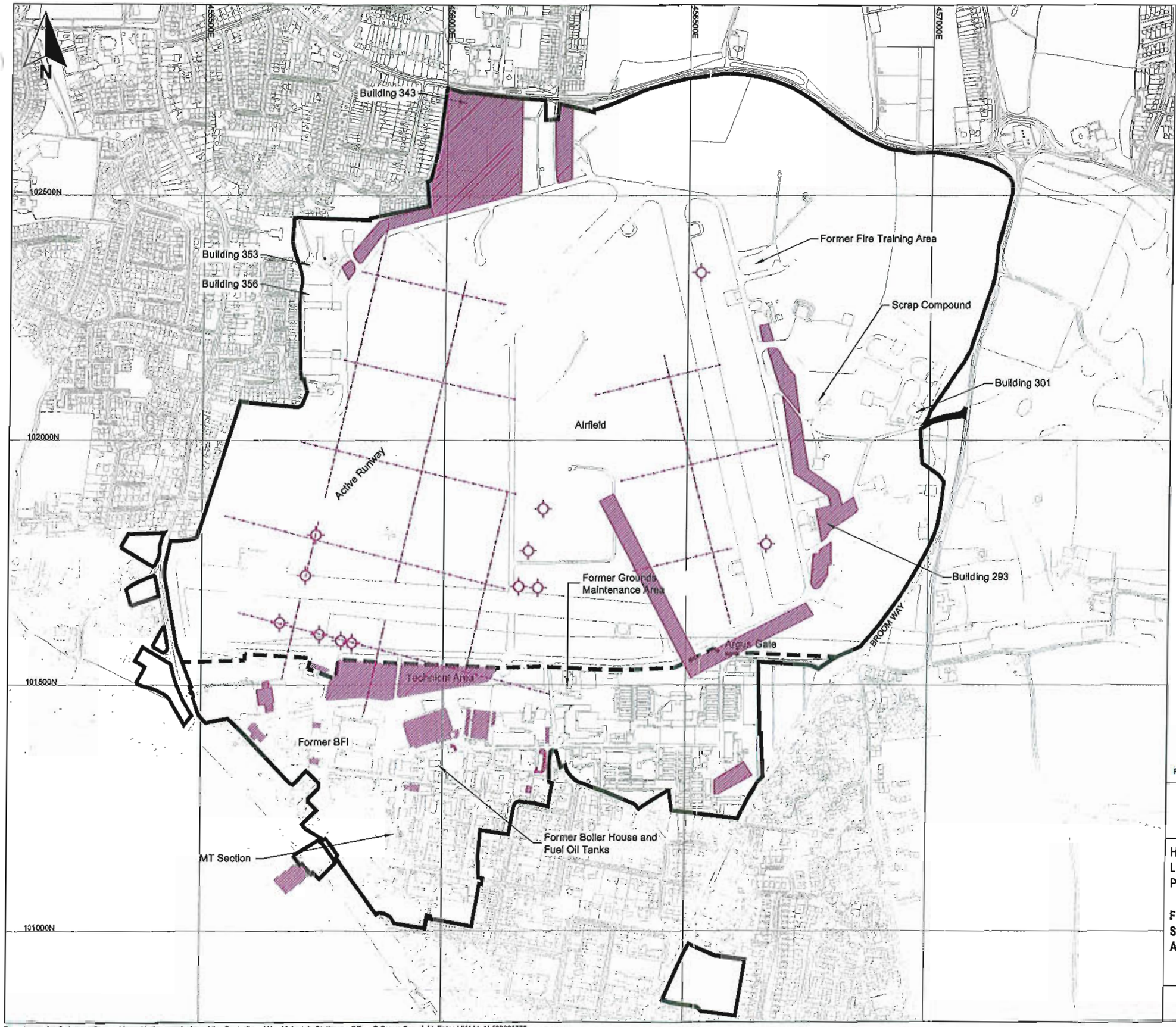

Key

- Site boundary
- Internal boundary
- Area searched for explosive ordnance
- Location of pipemine cleared since 1960's
- Mapped location of pipemines (1943)

Note:
All historical clearance assessments and certificates have been withdrawn by Defence Logistics Organisation pending new clearance studies which are ongoing. (May 2005)

0 m — 400 m

Scale 1:7500 @ A3

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HMS Daedalus, Lee-on-Solent
Land Quality Assessment
Phase Two Site Investigation

Figure 5
Summary of Ordnance Clearance Activity

March 2006
17275-S05.dwg xgeort

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455900E
455500E
456000E
456500E
457000E
457500E
N
102500N
102000N
101500N
101000N
ETP314
ETP311
ETP312
Building 343
ETP323
ETP324
ETP310
ETP308
ETP309
ETP307
Former Fire Training Area
ETP325
BH 22
EWS309
ETP326
EWS308
Building 301
Scrap Compound
Building 353
Building 356
EWS312
EWS311
Airfield
Active Runway
EWS307
EWS306
ETP320
ETP316
ETP317
ETP318
ETP319
ETP306
ETP305
ETP305A
Building 293
ETP304
ETP301
ETP303
ETP302
Broadway
Former Grounds Maintenance Area
Argus Gate
EWS301
Technical Area
EWS302
EWS303
EWS305
EBH306
EBH310
EBH304
EBH301
EBH302
Former BFI
EBH305
EWS304
EBH303
EBH308
EBH309
EBH307
MT Section
Former Boiler House and Fuel Oil Tanks
ETP315
ETP321
ETP322

Key

- Site boundary
- Internal boundary
- Trial pit
- Window sample
- Borehole

0 m 100 m 200 m

Scale 1:4000 @ A1

Prepared for the Ministry of Defence, Defence Estates, contract DIE1/4471

DEFENCE ESTATES

HMS Daedalus, Lee-on-Solent
Land Quality Assessment
Phase Two Site Investigation

Figure 6
Exploratory Hole Location Plan

March 2006
17275-S06.dwg xgscrt

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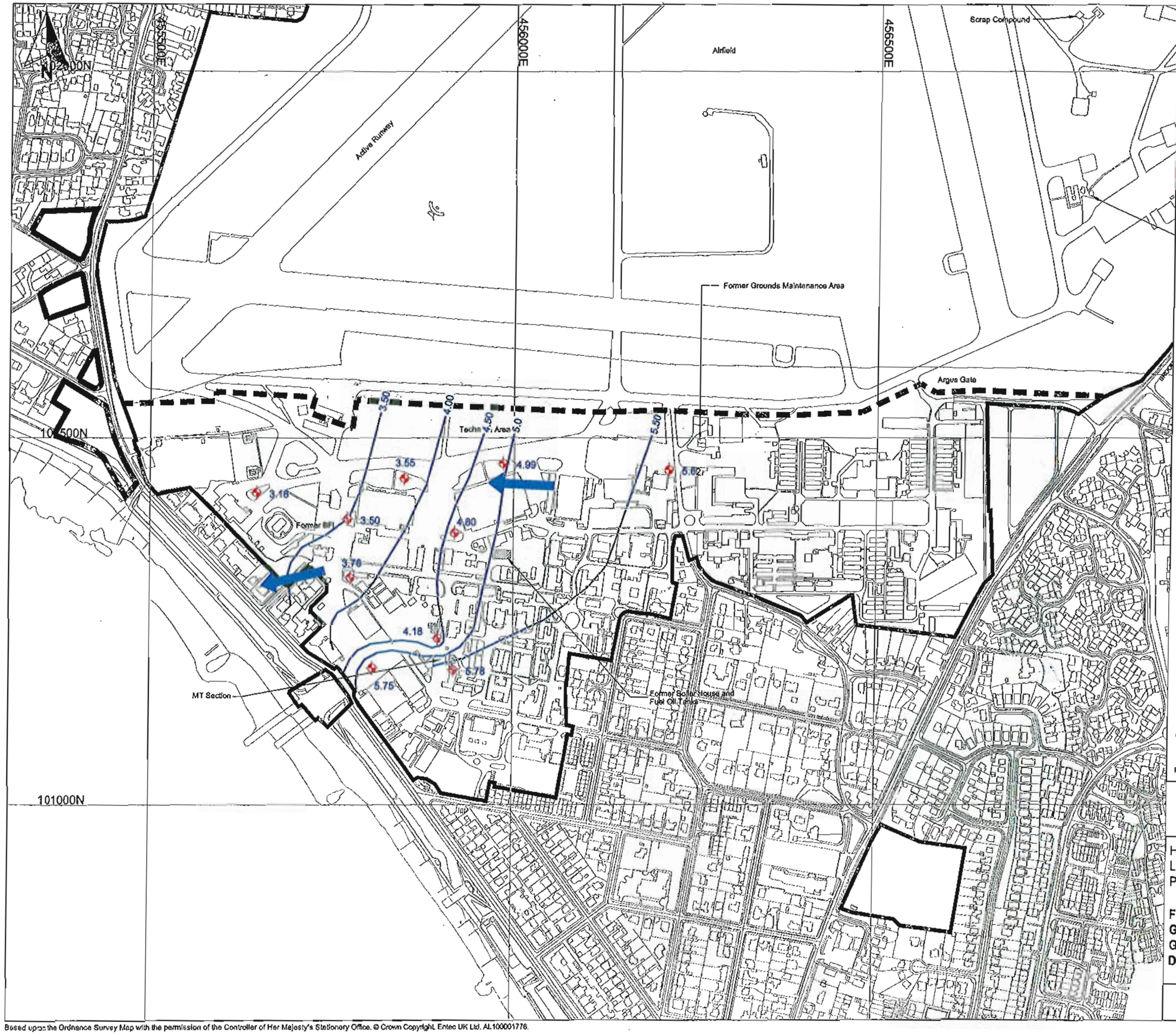

Key

- Site boundary
- Internal boundary
- Borehole (groundwater level mAOD)
- Inferred groundwater contour (mAOD)
- Inferred groundwater flow direction

0 m — 300 m

Scale 1:5000 @ A3

Prepared for the Ministry of Defence, Defence Estates, contract OE1/4471

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HMS Daedalus, Lee-on-Solent
Land Quality Assessment
Phase Two Site Investigation

Figure 7
Groundwater Levels, Inferred Groundwater Contours and Flow Direction

March 2006
17275-S07.dwg xgeort

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455600E
455600E
456000E
456500E
457000E
457500E
N
102500N
102000N
101500N
101000N
Building 343
ETP314
ETP312
ETP311 0.5m
Arsenic 23.4
Lead 1580
Copper 20200
Zinc 7440
ETP323 0.3m
B(a)P 7.4
ETP324
ETP310
ETP308
ETP309
ETP307
Former Fire Training Area
ETP325
BH 22
EWS309
ETP326
EWS308
Building 301
Scrap Compound
Building 353
Building 356
EWS312
EWS310 1.1-1.4m
B(a)P 5
EWS311 0.9-1.2m
Lead 542
B(a)P 0.9-1.2
Airfield
Active Runway
EWS307
EWS306
ETP320
ETP316
ETP306
ETP305
ETP305A
Building 293
Former Grounds Maintenance Area
ETP304
ETP301
ETP303
ETP302
BROOM WAY
ETP317 0.1m
B(a)P 0.9
EWS301
ETP318
Argus Gate
ETP319 0.45m
Arsenic 188
Nickel 61
EWS302 0.2-0.3m
B(a)P 2.6
Technical Area
EWS303
EWS305
EBH304
EBH306
EBH310 0.2-0.4m
Chrysotile Asbestos 2-15%
EBH301 0.3m
Lead 1570
EBH302
EBH305 0.2-0.4m
B(a)P 5.3
Former BFI
EWS304
EBH303 0.3-0.5m
Lead 472
EBH308 0.3-0.5m
B(a)P 2.8
EBH309
EBH307
MT Section
Former Boiler House and Fuel Oil Tanks
ETP315
ETP321
ETP322

Key

- Site boundary
- Internal boundary
- Trial pit
- Window sample
- Borehole

Note:
Results expressed in mg/kg unless stated.

0 m 100 m 200 m
Scale 1:4000 @ A1

Prepared for the Ministry of Defence, Defence Estates, contract DE11/4471

DEFENCE ESTATES

HMS Daedalus, Lee-on-Solent
Land Quality Assessment
Phase Two Site Investigation

Figure 8
Soil Analysis Results Exceeding Residential Screening Criteria

March 2006
17275-S08.dwg xgeort

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455600E
455600E
456000E
456500E
457000E
457500E
N
102500N
102000N
101500N
101000N
ETP314
ETP311 0.5m
Lead 1580
ETP312
Building 343
ETP323
ETP324
ETP310
ETP308
ETP309
ETP307
Former Fire Training Area
ETP325
BH 22
EWS309
ETP326
EWS308
Building 301
Scrap Compound
Building 353
Building 356
EWS312
EWS310 1.5-1.7m
Lead 1100
B(a)P 1.1
EWS311
Airfield
Active Runway
EWS307
EWS306
ETP320
ETP316
ETP306
ETP305
ETP305A
Building 293
Former Grounds Maintenance Area
ETP304
ETP301
ETP303
ETP302
BROOM WAY
ETP317
ETP318
EWS301
Argus Gate
ETP319
Technical Area
EWS302
EWS303
EBH304
EBH306
EWS305
EBH310
EBH301 0.3m
Lead 1570
EBH302
Former BFI
EBH305
EWS304
EBH303
EBH308
EBH309
EBH307
MT Section
Former Boiler House and Fuel Oil Tanks
ETP315
ETP321
ETP322

Key

- Site boundary
- Internal boundary
- Trial pit
- Window sample
- Borehole

Note:
Results expressed in mg/kg unless stated.

0 m 100 m 200 m
Scale 1:4000 @ A1

Prepared for the Ministry of Defence, Defence Estates, contract DE11/4471

DEFENCE ESTATES

HMS Daedalus, Lee-on-Solent
Land Quality Assessment
Phase Two Site Investigation

Figure 9
Soil Analysis Results Exceeding Commercial/Industrial Screening Criteria

March 2006
17275-S09.dwg xgeort

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N

102000N

101500N

101000N

455500E

456000E

456500E

Active Runway

Airfield

Scrap Compound

Former Grounds Maintenance Area

Argus Gate

Technical Area

EBH306	
Arsenic	0.01
Selenium	0.045

EBH304

EBH301

EBH310
PAH

EBH302	
Arsenic	0.013
Selenium	0.032
Tetrachloroethene	43µg/l

EBH305	
Tetrachloroethene	165µg/l

EBH303	
Tetrachloroethene	22µg/l

EBH308

EBH309	
Phenol	1.319µg/l
Arsenic	0.028
GRO	3.21
PAH	
B(a)P	1.515µg/l

MT Section

EBH307	
PAH	
B(a)P	0.88µg/l

Former Boiler House and Fuel Oil Tanks

Key

- Site boundary
- Internal boundary
- Borehole

Note:
Results expressed in mg/l unless stated.

0m 300 m

Scale 1:5000 @ A3

Prepared for the Ministry of Defence, Defence Estates, contract DE11/4471

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HMS Daedalus, Lee-on-Solent
Land Quality Assessment
Phase Two Site Investigation

Figure 10
Summary of Groundwater Contamination

March 2006
17275-S10.dwg xgsort

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APPENDIX D: DETAILED QUANTITATIVE RISK ASSESSMENT - MODEL CALCULATIONS

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Environment Agency

Input Parameters	Variable	Value	Unit	Source
Contaminant		Tetrachloroethene		from Level 1
Target Concentration	C_T	0.01	mg/l	from Level 1
Dilution Factor	DF	3.43E+00		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Domenico - Steady state — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Determine remedial target based on assumed concentration		
Half life for degradation of contaminant in water	$t_{1/2}$	7.30E+02	days	
Calculated decay rate	λ	9.50E-04	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	1.00E+01	m	from Level 2
Plume thickness in aquifer at source	Sy	3.56E+01	m	from Level 2
Bulk density of aquifer materials	ρ	1.60E+00	g/cm^3	
Effective porosity of aquifer	n	2.80E-01	fraction	
Hydraulic gradient	i	5.23E-03	fraction	from Level 2 (adjusted)
Hydraulic conductivity of saturated aquifer	K	8.64E+00	m/d	from Level 2
Distance to compliance point	x	2.20E+02	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	1.00E+99	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	2.73E+01	l/kg	*see options*
Longitudinal dispersivity	ax	22.000	m	*see options*
Transverse dispersivity	az	2.200	m	*see options*
Vertical dispersivity	ay	0.220	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters	Variable		
Groundwater flow velocity	v	1.61E-01	m/d
Retardation factor	Rf	1.57E+02	fraction
Decay rate used	λ	6.05E-06	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	5.23E-03	fraction
Rate of contaminant flow due to retardation	u	1.03E-03	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	4.00E-02	fraction
Attenuation factor (C_O/C_{ED})	**AF**	**2.50E+01**	**fraction**

Remedial Targets

Level 3 Remedial Target		**8.57E-01**	**mg/l**	For comparison with measured pore water concentration.
Domenico - Steady state		**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
		2.35E+01	**mg/kg**	For comparison with measured soil concentration. This
Distance to compliance point		**220**	**m**	assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	**4.00E-02**	**fraction**	Domenico - Steady state

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Enter method of defining partition co-efficient (using pull down list)

Calculate for non-polar organic chemicals

Entry if specify partition coefficient (option)

Soil water partition coefficient — Kd — l/kg

Entry for non-polar organic chemicals (option)

Fraction of organic carbon in aquifer	foc	9.00E-02	fraction
Organic carbon partition coefficient	Koc	3.03E+02	l/kg

Entry for ionic organic chemicals (option)

Sorption coefficient for related species	$K_{oc,n}$		l/kg
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg
pH value	pH		
Acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction
Soil water partition coefficient	Kd	2.73E+01	l/kg

Define dispersivity (click brown cell and use pull down list)

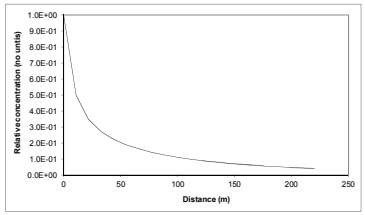
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	2.20E+01	6.48E+00	m
Transverse dispersivity	**az**	0.00E+00	2.20E+00	6.48E-01	m
Vertical dispersivity	**ay**	0.00E+00	2.20E-01	6.48E-02	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Site being assessed:	Daedalus - Waterfront
Completed by:	Steve Miller
Date:	########
Version:	3.2

Calculated (relative) concentrations for distance-concentration graph

Domenico - Steady state
From calculation sheet

Distance	Relative concentration
	(No units)
0	1.0E+00
11.0	4.98E-01
22.0	3.46E-01
33.0	2.70E-01
44.0	2.23E-01
55.0	1.89E-01
66.0	1.63E-01
77.0	1.43E-01
88.0	1.26E-01
99.0	1.12E-01
110.0	1.01E-01
121.0	9.06E-02
132.0	8.19E-02
143.0	7.43E-02
154.0	6.76E-02
165.0	6.16E-02
176.0	5.63E-02
187.0	5.16E-02
198.0	4.73E-02
209.0	4.35E-02
220.0	4.00E-02

Remedial Targets Worksheet , Release 3.2

Level 2 - Soil

Contaminant		**Tetrachloroethene**		from Level 1	This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).
Target concentration	C_T	**0.01**	**mg/l**	from Level 1	

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters	Variable	Value	Unit	Source of parameter value	
Standard entry					
Infiltration	Inf	2.13E-03	m/d	**rainfall**	
Area of contaminant source	A	1.00E+02	m^2	**10m x 10m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	2.20E+02	m		
Saturated aquifer thickness	da	4.00E+01	m		
Hydraulic Conductivity of aquifer in which dilution occurs	K	8.64E+00	m/d		
Hydraulic gradient of water table	i	3.70E-03	fraction		
Width of contaminant source perpendicular to groundwater flow	w	1.00E+01	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l	**NGBH01**	
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Calculate**			
Enter mixing zone thickness	Mz		m		
Calculated mixing zone thickness	Mz	3.56E+01	m		

Calculated Parameters

Dilution Factor	**DF**	**3.43E+00**		
Level 2 Remedial Target		**3.43E-02**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentrati**
		or		
		9.40E-01	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc		mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

Site being assessed:	Daedalus - Waterfront
Completed by:	Steve Miller
Date:	08-May-14
Version:	3.2

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Environment Agency

Input Parameters

	Variable	Value	Unit	Source
Contaminant		Tetrachloroethene		from Level 1
Target Concentration	C_T	0.01	mg/l	from Level 1
Dilution Factor	DF	3.43E+00		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Domenico - Steady state — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Determine remedial target based on assumed concentration		
Half life for degradation of contaminant in water	$t_{1/2}$	7.30E+02	days	
Calculated decay rate	λ	9.50E-04	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	1.00E+01	m	from Level 2
Plume thickness in aquifer at source	Sy	3.56E+01	m	from Level 2
Bulk density of aquifer materials	ρ	1.60E+00	g/cm^3	
Effective porosity of aquifer	n	2.80E-01	fraction	
Hydraulic gradient	i	5.23E-03	fraction	from Level 2 (adjusted)
Hydraulic conductivity of saturated aquifer	K	8.64E+00	m/d	from Level 2
Distance to compliance point	x	2.20E+02	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	1.00E+99	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	2.73E+01	l/kg	*see options*
Longitudinal dispersivity	ax	22.000	m	*see options*
Transverse dispersivity	az	2.200	m	*see options*
Vertical dispersivity	ay	0.220	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters

	Variable		
Groundwater flow velocity	v	1.61E-01	m/d
Retardation factor	Rf	1.57E+02	fraction
Decay rate used	λ	6.05E-06	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	5.23E-03	fraction
Rate of contaminant flow due to retardation	u	1.03E-03	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	4.00E-02	fraction
Attenuation factor (C_O/C_{ED})	**AF**	**2.50E+01**	**fraction**

Remedial Targets

Level 3 Remedial Target		**8.57E-01**	**mg/l**	For comparison with measured pore water concentration.
Domenico - Steady state		**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
		2.35E+01	**mg/kg**	For comparison with measured soil concentration. This
Distance to compliance point		**220**	**m**	assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Ratio of Compliance Point to Source Concentration	**C_{ED}/C_0**	**4.00E-02**	**fraction**	Domenico - Steady state

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Enter method of defining partition co-efficient (using pull down list)

Calculate for non-polar organic chemicals

Entry if specify partition coefficient (option)

Soil water partition coefficient — Kd — l/kg

Entry for non-polar organic chemicals (option)

Fraction of organic carbon in aquifer	foc	9.00E-02	fraction
Organic carbon partition coefficient	Koc	3.03E+02	l/kg

Entry for ionic organic chemicals (option)

Sorption coefficient for related species	$K_{oc,n}$		l/kg
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg
pH value	pH		
Acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction
Soil water partition coefficient	Kd	2.73E+01	l/kg

Define dispersivity (click brown cell and use pull down list)

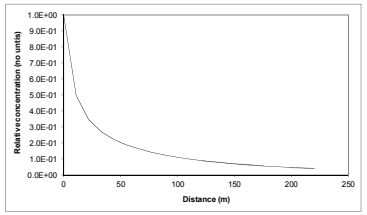
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	2.20E+01	6.48E+00	m
Transverse dispersivity	**az**	0.00E+00	2.20E+00	6.48E-01	m
Vertical dispersivity	**ay**	0.00E+00	2.20E-01	6.48E-02	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Site being assessed:	Daedalus - Waterfront
Completed by:	Steve Miller
Date:	########
Version:	3.2

Calculated (relative) concentrations for distance-concentration graph

Domenico - Steady state
From calculation sheet

Distance	Relative concentration
	(No units)
0	1.0E+00
11.0	4.98E-01
22.0	3.46E-01
33.0	2.70E-01
44.0	2.23E-01
55.0	1.89E-01
66.0	1.63E-01
77.0	1.43E-01
88.0	1.26E-01
99.0	1.12E-01
110.0	1.01E-01
121.0	9.06E-02
132.0	8.19E-02
143.0	7.43E-02
154.0	6.76E-02
165.0	6.16E-02
176.0	5.63E-02
187.0	5.16E-02
198.0	4.73E-02
209.0	4.35E-02
220.0	4.00E-02

R&D Publication 20 Remedial Targets Worksheet, Release 3.2

Level 3 - Groundwater

See Note

Input Parameters (using pull down menu)

	Variable	Value	Unit	Source
Contaminant		Tetrachloroethene		from Level 1
Target Concentration	C_T	1.00E-02	mg/l	from Level 1

Select analytical solution (click on brown cell below, then on pull-down menu)

Domenico - Steady state Equations in HRA publication

Approach for simulating vertical dispersion: **Simulate vertical dispersion in 1 direction**

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

				Source of parameter value
Initial contaminant concentration in groundwater at plume core	C_0	1.65E+01	mg/l	*1650ug/L*
Half life for degradation of contaminant in water	$t_{1/2}$	7.60E+02	days	*2 years*
Calculated decay rate	λ	9.12E-04	$days^{-1}$	
Width of plume in aquifer at source (perpendicular to flow)	Sz	1.00E+01	m	*10m*
Plume thickness at source	Sy	1.00E+01	m	*10m*
Saturated aquifer thickness	da	4.00E+01	m	*40m*
Bulk density of aquifer materials	ρ	1.60E+00	g/cm^3	*1.6*
Effective porosity of aquifer	n	2.80E-01	fraction	*0.28*
Hydraulic gradient	i	3.70E-03	fraction	*0.0037*
Hydraulic conductivity of aquifer	K	8.64E+00	m/d	*8.64m/d - gravels (Freeze and Cherry)*
Distance to compliance point	x	2.20E+02	m	*220m - WFBH03*
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	2.73E+02	l/kg	*see options*
Longitudinal dispersivity	ax	2.20E+01	m	*see options*
Transverse dispersivity	az	2.20E+00	m	*see options*
Vertical dispersivity	ay	2.20E-01	m	*see options*

Calculated Parameters

	Variable		
Groundwater flow velocity	v	1.14E-01	m/d
Retardation factor	Rf	1.56E+03	fraction
Decay rate used	λ	5.84E-07	d^{-1}
Rate of contaminant flow due to retardation	u	7.31E-05	m/d
Contaminant concentration at distance x, assuming one-way vertical dispersion	C_{ED}	3.17E-01	mg/l
Attenuation factor (one way vertical dispersion, CO/CED)	**AF**	**5.21E+01**	

Remedial Targets

Remedial Target		**5.21E-01**	**mg/l**
Domenico - Steady state			
Distance to compliance point		**220**	**m**
Concentration of contaminant at compliance point	C_{ED}/C_0	**3.17E-01**	**mg/l**

For comparison with measured groundwater concentration.

Domenico - Steady state

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99.

Select Method for deriving Partition Co-efficient (using pull down menu)

User specified value for partition coefficient

Entry if specify partition coefficient (option)			
Soil water partition coefficient	Kd	2.73E+02	l/kg
Entry for non-polar organic chemicals (option)			
Fraction of organic carbon in aquifer	foc		fraction
Organic carbon partition coefficient	Koc		l/kg
Entry for ionic organic chemicals (option)			
Sorption coefficient for related species	$K_{oc,n}$		l/kg
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg
pH value	pH		
acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction
Soil water partition coefficient	Kd	2.73E+02	l/kg

Define dispersivity (click brown cell and use pull down list)

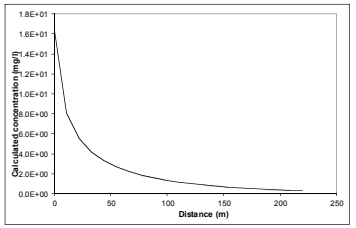
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value Xu & Eckstein		
Longitudinal dispersivity	**ax**	0.00E+00	2.20E+01	6.48E+00	m
Transverse dispersivity	**az**	0.00E+00	2.20E+00	6.48E-01	m
Vertical dispersivity	**ay**	0.00E+00	2.20E-01	6.48E-02	

Note values of dispersivity must be > 0

For calculated value, assumes ax = 0.1 *x, az = 0.01 * x, ay = 0.001 * x

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed



Note graph assumes plume disperses vertically in one direction only. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

Note

This sheet calculates the Level 3 remedial target for groundwater, based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.

By setting a long travel time it will give the steady state solution, which should be used to calculate remedial targets.

The measured groundwater concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.0E+99.

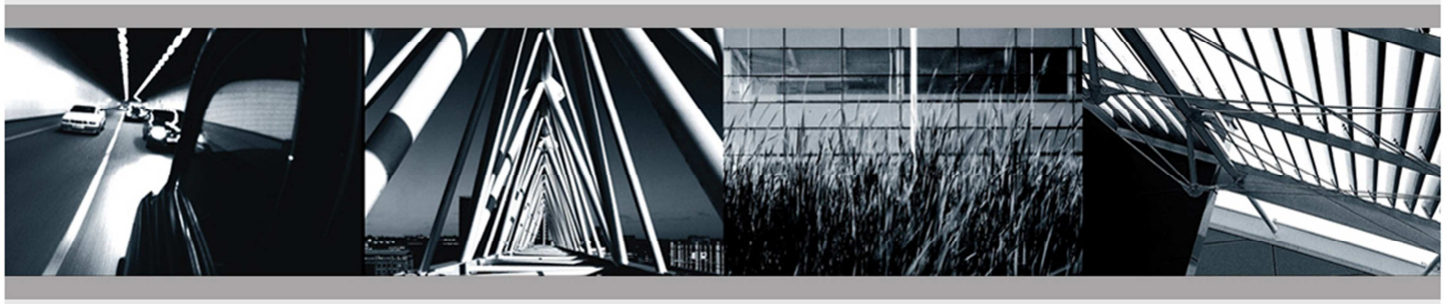
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O2, NO3, SO4 etc than an alternative solution should be used

Site being assessed:	Daedalus - Waterfront
Completed by:	Steve Miller
Date:	########
Version:	3.2

Calculated concentrations for distance-concentration graph

Domenico - Steady state
From calculation sheet

Distance	Concentration
	mg/l
0	1.7E+01
11.0	8.07E+00
22.0	5.50E+00
33.0	4.19E+00
44.0	3.33E+00
55.0	2.72E+00
66.0	2.26E+00
77.0	1.89E+00
88.0	1.60E+00
99.0	1.37E+00
110.0	1.18E+00
121.0	1.01E+00
132.0	8.80E-01
143.0	7.67E-01
154.0	6.70E-01
165.0	5.88E-01
176.0	5.17E-01
187.0	4.56E-01
198.0	4.03E-01
209.0	3.57E-01
220.0	3.17E-01



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