

BAE Systems Environmental Ground Investigation for Contaminated Land

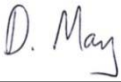
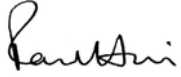
BAE Systems Waterloooville
BAE Systems Properties Ltd



Ground Investigation for Contaminated Land

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INVESTORS IN PEOPLE

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EXECUTIVE SUMMARY

This executive summary provides an overview of the findings and conclusions of the investigation. It is recommended that all parts of the report are read and considered because they contain information that puts into context findings that are summarised in the executive summary.

Introduction and Objectives

BAE Systems Environmental was commissioned by BAE Systems Properties Ltd to conduct a ground investigation for Land Contamination at the BAE Systems site in Waterloo.

The purpose of the investigation was to support the marketing of the Site by determining the ground conditions and the potential for land contamination caused by historical industrial activities.

Scope of Works

The ground investigation comprised the formation of 12 No. window sample points with 3 No. installed with groundwater and gas monitoring standpipes.

Findings

The ground conditions encountered generally comprised made ground overlying clay representing head deposits.

Human Health

Although a number of contaminants have been identified within the soils. Where assessment criteria are available, the concentrations recorded were below the appropriate screening criteria.

Considering the above, it is considered that the contaminant concentrations within the soil are not significant and pose no risk to future Site users within the context of an industrial/commercial land-use.

The Site can be classified as Characteristic Gas Situation 1, i.e. low risk. However, this is based on limited gas data - further monitoring would be required to confirm the assessment.

Controlled Waters

A single sulphate exceedence was recorded WS11. No specific source of sulphate contamination has been identified in the vicinity, however, the location is situated on made ground containing concrete, which may have entered the probehole.

Therefore, the elevated sulphate concentration is considered likely to be attributable to either concrete made ground or the mineralogy of the underlying strata and is not considered a risk.

Conclusions

Based on the data collected through the intrusive works and subsequent risk assessment we consider that there are no significant land contamination risks to human health or the environment in relation to on-going industrial/commercial use of the Site.

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1. INTRODUCTION

1.1. Instruction

BAE Systems Environmental was commissioned by BAE Systems Properties Ltd to conduct a ground investigation for land contamination at the BAE Systems site in Waterlooville.

1.2. Objectives

The purpose of the investigation was to support the marketing of the Site by determining the ground conditions and the potential for land contamination caused by historical industrial activities.

The design of the investigation was based largely on the findings of the 'Desk Study' (report ref. B0054/00-R1-1, July 2008), which should be read in conjunction with this report.

This assessment has been conducted in general accordance with current industry good practice guidance documents within the UK legislative and policy framework. This ground investigation equates to the Generic Quantitative Risk Assessment stage in CLR11 – Model Procedures for the Management of Land Contamination.

1.3. The Investigation Area

The term 'Site' refers to the BAE Systems Waterlooville site, as shown in Figure 1 and Figure 2.

1.4. Report Conditions

This report has been prepared by BAE Systems Environmental within the scope of work, terms of contract and resources as agreed with BAE Systems Property Services. It has been prepared without the benefit of knowing the exact intentions of third parties and therefore should not be used by such organisations without prior consultation with BAE Systems Environmental. Any such party relies on this report and any information contained therein at its own risk.

The report refers to the conditions present at the Site at the time of the study and no liability can be accepted by BAE Systems Environmental for any future changes of Site conditions. The extent of the work carried out reflects the areas of the Site that were accessible at the time of the site works. It should be noted that BAE Systems Environmental has relied on the accuracy of the information contained in any documents consulted or supplied by the client and is in no circumstances responsible for the accuracy of such information or data supplied.

It should be noted that exploratory points such as trial pits and boreholes only provide information on a relatively limited volume of soil or groundwater. In general, the ground conditions encountered may be considered representative but the possibility exists for variations in ground conditions between exploratory points that have not been disclosed by the investigation and could not therefore be taken into account in this report. Groundwater levels are particularly susceptible to seasonal and other variations.

Any conclusions and recommendations represent our professional opinions and have been determined in accordance with accepted industry good practice at the time of writing. BAE Systems Environmental cannot accept responsibility for future changes in

legislation or good practice guidance that may affect any opinions expressed in this report.

The executive summary provides an overview of the findings and conclusions and it is recommended that all parts of the report are read and considered as other parts of the report may contain information, which puts into context findings that are summarised in the executive summary.

2. THE SITE

2.1. Site Details

Address	BAE Systems Elettra Avenue Waterlooville Hampshire PO7 7XS
National Grid Reference	SU 676 099 (Site centre)
Area	Approximately 5.5 hectares (ha)
Elevation	Approximately 35 mAOD.
Adjoining Neighbours	The Site comprises industrial buildings and hardstanding. The Site is surrounded by industrial properties. Agricultural land lies further to the south and west. Residential properties are located further to the north and east.
Access	Via an access road off Elettra Avenue and report to Main Reception.
Site Security	The Site has a perimeter fence and a second secure internal fence that separates the process area from the remainder of the Site

Table 1 – Site details

A Site Plan is presented as Figure 2.

2.2. Site Description

The Site and its immediate surroundings are shown on Figure 2. The Site is located within a larger business park.

The Site is approximately rectangular and comprises mainly hardstanding (car parks and roads) with small landscaped areas in the west and south of the Site. There are 6 No. buildings located on the Site. There are separate entrances for the office and the process areas.

The processes carried out on the Site both historically and currently are associated with the integration and testing of torpedo sections.

There are small hazardous and non-hazardous waste storage areas located on-site.

2.3. Published geology

The geological map shows the Site to be underlain by head deposits described as sandy silty clay followed by London Clay overlying the Reading Formation and Upper Chalk of Cretaceous age.

2.4. Hydrogeology

According to the Environment Agency website, the head deposits beneath the Site have been designated as a 'Secondary Undifferentiated' aquifer. This is a designation where it has not been possible to attribute either a 'Secondary A' or 'Secondary B' designation due to the variable soil type.

The London Clay is designated as an 'Unproductive Strata', which refers to rock layers or drift deposits, which have negligible significance for water supply or river base flow.

These designations can be viewed at the following website and entering the Site postcode (PO7 7XS):

<http://www.environment-agency.gov.uk/homeandleisure/117020.aspx>

Groundwater was encountered in the head deposits within SU60NE/176: BHs 11 and 13 at depths of 1.4 m and 1.5 m respectively and in the London Clay within SU60NE/176: BH3 at a depth of 11.4 m.

2.5. Mineral Extraction

Records indicate the Site is not located within the likely zone of influence from historical shallow mining activities.

2.6. Site History

From 1870, the Site was surrounded by farmland, with the original village of Waterloo to the south-east of the Site and a road running south-east to north-west located close to the Site's eastern boundary.

Construction on the Site started around 1988 with the construction of 5 No. buildings. The largest, known as the Main Building, is located on the eastern boundary of the Site, with 'E' Block located to its immediate south-west. There are 3 No. smaller buildings visible to the north-west of 'E' Block including the restaurant located on the northern boundary, the security gate and the waste storage area located in the centre of the Site. Additional industrial buildings have also been constructed to the immediate north, south and west of the Site.

3. SITE INVESTIGATION DESIGN AND METHODOLOGY

3.1. General

The number and location of exploratory holes was based on the need for sufficient coverage of the Site whilst targeting of potential sources of contamination identified in the desk study.

Sampling strategies and methodologies were designed in general accordance with current industry guidance referenced at the end of this report.

3.2. Scope of Works

Site works were carried out between Tuesday 16th October and Thursday 1st November 2012. The weather conditions were generally fair with occasional periods of rainfall.

All site works were conducted by BAE Systems Environmental and its approved sub-contractors under the full time supervision of a suitably qualified BAE Systems Geo-environmental Engineer.

The site works involved the following:

- formation of 12 No. window sample probeholes to a maximum depth of 4.4 m with soil samples taken at regular intervals for chemical analysis;
- installation of 3 No. groundwater monitoring standpipes to a maximum depth of 4.0 m, and
- two return visits to measure soil gas concentration which included one visit to obtain groundwater samples for chemical analysis.

Prior to excavation, each window sample location was scanned for services by a BAE Systems Environmental engineer using a Cable Avoidance Tool (CAT).

All exploratory points were logged in accordance with British Standard Code of Practice for Site Investigations BS5930:1999 Amendment 2, August 2010.

An exploratory point location plan is presented as Figure 3. The locations of the window sample probeholes were determined relative to site features and subsequently surveyed-in to determine their positions relative to Ordnance Datum and National Grid.

The positioning of exploratory points was restricted by building, service and landscaped areas found across the Site.

Detailed descriptions of the strata encountered at each exploratory point and a record of the type and frequency of samples recovered are given in the exploratory hole records, presented in Appendix 1.

3.3. Window Samples

Twelve window samples were drilled across the Site to depths ranging between 4.0 m and 4.4 m using windowless sampling techniques. The purpose of these window samples was:

- to observe the extent of any contamination;

- to collect information on ground conditions;
- retrieve soil for chemical testing, and;
- install monitoring standpipes for the subsequent collection of groundwater samples and to take ground gas readings.

Upon completion, those window samples that did not have monitoring standpipes installed were backfilled with 'clean' arisings and/or bentonite.

Appendix 2 presents photographs of the soil recovered from selected window samples.

3.4. Monitoring Standpipes

Upon completion, three window sample locations were installed with 50 mm (internal diameter) HDPE monitoring standpipes (for groundwater and gas monitoring).

The response zones consisted of slotted pipe with filter wrap surrounded by clean inert gravel to allow gas and groundwater to permeate. Bentonite seals were placed above the response zones. Surface reinstatement of the standpipe installations consisted of a flush headwork cover secured with bolts and cemented *in situ*. Construction details of the installations are shown in the Exploratory Hole Records presented in Appendix 1.

3.5. Soil Sampling

Representative disturbed samples were recovered at regular intervals and sent for laboratory testing. Soil samples were obtained using stainless steel implements and/or by hand, using a disposable nitrile glove. To prevent cross contamination during sample collection, a new pair of gloves were used for each sample. Sampling tools used for transferring material into their respective container were cleaned on-site using water and/or Decon90™ between each sample, where necessary.

At each location, a 400 g plastic tub was taken for inorganics, a 250 ml glass jar for organics and 60 g glass vial for TPH and VOC analysis. In the case of the organic samples, each receptacle was filled to the brim and sealed with a lined lid to minimise volatilisation.

Soil samples were subject to quality control protocols, being placed in the correct receptacle and stored/transported correctly under a chain of custody regime. This ensured sample integrity for any subsequent laboratory testing.

3.6. Gas Monitoring

Gas monitoring was undertaken on Monday 22nd October and Thursday 1st November 2012.

Borehole gas flow, borehole pressure, atmospheric pressure and the concentrations of methane, carbon dioxide, carbon monoxide, hydrogen sulphide and oxygen were measured using a Geotechnical Instruments GA2000 infrared gas analyser. Prior to monitoring, the gas analyser was calibrated in accordance with BAE Systems Environmental gas monitoring protocol. The in-situ gas monitoring data is presented in Appendix 3.

3.7. Groundwater Monitoring

Groundwater levels were measured in standpipes on Monday 22nd October and Thursday 1st November 2012. Groundwater samples were obtained on Thursday 1st November 2012.

Groundwater levels were measured using an electronic dip meter. Where possible, each standpipe was purged of at least three well volumes of groundwater prior to sampling.

Samples were taken unfiltered from the Waterra™ tubing installed within each well to minimise any cross contamination.

Water samples were subject to quality control protocols, being placed in the correct receptacle (provided by Scientific Analysis Laboratories Ltd), and stored/transported correctly under a chain of custody regime. This ensured sample integrity for any subsequent laboratory testing.

The parameters of pH, temperature, dissolved oxygen, redox potential and electrical conductivity were attempted to be measured in-situ after purging. However, the instruments were unable to be calibrated prior to use and, therefore, this data was not collected.

The in-situ groundwater monitoring data is presented in Appendix 3.

3.8. Surveying

Exploratory point locations were determined relative to Ordnance Survey National Grid co-ordinates and Ordnance Datum utilising conventional land surveying techniques by Island Surveys on Thursday 1st November 2012.

3.9. Analytical Laboratory Testing

A total of 24 No. soil samples and 3 No. groundwater samples were sent for analysis for a range of parameters listed below. Eight soil samples were selected for leachate testing (single batch 10:1) preparation method.

All soil samples were scheduled for CLEA metals, pH and polyaromatic hydrocarbons (PAHs). Analysis for semi-volatile and volatile organic compounds (SVOCs and VOCs) were scheduled in eight samples to provide sufficient coverage and target identified potential source areas, i.e. waste storage compound.

Twelve samples were analysed for total cyanide, sulphate, sulphide, nitrate and mass fraction of organic carbon.

All three groundwater samples were scheduled for a metals suite comprising 9 No. determinands, as well as pH, ammoniacal nitrogen, nitrate, sulphate, total suspended solids, polyaromatic hydrocarbons (PAHs), petroleum hydrocarbon (TPHs) and VOCs.

Analytical testing was conducted by Scientific Analysis Laboratories, Chester, using UKAS and/or MCERTS accredited tests, where possible.

A summary of the soil and leachate results are presented in Appendix 4 with a summary of the water results presented in Appendix 5. Analytical certificates are presented in Appendix 6 and 7.

4. SUMMARY OF GROUND CONDITIONS

4.1. General

The following section provides a summary of the ground conditions encountered, but reference should be made to the exploratory hole records in Appendix 1 for details of specific strata.

4.2. Made ground

Made ground was present across the Site in all 12 No. window samples and encountered to depths ranging between 0.2 m (WS04) and 2.0 m (WS06).

The majority of window samples (WS01, 03, 04, 06, 09, 11 and 12) contained made ground comprising of brown sandy clay with fragments of brick, tarmac and concrete.

The made ground encountered in the remaining window samples generally comprised sand and gravel / sandy gravel with occasional tarmacadam and concrete.

4.3. Superficial

Head deposits were encountered across the Site underlying made ground in all 12 No. window samples ranging in depth from 0.3 m (WS09) to 2.0 m (WS06). These deposits comprised soft to firm, brown sandy clay becoming generally stiffer and grey in colour with depth, and were encountered to the base of all the window sample probeholes.

4.4. Groundwater

Groundwater seepages were not encountered during the formation of the window samples.

Groundwater was subsequently recorded in all three window sample installations during monitoring, with levels presented in the table below:

Monitoring Installation	Screened Strata	Groundwater Level – Date: 22.10.2012		Groundwater Level – Date: 01.11.2012	
		m.bgl	m.AOD	m.bgl	m.AOD
WS04	Made Ground	1.14	34.94	1.82	34.26
WS05	Made Ground	1.67	33.07	2.96	31.78
WS11	Made Ground	1.69	34.13	1.54	34.28

Table 2 – Rest groundwater levels

Although limited data is available, groundwater levels suggest a flow direction generally west to south west.

4.5. Visual and olfactory evidence of contamination

There was no visual or olfactory evidence of contamination.

5. SUMMARY OF ANALYTICAL DATA

5.1. General

Summaries of the analytical data are presented below and contains only determinands of which are detected above minimum reporting limits. Laboratory certificates are presented in Appendices 6 and 7.

5.2. Soil

Determinand	Units	No. samples	No. detects	Min	Max
Arsenic	mg/kg	24	24	8	33
Barium	mg/kg	24	24	23	380
Beryllium	mg/kg	24	1	<2	2
Boron	mg/kg	24	1	<2	2
Cadmium	mg/kg	24	0	<1	<1
Chromium	mg/kg	24	24	19	40
Copper	mg/kg	24	24	7	25
Lead	mg/kg	24	24	13	140
Nickel	mg/kg	24	24	10	41
Vanadium	mg/kg	24	24	26	63
Zinc	mg/kg	24	24	43	220
Nitrate	mg/kg	12	6	<1	9
pH	Units	24	24	6.7	8.8
Sulphate	%	12	12	0.02	7
Sulphur (Elemental)	mg/kg	12	5	<30	821

Table 3 – Summary of inorganic results

* No SVOCs or VOCs were detected.

Determinand	Units	No. samples	No. detects	Min	Max
PAHs					
Phenanthrene	mg/kg	24	4	<0.1	0.7
Anthracene	mg/kg	24	2	<0.1	0.1
Fluoranthene	mg/kg	24	6	<0.1	1.7
Pyrene	mg/kg	24	6	<0.1	1.4
Benzo(a)Anthracene	mg/kg	24	5	<0.1	0.5
Chrysene	mg/kg	24	5	<0.1	0.6
Benzo(b/k)Fluoranthene	mg/kg	24	8	<0.1	1.2
Bezo(a)Pyrene	mg/kg	24	5	<0.1	0.5
Indeno(123-cd)Pyrene	mg/kg	24	2	<0.1	0.7
Dibenzo(ah)Anthracene	mg/kg	24	2	<0.1	0.3
Benzo(ghi)Perylene	mg/kg	24	3	<0.1	0.7
TPHs					
Aliphatics >C16-C21	mg/kg	12	1	<10	3
Aliphatics >C21-C35	mg/kg	12	2	<4	70
Aromatics > C21-C35	mg/kg	12	1	<1	170

Table 4 – Summary of detected PAH and TPH results

5.3. Soil leachate data

Eight soil samples were selected for soil leachability analysis of metals.

Determinand	Units	No. samples	No. detects	Min	Max
Arsenic	ug/l	8	5	<0.2	0.6
Barium	ug/l	8	5	<1	9
Beryllium	ug/l	8	8	0.1	0.17
Boron	ug/l	8	0	<10	<10
Cadmium	ug/l	8	8	0.02	0.03
Chromium	ug/l	8	6	<1	2
Copper	ug/l	8	7	<0.5	1.1
Lead	ug/l	8	4	<0.3	0.9
Mercury	ug/l	8	1	0.06	0.06
Nickel	ug/l	8	1	<1	1
Selenium	ug/l	8	6	<0.5	0.8
Vanadium	ug/l	8	0	<2	<2
Zinc	ug/l	8	8	2	6

Table 5 –Summary of leachability results

5.4. Groundwater

Three groundwater samples were analysed for a variety of determinands, the results of which are summarised below.

Determinand	Units	No. samples	No. detects	Min	Max
Arsenic	ug/l	3	3	0.6	3
Cadmium	ug/l	3	3	0.04	0.25
Chromium	ug/l	3	3	7	16
Copper	ug/l	3	3	1.7	4.7
Lead	ug/l	3	2	<0.3	0.5
Mercury	ug/l	3	3	0.1	0.31
Nickel	ug/l	3	3	7	17
Selenium	ug/l	3	3	2.2	6.1
Zinc	ug/l	3	3	5	240

Table 6 –Summary of inorganic groundwater results

Determinand	Units	No. samples	No. detects	Min	Max
TPHs					
Aliphatics >C16-21	ug/l	3	1	<0.01	0.02
Aliphatics >C21-35	ug/l	3	3	0.01	0.32
Aromatics>C21-C35	ug/l	3	1	<0.01	0.03

Table 7 –Summary of detected organic groundwater results

5.5. Gas

Soil gas concentrations were monitored on 22nd October and 1st November 2012. No hydrogen sulphide was recorded. The table below summarises gas concentrations recorded, with further details on each individual borehole presented in Appendix 3.

Determinand	Units	No. of Boreholes	No. Visits	Min	Max
Methane	% v/v	3	2	0	0.1
Carbon dioxide	% v/v	3	2	0.4	6.8
Oxygen	% v/v	3	2	8.9	20.5
Carbon Monoxide	ppm	3	2	0	45

Table 8 –Summary of gas concentrations

6. REVISED CONCEPTUAL SITE MODEL

6.1. General

The principal objective of this investigation was to provide evidence of whether the potential contamination sources identified in the Conceptual Site Model (CSM) in the desk study (Ref: B0054-00-R1-1) exist and to permit an assessment of whether they could be significant in terms of Part 2A of the Environmental Protection Act 1990.

6.2. Revised CSM

The Site was built in the early 1980's prior to which the Site comprised Brambles Farm.

The desk study identified the potential for contamination associated with chemical and oil storage, and minor constituents of made ground. There was no evidence from the ground investigation for contamination associated with spillage or leakage of oils/chemicals. However, metals and PAHs were detected in made ground.

No contamination was found that could pose a threat to property or buildings.

The ground surface around the Site generally comprises either tarmac or concrete. Although the current hardstanding provides some protection in the event of accidental releases, the integrity of hardstanding cannot be guaranteed throughout the history of the Site.

Made ground is present between 0.2 m (WS04) and 2.2 m (WS06) beneath the Site and is associated with the construction of buildings, roads and other structures.

The Site is further underlain by superficial head deposits overlying London Clay, which is classified as a non-aquifer. Groundwater was encountered in all three installations within the head deposits with groundwater ranging between 1.14 m and 2.96 m.

Humans occupy the Site during working hours. Given the extensive hardstanding coverage, it is unlikely that Site users will come into contact with any soil except where excavations are formed during construction or maintenance work. There are, however, areas of landscaping across the Site where site workers could be exposed to potential contamination.

Humans may be exposed to any soil-gases.

It is understood that the Site is to continue as industrial use.

Potential Contaminant Linkages

In the context of land contamination, there are three essential elements to any risk:

- a source – a substance which is in, on or under the land and has the potential to cause harm or to cause pollution of controlled waters
- a receptor – in general terms, something that could be adversely affected by a contaminant, such as people, an ecological system or a water body, and
- a pathway – a means by which a receptor can be exposed to, or affected by, a contaminant.

The potential contaminant linkages are described in the following sections. Although each of these elements can exist independently, they only pose a potential risk where they are linked together – so that a particular source (contaminant) affects a particular receptor through a particular pathway. The term potential contaminant linkage (PCL) is used to describe a particular combination of source-pathway-receptor scenarios for the preliminary risk assessment.

Source

Potential contaminative source at the Site include:

Description	Location	Contaminants
Contaminated soils due to the constituents of made ground potentially used for levelling / construction activities.	Across the Site.	Metals and PAHs.

Table 9 – Source

Pathways

Pathway	Description
Gas migration in unsaturated zone and underground services.	Migration of naturally occurring gases
Migration via shallow groundwater.	Migration of contaminants via shallow groundwater.
Migration via runoff of surface water (rain water).	Entry of dissolved and suspended contaminants directly into surface water drains.
Ingestion, inhalation, direct contact.	Pathway to humans.

Table 10 – Potential Pathways

Receptors

Receptor	Description
Controlled waters.	Groundwater in the superficial deposits.
Controlled waters.	Surface water courses – culverted stream (on-site), balancing pond (75 m to S).
Humans.	Site workers (adults).

Table 11 – Receptors

Construction workers are receptors to contamination but are not considered in the CSM. The UK framework for contaminated land assessment is based on potential adverse health effects resulting from long-term exposure to soil contamination. This is because, in the majority of cases, chronic exposure to contamination is more significant than acute exposure, and because the occupational risks are addressed by the Health and Safety at Work Act 1974 and related legislation.

Based on the above identified potential sources, pathways and receptors, the following potential contaminant linkages (PCLs) have been identified:

Source	Pathway	Receptor
Contaminated soils due to the constituents of made ground potentially used for levelling / construction activities.	Migration through unsaturated zone.	Groundwater in the superficial deposits.
	Via shallow groundwater.	Surface water courses: culverted stream (on-site), balancing pond (75 m to S).
	Ingestion, inhalation, direct contact.	Site workers.

Table 12 - Potential Contaminant Linkages

7. RISKS TO HUMAN HEALTH

7.1. Introduction

There are two steps in applying the definition of contaminated land as set out in Part 2A of the Environmental Protection Act 1990. The first step is to identify whether a pollutant linkage exists at the Site. A number of pollutant linkages have been identified in relation to human health and Controlled Waters as described in Section 6.

The next step is to ascertain whether the pollutant linkages are significant. To determine this we have assessed whether they are likely to result in significant harm or present a significant possibility of significant harm. This has been undertaken using a tiered approach with appropriate assessment criteria as detailed in the following paragraphs.

7.2. Risk Estimation – Soil

Generic assessment criteria

Generic assessment criteria are derived to represent concentrations in soil, which ensure that the tolerable intake or health criteria are not exceeded for a specific exposure scenario.

Generic site assessment criteria (GSAC) have been derived using CLEA 1.06 and associated guidance, including the recently published TOX and SGV reports. The CSM for the Site is consistent with the commercial land use scenario described in the Environment Agency guidance document 'Updated Technical Background to the CLEA Model' (science report SC050021/SR3). For the purposes of screening, the soil is conservatively assumed to be sand with 1% organic matter.

Justification sheets for the derivation of the GSAC and details of the approach adopted by BAE Systems Environmental for their generation are available on request.

For determinands where no criteria has been derived, other available industry guidance such as EIC/AGS/CL:AIRE generic assessment criteria have been used. For determinands where there are no available guidance, data has been screened against minimum reporting limits (MRLs).

The generic assessment criteria represent the most conservative values to be used for the initial screening exercise. Should any contaminants exceed these initial screening criteria then further risk assessment, possibly including the derivation of more 'site specific' assessment criteria, can be undertaken if considered appropriate.

Risk estimation

The tables below detail all detected determinands, their maximum concentrations encountered, as well as the screening values and the number of results recorded above such criteria.

Determinand	GSAC mg/kg	No. samples	Min. mg/kg	Max. mg/kg	No. Exceed
Arsenic	640	24	8	33	0
Barium	22,000*	24	23	380	0
Beryllium	420	24	<2	2	0
Boron	190,000	24	<1	2	0
Chromium	30,000	24	19	40	0
Copper	71,000	24	7	25	0
Lead	750	24	13	140	0
Nickel	1,800	24	10	41	0
Vanadium	3,100	24	26	63	0
Zinc	670,000	24	43	220	0

* EIC/AGS/CL:AIRE Soil Generic assessment Criteria for HHRA

Table 43 – Soil Risk Estimation for metals

Determinand	GSAC mg/kg	No. samples	Min. mg/kg	Max. mg/kg	No. Exceed
PAHs					
Anthracene	520,000	24	<0.1	0.1	0
Benz(a)anthracene	90	24	<0.1	0.5	0
Benzo(a)pyrene	14	24	<0.1	0.5	0
Benzo(b/k)fluoranthene	100	24	<0.1	1.2	0
Benzo(ghi)perylene	660	24	<0.1	0.7	0
Chrysene	140	24	<0.1	0.6	0
Dibenz(a,h)anthracene	13	24	<0.1	0.3	0
Fluoranthene	23,000	24	<0.1	1.7	0
Indeno(1,2,3-cd)pyrene	61	24	<0.1	0.7	0
Phenanthrene	22,000	24	<0.1	0.7	0
Pyrene	54,000	24	<0.1	1.4	0
TPHs					
Aliphatics >C16-C21	1,400,000	12	<1	3	0
Aliphatics >C21-C35	1,400,000	12	<4	70	0
Aromatics > C21-C35	28,000	12	<1	170	0

* EIC/AGS/CL:AIRE Soil Generic assessment Criteria for HHRA.

* No SVOCs or VOCs were detected above minimum reporting limits.

Table 14 – Soil Risk Estimation for organic determinants

7.3. Risk Evaluation – Soil

Risk evaluation is the process of determining whether the risks identified above are considered to be unacceptable or not in the context of the report.

Although a number of contaminants were detected in soil, the concentrations were below their appropriate screening criteria.

Based on the investigation carried out, it is considered that the potential contaminant concentrations recorded within the soils are not significant and pose no risk to future Site users within the context of an industrial/commercial land-use.

7.4. Risk Estimation and Evaluation – Ground Gas

Gas concentrations recorded during the return monitoring visits are presented in Appendix 3. The risk to human health from ground gases has been assessed in accordance with BS8485:2007 'Code of practice for the characterization and remediation from ground gas in affected developments' and CIRIA guidance (C665).

In BS8485:2007, the 'characteristic gas situation' (CGS) determines the requirement for remedial measures. The CGS, a number between 1 and 6, is derived by multiplying the gas concentration by the flow rate to give a 'hazardous gas flow rate' (Q_{hg}). Consideration should also be given to the typical maximum methane and carbon dioxide concentrations.

The Q_{hg} and CGS for each monitoring event has been calculated (See Appendix 8) and is summarised below.

Window sample	Monitoring Visits	Methane		Carbon Dioxide	
		Max Q_{hg} (l/hr)	CGS	Max Q_{hg} (l/hr)	CGS
WS04	2	0.0001	1	0.0014	1
WS05	2	0	1	-0.0068	2
WS011	2	0.0005	1	0.0007	1

Table 55 – Summary of ground gas risk assessment

Despite WS05 recording a negative Maximum Q_{hg} (-0.0068 l/hr) value, it has been categorised as level 2 (Low) due to carbon dioxide recorded at 6.8% during the first gas visit. In the subsequent gas visit, carbon dioxide was recorded at 0.5%.

Two carbon monoxide concentrations of 1 ppm (WS05) and 45 ppm (WS11) were recorded during the first monitoring visit. However, carbon monoxide was not detected in either window sample during subsequent monitoring visits and it considered that this was an anomalous result. Concentrations of hydrogen sulphide were not detected in any window sample probehole.

The maximum Q_{hg} for methane was 0.0005 l/hr recorded in WS11.

The maximum Q_{hg} of carbon dioxide was 0.0014 l/hr recorded in WS04.

This overall site Q_{hg} value of 0.034 l/hr is below the threshold value for Characteristic Situation 1 (<0.07 l/hr.) which is the lowest risk category.

The guidance sets out additional factors that need to be taken into account in the event of carbon dioxide readings being recorded in excess of 5.0% on a Characteristic Situation 1 site. These concentrations require further examination to ascertain whether the Site needs to be designated a Characteristic Situation 2.

The carbon dioxide gas concentrations across the Site were 'typically' less than 5% v/v and therefore the Site can be classified as Characteristic Gas Situation 1, i.e. no additional protective measures would be required for any new buildings at the Site.

The Characteristic Gas Situation is based on limited gas data. Further monitoring would be required to confirm the assessment.

8. RISKS TO CONTROLLED WATERS

8.1. Introduction

When determining whether pollution of Controlled Waters is being or is likely to be caused, there are two steps:

- Identify whether a pollutant linkage is present and that a body of Controlled Waters is the receptor.
- Evaluating whether the pollutant linkage is 'resulting in the pollution of the controlled water which constitute the receptor', or 'is likely to result in such pollution'.

It is also necessary to establish that 'the substance is continuing to enter Controlled Waters or is likely to enter Controlled Waters'.

The Site is situated on head deposits, which have been designated as a 'Secondary Undifferentiated' aquifer. This is a designation where it has not been possible to attribute either a 'Secondary A' or 'Secondary B' designation due to the variable soil type.

In determining whether this pollutant linkage is significant we have evaluated whether they are likely to result in pollution of Controlled Waters. This has been undertaken using a tiered approach using appropriate assessment criteria as detailed in the following paragraphs.

In conducting the assessment, reference has been made to the approach outlined within the Environment Agency publications: 'Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part 2A of the EPA 1990', Version 2.0, May 2002; and, 'Hydrogeological Risk Assessment for Land Contamination', 2006.

8.2. Risk Estimation

The Level 1 assessment of pollution has been made by comparison of the contaminant concentrations at the point of assessment with an appropriate chemical assessment criterion.

As the relevant Controlled Water receptors are groundwater and surface water, results have been screened against published Environmental Quality Standards. Where there is no EQS, the relevant guideline parameter within the Water Supply (Water Quality) (England) Regulations (DETR, 2000) has been adopted instead.

As it is the continuing entry which is important, in order to indicate the potential for an indication of, the groundwater results have been compared to these criteria as shown in the following table, with any exceedence shown in bold.

For metals, where the EQS is dependent on water hardness, the range >250 mg/l total hardness has been used. This is considered likely to be representative of water hardness in the region.

8.3. Soil leachate data

Determinand	Units	Assessment Criteria	Source	Max	No. exceeding
Arsenic	ug/l	10	DWS	0.6	0
Barium	ug/l	1,000	DWS	9	0
Beryllium	ug/l	4	SEPA RVP	0.17	0
Boron	ug/l	1,000	DWS	<10	0
Cadmium	ug/l	5	EQS	0.03	0
Chromium	ug/l	50	EQS	2	0
Copper	ug/l	28	EQS	1.1	0
Lead	ug/l	7.2	EQS	0.9	0
Mercury	ug/l	1	EQS	0.06	0
Nickel	ug/l	200	EQS	1	0
Selenium	ug/l	10	DWS	0.8	0
Vanadium	ug/l	60	EQS	0	0
Zinc	ug/l	500	EQS	6	0

Table 66 –Summary of leachability results

No exceedences were found in soil leachate analysis.

8.4. Groundwater

Determinand	Units	Assessment Criteria	Source	Max	No. exceeding
Arsenic	ug/l	10	DWS	3	0
Cadmium	ug/l	5	EQS	0.25	0
Chromium	ug/l	50	EQS	16	0
Copper	ug/l	28	EQS	4.7	0
Lead	ug/l	7.2	EQS	0.5	0
Mercury	ug/l	1	EQS	0.31	0
Nickel	ug/l	200	EQS	17	0
Selenium	ug/l	10	DWS	6.1	0
Zinc	ug/l	500	EQS	240	0
NH ₄ -N	mg/l	0.5	DWS	0.32	0
Nitrate	mg/l	50	DWS	<0.1	0
pH	Units	6-9	EQS	7.4	0
Sulphate	mg/l	250	DWS	1,900	1

Table 77 –Summary of inorganic groundwater results

With the exception of sulphate all inorganic determinands returned concentrations below their respective assessment criteria.

A single sulphate exceedence was recorded WS11. No specific source of sulphate contamination has been identified in the vicinity, however, the location is situated on made ground containing concrete, which may have entered the probehole. Therefore, the elevated sulphate concentration is considered likely to be attributable to either concrete made ground or the mineralogy of the underlying strata.

No PAH or VOCs were recorded above their respective detection limits.

Concentrations of TPHs were detected in groundwater. There are no assessment criteria directly applicable to TPH; however, the concentrations observed were not particularly elevated.

Therefore, taking all the above into account, it is considered that any contamination present in the soil is unlikely to pose a significant risk to Controlled Waters.

9. CONCLUSIONS

9.1. Background & objectives

The principal objective of the investigation was to support the marketing of the Site by determining the ground conditions and the potential for land contamination caused by industrial activities.

9.2. Summary of findings

The main findings of the investigation were as follows:

- The Site is underlain by made ground overlying clay representing head deposits.
- No elevated concentrations of metals, organic and inorganic compounds were identified in the soil associated with either the made ground or the clay layer.
- No unacceptable risks to human health or the environment have been identified in relation to the ongoing industrial/commercial use of the Site.
- The Site can be classified as Characteristic Gas Situation 1, i.e. low risk. However, this is based on limited gas data - further monitoring would be required to confirm the assessment.
- A single elevated sulphate concentration was recorded in groundwater but is considered likely to be attributable to either concrete made ground or the mineralogy of the underlying strata.
- It is considered that any contamination present in the soil is unlikely to pose a significant risk to Controlled Waters

REFERENCES

Reference has been made to the following sources of information:

Environmental Setting

'Preliminary Risk Assessment for Land Contamination'; Report Ref: B0054-00-R1-1; July 2008; BAE Systems Environmental.

Legislation and Statutory Guidance

Part 2A Environmental Protection Act 1990

Contaminated Land (England) Regulations 2006 (SI 2006/1370).

The Contaminated Land (England) (Amendment) Regulations 2012 (SI 2012/263)

DCLG National Planning Policy Framework. March 2012

Technical Guidance

BS EN 12457 (BSI 2002) – Leachability testing.

BS10175:2011 - 'Investigation of potentially contaminated sites'

BS5930:1999 – 'Code of practice for site investigations' (incorporating Amendment No.2).

BS ISO/5667-18 'Guidance on sampling groundwater from contaminated sites'

BS8485:2007 – 'Code of Practice for the characterisation and remediation from ground gas in affected developments'

CIRIA, 2001, C552 Contaminated Land risk Assessment, A Guide to Good Practice

CIRIA, 2007, C665 'Assessing risks posed by hazardous ground gases to buildings'

CL:AIRE, 2008, 'Guidance on comparing soil contamination data with a critical concentration'

DEFRA/EA, 2004 CLR 11 'Model procedures for the management of land contamination'

Environment Agency, 2001, Secondary Model Procedure for the Development of Appropriate Soil Sampling Strategies for Land Contamination

Environment Agency, 2005, The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons in Soil. Report P5-080/TR3

Environment Agency, 2006, Guidance on the design and installation of groundwater quality monitoring points, Science Report SC0200093

Environment Agency, 2006, Remedial Targets Methodology. Hydrogeological Risk Assessment for Land Contamination

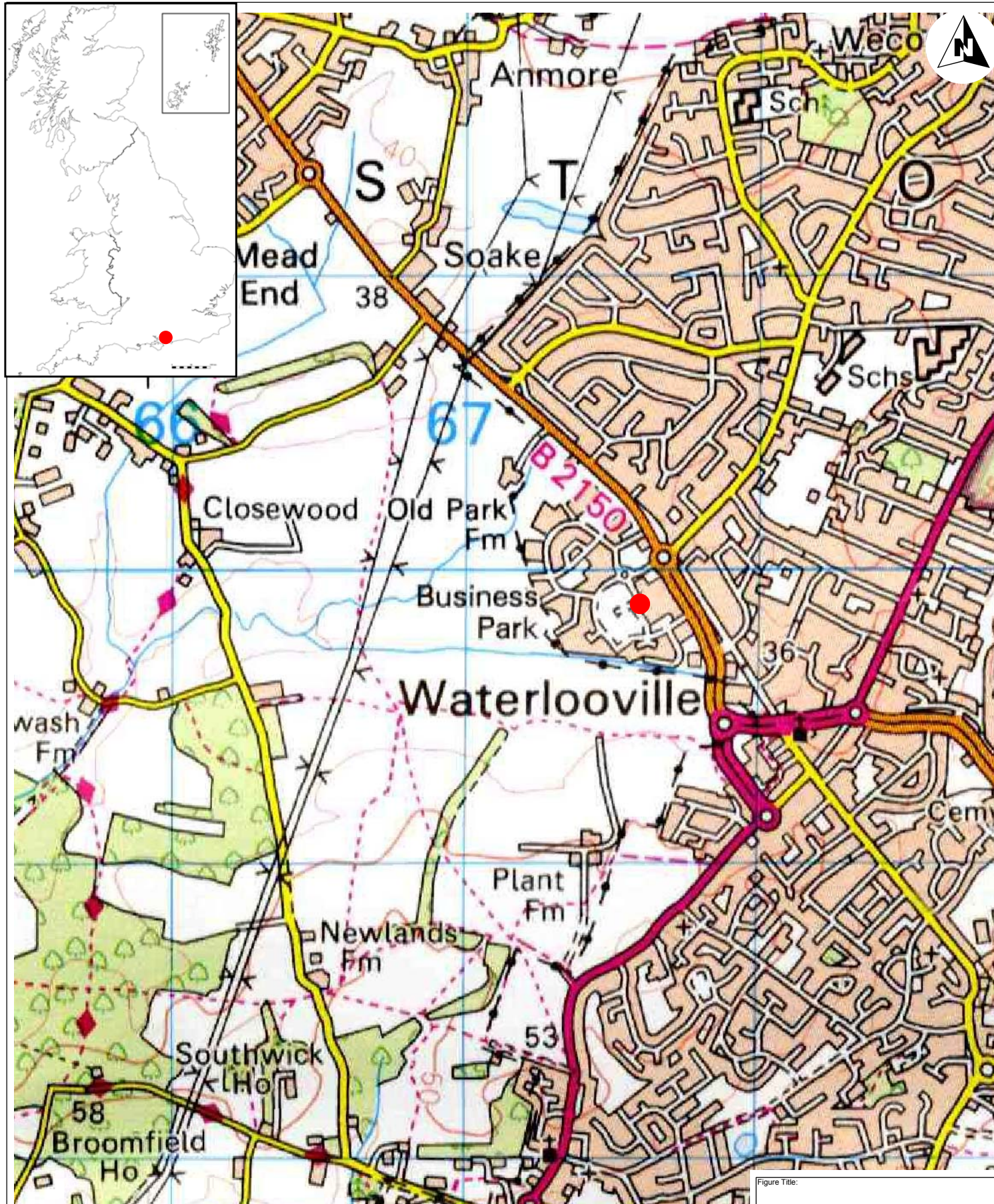
Environment Agency, 2006, Hydrogeological Risk Assessment for Land Contamination

Environment Agency, 2009, Science Report – SC050021/SR2 Rev1, 'Human health toxicological assessment of contaminants in soil'

Environment Agency, 2009, Science Report – SC050021/SR3 Rev1, 'Updated technical background to the CLEA model'

EA/NHBC/CIEH R&D Publication 66:2008, 'Guidance for the safe development of housing on land affected by contamination'

Figures



● Approximate Site Location

Figure Title:

Figure 1 - Site Location Plan

Project:

BAE Systems Waterloooville,
Ground Investigation

Project No:

B0054/01

Report No:

B0054/01-R2-1

Scale:

NTS

BAE SYSTEMS

BAE Systems Environmental
Westcott Venture Park, Westcott, Aylesbury, HP18 0NP
Tel. 01296 652181 Fax. 01296 652154



 Site Boundary

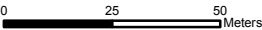
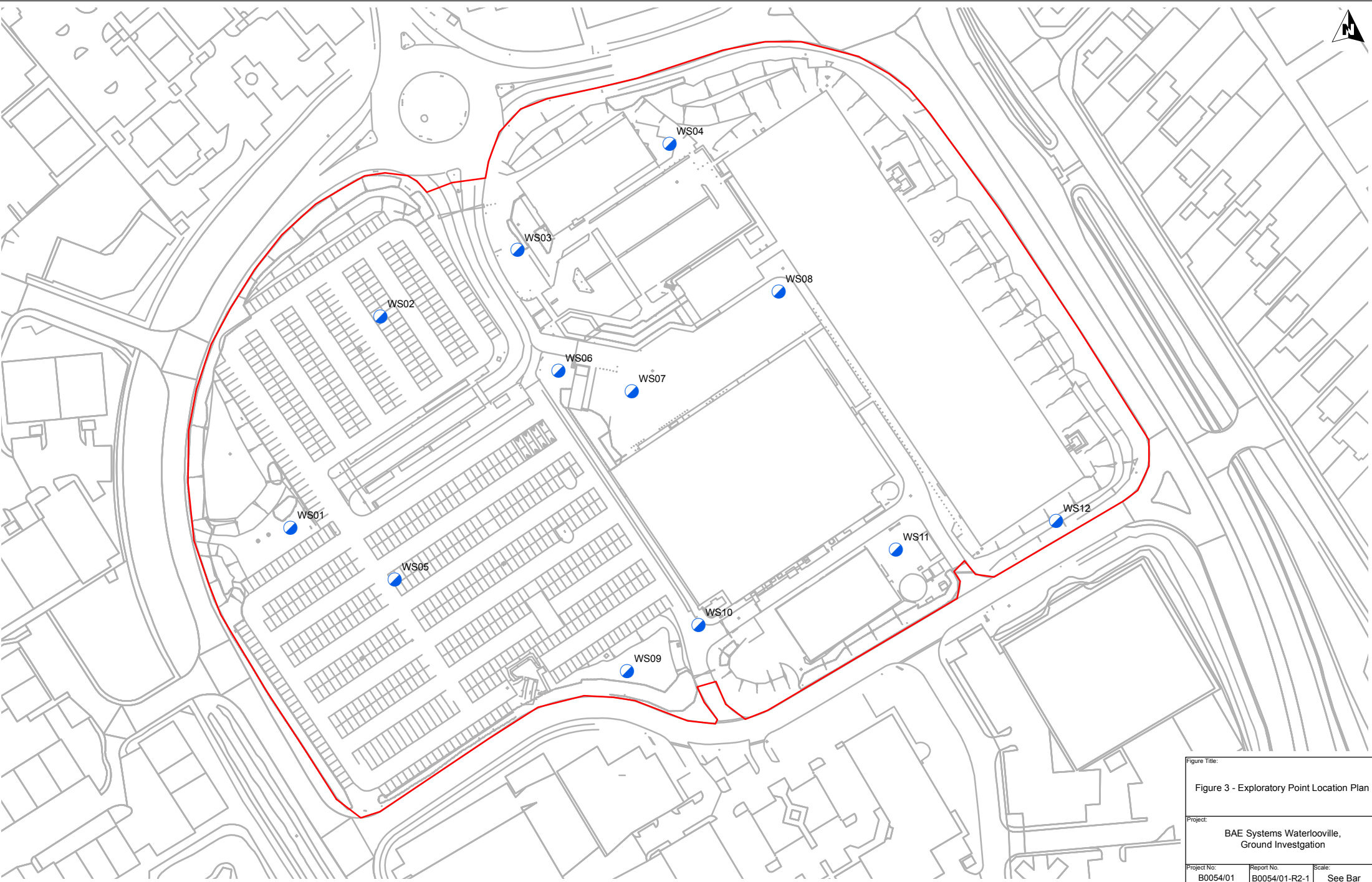


Figure Title:		
Figure 2 - Site Plan		
Project:		
BAE Systems Waterlooville, Ground Investigation		
Project No:	Report No:	Scale:
B0054/01	B0054/01-R2-1	See Bar
		
BAE Systems Environmental Westcott Venture Park, Westcott, Aylesbury, HP18 0NP Tel. 01296 652181 Fax. 01296 652154		



 Site Boundary

 Window Sample Location

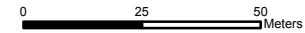


Figure Title:

Figure 3 - Exploratory Point Location Plan

Project:

BAE Systems Waterlooville,
Ground Investigation

Project No: B0054/01	Report No: B0054/01-R2-1	Scale: See Bar
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BAE SYSTEMS

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Appendix 1

Exploratory hole logs

SITE Waterlooville Ground Investigation				CLIENT BAE Systems Properties Limited			BAE SYSTEMS				
PROJECT NUMBER B0054/01		CO-ORDINATES E - 467494.30 N - 109839.49		GROUND ELEVATION (mAOD) 35.147		HOLE DEPTH (m) 4.10		Sheet 1 of 1		BOREHOLE WS01	
METHOD Terrier 2002		CASING 100mm to 4.10m		DATE 16/10/2012		LOGGED BY JVN		CHECKED BY JT		SCALE 1:50	
SAMPLES & TESTS				STRATA							
TOP (mbgl)	BASE (mbgl)	TYPE	TEST RESULTS	LEVEL (mAOD)	BASE (THICKNESS) (mbgl (m))	DEPTH (mbgl)	DESCRIPTION	LEGEND	WATER	BACKFILL	
0.00	0.10	D					MADE GROUND: Soft dark brown gravelly clay. Gravel is medium angular to sub-angular gravel of flint. Rare brick and tarmac.				
1.00	2.00	D		34		1	Firm light brown sandy CLAY. Fine dark orange sand. Rare medium angular flint gravel. Becoming darker with depth.				
2.00	3.00	D		33	(3.70)	2					
3.00	4.00	D		32		3					
				31	4.10	4	End of Borehole at 4.10 m				
				30		5					
				29		6					
				28		7					
				27		8					
				26		9					
GROUNDWATER			REMARKS					KEY			
DEPTH (m)		BEHAVIOUR		No groundwater encountered. WS re-instated with arisings.					B - Bulk disturbed sample D - Disturbed samples (plastic tub) G - Disturbed sample (glass jar) DG - Disturbed sample (tub and jar) U - Undisturbed U100 sample W - Water sample S - Standard Penetration Test C - Standard Penetration Test (using cone)		
				Material logged in general accordance with BS EN ISO 14688					BAE Cable Percussion Log v1.4		

SITE Waterlooville Ground Investigation				CLIENT BAE Systems Properties Limited				BAE SYSTEMS			
PROJECT NUMBER B0054/01		CO-ORDINATES E - 467524.83 N - 109911.13		GROUND ELEVATION (mAOD) 35.861		HOLE DEPTH (m) 4.00		Sheet 1 of 1		BOREHOLE WS02	
METHOD Terrier 2002		CASING 100mm to 4.00m		DATE 16/10/2012		LOGGED BY JVN		CHECKED BY JT		SCALE 1:50	
SAMPLES & TESTS				STRATA							
TOP (mbgl)	BASE (mbgl)	TYPE	TEST RESULTS	LEVEL (mAOD)	BASE (THICKNESS) (mbgl (m))	DEPTH (mbgl)	DESCRIPTION	LEGEND	WATER	BACKFILL	
0.10	0.70	D		0.08	(0.08)		MADE GROUND: Tarmacadam.				
					(0.62)		MADE GROUND: Coarse angular to sub-angular gravel of flint and sand. Grey/yellow coarse sand in soft grey clay.				
				0.70							
1.00	2.00	D		35		1	Soft to firm brown slightly sandy CLAY. Fine orange sand. Rare medium angular flint gravel.				
					(2.30)						
2.00	3.00	D		34		2					
3.00	4.00	D		33	3.00	3	Soft grey CLAY.				
					(1.00)						
				32	4.00	4	End of Borehole at 4.00 m				
				31		5					
				30		6					
				29		7					
				28		8					
				27		9					
GROUNDWATER			REMARKS No groundwater encountered. WS re-instated with arisings.							KEY B - Bulk disturbed sample D - Disturbed samples (plastic tub) G - Disturbed sample (glass jar) DG - Disturbed sample (tub and jar) U - Undisturbed U100 sample W - Water sample S - Standard Penetration Test C - Standard Penetration Test (using cone)	
DEPTH (m)		BEHAVIOUR									
			Material logged in general accordance with BS EN ISO 14688							BAE Cable Percussion Log v1.4	

SITE Waterlooville Ground Investigation				CLIENT BAE Systems Properties Limited				BAE SYSTEMS			
PROJECT NUMBER B0054/01		CO-ORDINATES E - 467571.21 N - 109933.59		GROUND ELEVATION (mAOD) 35.381		HOLE DEPTH (m) 4.00		Sheet 1 of 1		BOREHOLE WS03	
METHOD Terrier 2002		CASING 100mm to 4.00m		DATE 16/10/2012		LOGGED BY JVN		CHECKED BY JT		SCALE 1:50	
SAMPLES & TESTS				STRATA							
TOP (mbgl)	BASE (mbgl)	TYPE	TEST RESULTS	LEVEL (mAOD)	BASE (THICKNESS) (mbgl (m))	DEPTH (mbgl)	DESCRIPTION	LEGEND	WATER	BACKFILL	
0.00	0.40	D			(0.40)		TOPSOIL: Soft brown sandy clay with rootlets.				
0.40	1.50	D		0.40		MADE GROUND: Soft reworked brown sandy gravelly clay. Gravel is fine to coarse angular to sub-angular gravel of flint and brick fragments.					
				34 (1.10) 1	1.50	Firm brown sandy CLAY. Fine orange sand.					
2.00	3.00	D		33 (1.50) 2							
3.00	4.00	D		32 3.00 3		Firm grey/brown CLAY.					
				31 4.00 4	(1.00)	End of Borehole at 4.00 m					
				30		5					
				29		6					
				28		7					
				27		8					
				26		9					
GROUNDWATER			REMARKS No groundwater encountered. WS re-instated with arisings.						KEY B - Bulk disturbed sample D - Disturbed samples (plastic tub) G - Disturbed sample (glass jar) DG - Disturbed sample (tub and jar) U - Undisturbed U100 sample W - Water sample S - Standard Penetration Test C - Standard Penetration Test (using cone)		
DEPTH (m) BEHAVIOUR											
			Material logged in general accordance with BS EN ISO 14688						BAE Cable Percussion Log v1.4		

SITE Waterlooville Ground Investigation				CLIENT BAE Systems Properties Limited				BAE SYSTEMS			
PROJECT NUMBER B0054/01		CO-ORDINATES E - 467622.69 N - 109969.61		GROUND ELEVATION (mAOD) 36.080		HOLE DEPTH (m) 4.05		Sheet 1 of 1		BOREHOLE WS04	
METHOD Terrier 2002		CASING 100mm to 4.05m		DATE 17/10/2012		LOGGED BY JVN		CHECKED BY JT		SCALE 1:50	
SAMPLES & TESTS				STRATA							
TOP (mbgl)	BASE (mbgl)	TYPE	TEST RESULTS	LEVEL (mAOD)	BASE (THICKNESS) (mbgl) (m)	DEPTH (mbgl)	DESCRIPTION	LEGEND	WATER	BACKFILL	
0.15	0.40	D		0.15	(0.15)		MADE GROUND: Pathing slab over fine sand and gravel base.				
0.40	1.20	D		0.40	(0.25)		MADE GROUND: Soft grey/brown sandy gravelly clay. Gravel is fine to medium angular to sub-angular gravel of brick and concrete.				
1.20	2.20	D		35	1		Soft to firm light brown sandy CLAY. Fine orange sand.				
2.20	3.20	D		34	2		Firm grey/brown CLAY.				
				33	3						
				32	4		End of Borehole at 4.05 m				
				31	5						
				30	6						
				29	7						
				28	8						
				27	9						
GROUNDWATER DEPTH (m) BEHAVIOUR			REMARKS No groundwater encountered.							KEY B - Bulk disturbed sample D - Disturbed samples (plastic tub) G - Disturbed sample (glass jar) DG - Disturbed sample (tub and jar) U - Undisturbed U100 sample W - Water sample S - Standard Penetration Test C - Standard Penetration Test (using cone)	
			Material logged in general accordance with BS EN ISO 14688							BAE Cable Percussion Log v1.4	

SITE Waterlooville Ground Investigation				CLIENT BAE Systems Properties Limited			BAE SYSTEMS				
PROJECT NUMBER B0054/01		CO-ORDINATES E - 4675029.66 N - 109822.00		GROUND ELEVATION (mAOD) 34.737		HOLE DEPTH (m) 4.20		Sheet 1 of 1		BOREHOLE WS05	
METHOD Terrier 2002		CASING		DATE 17/10/2012		LOGGED BY JVN		CHECKED BY JT		SCALE 1:50	
SAMPLES & TESTS				STRATA							
TOP (mbgl)	BASE (mbgl)	TYPE	TEST RESULTS	LEVEL (mAOD)	BASE (THICKNESS) (mbgl) (m)	DEPTH (mbgl)	DESCRIPTION	LEGEND	WATER	BACKFILL	
0.10	1.50	D		0.08	(0.08)		MADE GROUND: Tarmacadam.				
					(1.42)		MADE GROUND: Membrane over coarse angular to sub-angular flint gravel and fine yellow sand.				
1.50	2.00	D		34		1					
					1.50		Firm light brown slightly sandy CLAY. Fine orange sand.				
2.00	3.00	D		33		2					
					(1.50)						
3.00	4.00	D		32	3.00	3	Firm to stiff grey CLAY.				
					(1.20)						
				31		4					
					4.20		End of Borehole at 4.20 m				
				30		5					
				29		6					
				28		7					
				27		8					
				26		9					
GROUNDWATER DEPTH (m) BEHAVIOUR			REMARKS No groundwater encountered.					KEY B - Bulk disturbed sample D - Disturbed samples (plastic tub) G - Disturbed sample (glass jar) DG - Disturbed sample (tub and jar) U - Undisturbed U100 sample W - Water sample S - Standard Penetration Test C - Standard Penetration Test (using cone)			
			Material logged in general accordance with BS EN ISO 14688					BAE Cable Percussion Log v1.4			

SITE Waterlooville Ground Investigation				CLIENT BAE Systems Properties Limited			BAE SYSTEMS				
PROJECT NUMBER B0054/01		CO-ORDINATES E - 467585.05 N - 109892.78		GROUND ELEVATION (mAOD) 36.181		HOLE DEPTH (m) 4.20		Sheet 1 of 1		BOREHOLE WS06	
METHOD Terrier 2002		CASING 100mm to 4.20m		DATE 16/10/2012		LOGGED BY JVN		CHECKED BY JT		SCALE 1:50	
SAMPLES & TESTS				STRATA							
TOP (mbgl)	BASE (mbgl)	TYPE	TEST RESULTS	LEVEL (mAOD)	BASE (THICKNESS) (mbgl (m))	DEPTH (mbgl)	DESCRIPTION	LEGEND	WATER	BACKFILL	
0.00	1.20	D					MADE GROUND: Reworked sandy gravelly clay. Fine orange sand. Fine to coarse angular flint. Rare medium to coarse rounded stone. Rare brick fragments. Large concrete cobble. Rootlets.				
1.20	2.00	D		35	1.20	1	MADE GROUND: Firm light brown sandy gravelly clay. Fine orange sand. Gravel is fine charcoal and brick.				
2.00	3.00	D		34	2.00	2	Stiff light grey/brown sandy CLAY. Fine orange sand.				
3.00	4.00	D		33	(2.20)	3					
				32		4					
				4.20			End of Borehole at 4.20 m				
				31		5					
				30		6					
				29		7					
				28		8					
				27		9					
GROUNDWATER DEPTH (m) BEHAVIOUR			REMARKS No groundwater encountered. WS re-instated with arisings.					KEY B - Bulk disturbed sample D - Disturbed samples (plastic tub) G - Disturbed sample (glass jar) DG - Disturbed sample (tub and jar) U - Undisturbed U100 sample W - Water sample S - Standard Penetration Test C - Standard Penetration Test (using cone)			
			Material logged in general accordance with BS EN ISO 14688					BAE Cable Percussion Log v1.4			

SITE Waterlooville Ground Investigation				CLIENT BAE Systems Properties Limited			BAE SYSTEMS						
PROJECT NUMBER B0054/01		CO-ORDINATES E - 467609.93 N - 109885.77		GROUND ELEVATION (mAOD) 35.879		HOLE DEPTH (m) 4.40		Sheet 1 of 1		BOREHOLE WS07			
METHOD Terrier 2002		CASING 100mm to 4.40m		DATE 17/10/2012		LOGGED BY JVN		CHECKED BY JT		SCALE 1:50			
SAMPLES & TESTS				STRATA									
TOP (mbgl)	BASE (mbgl)	TYPE	TEST RESULTS	LEVEL (mAOD)	BASE (THICKNESS) (mbgl) (m)	DEPTH (mbgl)	DESCRIPTION	LEGEND	WATER	BACKFILL			
0.60	1.20	D		0.10	(0.10)	1	MADE GROUND: Block pathing.						
				0.15	(0.05)		Concrete.						
				0.40	(0.25)		MADE GROUND: Coarse angular limestone gravel and fine sand.						
				0.60	(0.20)		MADE GROUND: Fine orange sand and medium angular flint gravel.						
1.20	2.20	D		35	(0.60)	1	MADE GROUND: Firm dark grey/brown sandy clay with abundant medium angular gravel of brick, concrete and stone.						
2.20	3.20	D		34	2	Firm light brown slightly sandy CLAY. Fine orange sand.							
				33	(3.20)	3							
											32	4	
								4.40		End of Borehole at 4.40 m			
				31		5							
				30		6							
											29	7	
											28	8	
				27		9							
GROUNDWATER			REMARKS							KEY			
DEPTH (m) BEHAVIOUR			No groundwater encountered. WS re-instated with arisings.							B - Bulk disturbed sample D - Disturbed samples (plastic tub) G - Disturbed sample (glass jar) DG - Disturbed sample (tub and jar) U - Undisturbed U100 sample W - Water sample S - Standard Penetration Test C - Standard Penetration Test (using cone)			
			Material logged in general accordance with BS EN ISO 14688							BAE Cable Percussion Log v1.4			

SITE Waterlooville Ground Investigation				CLIENT BAE Systems Properties Limited				BAE SYSTEMS			
PROJECT NUMBER B0054/01		CO-ORDINATES E - 467659.69 N - 109919.53		GROUND ELEVATION (mAOD) 35.479		HOLE DEPTH (m) 4.20		Sheet 1 of 1		BOREHOLE WS08	
METHOD Terrier 2002		CASING 100mm to 4.20m		DATE 17/10/2012		LOGGED BY JVN		CHECKED BY JT		SCALE 1:50	
SAMPLES & TESTS				STRATA							
TOP (mbgl)	BASE (mbgl)	TYPE	TEST RESULTS	LEVEL (mAOD)	BASE (THICKNESS) (mbgl) (m)	DEPTH (mbgl)	DESCRIPTION	LEGEND	WATER	BACKFILL	
0.80	1.20	D		0.10	(0.10)		MADE GROUND: Block pathing.				
				0.40	(0.30)		Concrete.				
1.20	2.00	D		0.60	(0.20)		MADE GROUND: Coarse angular limestone gravel and fine sand.				
				0.80	(0.20)		MADE GROUND: Fine orange sand and medium angular flint gravel.				
3.50	4.20	D		34		1	Soft to firm light brown sandy CLAY. Fine orange sand.				
				33		2					
				32		3					
				31		4	Firm to stiff grey CLAY.				
				30		5					
				29		6					
				28		7					
				27		8					
				26		9					
GROUNDWATER			REMARKS No groundwater encountered. WS re-instated with arisings.							KEY B - Bulk disturbed sample D - Disturbed samples (plastic tub) G - Disturbed sample (glass jar) DG - Disturbed sample (tub and jar) U - Undisturbed U100 sample W - Water sample S - Standard Penetration Test C - Standard Penetration Test (using cone)	
DEPTH (m)		BEHAVIOUR									
			Material logged in general accordance with BS EN ISO 14688							BAE Cable Percussion Log v1.4	

SITE Waterlooville Ground Investigation				CLIENT BAE Systems Properties Limited			BAE SYSTEMS				
PROJECT NUMBER B0054/01		CO-ORDINATES E - 467608.33 N - 109790.99		GROUND ELEVATION (mAOD) 35.407		HOLE DEPTH (m) 4.00		Sheet 1 of 1		BOREHOLE WS09	
METHOD Terrier 2002		CASING 100mm to 4.00m		DATE 16/10/2012		LOGGED BY JVN		CHECKED BY JT		SCALE 1:50	
SAMPLES & TESTS				STRATA							
TOP (mbgl)	BASE (mbgl)	TYPE	TEST RESULTS	LEVEL (mAOD)	BASE (THICKNESS) (mbgl) (m)	DEPTH (mbgl)	DESCRIPTION	LEGEND	WATER	BACKFILL	
0.00	0.35	D			(0.35)	0.35	MADE GROUND: Reworked brown sandy gravelly clay. Medium angular gravel of flint, stone and tarmac. Abundant rootlets.				
1.00	2.00	D		34	(2.15)	1	Firm to stiff light brown slightly sandy CLAY. Fine orange/red sand.				
2.00	3.00	D		33		2					
				32	(1.50)	3	Stiff dark brown slightly sandy CLAY. Fine orange and white sand.				
				31	4.00	4	End of Borehole at 4.00 m				
				30		5					
				29		6					
				28		7					
				27		8					
				26		9					
GROUNDWATER DEPTH (m) BEHAVIOUR			REMARKS No groundwater encountered. WS re-instated with arisings.					KEY B - Bulk disturbed sample D - Disturbed samples (plastic tub) G - Disturbed sample (glass jar) DG - Disturbed sample (tub and jar) U - Undisturbed U100 sample W - Water sample S - Standard Penetration Test C - Standard Penetration Test (using cone)			
			Material logged in general accordance with BS EN ISO 14688					BAE Cable Percussion Log v1.4			

SITE Waterlooville Ground Investigation				CLIENT BAE Systems Properties Limited			BAE SYSTEMS				
PROJECT NUMBER B0054/01		CO-ORDINATES E - 467632.48 N - 109806.58		GROUND ELEVATION (mAOD) 35.122		HOLE DEPTH (m) 4.00		Sheet 1 of 1		BOREHOLE WS10	
METHOD Terrier 2002		CASING 100mm to 4.00m		DATE 16/10/2012		LOGGED BY JVN		CHECKED BY JT		SCALE 1:50	
SAMPLES & TESTS				STRATA							
TOP (mbgl)	BASE (mbgl)	TYPE	TEST RESULTS	LEVEL (mAOD)	BASE (THICKNESS) (mbgl) (m)	DEPTH (mbgl)	DESCRIPTION	LEGEND	WATER	BACKFILL	
0.85	1.50	D		0.10	(0.10)		MADE GROUND: Tarmacadam.				
					(0.50)		Concrete.				
				0.60			MADE GROUND: Fine to medium rounded gravel.				
				0.85	(0.25)		Pea-shingle.				
1.50	2.50	D		34		1	Firm light brown sandy CLAY. Fine orange sand.				
				33		2					
					(2.40)						
3.25	4.00	D		32		3					
				31	3.25		Stiff dark brown/grey sandy CLAY. Fine orange sand.				
					(0.75)						
				31	4.00	4	End of Borehole at 4.00 m				
				30		5					
				29		6					
				28		7					
				27		8					
				26		9					
GROUNDWATER			REMARKS							KEY	
DEPTH (m)		BEHAVIOUR	No groundwater encountered. WS re-instated with arisings.							B - Bulk disturbed sample D - Disturbed samples (plastic tub) G - Disturbed sample (glass jar) DG - Disturbed sample (tub and jar) U - Undisturbed U100 sample W - Water sample S - Standard Penetration Test C - Standard Penetration Test (using cone)	
			Material logged in general accordance with BS EN ISO 14688							BAE Cable Percussion Log v1.4	

SITE Waterlooville Ground Investigation				CLIENT BAE Systems Properties Limited			BAE SYSTEMS				
PROJECT NUMBER B0054/01		CO-ORDINATES E - 467699.36 N - 109832.13		GROUND ELEVATION (mAOD) 35.818		HOLE DEPTH (m) 4.10		Sheet 1 of 1		BOREHOLE WS11	
METHOD Terrier 2002		CASING 100mm to 4.10m		DATE 17/10/2012		LOGGED BY JVN		CHECKED BY JT		SCALE 1:50	
SAMPLES & TESTS				STRATA							
TOP (mbgl)	BASE (mbgl)	TYPE	TEST RESULTS	LEVEL (mAOD)	BASE (THICKNESS) (mbgl) (m)	DEPTH (mbgl)	DESCRIPTION	LEGEND	WATER	BACKFILL	
0.20	0.60	D		0.20	(0.20)		Concrete.				
				0.60	(0.40)		MADE GROUND: Soft light brown clay with abundant brick.				
1.00	2.00	D		35	1		Soft to firm light brown slightly sandy CLAY. Fine orange sand.				
				(1.40)							
				34	2.00	2	Firm to stiff dark brown/grey slightly sandy CLAY. Fine white/orange sand.				
3.00	4.00	D		33	(2.10)	3					
				32	4.10	4					
				End of Borehole at 4.10 m							
				31		5					
				30		6					
				29		7					
				28		8					
				27		9					
GROUNDWATER DEPTH (m) BEHAVIOUR			REMARKS No groundwater encountered.						KEY B - Bulk disturbed sample D - Disturbed samples (plastic tub) G - Disturbed sample (glass jar) DG - Disturbed sample (tub and jar) U - Undisturbed U100 sample W - Water sample S - Standard Penetration Test C - Standard Penetration Test (using cone)		
			Material logged in general accordance with BS EN ISO 14688						BAE Cable Percussion Log v1.4		

SITE Waterlooville Ground Investigation				CLIENT BAE Systems Properties Limited			BAE SYSTEMS				
PROJECT NUMBER B0054/01		CO-ORDINATES E - 467753.61 N - 109841.90		GROUND ELEVATION (mAOD) 37.482		HOLE DEPTH (m) 4.00		Sheet 1 of 1		BOREHOLE WS12	
METHOD Terrier 2002		CASING 100mm to 4.00m		DATE 17/10/2012		LOGGED BY JVN		CHECKED BY JT		SCALE 1:50	
SAMPLES & TESTS				STRATA							
TOP (mbgl)	BASE (mbgl)	TYPE	TEST RESULTS	LEVEL (mAOD)	BASE (THICKNESS) (mbgl) (m)	DEPTH (mbgl)	DESCRIPTION	LEGEND	WATER	BACKFILL	
0.00 0.20	0.20 1.20	D D		0.00	(0.00)		TOPSOIL: Soft brown slightly gravelly clay with rootlets. Gravel is fine angular stone.				
				(1.20)		MADE GROUND: Soft light brown clay with fine to coarse angular gravel of flint and brick.					
1.20	2.00	D		36	1	1.20	Soft light brown slightly sandy CLAY. Fine orange sand.				
					(0.80)						
			35	2	2.00	Firm to stiff dark brown slightly sandy CLAY. Fine white/yellow sand.					
3.00	4.00	D	34	3	(2.00)						
				33	4	4.00	End of Borehole at 4.00 m				
				32	5						
				31	6						
				30	7						
				29	8						
				28	9						
GROUNDWATER DEPTH (m) BEHAVIOUR			REMARKS No groundwater encountered. WS re-instated with arisings.					KEY B - Bulk disturbed sample D - Disturbed samples (plastic tub) G - Disturbed sample (glass jar) DG - Disturbed sample (tub and jar) U - Undisturbed U100 sample W - Water sample S - Standard Penetration Test C - Standard Penetration Test (using cone)			
			Material logged in general accordance with BS EN ISO 14688					BAE Cable Percussion Log v1.4			

Appendix 2

Selected Photographs



Window Sample 01 (WS01)



Window Sample 03 (WS03)

FIGURE TITLE :

Selected Window Sample Photographs

PROJECT :

Waterlooville, Ground Investigation

REPORT NUMBER :

B0054-01-R2-1

BAE SYSTEMS



Window Sample 06 (WS06)



Window Sample 07 (WS07)

FIGURE TITLE :

Selected Window Sample Photographs

PROJECT :

Waterlooville, Ground Investigation

REPORT NUMBER :

B0054-01-R2-1

BAE SYSTEMS



Window Sample 09 (WS09)



Window Sample 12 (WS12)

FIGURE TITLE :

Selected Window Sample Photographs

PROJECT :

Waterlooville, Ground Investigation

REPORT NUMBER :

B0054-01-R2-1

BAE SYSTEMS

Appendix 3

Gas and groundwater monitoring records

Daily Gas Monitoring Record					Sheet <u>1</u> of <u>2</u>					BAE SYSTEMS																										
Site:	Waterlooville				Date & Time:	22/10/2012				Weather:	Overcast																									
Proj. No.:	B0054/01				Name(s):	JVN				Equip.:	GA2000 (s/n GA05091 Chorley)																									
BH ref	Flow (l/hr)	Ba. Pr. (mbar)	Rel. Pr. (mbar)	Gas Reading	CH ₄ (% v/v)	CO ₂ (% v/v)	O ₂ (% v/v)	H ₂ S (ppm)	CO (ppm)	GW level (m)	BH Base (m)	Datum	Comments																							
WS04	0	1013	+0.05	Peak	0	0.8	16.2	0	0	1.14	3.99	GL																								
				Steady	0	0.8	16.3	0	0																											
WS05	-0.1	1013	+0.14	Peak	0	6.8	8.9	0	1	1.67	3.98	GL																								
				Steady	0	6.8	8.9	0	0																											
WS11	-0.5	1013	+0.11	Peak	0.1	1.4	15.5	0	45	1.69	4.00	GL																								
				Steady	0.1	1.4	15.3	0	44																											
				Peak																																
				Steady																																
				Peak																																
				Steady																																
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Calibration <table border="1"> <thead> <tr> <th>Standard gas</th> <th>5%</th> <th>10%</th> <th>6%</th> <th rowspan="4">see sheet no.:</th> </tr> </thead> <tbody> <tr> <td>Pre Cal</td> <td>5.2</td> <td>10.1</td> <td>6</td> </tr> <tr> <td>Calibrated?</td> <td>Y</td> <td>Y</td> <td>Y</td> </tr> <tr> <td>Post Cal</td> <td>5</td> <td>10</td> <td>6</td> </tr> </tbody> </table>					Standard gas	5%	10%	6%	see sheet no.:	Pre Cal	5.2	10.1	6	Calibrated?	Y	Y	Y	Post Cal	5	10	6	Comments:					Previous 2 days atmos. pressure <table border="1"> <thead> <tr> <th colspan="2">Source:</th> </tr> <tr> <th>Date</th> <th>mbar</th> </tr> </thead> <tbody> <tr> <td>20.11.2012</td> <td>1016</td> </tr> <tr> <td>21.11.2012</td> <td>1017</td> </tr> </tbody> </table>		Source:		Date	mbar	20.11.2012	1016	21.11.2012	1017
Standard gas	5%	10%	6%	see sheet no.:																																
Pre Cal	5.2	10.1	6																																	
Calibrated?	Y	Y	Y																																	
Post Cal	5	10	6																																	
Source:																																				
Date	mbar																																			
20.11.2012	1016																																			
21.11.2012	1017																																			

Daily Gas Monitoring Record					Sheet <u>2</u> of <u>2</u>					BAE SYSTEMS																										
Site:	Waterlooville				Date & Time:	01/11/2012				Weather:	Overcast/Showers																									
Proj. No.:	B0054/01				Name(s):	JVN				Equip.:	GA2000 (s/n GA05091 Chorley)																									
BH ref	Flow (l/hr)	Ba. Pr. (mbar)	Rel. Pr. (mbar)	Gas Reading	CH ₄ (% v/v)	CO ₂ (% v/v)	O ₂ (% v/v)	H ₂ S (ppm)	CO (ppm)	GW level (m)	BH Base (m)	Datum	Comments																							
WS04	+0.1	971	-0.02	Peak	0.1	1.4	15.5	0	0	1.82	3.92	GL																								
				Steady	0	1.4	15.5	0	0																											
WS05	0	972	+0.03	Peak	0	0.5	20.5	0	0	2.96	4.01	GL																								
				Steady	0	0.4	20.5	0	0																											
WS11	+0.5	972	+0.07	Peak	0.1	1.4	9.4	0	0	1.54	3.91	GL																								
				Steady	0.1	1.4	9.4	0	0																											
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Standard gas	5%	10%	6%	see sheet no.:																																
Pre Cal	5	9.8	6.1																																	
Calibrated?	Y	Y	Y																																	
Post Cal	5	10	6																																	
Source:																																				
Date	mbar																																			
30.10.2012	1004																																			
31.10.2012	986																																			

Daily Groundwater Sampling Record				Sheet <u>1</u> of <u>1</u>		BAE SYSTEMS			
Site:	Glascoed		Date & Time:	01.11.2012		Weather:	Overcast, Showers		
Proj. No.:	C0145/12		Name(s):	JVN					
Borehole		WS04	WS05	WS11					
Pre-purge	GW level (m.bgl)	1.80	2.96	1.54					
	BH Base (m.bgl)	3.92	4.01	3.91					
	Datum	Ground Level	Ground Level	Ground Level					
	Water column (m)	2.12	1.05	2.37					
	1 well vol. (l)	4.24	2.1	4.74					
	3 well vols. (l)	12.72	6.3	14.22					
Purge	Method	Waterra	Waterra	Waterra					
	Vol. Removed (l)	7 - Dry	7 - Dry	5 - Dry					
Insitu Sample	Method								
	Temp (°C)								
	pH								
	Eh (mV)								
	EC (µS/cm)								
	DO ₂ (%)								
	ORP (mV)								
	Salinity								
	TDS (ppm)								
	Colour								
	Turbidity								
	Odour								
Comments: Unable to calibrate monitoring probes.						Quick Calibration ? (Y / N)		Full Calibration ? (Y / N)	
						Calibration	Standard	Equipment calibrated to standard	
						EC	12880 µS/cm	No	
						pH	4.01 / 7.01/10.01	No	
						ORP	Custom ORP	No	
						DO ₂	100%	No	

Appendix 4

Soil risk assessment tables

Table 1.0 - Metals

Table 1.0 - Metals			No. of Samples	24	24	24	24	24	24	24	24	24	24	24	24	24
			Min	8	23	2	2	<1	19	7	13	<1	10	<3	26	43
			Max	33	380	2	2	0	40	25	140	0	41	0	63	220
			No. detected	24	24	1	1	0	24	24	24	0	24	0	24	24
			Assessment Criteria	640	22,000	420	190,000	230	30,000	71,000	750	3,600	1,800	13,000	3,100	670,000
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0
				Arsenic	Barium	Beryllium	Boron (w/s)	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Vanadium	Zinc
Lab Ref	Exp_Pt	Depth (m)	Date Sampled	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
300724 001	WS01	0.0 - 0.1	16-Oct-12	11	110	<2	2	<1	31	15	33	<1	20	<3	46	99
300724 002	WS01	1.0 - 2.0	16-Oct-12	13	62	<2	<1	<1	35	20	16	<1	30	<3	49	54
300724 003	WS02	0.1 - 0.7	16-Oct-12	9	290	<2	<1	<1	20	9	27	<1	16	<3	26	100
300724 004	WS02	1.0 - 2.0	16-Oct-12	12	81	<2	<1	<1	35	20	16	<1	33	<3	48	55
300724 005	WS03	0.0 - 0.4	17-Oct-12	10	66	<2	<1	<1	32	15	22	<1	19	<3	47	59
300724 006	WS03	0.4 - 1.5	17-Oct-12	10	160	<2	<1	<1	26	25	140	<1	20	<3	39	220
300724 007	WS04	0.15 - 0.4	17-Oct-12	8	71	<2	<1	<1	21	12	39	<1	14	<3	33	73
300724 008	WS04	0.4 - 1.2	17-Oct-12	13	75	<2	<1	<1	33	18	18	<1	31	<3	47	55
300724 009	WS05	0.1 - 1.5	16-Oct-12	8	93	<2	<1	<1	21	10	15	<1	15	<3	34	44
300724 010	WS05	1.5 - 2.0	16-Oct-12	15	78	<2	<1	<1	40	21	18	<1	36	<3	62	60
300724 011	WS06	0.0 - 1.2	16-Oct-12	12	84	<2	<1	<1	28	18	84	<1	17	<3	45	88
300724 012	WS06	1.2 - 2.0	16-Oct-12	10	48	<2	<1	<1	28	8	23	<1	12	<3	41	46
300724 013	WS07	0.6 - 1.2	17-Oct-12	8	64	<2	<1	<1	24	7	18	<1	11	<3	37	43
300724 014	WS07	1.2 - 2.2	17-Oct-12	33	35	2	<1	<1	36	24	24	<1	39	<3	57	80
300724 015	WS08	0.8 - 1.2	17-Oct-12	14	30	<2	<1	<1	37	24	20	<1	41	<3	63	73
300724 016	WS08	1.2 - 2.0	17-Oct-12	19	28	<2	<1	<1	34	23	17	<1	32	<3	56	74
300724 017	WS09	0.0 - 0.35	16-Oct-12	10	380	<2	<1	<1	19	10	50	<1	10	<3	31	100
300724 018	WS09	1.0 - 2.0	16-Oct-12	16	130	<2	<1	<1	37	13	29	<1	12	<3	62	64
300724 019	WS10	0.85 - 1.5	16-Oct-12	10	25	<2	<1	<1	35	20	16	<1	27	<3	54	62
300724 020	WS10	1.5 - 2.8	16-Oct-12	11	23	<2	<1	<1	33	20	15	<1	30	<3	50	63
300724 021	WS11	0.2 - 0.6	17-Oct-12	15	290	<2	<1	<1	23	24	65	<1	18	<3	37	120
300724 022	WS11	1.0 - 2.0	17-Oct-12	10	23	<2	<1	<1	27	17	13	<1	20	<3	40	55
300724 023	WS12	0.0 - 0.2	17-Oct-12	9	110	<2	<1	<1	25	13	36	<1	12	<3	41	61

Table 1.0 - Metals

Table 1.0 - Metals				No. of Samples	24	24	24	24	24	24	24	24	24	24	24	24	
				Min	8	23	2	2	<1	19	7	13	<1	10	<3	26	43
				Max	33	380	2	2	0	40	25	140	0	41	0	63	220
				No. detected	24	24	1	1	0	24	24	24	0	24	0	24	24
				Assessment Criteria	640	22,000	420	190,000	230	30,000	71,000	750	3,600	1,800	13,000	3,100	670,000
				No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0
				Arsenic	Barium	Beryllium	Boron (w/s)	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Vanadium	Zinc	
Lab Ref	Exp_Pt	Depth (m)	Date Sampled	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	
300724 024	WS12	0.2 - 1.2	17-Oct-12	14	170	<2	<1	<1	22	10	44	<1	10	<3	40	110	

Table 2.0 - Miscellaneous

				No. of Samples	12	12	12	12	12	12	24	24	24
				Min	<1	0.002	1	0.02	7	30	6.7	7.5	3.6
				Max	0	0.025	9	7	36	821	8.8	22	28
				No. detected	0	12	6	12	11	5	24	24	24
				Assessment Criteria									
				No.Exceeding	0	0	0	0	0	0	0	0	0
					Cyanide(Total)	Fraction of Organic Carbon	Nitrate	(Acid Soluble) SO4	Sulphide	Sulphur (elemental)	pH	Moisture	Moisture @ 105 C
Lab Ref	Exp_Pt	Depth (m)	Date Sampled	mg/kg	units	mg/kg	%	mg/kg	mg/kg	units	%	%	
300724 001	WS01	0.0 - 0.1	16-Oct-12	<1	0.021	<1	0.07	10	<20	8.6	12	16	
300724 002	WS01	1.0 - 2.0	16-Oct-12							7.6	16	19	
300724 003	WS02	0.1 - 0.7	16-Oct-12							6.7	7.5	3.6	
300724 004	WS02	1.0 - 2.0	16-Oct-12	<1	0.002	<1	0.02	14	<20	7.4	14	17	
300724 005	WS03	0.0 - 0.4	17-Oct-12	<1	0.014	<1	0.06	10	<20	7.2	22	25	
300724 006	WS03	0.4 - 1.5	17-Oct-12							7.8	15	20	
300724 007	WS04	0.15 - 0.4	17-Oct-12							8.8	20	22	
300724 008	WS04	0.4 - 1.2	17-Oct-12	<1	0.002	<1	0.02	10	<20	7.9	16	18	
300724 009	WS05	0.1 - 1.5	16-Oct-12	<1	0.002	<1	0.02	7	31	8.1	11	15	
300724 010	WS05	1.5 - 2.0	16-Oct-12							7.8	18	20	
300724 011	WS06	0.0 - 1.2	16-Oct-12							7.9	15	19	
300724 012	WS06	1.2 - 2.0	16-Oct-12	<1	0.008	2	0.04	10	<20	7.9	16	19	
300724 013	WS07	0.6 - 1.2	17-Oct-12	<1	0.007	<1	0.04	10	821	7.8	15	17	
300724 014	WS07	1.2 - 2.2	17-Oct-12							7.6	18	24	
300724 015	WS08	0.8 - 1.2	17-Oct-12							7.8	18	21	
300724 016	WS08	1.2 - 2.0	17-Oct-12	<1	0.004	1	7	10	42	7.6	18	24	
300724 017	WS09	0.0 - 0.35	16-Oct-12	<1	0.025	9	0.33	36	<20	7.8	17	25	
300724 018	WS09	1.0 - 2.0	16-Oct-12							7.7	16	22	
300724 019	WS10	0.85 - 1.5	16-Oct-12							8.1	15	21	

Table 2.0 - Miscellaneous

Table 2.0 - Miscellaneous			No. of Samples	12	12	12	12	12	12	24	24	24
			Min	<1	0.002	1	0.02	7	30	6.7	7.5	3.6
			Max	0	0.025	9	7	36	821	8.8	22	28
			No. detected	0	12	6	12	11	5	24	24	24
			Assessment Criteria									
			No.Exceeding	0	0	0	0	0	0	0	0	0
				Cyanide(Total)	Fraction of Organic Carbon	Nitrate	(Acid Soluble) SO4	Sulphide	Sulphur (elemental)	pH	Moisture	Moisture @ 105 C
Lab Ref	Exp_Pt	Depth (m)	Date Sampled	mg/kg	units	mg/kg	%	mg/kg	mg/kg	units	%	%
300724 020	WS10	1.5 - 2.8	16-Oct-12	<1	0.004	4	0.85	10	<20	7.9	19	23
300724 021	WS11	0.2 - 0.6	17-Oct-12	<1	0.004	1	0.16	<1	504	8.7	19	21
300724 022	WS11	1.0 - 2.0	17-Oct-12							8	16	21
300724 023	WS12	0.0 - 0.2	17-Oct-12							7.7	22	28
300724 024	WS12	0.2 - 1.2	17-Oct-12	<1	0.008	2	0.16	18	30	8	16	21

Table 3.0 - PAH

Table 3.0 - PAH			No. of Samples	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
			Min	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.4	0.2	0.1	0.1
			Max	0	0	0	0	0.7	0.1	1.7	1.4	0.5	0.6	1.2	0.5	0.7	0.3	0.7	8.2
			No. detected	0	0	0	0	4	2	6	6	5	5	8	5	2	2	3	8
			Assessment Criteria	7,900	73,000	73,000	59,000	22,000	520,000	23,000	54,000	90	140	100	14	61	13	660	-
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)Anthracene	Chrysene	Benzo(b/k)Fluoranthene	Benzo(a)Pyrene	Indeno(123-cd)Pyrene	Dibenzo(ah)Anthracene	Benzo(ghi)Perylene	PAH(total)
Lab Ref	Exp_Pt	Depth (m)	Date Sampled	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
300724 001	WS01	0.0 - 0.1	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.5	0.4	0.6	1	0.5	0.4	0.3	0.5	4.7
300724 002	WS01	1.0 - 2.0	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 003	WS02	0.1 - 0.7	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1
300724 004	WS02	1.0 - 2.0	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 005	WS03	0.0 - 0.4	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1
300724 006	WS03	0.4 - 1.5	17-Oct-12	<0.1	<0.1	<0.1	<0.1	0.6	0.1	0.9	0.6	0.3	0.3	0.3	0.2	<0.1	<0.1	<0.1	3.3
300724 007	WS04	0.15 - 0.4	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 008	WS04	0.4 - 1.2	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 009	WS05	0.1 - 1.5	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 010	WS05	1.5 - 2.0	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 011	WS06	0 - 1.2	16-Oct-12	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.5	0.4	0.2	0.2	0.3	0.1	<0.1	<0.1	<0.1	1.9
300724 012	WS06	1.2 - 2.0	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 013	WS07	0.6 - 1.2	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 014	WS07	1.2 - 2.2	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 015	WS08	0.8 - 1.2	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 016	WS08	1.2 - 2.0	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 017	WS09	0.0 - 0.35	16-Oct-12	<0.1	<0.1	<0.1	<0.1	0.7	0.1	1.7	1.4	0.5	0.5	1.2	0.5	0.7	0.2	0.7	8.2
300724 018	WS09	1.0 - 2.0	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 019	WS10	0.85 - 1.5	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 020	WS10	1.5 - 2.8	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 3.0 - PAH

Table 3.0 - PAH			No. of Samples	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	
			Min	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.4	0.2	0.1	0.1
			Max	0	0	0	0	0.7	0.1	1.7	1.4	0.5	0.6	1.2	0.5	0.7	0.3	0.7	8.2
			No. detected	0	0	0	0	4	2	6	6	5	5	8	5	2	2	3	8
			Assessment Criteria	7,900	73,000	73,000	59,000	22,000	520,000	23,000	54,000	90	140	100	14	61	13	660	-
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)Anthracene	Chrysene	Benzo(b/k)Fluoranthene	Benzo(a)Pyrene	Indeno(123-cd)Pyrene	Dibenzo(ah)Anthracene	Benzo(ghi)Perylene	PAH(total)
Lab Ref	Exp_Pt	Depth (m)	Date Sampled	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
300724 021	WS11	0.2 - 0.6	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 022	WS11	1.0 - 2.0	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 023	WS12	0.0 - 0.2	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.6
300724 024	WS12	0.2 - 1.2	17-Oct-12	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	1	0.9	0.3	0.3	0.3	0.2	<0.1	<0.1	0.1	3.8

Table 4.0 - TPH

Table 4.0 - TPH

No. of Samples	12	12	12	12	12	12
Min	<10	<10	<10	<10	<10	<10
Max	0	0	0	0	0	0
No. detected	0	0	0	0	0	0
Assessment Criteria	13	410000	180000		270000	
No.Exceeding	0	0	0	0	0	0
	Benzene	Toluene	EthylBenzene	M/P Xylene	O Xylene	Methyl tert-Butyl Ether

12	12	12	12	12	12	12
<0.100	<0.10	<0.100	<10	<10	<10	8
0	0	0	0	0	3	70
0	0	0	0	0	1	2
100000	100000	95000	95000	95000	100000	100000
0	0	0	0	0	0	0
TPH (C5-C6 aliphatic)	TPH (C6-C8 aliphatic)	TPH (C8-C10 aliphatic)	TPH (C10-C12 aliphatic)	TPH (C12-C16 aliphatic)	TPH (C16-C21 aliphatic)	TPH (C21-C35 aliphatic)
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
<0.100	<0.10	<0.100	<10	<10	<10	70
<0.100	<0.10	<0.100	<1	<2	<1	<4
<0.100	<0.10	<0.100	<1	<2	<1	<4
<0.100	<0.10	<0.100	<1	<2	<1	<4
<0.100	<0.10	<0.100	<1	<2	<1	<4
<0.100	<0.10	<0.100	<1	<2	<1	<4
<0.100	<0.10	<0.100	<1	<2	<1	<4
<0.100	<0.10	<0.100	<1	<2	<1	<4
<0.100	<0.10	<0.100	<1	<2	<1	<4
<0.100	<0.10	<0.100	<1	<2	3	8
<0.100	<0.10	<0.100	<1	<2	<1	<4

Table 4.0 - TPH

No. of Samples	12	12	12	12	12	12
Min	<0.100	<0.100	<10	<10	<10	170
Max	0	0	0	0	0	170
No. detected	0	0	0	0	0	1
Assessment Criteria	430000	38000	38000	38000	28000	28000
No.Exceeding	0	0	0	0	0	0
	TPH (C7-C8 aromatic)	TPH (C8-C10 aromatic)	TPH (C10-C12 aromatic)	TPH (C12-C16 aromatic)	TPH (C16-C21 aromatic)	TPH (C21-C35 aromatic)

Lab Ref	Exp_Pt	Depth (m)	Date Sampled	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
300724 001	WS01	0.0 - 0.1	16-Oct-12	<0.100	<0.100	<10	<10	<10	170
300724 004	WS02	1.0 - 2.0	16-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 005	WS03	0.0 - 0.4	17-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 008	WS04	0.4 - 1.2	17-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 009	WS05	0.1 - 1.5	16-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 012	WS06	1.2 - 2.0	16-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 013	WS07	0.6 - 1.2	17-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 016	WS08	1.2 - 2.0	17-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 017	WS9	0.0 - 0.35	16-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 020	WS10	1.5 - 2.8	16-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 021	WS11	0.2 - 0.6	17-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 024	WS12	0.2 - 1.2	17-Oct-12	<0.100	<0.100	<1	<1	<1	<1

Table 5.0 - SVOC

No. of Samples		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Min		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Max		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. detected		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Assessment Criteria																			
No.Exceeding		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-methyl phenol	2-Methylnaphthalene	2-Nitroaniline	2-Nitrophenol	3-Nitroaniline
)	Date Sampled	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
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 5.0 - SVOC

No. of Samples		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Min		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.3	<0.1	<0.1	<0.1	<0.1
Max		0	0	0	0	0	0	0	0	0	0	0	0.2	0.1	0.3	0	0	0	0
No. detected		0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
Assessment Criteria																			
No.Exceeding		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		3/4-Methylphenol	4-Bromophenyl phenylether	4-Chloro-3-methylphenol	4-Chloroaniline	4-Chlorophenyl phenylether	4-Nitroaniline	4-Nitrophenol	Acenapthene	Acenapthylene	Anthracene	Azobenzene	Benzo(a)Anthracene	Benzo(a)Pyrene	Benzo(b/k)Fluoranthene	Benzo(ghi)Perylene	Bis (2-chloroethoxy) methane	Bis (2-chloroethyl) ether	Bis (2-chloroisopropyl) ether
Date Sampled		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
16-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.3	<0.1	<0.1	<0.1	<0.1
16-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
17-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
17-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
16-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
16-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
17-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
17-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 5.0 - SVOC

No. of Samples	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Min	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Max	0	0	0	0.2	0	0	0	0	0	0	0.5	0	0	0	0	0	0	0
No. detected	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Assessment Criteria																		
No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bis (2-ethylhexyl)phthalate	Butyl benzyphthalate	Carbazole	Chrysene	Di-n-butylphthalate	Di-n-octylphthalate	Dibenzo(ah)Anthracene	Dibenzofuran	Diethyl phthalate	Dimethyl phthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Indeno(123-cd)Pyrene	Isophorone
)	Date Sampled	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
	16-Oct-12	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 5.0 - SVOC

No. of Samples		8	8	8	8	8	8
Min		<0.1	<0.1	<0.1	0.2	<0.1	0.4
Max		0	0	0	0.2	0	0.4
No. detected		0	0	0	1	0	1
Assessment Criteria							
No.Exceeding		0	0	0	0	0	0
		Naphthalene	Nitrobenzene	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
)	Date Sampled	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	16-Oct-12	<0.1	<0.1	<0.1	0.2	<0.1	0.4
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 6.0 - VOC

No. of Samples	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Min	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Max	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
No. detected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Assessment Criteria	52	320	130										0.29							
No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethylene	1,1-Dichloropropene	1,2,3-Trichloropropane	1,2,4-Trimethylbenzene	1,2-dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane		
Lab.Ref	Exp_Pt	Depth (m)	Date Sampled	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
300724 011	WS06	0.0 - 1.2	16-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 012	WS06	1.2 - 2.0	16-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 013	WS07	0.6 - 1.2	17-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 014	WS07	1.2 - 2.2	17-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 019	WS10	0.8 - 1.5	16-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 020	WS10	1.5 - 2.8	16-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 021	WS11	0.2 - 0.6	17-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 022	WS11	1.0 - 2.0	17-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50

Table 6.0 - VOC

No. of Samples	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Min	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Max	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
No. detected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Assessment Criteria																				
No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2-Chlorotoluene	4-Chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	Cis-1,2-Dichloroethylene	Cis-1,3-Dichloropropene	Dibromomethane	Dichlorodifluoromethane		
Lab.Ref	Exp_Pt	Depth (m)	Date Sampled	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
300724 011	WS06	0.0 - 1.2	16-Oct-12	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 012	WS06	1.2 - 2.0	16-Oct-12	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 013	WS07	0.6 - 1.2	17-Oct-12	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 014	WS07	1.2 - 2.2	17-Oct-12	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 019	WS10	0.8 - 1.5	16-Oct-12	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 020	WS10	1.5 - 2.8	16-Oct-12	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 021	WS11	0.2 - 0.6	17-Oct-12	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 022	WS11	1.0 - 2.0	17-Oct-12	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50

Table 6.0 - VOC

No. of Samples	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Min	<50	<10	<50	<50	<50	<10	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50
Max	<50	<10	<50	<50	<50	<10	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50
No. detected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Assessment Criteria						270000					60	410000			5.5		0.03		
No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Dichloromethane	EthylBenzene	Isopropyl benzene	M/P Xylene	n-Propylbenzene	O Xylene	p-Isopropyltoluene	S-Butylbenzene	Styrene	T-Butylbenzene	Tetrachloroethene	Toluene	Trans-1,2-Dichloroethene	Trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride		
Lab.Ref	Exp_Pt	Depth (m)	Date Sampled	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
300724 011	WS06	0.0 - 1.2	16-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50
300724 012	WS06	1.2 - 2.0	16-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50
300724 013	WS07	0.6 - 1.2	17-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50
300724 014	WS07	1.2 - 2.2	17-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50
300724 019	WS10	0.8 - 1.5	16-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50
300724 020	WS10	1.5 - 2.8	16-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50
300724 021	WS11	0.2 - 0.6	17-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50
300724 022	WS11	1.0 - 2.0	17-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50

Table 1.0 - Metals (Leachate)

Table 1.0 - Metals (Leachate)

No. of Samples	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Min	0.3	3	0.1	<10	0.02	1	0.5	0.3	0.06	1	0.5	<2	2	
Max	0.6	9	0.17	0	0.03	2	1.1	0.9	0.06	1	0.8	0	6	
No. detected	5	5	8	0	8	6	7	4	1	1	6	0	8	
Assessment Criteria	10	1000		1000	5	50	28		1	200	10	60	500	
No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	
	As (Dissolved)	Ba (Dissolved)	Be (Dissolved)	Boron	Cd (Dissolved)	Cr (Dissolved)	Cu (Dissolved)	Pb (Dissolved)	Hg (Dissolved)	Ni (Dissolved)	Se (Dissolved)	V (Dissolved)	Zn (Dissolved)	
Lab_No	Exp_Pt	Depth	Date Sampled	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
302573 001	WS01	0 - 1.0	16-Oct-12	0.5	3	0.14	<10	0.03	1	0.8	0.5	0.06	<1	<0.5
302573 002	WS03	0.4 - 1.5	17-Oct-12	0.3	3	0.13	<10	0.03	1	0.6	<0.3	<0.05	<1	0.5
302573 003	WS05	0.1 - 1.5	16-Oct-12	0.4	9	0.16	<10	0.02	1	0.5	0.3	<0.05	<1	0.6
302573 004	WS07	1.2 - 2.2	17-Oct-12	<0.2	<1	0.1	<10	0.02	<1	0.6	<0.3	<0.05	<1	0.7
302573 005	WS08	0.8 - 1.2	17-Oct-12	<0.2	<1	0.11	<10	0.03	<1	<0.5	<0.3	<0.05	<1	<0.5
302573 006	WS09	0 - 0.35	16-Oct-12	0.4	5	0.17	<10	0.03	1	1.1	0.4	<0.05	<1	0.5
302573 007	WS10	0.85 - 1.5	16-Oct-12	<0.2	<1	0.14	<10	0.03	2	0.6	<0.3	<0.05	<1	0.8
302573 008	WS11	0.2 - 0.6	17-Oct-12	0.6	6	0.15	<10	0.02	2	0.8	0.9	<0.05	1	0.6

Table 1.0 - Metals (Leachate)

Table 1.0 - Metals (Leachate)

No. of Samples	8	8	8	8	8	8	8	8	8	8	8	8	8	8		
Min	0.3	3	0.1	<10	0.02	1	0.5	0.3	0.06	1	0.5	<2	2			
Max	0.6	9	0.17	0	0.03	2	1.1	0.9	0.06	1	0.8	0	6			
No. detected	5	5	8	0	8	6	7	4	1	1	6	0	8			
Assessment Criteria	10	1000		1000	5	50	28		1	200	10	60	500			
No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0			
	As (Dissolved)	Ba (Dissolved)	Be (Dissolved)	Boron	Cd (Dissolved)	Cr (Dissolved)	Cu (Dissolved)	Pb (Dissolved)	Hg (Dissolved)	Ni (Dissolved)	Se (Dissolved)	V (Dissolved)	Zn (Dissolved)			
Lab_No	Exp_Pt	Depth	Date Sampled	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		
302573 001	WS01	0 - 1.0	16-Oct-12	0.5	3	0.14	<10	0.03	1	0.8	0.5	0.06	<1	<0.5	<2	3
302573 002	WS03	0.4 - 1.5	17-Oct-12	0.3	3	0.13	<10	0.03	1	0.6	<0.3	<0.05	<1	0.5	<2	2
302573 003	WS05	0.1 - 1.5	16-Oct-12	0.4	9	0.16	<10	0.02	1	0.5	0.3	<0.05	<1	0.6	<2	2
302573 004	WS07	1.2 - 2.2	17-Oct-12	<0.2	<1	0.1	<10	0.02	<1	0.6	<0.3	<0.05	<1	0.7	<2	3
302573 005	WS08	0.8 - 1.2	17-Oct-12	<0.2	<1	0.11	<10	0.03	<1	<0.5	<0.3	<0.05	<1	<0.5	<2	6
302573 006	WS09	0 - 0.35	16-Oct-12	0.4	5	0.17	<10	0.03	1	1.1	0.4	<0.05	<1	0.5	<2	3
302573 007	WS10	0.85 - 1.5	16-Oct-12	<0.2	<1	0.14	<10	0.03	2	0.6	<0.3	<0.05	<1	0.8	<2	2
302573 008	WS11	0.2 - 0.6	17-Oct-12	0.6	6	0.15	<10	0.02	2	0.8	0.9	<0.05	1	0.6	<2	3

Table 2.0 - Miscellaneous

				No. of Samples	12	12	12	12	12	12	24	24	24
				Min	<1	0.002	1	0.02	7	30	6.7	7.5	3.6
				Max	0	0.025	9	7	36	821	8.8	22	28
				No. detected	0	12	6	12	11	5	24	24	24
				Assessment Criteria									
				No.Exceeding	0	0	0	0	0	0	0	0	0
					Cyanide(Total)	Fraction of Organic Carbon	Nitrate	(Acid Soluble) SO4	Sulphide	Sulphur (elemental)	pH	Moisture	Moisture @ 105 C
Lab Ref	Exp_Pt	Depth (m)	Date Sampled	mg/kg	units	mg/kg	%	mg/kg	mg/kg	units	%	%	
300724 001	WS01	0.0 - 0.1	16-Oct-12	<1	0.021	<1	0.07	10	<20	8.6	12	16	
300724 002	WS01	1.0 - 2.0	16-Oct-12							7.6	16	19	
300724 003	WS02	0.1 - 0.7	16-Oct-12							6.7	7.5	3.6	
300724 004	WS02	1.0 - 2.0	16-Oct-12	<1	0.002	<1	0.02	14	<20	7.4	14	17	
300724 005	WS03	0.0 - 0.4	17-Oct-12	<1	0.014	<1	0.06	10	<20	7.2	22	25	
300724 006	WS03	0.4 - 1.5	17-Oct-12							7.8	15	20	
300724 007	WS04	0.15 - 0.4	17-Oct-12							8.8	20	22	
300724 008	WS04	0.4 - 1.2	17-Oct-12	<1	0.002	<1	0.02	10	<20	7.9	16	18	
300724 009	WS05	0.1 - 1.5	16-Oct-12	<1	0.002	<1	0.02	7	31	8.1	11	15	
300724 010	WS05	1.5 - 2.0	16-Oct-12							7.8	18	20	
300724 011	WS06	0.0 - 1.2	16-Oct-12							7.9	15	19	
300724 012	WS06	1.2 - 2.0	16-Oct-12	<1	0.008	2	0.04	10	<20	7.9	16	19	
300724 013	WS07	0.6 - 1.2	17-Oct-12	<1	0.007	<1	0.04	10	821	7.8	15	17	
300724 014	WS07	1.2 - 2.2	17-Oct-12							7.6	18	24	
300724 015	WS08	0.8 - 1.2	17-Oct-12							7.8	18	21	
300724 016	WS08	1.2 - 2.0	17-Oct-12	<1	0.004	1	7	10	42	7.6	18	24	
300724 017	WS09	0.0 - 0.35	16-Oct-12	<1	0.025	9	0.33	36	<20	7.8	17	25	
300724 018	WS09	1.0 - 2.0	16-Oct-12							7.7	16	22	
300724 019	WS10	0.85 - 1.5	16-Oct-12							8.1	15	21	

Table 2.0 - Miscellaneous

Table 2.0 - Miscellaneous			No. of Samples	12	12	12	12	12	12	24	24	24
			Min	<1	0.002	1	0.02	7	30	6.7	7.5	3.6
			Max	0	0.025	9	7	36	821	8.8	22	28
			No. detected	0	12	6	12	11	5	24	24	24
			Assessment Criteria									
			No.Exceeding	0	0	0	0	0	0	0	0	0
				Cyanide(Total)	Fraction of Organic Carbon	Nitrate	(Acid Soluble) SO4	Sulphide	Sulphur (elemental)	pH	Moisture	Moisture @ 105 C
Lab Ref	Exp_Pt	Depth (m)	Date Sampled	mg/kg	units	mg/kg	%	mg/kg	mg/kg	units	%	%
300724 020	WS10	1.5 - 2.8	16-Oct-12	<1	0.004	4	0.85	10	<20	7.9	19	23
300724 021	WS11	0.2 - 0.6	17-Oct-12	<1	0.004	1	0.16	<1	504	8.7	19	21
300724 022	WS11	1.0 - 2.0	17-Oct-12							8	16	21
300724 023	WS12	0.0 - 0.2	17-Oct-12							7.7	22	28
300724 024	WS12	0.2 - 1.2	17-Oct-12	<1	0.008	2	0.16	18	30	8	16	21

Table 3.0 - PAH

Table 3.0 - PAH			No. of Samples	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
			Min	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.4	0.2	0.1	0.1
			Max	0	0	0	0	0.7	0.1	1.7	1.4	0.5	0.6	1.2	0.5	0.7	0.3	0.7	8.2
			No. detected	0	0	0	0	4	2	6	6	5	5	8	5	2	2	3	8
			Assessment Criteria	7,900	73,000	73,000	59,000	22,000	520,000	23,000	54,000	90	140	100	14	61	13	660	-
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)Anthracene	Chrysene	Benzo(b/k)Fluoranthene	Benzo(a)Pyrene	Indeno(123-cd)Pyrene	Dibenzo(ah)Anthracene	Benzo(ghi)Perylene	PAH(total)
Lab Ref	Exp_Pt	Depth (m)	Date Sampled	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
300724 001	WS01	0.0 - 0.1	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.5	0.4	0.6	1	0.5	0.4	0.3	0.5	4.7
300724 002	WS01	1.0 - 2.0	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 003	WS02	0.1 - 0.7	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1
300724 004	WS02	1.0 - 2.0	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 005	WS03	0.0 - 0.4	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1
300724 006	WS03	0.4 - 1.5	17-Oct-12	<0.1	<0.1	<0.1	<0.1	0.6	0.1	0.9	0.6	0.3	0.3	0.3	0.2	<0.1	<0.1	<0.1	3.3
300724 007	WS04	0.15 - 0.4	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 008	WS04	0.4 - 1.2	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 009	WS05	0.1 - 1.5	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 010	WS05	1.5 - 2.0	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 011	WS06	0 - 1.2	16-Oct-12	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.5	0.4	0.2	0.2	0.3	0.1	<0.1	<0.1	<0.1	1.9
300724 012	WS06	1.2 - 2.0	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 013	WS07	0.6 - 1.2	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 014	WS07	1.2 - 2.2	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 015	WS08	0.8 - 1.2	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 016	WS08	1.2 - 2.0	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 017	WS09	0.0 - 0.35	16-Oct-12	<0.1	<0.1	<0.1	<0.1	0.7	0.1	1.7	1.4	0.5	0.5	1.2	0.5	0.7	0.2	0.7	8.2
300724 018	WS09	1.0 - 2.0	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 019	WS10	0.85 - 1.5	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 020	WS10	1.5 - 2.8	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 3.0 - PAH

Table 3.0 - PAH

			No. of Samples	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	
			Min	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.4	0.2	0.1	0.1
			Max	0	0	0	0	0.7	0.1	1.7	1.4	0.5	0.6	1.2	0.5	0.7	0.3	0.7	8.2
			No. detected	0	0	0	0	4	2	6	6	5	5	8	5	2	2	3	8
			Assessment Criteria	7,900	73,000	73,000	59,000	22,000	520,000	23,000	54,000	90	140	100	14	61	13	660	-
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
				Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)Anthracene	Chrysene	Benzo(b/k)Fluoranthene	Benzo(a)Pyrene	Indeno(123-cd)Pyrene	Dibenzo(ah)Anthracene	Benzo(ghi)Perylene	PAH(total)
Lab Ref	Exp_Pt	Depth (m)	Date Sampled	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
300724 021	WS11	0.2 - 0.6	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 022	WS11	1.0 - 2.0	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
300724 023	WS12	0.0 - 0.2	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.6
300724 024	WS12	0.2 - 1.2	17-Oct-12	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	1	0.9	0.3	0.3	0.3	0.2	<0.1	<0.1	0.1	3.8

Table 4.0 - TPH

Table 4.0 - TPH

	No. of Samples	12	12	12	12	12	12	
	Min	<10	<10	<10	<10	<10	<10	
	Max	0	0	0	0	0	0	
	No. detected	0	0	0	0	0	0	
	Assessment Criteria	13	410000	180000		270000		
	No.Exceeding	0	0	0	0	0	0	
		Benzene	Toluene	EthylBenzene	M/P Xylene	O Xylene	Methyl tert-Butyl Ether	

Lab Ref	Exp_Pt	Depth (m)	Date Sampled	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
300724 001	WS01	0.0 - 0.1	16-Oct-12	<10	<10	<10	<10	<10	<10
300724 004	WS02	1.0 - 2.0	16-Oct-12	<10	<10	<10	<10	<10	<10
300724 005	WS03	0.0 - 0.4	17-Oct-12	<10	<10	<10	<10	<10	<10
300724 008	WS04	0.4 - 1.2	17-Oct-12	<10	<10	<10	<10	<10	<10
300724 009	WS05	0.1 - 1.5	16-Oct-12	<10	<10	<10	<10	<10	<10
300724 012	WS06	1.2 - 2.0	16-Oct-12	<10	<10	<10	<10	<10	<10
300724 013	WS07	0.6 - 1.2	17-Oct-12	<10	<10	<10	<10	<10	<10
300724 016	WS08	1.2 - 2.0	17-Oct-12	<10	<10	<10	<10	<10	<10
300724 017	WS9	0.0 - 0.35	16-Oct-12	<10	<10	<10	<10	<10	<10
300724 020	WS10	1.5 - 2.8	16-Oct-12	<10	<10	<10	<10	<10	<10
300724 021	WS11	0.2 - 0.6	17-Oct-12	<10	<10	<10	<10	<10	<10
300724 024	WS12	0.2 - 1.2	17-Oct-12	<10	<10	<10	<10	<10	<10

12	12	12	12	12	12	12	12	12
<0.100	<0.10	<0.100	<10	<10	<10	8	<0.100	<0.100
0	0	0	0	0	3	70	0	0
0	0	0	0	0	1	2	0	0
100000	100000	95000	95000	95000	100000	100000	430000	430000
0	0	0	0	0	0	0	0	0
TPH (C5-C6 aliphatic)	TPH (C6-C8 aliphatic)	TPH (C8-C10 aliphatic)	TPH (C10-C12 aliphatic)	TPH (C12-C16 aliphatic)	TPH (C16-C21 aliphatic)	TPH (C21-C35 aliphatic)	TPH (C6-C7 aromatic)	TPH (C6-C7 aromatic)
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
<0.100	<0.10	<0.100	<10	<10	<10	70	<0.100	<0.100
<0.100	<0.10	<0.100	<1	<2	<1	<4	<0.100	<0.100
<0.100	<0.10	<0.100	<1	<2	<1	<4	<0.100	<0.100
<0.100	<0.10	<0.100	<1	<2	<1	<4	<0.100	<0.100
<0.100	<0.10	<0.100	<1	<2	<1	<4	<0.100	<0.100
<0.100	<0.10	<0.100	<1	<2	<1	<4	<0.100	<0.100
<0.100	<0.10	<0.100	<1	<2	<1	<4	<0.100	<0.100
<0.100	<0.10	<0.100	<1	<2	<1	<4	<0.100	<0.100
<0.100	<0.10	<0.100	<1	<2	<1	<4	<0.100	<0.100
<0.100	<0.10	<0.100	<1	<2	<1	<4	<0.100	<0.100
<0.100	<0.10	<0.100	<1	<2	3	8	<0.100	<0.100
<0.100	<0.10	<0.100	<1	<2	<1	<4	<0.100	<0.100

Table 4.0 - TPH

No. of Samples	12	12	12	12	12	12
Min	<0.100	<0.100	<10	<10	<10	170
Max	0	0	0	0	0	170
No. detected	0	0	0	0	0	1
Assessment Criteria	430000	38000	38000	38000	28000	28000
No.Exceeding	0	0	0	0	0	0
	TPH (C7-C8 aromatic)	TPH (C8-C10 aromatic)	TPH (C10-C12 aromatic)	TPH (C12-C16 aromatic)	TPH (C16-C21 aromatic)	TPH (C21-C35 aromatic)

Lab Ref	Exp_Pt	Depth (m)	Date Sampled	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
300724 001	WS01	0.0 - 0.1	16-Oct-12	<0.100	<0.100	<10	<10	<10	170
300724 004	WS02	1.0 - 2.0	16-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 005	WS03	0.0 - 0.4	17-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 008	WS04	0.4 - 1.2	17-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 009	WS05	0.1 - 1.5	16-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 012	WS06	1.2 - 2.0	16-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 013	WS07	0.6 - 1.2	17-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 016	WS08	1.2 - 2.0	17-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 017	WS9	0.0 - 0.35	16-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 020	WS10	1.5 - 2.8	16-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 021	WS11	0.2 - 0.6	17-Oct-12	<0.100	<0.100	<1	<1	<1	<1
300724 024	WS12	0.2 - 1.2	17-Oct-12	<0.100	<0.100	<1	<1	<1	<1

Table 5.0 - SVOC

No. of Samples		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Min		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Max		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. detected		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Assessment Criteria																			
No.Exceeding		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-methyl phenol	2-Methylnaphthalene	2-Nitroaniline	2-Nitrophenol	3-Nitroaniline
)	Date Sampled	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
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 5.0 - SVOC

No. of Samples		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Min		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.3	<0.1	<0.1	<0.1	<0.1
Max		0	0	0	0	0	0	0	0	0	0	0	0.2	0.1	0.3	0	0	0	0
No. detected		0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
Assessment Criteria																			
No.Exceeding		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		3/4-Methylphenol	4-Bromophenyl phenylether	4-Chloro-3-methylphenol	4-Chloroaniline	4-Chlorophenyl phenylether	4-Nitroaniline	4-Nitrophenol	Acenaphthene	Acenaphthylene	Anthracene	Azobenzene	Benzo(a)Anthracene	Benzo(a)Pyrene	Benzo(b/k)Fluoranthene	Benzo(ghi)Perylene	Bis (2-chloroethoxy) methane	Bis (2-chloroethyl) ether	Bis (2-chloroisopropyl) ether
Date Sampled		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
16-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
16-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
17-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
17-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
16-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
16-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
17-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
17-Oct-12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 5.0 - SVOC

No. of Samples	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Min	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Max	0	0	0	0.2	0	0	0	0	0	0	0.5	0	0	0	0	0	0	0
No. detected	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Assessment Criteria																		
No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bis (2-ethylhexyl)phthalate	Butyl benzyphthalate	Carbazole	Chrysene	Di-n-butylphthalate	Di-n-octylphthalate	Dibenzo(ah)Anthracene	Dibenzofuran	Diethyl phthalate	Dimethyl phthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Indeno(123-cd)Pyrene	Isophorone
)	Date Sampled	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
	16-Oct-12	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 5.0 - SVOC

No. of Samples		8	8	8	8	8	8
Min		<0.1	<0.1	<0.1	0.2	<0.1	0.4
Max		0	0	0	0.2	0	0.4
No. detected		0	0	0	1	0	1
Assessment Criteria							
No.Exceeding		0	0	0	0	0	0
		Naphthalene	Nitrobenzene	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
)	Date Sampled	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	16-Oct-12	<0.1	<0.1	<0.1	0.2	<0.1	0.4
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	16-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	17-Oct-12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 6.0 - VOC

No. of Samples	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Min	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Max	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
No. detected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Assessment Criteria	52	320	130										0.29							
No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethylene	1,1-Dichloropropene	1,2,3-Trichloropropane	1,2,4-Trimethylbenzene	1,2-dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane		
Lab.Ref	Exp_Pt	Depth (m)	Date Sampled	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
300724 011	WS06	0.0 - 1.2	16-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 012	WS06	1.2 - 2.0	16-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 013	WS07	0.6 - 1.2	17-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 014	WS07	1.2 - 2.2	17-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 019	WS10	0.8 - 1.5	16-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 020	WS10	1.5 - 2.8	16-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 021	WS11	0.2 - 0.6	17-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
300724 022	WS11	1.0 - 2.0	17-Oct-12	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50

Table 6.0 - VOC

No. of Samples		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
Min		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Max		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
No. detected		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Assessment Criteria																			
No.Exceeding		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2-Chlorotoluene	4-Chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	Cis-1,2-Dichloroethylene	Cis-1,3-Dichloropropene	Dibromomethane	Dichlorodifluoromethane
Date Sampled		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
16-Oct-12		<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
16-Oct-12		<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
17-Oct-12		<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
17-Oct-12		<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
16-Oct-12		<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
16-Oct-12		<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
17-Oct-12		<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
17-Oct-12		<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50

Table 6.0 - VOC

No. of Samples	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Min	<50	<10	<50	<50	<50	<10	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50
Max	<50	<10	<50	<50	<50	<10	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50
No. detected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Assessment Criteria						270000					60	410000			5.5		0.03		
No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Dichloromethane	EthylBenzene	Isopropyl benzene	M/P Xylene	n-Propylbenzene	O Xylene	p-Isopropyltoluene	S-Butylbenzene	Styrene	T-Butylbenzene	Tetrachloroethene	Toluene	Trans-1,2-Dichloroethene	Trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride		
Lab.Ref	Exp_Pt	Depth (m)	Date Sampled	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
300724 011	WS06	0.0 - 1.2	16-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<10	<50	<50	<50	<50	<50
300724 012	WS06	1.2 - 2.0	16-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<10	<50	<50	<50	<50	<50
300724 013	WS07	0.6 - 1.2	17-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<10	<50	<50	<50	<50	<50
300724 014	WS07	1.2 - 2.2	17-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<10	<50	<50	<50	<50	<50
300724 019	WS10	0.8 - 1.5	16-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<10	<50	<50	<50	<50	<50
300724 020	WS10	1.5 - 2.8	16-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<10	<50	<50	<50	<50	<50
300724 021	WS11	0.2 - 0.6	17-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<10	<50	<50	<50	<50	<50
300724 022	WS11	1.0 - 2.0	17-Oct-12	<50	<10	<50	<10	<50	<10	<50	<50	<50	<50	<10	<50	<50	<50	<50	<50

Table 1.0 - Metals

Table 1.0 - Metals				No. of Samples	24	24	24	24	24	24	24	24	24	24	24	24	
				Min	8	23	2	2	<1	19	7	13	<1	10	<3	26	43
				Max	33	380	2	2	0	40	25	140	0	41	0	63	220
				No. detected	24	24	1	1	0	24	24	24	0	24	0	24	24
				Assessment Criteria	640	22,000	420	190,000	230	30,000	71,000	750	3,600	1,800	13,000	3,100	670,000
				No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0
				Arsenic	Barium	Beryllium	Boron (w/s)	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Vanadium	Zinc	
Lab Ref	Exp_Pt	Depth (m)	Date Sampled	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	
300724 001	WS01	0.0 - 0.1	16-Oct-12	11	110	<2	2	<1	31	15	33	<1	20	<3	46	99	
300724 002	WS01	1.0 - 2.0	16-Oct-12	13	62	<2	<1	<1	35	20	16	<1	30	<3	49	54	
300724 003	WS02	0.1 - 0.7	16-Oct-12	9	290	<2	<1	<1	20	9	27	<1	16	<3	26	100	
300724 004	WS02	1.0 - 2.0	16-Oct-12	12	81	<2	<1	<1	35	20	16	<1	33	<3	48	55	
300724 005	WS03	0.0 - 0.4	17-Oct-12	10	66	<2	<1	<1	32	15	22	<1	19	<3	47	59	
300724 006	WS03	0.4 - 1.5	17-Oct-12	10	160	<2	<1	<1	26	25	140	<1	20	<3	39	220	
300724 007	WS04	0.15 - 0.4	17-Oct-12	8	71	<2	<1	<1	21	12	39	<1	14	<3	33	73	
300724 008	WS04	0.4 - 1.2	17-Oct-12	13	75	<2	<1	<1	33	18	18	<1	31	<3	47	55	
300724 009	WS05	0.1 - 1.5	16-Oct-12	8	93	<2	<1	<1	21	10	15	<1	15	<3	34	44	
300724 010	WS05	1.5 - 2.0	16-Oct-12	15	78	<2	<1	<1	40	21	18	<1	36	<3	62	60	
300724 011	WS06	0.0 - 1.2	16-Oct-12	12	84	<2	<1	<1	28	18	84	<1	17	<3	45	88	
300724 012	WS06	1.2 - 2.0	16-Oct-12	10	48	<2	<1	<1	28	8	23	<1	12	<3	41	46	
300724 013	WS07	0.6 - 1.2	17-Oct-12	8	64	<2	<1	<1	24	7	18	<1	11	<3	37	43	
300724 014	WS07	1.2 - 2.2	17-Oct-12	33	35	2	<1	<1	36	24	24	<1	39	<3	57	80	
300724 015	WS08	0.8 - 1.2	17-Oct-12	14	30	<2	<1	<1	37	24	20	<1	41	<3	63	73	
300724 016	WS08	1.2 - 2.0	17-Oct-12	19	28	<2	<1	<1	34	23	17	<1	32	<3	56	74	
300724 017	WS09	0.0 - 0.35	16-Oct-12	10	380	<2	<1	<1	19	10	50	<1	10	<3	31	100	
300724 018	WS09	1.0 - 2.0	16-Oct-12	16	130	<2	<1	<1	37	13	29	<1	12	<3	62	64	
300724 019	WS10	0.85 - 1.5	16-Oct-12	10	25	<2	<1	<1	35	20	16	<1	27	<3	54	62	
300724 020	WS10	1.5 - 2.8	16-Oct-12	11	23	<2	<1	<1	33	20	15	<1	30	<3	50	63	
300724 021	WS11	0.2 - 0.6	17-Oct-12	15	290	<2	<1	<1	23	24	65	<1	18	<3	37	120	
300724 022	WS11	1.0 - 2.0	17-Oct-12	10	23	<2	<1	<1	27	17	13	<1	20	<3	40	55	
300724 023	WS12	0.0 - 0.2	17-Oct-12	9	110	<2	<1	<1	25	13	36	<1	12	<3	41	61	

Table 1.0 - Metals

Table 1.0 - Metals			No. of Samples	24	24	24	24	24	24	24	24	24	24	24	24	
			Min	8	23	2	2	<1	19	7	13	<1	10	<3	26	43
			Max	33	380	2	2	0	40	25	140	0	41	0	63	220
			No. detected	24	24	1	1	0	24	24	24	0	24	0	24	24
			Assessment Criteria	640	22,000	420	190,000	230	30,000	71,000	750	3,600	1,800	13,000	3,100	670,000
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0
				Arsenic	Barium	Beryllium	Boron (w/s)	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Vanadium	Zinc
Lab Ref	Exp_Pt	Depth (m)	Date Sampled	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
300724 024	WS12	0.2 - 1.2	17-Oct-12	14	170	<2	<1	<1	22	10	44	<1	10	<3	40	110

Appendix 5

Groundwater risk assessment tables

Table 1.0 - Metals

			No. of Samples	3	3	3	3	3	3	3	3	3
			Min	0.6	0.04	7	1.7	0.4	0.1	7	2.2	5
			Max	3	0.25	16	4.7	0.5	0.31	17	6.1	240
			No. detected	3	3	3	3	2	3	3	3	3
			Assessment Criteria	10	5	50	28	7.2	1	200	10	500
			No.Exceeding	0	0	0	0	0	0	0	0	0
				As (Dissolved)	Cd (Dissolved)	Cr (Dissolved)	Cu (Dissolved)	Pb (Dissolved)	Hg (Dissolved)	Ni (Dissolved)	Se (Dissolved)	Zn (Dissolved)
Lab_Ref	Exp_Pt	Date Sampled	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
302819 001	WS04	01-Nov-12	1.2	0.04	7	1.7	<0.3	0.13	7	2.2	6	
302819 002	WS05	01-Nov-12	0.6	0.11	10	2.6	0.4	0.1	8	3.6	5	
302819 003	WS11	01-Nov-12	3	0.25	16	4.7	0.5	0.31	17	6.1	240	

Table 2.0 - Miscellaneous

 Above assessment criteria

No. of Samples		3	3	3	3
Min		0.32	<0.1	86	7.1
Max		0.32	0	1900	7.4
No. detected		1	0	3	3
Assessment Criteria		0.5	50	250	6 to 9
No.Exceeding		0	0	1	0
		Ammoniacal nitrogen			
			Nitrate		
				Sulphate	
					pH
	Date Sampled	mg/l	mg/l	mg/l	
	01-Nov-12	<0.05	<0.1	86	7.3
	01-Nov-12	<0.05	<0.1	190	7.4
	01-Nov-12	0.32	<0.1	1900	7.1

Table 3.0 - TPH

			No. of Samples																			
			3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
			Min	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
			Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			No. detected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Assessment Criteria																			
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Benzene	EthylBenzene	M/P Xylene	Methyl tert-Butyl Ether	O Xylene	Toluene													
Lab_Ref	Exp_Pt	Date Sampled	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/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
302819 001	WS04	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<0.010	<0.010	<0.010	<0.01	<0.01	0.02	0.32	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01
302819 002	WS05	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01	0.03	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01
302819 003	WS11	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01	0.01	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01

Table 4.0 - PAH

Table 4.0 - PAH			No. of Samples	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
			Min	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
			Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			No. detected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Assessment Criteria																
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)Anthracene	Chrysene	Benzo(b/k)Fluoranthene	Benzo(a)Pyrene	Indeno(123-cd)Pyrene	Dibenzo(an)Anthracene	Benzo(ghi)Perylene	PAH(total)	
Lab_Ref	Exp_Pt	Date Sampled	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	
302819 001	WS04	01-Nov-12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
302819 002	WS05	01-Nov-12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
302819 003	WS11	01-Nov-12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	

Table 5.0 - VOC

Table 5.0 - VOC			No. of Samples	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
			Min	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
			Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			No. detected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Assessment Criteria																						
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1,2-Trichloroethylene	1,1-Dichloroethane	1,1-Dichloroethylene	1,1-Dichloropropene	1,2,3-Trichloropropane	1,2,4- Trimethylbenzene	1,2-dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	4-Chlorotoluene	Benzene	
Lab_Ref	Exp_Pt	Date Sampled	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	
302819 001	WS04	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
302819 002	WS05	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
302819 003	WS11	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	

Table 5.0 - VOC

Table 5.0 - VOC			No. of Samples	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
			Min	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<50	<1	<1	<1	<1	<1	<1	
			Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			No. detected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Assessment Criteria																						
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	Cis-1,2-Dichloroethylene	Cis-1,3-Dichloropropene	Dibromomethane	Dichlorodifluoromethane	Dichloromethane	EthylBenzene	Isopropyl benzene	M/P Xylene	n-Propylbenzene	O Xylene	p-Isopropyltoluene	
Lab_Ref	Exp_Pt	Date Sampled	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	
302819 001	WS04	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<50	<1	<1	<1	<1	<1	<1	
302819 002	WS05	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<50	<1	<1	<1	<1	<1	<1	
302819 003	WS11	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<50	<1	<1	<1	<1	<1	<1	

Table 5.0 - VOC

			No. of Samples	3	3	3	3	3	3	3	3
			Min	<1	<1	<1	<1	<1	<1	<1	<1
			Max	0	0	0	0	0	0	0	0
			No. detected	0	0	0	0	0	0	0	0
			Assessment Criteria								
			No.Exceeding	0	0	0	0	0	0	0	0
				S-Butylbenzene	Styrene	T-Butylbenzene	Tetrachloroethene	Toluene	Trans-1,2-Dichloroethene	Trans-1,3-Dichloropropene	Trichlorofluoromethane
Lab_Ref	Exp_Pt	Date Sampled	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
302819 001	WS04	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1
302819 002	WS05	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1
302819 003	WS11	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1

Table 1.0 - Metals

			No. of Samples	3	3	3	3	3	3	3	3	3
			Min	0.6	0.04	7	1.7	0.4	0.1	7	2.2	5
			Max	3	0.25	16	4.7	0.5	0.31	17	6.1	240
			No. detected	3	3	3	3	2	3	3	3	3
			Assessment Criteria	10	5	50	28	7.2	1	200	10	500
			No.Exceeding	0	0	0	0	0	0	0	0	0
				As (Dissolved)	Cd (Dissolved)	Cr (Dissolved)	Cu (Dissolved)	Pb (Dissolved)	Hg (Dissolved)	Ni (Dissolved)	Se (Dissolved)	Zn (Dissolved)
Lab_Ref	Exp_Pt	Date Sampled	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
302819 001	WS04	01-Nov-12	1.2	0.04	7	1.7	<0.3	0.13	7	2.2	6	
302819 002	WS05	01-Nov-12	0.6	0.11	10	2.6	0.4	0.1	8	3.6	5	
302819 003	WS11	01-Nov-12	3	0.25	16	4.7	0.5	0.31	17	6.1	240	

Table 2.0 - Miscellaneous



Above assessment criteria

No. of Samples		3	3	3	3
Min		0.32	<0.1	86	7.1
Max		0.32	0	1900	7.4
No. detected		1	0	3	3
Assessment Criteria		0.5	50	250	6 to 9
No.Exceeding		0	0	1	0
		Ammoniacal nitrogen			
			Nitrate		
				Sulphate	
					pH
	Date Sampled	mg/l	mg/l	mg/l	
	01-Nov-12	<0.05	<0.1	86	7.3
	01-Nov-12	<0.05	<0.1	190	7.4
	01-Nov-12	0.32	<0.1	1900	7.1

Table 3.0 - TPH

			No. of Samples																			
			3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
			Min	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
			Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			No. detected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Assessment Criteria																			
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Benzene	EthylBenzene	M/P Xylene	Methyl tert-Butyl Ether	O Xylene	Toluene													
Lab_Ref	Exp_Pt	Date Sampled	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/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
302819 001	WS04	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<0.010	<0.010	<0.010	<0.01	<0.01	0.02	0.32	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01
302819 002	WS05	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01	0.03	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01
302819 003	WS11	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01	0.01	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01

Table 4.0 - PAH

Table 4.0 - PAH			No. of Samples	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
			Min	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
			Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			No. detected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Assessment Criteria															
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)Anthracene	Chrysene	Benzo(b/k)Fluoranthene	Benzo(a)Pyrene	Indeno(123-cd)Pyrene	Dibenzo(an)Anthracene	Benzo(ghi)Perylene	PAH(total)
Lab_Ref	Exp_Pt	Date Sampled	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
302819 001	WS04	01-Nov-12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
302819 002	WS05	01-Nov-12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
302819 003	WS11	01-Nov-12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table 5.0 - VOC

Table 5.0 - VOC			No. of Samples	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
			Min	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
			Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			No. detected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Assessment Criteria																						
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			1,1,1,1,2-Tetrachloroethane	1,1,1,1-Trichloroethane	1,1,1,2,2-Tetrachloroethane	1,1,1,2-Trichloroethane	1,1,1,2-Trichloroethylene	1,1-Dichloroethane	1,1-Dichloroethylene	1,1-Dichloropropene	1,2,3-Trichloropropane	1,2,4- Trimethylbenzene	1,2-dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	4-Chlorotoluene	Benzene	
Lab_Ref	Exp_Pt	Date Sampled	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	
302819 001	WS04	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
302819 002	WS05	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
302819 003	WS11	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	

Table 5.0 - VOC

Table 5.0 - VOC			No. of Samples	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
			Min	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
			Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			No. detected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Assessment Criteria																						
			No.Exceeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	Cis-1,2-Dichloroethylene	Cis-1,3-Dichloropropene	Dibromomethane	Dichlorodifluoromethane	Dichloromethane	EthylBenzene	Isopropyl benzene	M/P Xylene	n-Propylbenzene	O Xylene	p-Isopropyltoluene	
Lab_Ref	Exp_Pt	Date Sampled	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	
302819 001	WS04	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<50	<1	<1	<1	<1	<1	<1	
302819 002	WS05	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<50	<1	<1	<1	<1	<1	<1	
302819 003	WS11	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<50	<1	<1	<1	<1	<1	<1	

Table 5.0 - VOC

			No. of Samples	3	3	3	3	3	3	3	3
			Min	<1	<1	<1	<1	<1	<1	<1	<1
			Max	0	0	0	0	0	0	0	0
			No. detected	0	0	0	0	0	0	0	0
			Assessment Criteria								
			No.Exceeding	0	0	0	0	0	0	0	0
				S-Butylbenzene	Styrene	T-Butylbenzene	Tetrachloroethene	Toluene	Trans-1,2-Dichloroethene	Trans-1,3-Dichloropropene	Trichlorofluoromethane
											Vinyl chloride
Lab_Ref	Exp_Pt	Date Sampled	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
302819 001	WS04	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1
302819 002	WS05	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1
302819 003	WS11	01-Nov-12	<1	<1	<1	<1	<1	<1	<1	<1	<1

Appendix 6

Soil chemical laboratory test certificates



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
Cornbrook
Manchester
M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2468

Report Number: Supplement to 300724-1

Date of Report: 02-Nov-2012

Customer: BAE Systems
Westcott Venture Park
Westcott
Aylesbury
Bucks
HP18 ONP

Customer Contact: Mr Jonathan Van Nieuwenburgh

Customer Job Reference: B0054/01
Customer Purchase Order: 51231990
Customer Site Reference: Waterlooville
Date Job Received at SAL: 20-Oct-2012
Date Analysis Started: 23-Oct-2012
Date Analysis Completed: 30-Oct-2012

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
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



Report checked
and authorised by :
Lianne Bromiley
Project Manager

Issued by :
Lianne Bromiley
Project Manager

SAL Reference: 300724 Project Site: Waterlooville Customer Reference: B0054/01	
Soil	Analysed as Soil
MCERTS Preparation	

SAL Reference					300724 001	300724 002	300724 003	300724 004	300724 005	300724 006	300724 007	300724 008	300724 009	300724 010	300724 011	300724 012
Customer Sample Reference					WS01 0-0.10	WS01 1.0-2.0	WS02 0.10-0.70	WS02 1.0-2.0	WS03 0-0.40	WS03 0.40-1.50	WS04 0.15-0.40	WS04 0.40-1.20	WS05 0.10-1.50	WS05 1.50-2.0	WS06 0-1.20	WS06 1.20-2.0
Top Depth					0	1.0	0.10	1.0	0	0.40	0.15	0.40	0.10	1.50	0	1.20
Depth					0.10	2.0	0.70	2.0	0.40	1.50	0.40	1.20	1.50	2.0	1.20	2.0
Date Sampled					16-OCT-2012	16-OCT-2012	16-OCT-2012	16-OCT-2012	17-OCT-2012	17-OCT-2012	17-OCT-2012	17-OCT-2012	16-OCT-2012	16-OCT-2012	16-OCT-2012	16-OCT-2012
Type					Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay
Determinand	Method	Test Sample	LOD	Units												
Moisture	T277	AR	0.1	%	12	16	7.5	14	22	15	20	16	11	18	15	16
Moisture @ 105 C	T162	AR	0.1	%	16	19	3.6	17	25	20	22	18	15	20	19	19

SAL Reference: 300724 Project Site: Waterlooville Customer Reference: B0054/01	
Soil	Analysed as Soil
MCERTS Preparation	

SAL Reference					300724 013	300724 014	300724 015	300724 016	300724 017	300724 018	300724 019	300724 020	300724 021	300724 022	300724 023	300724 024
Customer Sample Reference					WS07 0.60-1.20	WS07 1.20-2.20	WS08 0.80-1.20	WS08 1.20-2.00	WS09 0-0.35	WS09 1.0-2.00	WS10 0.85-1.50	WS10 1.50-2.80	WS11 0.2-0.60	WS11 1.0-2.0	WS12 0-0.20	WS12 0.20-1.20
Top Depth					0.60	1.20	0.80	1.20	0	1.0	0.85	1.50	0.2	1.0	0	0.20
Depth					1.20	2.20	1.20	2.00	0.35	2.00	1.50	2.80	0.60	2.0	0.20	1.20
Date Sampled					17-OCT-2012	17-OCT-2012	17-OCT-2012	17-OCT-2012	16-OCT-2012	16-OCT-2012	16-OCT-2012	16-OCT-2012	17-OCT-2012	17-OCT-2012	17-OCT-2012	17-OCT-2012
Type					Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Topsoil	Clay
Determinand	Method	Test Sample	LOD	Units												
Moisture	T277	AR	0.1	%	15	18	18	18	17	16	15	19	19	16	22	16
Moisture @ 105 C	T162	AR	0.1	%	17	24	21	24	25	22	21	23	21	21	28	21

SAL Reference: 300724 Project Site: Waterlooville Customer Reference: B0054/01	
Soil CLEA Metals	Analysed as Soil

SAL Reference					300724 001	300724 002	300724 003	300724 004	300724 005	300724 006	300724 007	300724 008	300724 009	300724 010	300724 011	300724 012
Customer Sample Reference					WS01 0-0.10	WS02 1.0-2.0	WS02 0.10-0.70	WS02 1.0-2.0	WS03 0-0.40	WS03 0.40-1.50	WS04 0.15-0.40	WS04 0.40-1.20	WS05 0.10-1.50	WS05 1.50-2.0	WS06 0-1.20	WS06 1.20-2.0
Top Depth					0	1.0	0.10	1.0	0	0.40	0.15	0.40	0.10	1.50	0	1.20
Depth					0.10	2.0	0.70	2.0	0.40	1.50	0.40	1.20	1.50	2.0	1.20	2.0
Date Sampled					16-OCT-2012	16-OCT-2012	16-OCT-2012	16-OCT-2012	17-OCT-2012	17-OCT-2012	17-OCT-2012	17-OCT-2012	16-OCT-2012	16-OCT-2012	16-OCT-2012	16-OCT-2012
Type					Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay
Determinand	Method	Test Sample	LOD	Units												
Arsenic	T6	M40	2	mg/kg	11	13	9	12	10	10	8	13	8	15	12	10
Barium	T6	M40	1	mg/kg	110	62	290	81	66	160	71	75	93	78	84	48
Beryllium	T6	M40	2	mg/kg	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron (water-soluble)	T6	AR	1	mg/kg	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	T6	M40	1	mg/kg	31	35	20	35	32	26	21	33	21	40	28	28
Copper	T6	M40	1	mg/kg	15	20	9	20	15	25	12	18	10	21	18	8
Lead	T6	M40	1	mg/kg	33	16	27	16	22	140	39	18	15	18	84	23
Mercury	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	20	30	16	33	19	20	14	31	15	36	17	12
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Vanadium	T6	M40	1	mg/kg	46	49	26	48	47	39	33	47	34	62	45	41
Zinc	T6	M40	1	mg/kg	99	54	100	55	59	220	73	55	44	60	88	46

SAL Reference: 300724	
Project Site: Waterlooville	
Customer Reference: B0054/01	
Soil	Analysed as Soil
CLEA Metals	

SAL Reference					300724 013	300724 014	300724 015	300724 016	300724 017	300724 018	300724 019	300724 020	300724 021	300724 022	300724 023	300724 024
Customer Sample Reference					WS07 0.60-1.20	WS07 1.20-2.20	WS08 0.80-1.20	WS08 1.20-2.00	WS09 0-0.35	WS09 1.0-2.00	WS10 0.85-1.50	WS10 1.50-2.80	WS11 0.2-0.60	WS11 1.0-2.0	WS12 0-0.20	WS12 0.20-1.20
Top Depth					0.60	1.20	0.80	1.20	0	1.0	0.85	1.50	0.2	1.0	0	0.20
Depth					1.20	2.20	1.20	2.00	0.35	2.00	1.50	2.80	0.60	2.0	0.20	1.20
Date Sampled					17-OCT-2012	17-OCT-2012	17-OCT-2012	17-OCT-2012	16-OCT-2012	16-OCT-2012	16-OCT-2012	16-OCT-2012	17-OCT-2012	17-OCT-2012	17-OCT-2012	17-OCT-2012
Type					Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Topsoil	Clay
Determinand	Method	Test Sample	LOD	Units												
Arsenic	T6	M40	2	mg/kg	8	33	14	19	10	16	10	11	15	10	9	14
Barium	T6	M40	1	mg/kg	64	35	30	28	380	130	25	23	290	23	110	170
Beryllium	T6	M40	2	mg/kg	<2	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	T6	M40	1	mg/kg	24	36	37	34	19	37	35	33	23	27	25	22
Copper	T6	M40	1	mg/kg	7	24	24	23	10	13	20	20	24	17	13	10
Lead	T6	M40	1	mg/kg	18	24	20	17	50	29	16	15	65	13	36	44
Mercury	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	11	39	41	32	10	12	27	30	18	20	12	10
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Vanadium	T6	M40	1	mg/kg	37	57	63	56	31	62	54	50	37	40	41	40
Zinc	T6	M40	1	mg/kg	43	80	73	74	100	64	62	63	120	55	61	110

SAL Reference: 300724 Project Site: Waterlooville Customer Reference: B0054/01	
Soil	Analysed as Soil
Miscellaneous	

SAL Reference					300724 001	300724 002	300724 003	300724 004	300724 005	300724 006	300724 007	300724 008	300724 009	300724 010	300724 011	300724 012
Customer Sample Reference					WS01 0 -0.10	WS01 1.0-2.0	WS02 0.10-0.70	WS02 1.0-2.0	WS03 0 -0.40	WS03 0.40-1.50	WS04 0.15-0.40	WS04 0.40-1.20	WS05 0.10-1.50	WS05 1.50-2.0	WS06 0 -1.20	WS06 1.20-2.0
Top Depth					0	1.0	0.10	1.0	0	0.40	0.15	0.40	0.10	1.50	0	1.20
Depth					0.10	2.0	0.70	2.0	0.40	1.50	0.40	1.20	1.50	2.0	1.20	2.0
Date Sampled					16-OCT -2012	16-OCT -2012	16-OCT -2012	16-OCT -2012	17-OCT -2012	17-OCT -2012	17-OCT -2012	17-OCT -2012	16-OCT -2012	16-OCT -2012	16-OCT -2012	16-OCT -2012
Type					Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay
Determinand	Method	Test Sample	LOD	Units												
Cyanide(Total)	T546	AR	1	mg/kg	<1	-	-	<1	<1	-	-	<1	<1	-	-	<1
Mass Fraction of organic carbon	T286	M40			0.021	-	-	0.0020	0.014	-	-	0.0018	0.0016	-	-	0.0076
Nitrate	T686	AR	1	mg/kg	<1	-	-	<1	<1	-	-	<1	<1	-	-	2
(Acid Soluble) SO4	T192	M40	0.01	%	0.07	-	-	0.02	0.06	-	-	0.02	0.02	-	-	0.04
Sulphide	T546	AR	1	mg/kg	10	-	-	14	10	-	-	10	7	-	-	10
Sulphur (elemental)	T17	M40	20	mg/kg	<20	-	-	<20	<20	-	-	<20	31	-	-	<20
pH	T7	AR			8.6	7.6	6.7	7.4	7.2	7.8	8.8	7.9	8.1	7.8	7.9	7.9

Soil	Analysed as Soil
Miscellaneous	

SAL Reference					300724 013	300724 014	300724 015	300724 016	300724 017	300724 018	300724 019	300724 020	300724 021	300724 022	300724 023	300724 024
Customer Sample Reference					WS07 0.60-1.20	WS07 1.20-2.20	WS08 0.80-1.20	WS08 1.20-2.00	WS09 0 -0.35	WS09 1.0-2.00	WS10 0.85-1.50	WS10 1.50-2.80	WS11 0.2-0.60	WS11 1.0-2.0	WS12 0 -0.20	WS12 0.20-1.20
Top Depth					0.60	1.20	0.80	1.20	0	1.0	0.85	1.50	0.2	1.0	0	0.20
Depth					1.20	2.20	1.20	2.00	0.35	2.00	1.50	2.80	0.60	2.0	0.20	1.20
Date Sampled					17-OCT -2012	17-OCT -2012	17-OCT -2012	17-OCT -2012	16-OCT -2012	16-OCT -2012	16-OCT -2012	16-OCT -2012	17-OCT -2012	17-OCT -2012	17-OCT -2012	17-OCT -2012
Type					Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Topsoil	Clay
Determinand	Method	Test Sample	LOD	Units												
Cyanide(Total)	T546	AR	1	mg/kg	<1	-	-	<1	<1	-	-	<1	<1	-	-	<1
Mass Fraction of organic carbon	T286	M40			0.0071	-	-	0.0035	0.025	-	-	0.0037	0.0042	-	-	0.0084
Nitrate	T686	AR	1	mg/kg	<1	-	-	1	9	-	-	4	1	-	-	2
(Acid Soluble) SO4	T192	M40	0.01	%	0.04	-	-	7.0	0.33	-	-	0.85	0.16	-	-	0.16
Sulphide	T546	AR	1	mg/kg	10	-	-	10	36	-	-	10	<1	-	-	18
Sulphur (elemental)	T17	M40	20	mg/kg	821	-	-	42	<20	-	-	<20	504	-	-	30
pH	T7	AR			7.8	7.6	7.8	7.6	7.8	7.7	8.1	7.9	8.7	8.0	7.7	8.0

Soil	Analysed as Soil
Total and Speciated USEPA16 PAH	

SAL Reference					300724 001	300724 002	300724 003	300724 004	300724 005	300724 006	300724 007	300724 008	300724 009	300724 010	300724 011	300724 012
Customer Sample Reference					WS01 0-0.10	WS01 1.0-2.0	WS02 0.10-0.70	WS02 1.0-2.0	WS03 0-0.40	WS03 0.40-1.50	WS04 0.15-0.40	WS04 0.40-1.20	WS05 0.10-1.50	WS05 1.50-2.0	WS06 0-1.20	WS06 1.20-2.0
Top Depth					0	1.0	0.10	1.0	0	0.40	0.15	0.40	0.10	1.50	0	1.20
Depth					0.10	2.0	0.70	2.0	0.40	1.50	0.40	1.20	1.50	2.0	1.20	2.0
Date Sampled					16-OCT-2012	16-OCT-2012	16-OCT-2012	16-OCT-2012	17-OCT-2012	17-OCT-2012	17-OCT-2012	17-OCT-2012	17-OCT-2012	16-OCT-2012	16-OCT-2012	16-OCT-2012
Type					Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay
Determinand	Method	Test Sample	LOD	Units												
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	0.5	<0.1	<0.1	<0.1	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	0.5	<0.1
Pyrene	T207	M105	0.1	mg/kg	0.5	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	0.4	<0.1
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	0.4	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
Chrysene	T207	M105	0.1	mg/kg	0.6	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	1.0	<0.1	0.1	<0.1	0.1	0.3	<0.1	<0.1	<0.1	<0.1	0.3	<0.1
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	0.5	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PAH(total)	T207	M105	0.1	ma/ka	4.7	<0.1	0.1	<0.1	0.1	3.3	<0.1	<0.1	<0.1	<0.1	1.9	<0.1

SAL Reference: 300724 Project Site: Waterlooville Customer Reference: B0054/01	
Soil	Analysed as Soil
Semi-Volatile Organic Compounds (USEPA 625)	

Soil	Analysed as Soil
Semi-Volatile Organic Compounds (USEPA 625)	

SAL Reference					300724 011	300724 012	300724 013	300724 014	300724 019	300724 020	300724 021	300724 022
Customer Sample Reference					WS06 0-1.20	WS06 1.20-2.0	WS07 0.60-1.20	WS07 1.20-2.20	WS10 0.85-1.50	WS10 1.50-2.80	WS11 0.2-0.60	WS11 1.0-2.0
Top Depth					0	1.20	0.60	1.20	0.85	1.50	0.2	1.0
Depth					1.20	2.0	1.20	2.20	1.50	2.80	0.60	2.0
Date Sampled					16-OCT-2012	16-OCT-2012	17-OCT-2012	17-OCT-2012	16-OCT-2012	16-OCT-2012	17-OCT-2012	17-OCT-2012
Type					Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay
Determinand	Method	Test Sample	LOD	Units								
1,2,4-Trichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dichlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dimethylphenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrotoluene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,6-Dinitrotoluene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chloronaphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methyl phenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Nitroaniline	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Nitrophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3-Nitroaniline	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3/4-Methylphenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Bromophenyl phenylether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-methylphenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloroaniline	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chlorophenyl phenylether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitroaniline	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitrophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Azobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroethoxy) methane	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroethyl) ether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroisopropyl) ether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-ethylhexyl)phthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Butyl benzylphthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbazole	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	T207	M105	0.1	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Di-n-butylphthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Di-n-octylphthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzofuran	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Diethyl phthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl phthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachloroethane	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isophorone	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

SAL Reference: 300724
Project Site: Waterloooville
Customer Reference: B0054/01

Soil Analysed as Soil
Semi-Volatile Organic Compounds (USEPA 625)

SAL Reference					300724 011	300724 012	300724 013	300724 014	300724 019	300724 020	300724 021	300724 022
Customer Sample Reference					WS06 0-1.20	WS06 1.20-2.0	WS07 0.60-1.20	WS07 1.20-2.20	WS10 0.85-1.50	WS10 1.50-2.80	WS11 0.2-0.60	WS11 1.0-2.0
Top Depth					0	1.20	0.60	1.20	0.85	1.50	0.2	1.0
Depth					1.20	2.0	1.20	2.20	1.50	2.80	0.60	2.0
Date Sampled					16-OCT-2012	16-OCT-2012	17-OCT-2012	17-OCT-2012	16-OCT-2012	16-OCT-2012	17-OCT-2012	17-OCT-2012
Type					Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay
Determinand	Method	Test Sample	LOD	Units								
Pentachlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	T207	M105	0.1	mg/kg	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1



Customer Reference: B0054/01

SAL Reference					300724 011	300724 012	300724 013	300724 014	300724 019	300724 020	300724 021	300724 022
Customer Sample Reference					WS06 0-1.20	WS06 1.20-2.0	WS07 0.60-1.20	WS07 1.20-2.20	WS10 0.85-1.50	WS10 1.50-2.80	WS11 0.2-0.60	WS11 1.0-2.0
Top Depth					0	1.20	0.60	1.20	0.85	1.50	0.2	1.0
Depth					1.20	2.0	1.20	2.20	1.50	2.80	0.60	2.0
Date Sampled					16-OCT-2012	16-OCT-2012	17-OCT-2012	17-OCT-2012	16-OCT-2012	16-OCT-2012	17-OCT-2012	17-OCT-2012
Type					Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay
Determinand	Method	Test Sample	LOD	Units								
1,1,1,2-Tetrachloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,1,1-Trichloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,1,2,2-Tetrachloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,1,2-Trichloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,1-Dichloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,1-Dichloroethylene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,1-Dichloropropene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,2,3-Trichloropropane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,2,4-Trimethylbenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,2-dibromoethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,2-Dichlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,2-Dichloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,2-Dichloropropane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,3,5-Trimethylbenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,3-Dichlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,3-Dichloropropane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
1,4-Dichlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
2,2-Dichloropropane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
2-Chlorotoluene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
4-Chlorotoluene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Benzene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Bromobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Bromochloromethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Bromodichloromethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Bromoform	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Bromomethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Carbon tetrachloride	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Chlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Chlorodibromomethane	T209	M105	50	µg/kg								

Index to symbols used in Supplement to 300724-1

Value	Description
AR	As Received
M105	Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C
M40	Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis.
9	LOD raised due to dilution of sample
W	Analysis was performed at another SAL laboratory
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Supplemental report issued to amend the customer reference

Method Index

Value	Description
T7	Probe
T17	HPLC
T162	Grav (1 Dec) (105 C)
T6	ICP/OES
T209	GC/MS(Head Space)(MCERTS)
T206	GC/FID (MCERTS)
T277	Grav (1 Dec) (40 C)
T286	Calc TOC/100
T192	HCl Extraction/ICP/OES (TRL 447 T2)
T546	Colorimetry (CF)
T686	Discrete Analyser
T207	GC/MS(MCERTS)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Moisture	T277	AR	0.1	%	N	001-024
Moisture @ 105 C	T162	AR	0.1	%	N	001-024
Arsenic	T6	M40	2	mg/kg	M	001-024
Barium	T6	M40	1	mg/kg	U	001-024
Beryllium	T6	M40	2	mg/kg	U	001-024
Boron (water-soluble)	T6	AR	1	mg/kg	N	001-024
Cadmium	T6	M40	1	mg/kg	M	001-024
Chromium	T6	M40	1	mg/kg	M	001-024
Copper	T6	M40	1	mg/kg	M	001-024
Lead	T6	M40	1	mg/kg	M	001-024
Mercury	T6	M40	1	mg/kg	M	001-024
Nickel	T6	M40	1	mg/kg	M	001-024
Selenium	T6	M40	3	mg/kg	M	001-024
Vanadium	T6	M40	1	mg/kg	M	001-024
Zinc	T6	M40	1	mg/kg	M	001-024
Cyanide(Total)	T546	AR	1	mg/kg	M	001,004-005,008-009,012-013,016-017,020-021,024
Mass Fraction of organic carbon	T286	M40			N	001,004-005,008-009,012-013,016-017,020-021,024
Nitrate	T686	AR	1	mg/kg	N	001,004-005,008-009,012-013,016-017,020-021,024
(Acid Soluble) SO4	T192	M40	0.01	%	N	001,004-005,008-009,012-013,016-017,020-021,024
Sulphide	T546	AR	1	mg/kg	N	001,004-005,008-009,012-013,016-017,020-021,024
Sulphur (elemental)	T17	M40	20	mg/kg	WM	001,004-005,008-009,012-013,016-017,020-021,024
pH	T7	AR			M	001-024
Naphthalene	T207	M105	0.1	mg/kg	M	001-024
Acenaphthylene	T207	M105	0.1	mg/kg	U	001-024
Acenaphthene	T207	M105	0.1	mg/kg	M	001-024
Fluorene	T207	M105	0.1	mg/kg	M	001-024
Phenanthrene	T207	M105	0.1	mg/kg	M	001-024
Anthracene	T207	M105	0.1	mg/kg	U	001-024
Fluoranthene	T207	M105	0.1	mg/kg	M	001-024

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Pyrene	T207	M105	0.1	mg/kg	M	001-024
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	M	001-024
Chrysene	T207	M105	0.1	mg/kg	M	001-024
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	M	001-024
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	M	001-024
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	M	001-024
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	M	001-024
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	M	001-024
PAH(total)	T207	M105	0.1	mg/kg	U	001-024
Benzene	T209	M105	10	µg/kg	M	001,004-005,008-009,011-014,016-017,019-022,024
Toluene	T209	M105	10	µg/kg	M	001,004-005,008-009,011-014,016-017,019-022,024
EthylBenzene	T209	M105	10	µg/kg	M	001,004-005,008-009,011-014,016-017,019-022,024
m/P Xylene	T209	M105	10	µg/kg	M	001,004-005,008-009,011-014,016-017,019-022,024
O Xylene	T209	M105	10	µg/kg	M	001,004-005,008-009,011-014,016-017,019-022,024
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	M	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C5-C6 aliphatic)	T209	M105	0.100	mg/kg	N	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C6-C8 aliphatic)	T209	M105	0.10	mg/kg	N	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C8-C10 aliphatic)	T209	M105	0.100	mg/kg	N	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	M	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	M	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	M	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	M	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C6-C7 aromatic)	T209	M105	0.100	mg/kg	N	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C7-C8 aromatic)	T209	M105	0.100	mg/kg	N	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C8-C10 aromatic)	T209	M105	0.100	mg/kg	N	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	M	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	M	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	M	001,004-005,008-009,012-013,016-017,020-021,024
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	M	001,004-005,008-009,012-013,016-017,020-021,024
1,2,4-Trichlorobenzene	T207	M105	0.1	mg/kg	M	011-014,019-022
1,2-Dichlorobenzene	T207	M105	0.1	mg/kg	M	011-014,019-022
1,3-Dichlorobenzene	T207	M105	0.1	mg/kg	M	011-014,019-022
1,4-Dichlorobenzene	T207	M105	0.1	mg/kg	M	011-014,019-022
2,4,5-Trichlorophenol	T207	M105	0.1	mg/kg	U	011-014,019-022
2,4,6-Trichlorophenol	T207	M105	0.1	mg/kg	U	011-014,019-022
2,4-Dichlorophenol	T207	M105	0.1	mg/kg	U	011-014,019-022
2,4-Dimethylphenol	T207	M105	0.1	mg/kg	U	011-014,019-022
2,4-Dinitrophenol	T207	M105	0.1	mg/kg	U	011-014,019-022
2,4-Dinitrotoluene	T207	M105	0.1	mg/kg	M	011-014,019-022
2,6-Dinitrotoluene	T207	M105	0.1	mg/kg	U	011-014,019-022
2-Chloronaphthalene	T207	M105	0.1	mg/kg	M	011-014,019-022
2-Chlorophenol	T207	M105	0.1	mg/kg	M	011-014,019-022
2-methyl phenol	T207	M105	0.1	mg/kg	M	011-014,019-022
2-Methylnaphthalene	T207	M105	0.1	mg/kg	M	011-014,019-022
2-Nitroaniline	T207	M105	0.1	mg/kg	M	011-014,019-022
2-Nitrophenol	T207	M105	0.1	mg/kg	U	011-014,019-022
3-Nitroaniline	T207	M105	0.1	mg/kg	U	011-014,019-022
3/4-Methylphenol	T207	M105	0.1	mg/kg	M	011-014,019-022
4-Bromophenyl phenylether	T207	M105	0.1	mg/kg	M	011-014,019-022
4-Chloro-3-methylphenol	T207	M105	0.1	mg/kg	M	011-014,019-022
4-Chloroaniline	T207	M105	0.1	mg/kg	U	011-014,019-022
4-Chlorophenyl phenylether	T207	M105	0.1	mg/kg	M	011-014,019-022
4-Nitroaniline	T207	M105	0.1	mg/kg	U	011-014,019-022
4-Nitrophenol	T207	M105	0.1	mg/kg	U	011-014,019-022
Azobenzene	T207	M105	0.1	mg/kg	M	011-014,019-022
Bis (2-chloroethoxy) methane	T207	M105	0.1	mg/kg	M	011-014,019-022
Bis (2-chloroethyl) ether	T207	M105	0.1	mg/kg	M	011-014,019-022
Bis (2-chloroisopropyl) ether	T207	M105	0.1	mg/kg	M	011-014,019-022
Bis (2-ethylhexyl)phthalate	T207	M105	0.1	mg/kg	M	011-014,019-022
Butyl benzylphthalate	T207	M105	0.1	mg/kg	U	011-014,019-022
Carbazole	T207	M105	0.1	mg/kg	U	011-014,019-022
Di-n-butylphthalate	T207	M105	0.1	mg/kg	M	011-014,019-022
Di-n-octylphthalate	T207	M105	0.1	mg/kg	M	011-014,019-022
Dibenzofuran	T207	M105	0.1	mg/kg	M	011-014,019-022
Diethyl phthalate	T207	M105	0.1	mg/kg	U	011-014,019-022
Dimethyl phthalate	T207	M105	0.1	mg/kg	U	011-014,019-022
Hexachlorobenzene	T207	M105	0.1	mg/kg	M	011-014,019-022
Hexachlorobutadiene	T207	M105	0.1	mg/kg	M	011-014,019-022
Hexachlorocyclopentadiene	T207	M105	0.1	mg/kg	U	011-014,019-022
Hexachloroethane	T207	M105	0.1	mg/kg	U	011-014,019-022

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Isophorone	T207	M105	0.1	mg/kg	U	011-014,019-022
Nitrobenzene	T207	M105	0.1	mg/kg	M	011-014,019-022
Pentachlorophenol	T207	M105	0.1	mg/kg	U	011-014,019-022
Phenol	T207	M105	0.1	mg/kg	M	011-014,019-022
1,1,1,2-Tetrachloroethane	T209	M105	50	µg/kg	M	011-014,019-022
1,1,1-Trichloroethane	T209	M105	50	µg/kg	M	011-014,019-022
1,1,2,2-Tetrachloroethane	T209	M105	50	µg/kg	U	011-014,019-022
1,1,2-Trichloroethane	T209	M105	50	µg/kg	M	011-014,019-022
1,1-Dichloroethane	T209	M105	50	µg/kg	M	011-014,019-022
1,1-Dichloroethylene	T209	M105	50	µg/kg	M	011-014,019-022
1,1-Dichloropropene	T209	M105	50	µg/kg	M	011-014,019-022
1,2,3-Trichloropropane	T209	M105	50	µg/kg	U	011-014,019-022
1,2,4-Trimethylbenzene	T209	M105	50	µg/kg	M	011-014,019-022
1,2-dibromoethane	T209	M105	50	µg/kg	M	011-014,019-022
1,2-Dichlorobenzene	T209	M105	50	µg/kg	M	011-014,019-022
1,2-Dichloroethane	T209	M105	50	µg/kg	M	011-014,019-022
1,2-Dichloropropane	T209	M105	50	µg/kg	M	011-014,019-022
1,3,5-Trimethylbenzene	T209	M105	50	µg/kg	M	011-014,019-022
1,3-Dichlorobenzene	T209	M105	50	µg/kg	M	011-014,019-022
1,3-Dichloropropane	T209	M105	50	µg/kg	M	011-014,019-022
1,4-Dichlorobenzene	T209	M105	50	µg/kg	M	011-014,019-022
2,2-Dichloropropane	T209	M105	50	µg/kg	U	011-014,019-022
2-Chlorotoluene	T209	M105	50	µg/kg	U	011-014,019-022
4-Chlorotoluene	T209	M105	50	µg/kg	U	011-014,019-022
Bromobenzene	T209	M105	50	µg/kg	M	011-014,019-022
Bromochloromethane	T209	M105	50	µg/kg	M	011-014,019-022
Bromodichloromethane	T209	M105	50	µg/kg	M	011-014,019-022
Bromoform	T209	M105	50	µg/kg	M	011-014,019-022
Bromomethane	T209	M105	50	µg/kg	U	011-014,019-022
Carbon tetrachloride	T209	M105	50	µg/kg	M	011-014,019-022
Chlorobenzene	T209	M105	50	µg/kg	M	011-014,019-022
Chlorodibromomethane	T209	M105	50	µg/kg	M	011-014,019-022
Chloroethane	T209	M105	50	µg/kg	M	011-014,019-022
Chloroform	T209	M105	50	µg/kg	M	011-014,019-022
Chloromethane	T209	M105	50	µg/kg	U	011-014,019-022
Cis-1,2-Dichloroethylene	T209	M105	50	µg/kg	M	011-014,019-022
Cis-1,3-Dichloropropene	T209	M105	50	µg/kg	M	011-014,019-022
Dibromomethane	T209	M105	50	µg/kg	M	011-014,019-022
Dichlorodifluoromethane	T209	M105	50	µg/kg	M	011-014,019-022
Dichloromethane	T209	M105	50	µg/kg	U	011-014,019-022
Isopropyl benzene	T209	M105	50	µg/kg	M	011-014,019-022
n-Propylbenzene	T209	M105	50	µg/kg	M	011-014,019-022
p-Isopropyltoluene	T209	M105	50	µg/kg	M	011-014,019-022
S-Butylbenzene	T209	M105	50	µg/kg	M	011-014,019-022
Styrene	T209	M105	50	µg/kg	U	011-014,019-022
T-Butylbenzene	T209	M105	50	µg/kg	M	011-014,019-022
Tetrachloroethene	T209	M105	50	µg/kg	M	011-014,019-022
Trans-1,2-Dichloroethene	T209	M105	50	µg/kg	M	011-014,019-022
Trans-1,3-Dichloropropene	T209	M105	50	µg/kg	M	011-014,019-022
Trichloroethene	T209	M105	50	µg/kg	M	011-014,019-022
Trichlorofluoromethane	T209	M105	50	µg/kg	M	011-014,019-022
Vinyl chloride	T209	M105	50	µg/kg	M	011-014,019-022



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
Cornbrook
Manchester
M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2468

Report Number: 302573-1

Date of Report: 12-Nov-2012

Customer: BAE Systems
Westcott Venture Park
Westcott
Aylesbury
Bucks
HP18 ONP

Customer Contact: Mr Jonathan Van Nieuwenburgh

Customer Job Reference: B0054/01
Customer Purchase Order: 51231990
Customer Site Reference: Waterloooville
Date Job Received at SAL: 02-Nov-2012
Date Analysis Started: 05-Nov-2012
Date Analysis Completed: 09-Nov-2012

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
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



1549

Report checked
and authorised by :
Mr Ross Walker
Customer Services Manager
(Land)

Issued by :
Mr Ross Walker
Customer Services Manager
(Land)

SAL Reference: 302573 Project Site: Waterloooville Customer Reference: B0054/01												
Leachate		Analysed as Water										
CLEA Metals												
SAL Reference		302573 001	302573 002	302573 003	302573 004	302573 005	302573 006	302573 007	302573 008			
Customer Sample Reference		WS01 0-0.10 (300724/001)	WS03 0.4-1.50 (300724/006)	WS05 0.10-1.50 (300724/009)	WS07 1.20-2.20 (300724/014)	WS08 0.80-1.20 (300724/015)	WS09 0-0.35 (300724/017)	WS10 0.85-1.50 (300724/019)	WS11 0.20-0.60 (300724/021)			
Date Sampled		16-OCT-2012	17-OCT-2012	16-OCT-2012	17-OCT-2012	17-OCT-2012	16-OCT-2012	16-OCT-2012	17-OCT-2012			
Determinand	Method	Test Sample	LOD	Units								
As (Dissolved)	T281	10:1	0.2	µg/l	0.5	0.3	0.4	<0.2	<0.2	0.4	<0.2	0.6
Ba (Dissolved)	T281	10:1	1	µg/l	3	3	9	<1	<1	5	<1	6
Be (Dissolved)	T281	10:1	0.05	µg/l	0.14	0.13	0.16	0.10	0.11	0.17	0.14	0.15
Boron	T6	10:1	10	µg/l	<10	<10	<10	<10	<10	<10	<10	<10
Cd (Dissolved)	T281	10:1	0.02	µg/l	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.02
Cr (Dissolved)	T281	10:1	1	µg/l	1	1	1	<1	<1	1	2	2
Cu (Dissolved)	T281	10:1	0.5	µg/l	0.8	0.6	0.5	0.6	<0.5	1.1	0.6	0.8
Pb (Dissolved)	T281	10:1	0.3	µg/l	0.5	<0.3	0.3	<0.3	<0.3	0.4	<0.3	0.9
Hg (Dissolved)	T281	10:1	0.05	µg/l	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ni (Dissolved)	T281	10:1	1	µg/l	<1	<1	<1	<1	<1	<1	<1	1
Se (Dissolved)	T281	10:1	0.5	µg/l	<0.5	0.5	0.6	0.7	<0.5	0.5	0.8	0.6
V (Dissolved)	T281	10:1	2	µg/l	<2	<2	<2	<2	<2	<2	<2	<2
Zn (Dissolved)	T281	10:1	2	µg/l	3	2	2	3	6	3	2	3

Index to symbols used in 302573-1

Value	Description
10:1	Leachate
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Method Index

Value	Description
T281	ICP/MS (Filtered)
T6	ICP/OES

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
As (Dissolved)	T281	10:1	0.2	µg/l	U	001-008
Ba (Dissolved)	T281	10:1	1	µg/l	U	001-008
Be (Dissolved)	T281	10:1	0.05	µg/l	U	001-008
Boron	T6	10:1	10	µg/l	N	001-008
Cd (Dissolved)	T281	10:1	0.02	µg/l	U	001-008
Cr (Dissolved)	T281	10:1	1	µg/l	U	001-008
Cu (Dissolved)	T281	10:1	0.5	µg/l	U	001-008
Pb (Dissolved)	T281	10:1	0.3	µg/l	U	001-008
Hg (Dissolved)	T281	10:1	0.05	µg/l	U	001-008
Ni (Dissolved)	T281	10:1	1	µg/l	U	001-008
Se (Dissolved)	T281	10:1	0.5	µg/l	U	001-008
V (Dissolved)	T281	10:1	2	µg/l	U	001-008
Zn (Dissolved)	T281	10:1	2	µg/l	U	001-008

Appendix 7

Groundwater chemical laboratory test certificates



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
Cornbrook
Manchester
M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2468

Report Number: 302819-2

Date of Report: 13-Nov-2012

Customer: BAE Systems
Westcott Venture Park
Westcott
Aylesbury
Bucks
HP18 ONP

Customer Contact: Mr Jonathan Van Nieuwenburgh

Customer Job Reference: B0054/01
Customer Purchase Order: 51231990
Customer Site Reference: Waterloooville
Date Job Received at SAL: 05-Nov-2012
Date Analysis Started: 06-Nov-2012
Date Analysis Completed: 12-Nov-2012

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
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



1549

Report checked
and authorised by :
Mr Ross Walker
Customer Services Manager
(Land)

Issued by :
Mr Ross Walker
Customer Services Manager
(Land)

SAL Reference: 302819							
Project Site: Waterloooville							
Customer Reference: B0054/01							
Water		Analysed as Water					
Heavy Metals(9)							
SAL Reference				302819 001	302819 002	302819 003	
Customer Sample Reference				WS04	WS05	WS11	
Date Sampled				01-NOV-2012	01-NOV-2012	01-NOV-2012	
Determinand	Method	Test Sample	LOD	Units			
As (Dissolved)	T281	AR	0.2	µg/l	1.2	0.6	3.0
Cd (Dissolved)	T281	AR	0.02	µg/l	0.04	0.11	0.25
Cr (Dissolved)	T281	AR	1	µg/l	7	10	16
Cu (Dissolved)	T281	AR	0.5	µg/l	1.7	2.6	4.7
Pb (Dissolved)	T281	AR	0.3	µg/l	<0.3	0.4	0.5
Hg (Dissolved)	T281	AR	0.05	µg/l	0.13	0.10	0.31
Ni (Dissolved)	T281	AR	1	µg/l	7	8	17
Se (Dissolved)	T281	AR	0.5	µg/l	2.2	3.6	6.1
Zn (Dissolved)	T281	AR	2	µg/l	6	5	240

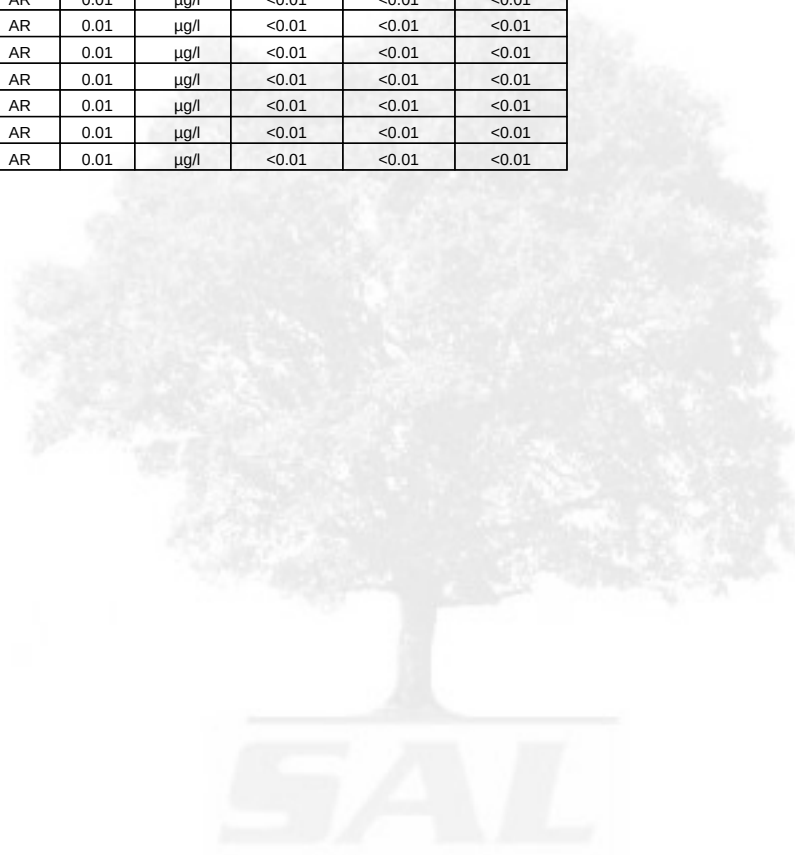
SAL Reference: 302819							
Project Site: Waterloooville							
Customer Reference: B0054/01							
Water		Analysed as Water					
Miscellaneous							
SAL Reference					302819 001	302819 002	302819 003
Customer Sample Reference					WS04	WS05	WS11
Date Sampled					01-NOV-2012	01-NOV-2012	01-NOV-2012
Determinand	Method	Test Sample	LOD	Units			
Ammoniacal nitrogen	T686	AR	0.05	mg/l	<0.05	<0.05	0.32
Nitrate	T686	AR	0.1	mg/l	<0.1	<0.1	<0.1
Sulphate	T686	AR	0.1	mg/l	86	190	1900
pH	T7	AR			7.3	7.4	7.1

SAL Reference: 302819							
Project Site: Waterloooville							
Customer Reference: B0054/01							
Water		Analysed as Water					
TPH (CWG) with MTBE, BTEX							
SAL Reference					302819 001	302819 002	302819 003
Customer Sample Reference					WS04	WS05	WS11
Date Sampled					01-NOV-2012	01-NOV-2012	01-NOV-2012
Determinand	Method	Test Sample	LOD	Units			
Benzene	T54	AR	1	µg/l	(13) <1	(13) <1	(13) <1
EthylBenzene	T54	AR	1	µg/l	<1	<1	<1
M/P Xylene	T54	AR	1	µg/l	<1	<1	<1
Methyl tert-Butyl Ether	T54	AR	1	µg/l	<1	<1	<1
O Xylene	T54	AR	1	µg/l	<1	<1	<1
Toluene	T54	AR	1	µg/l	<1	<1	<1
TPH (C5-C6 aliphatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010
TPH (C6-C8 aliphatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010
TPH (C8-C10 aliphatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010
TPH DW(C10-C12 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01
TPH DW(C12-C16 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01
TPH DW(C16-C21 aliphatic)	T81	AR	0.01	mg/l	0.02	<0.01	<0.01
TPH DW(C21-C35 aliphatic)	T81	AR	0.01	mg/l	0.32	0.03	0.01
TPH (C6-C7 aromatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010
TPH (C7-C8 aromatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010
TPH (C8-C10 aromatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010
TPH DW(C10-C12 aromatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01
TPH DW(C12-C16 aromatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01
TPH DW(C16-C21 aromatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01
TPH DW(C21-C35 aromatic)	T81	AR	0.01	mg/l	0.03	<0.01	<0.01

SAL Reference: 302819
Project Site: Waterloooville
Customer Reference: B0054/01

Water Analysed as Water
Total and Speciated USEPA16 PAH

SAL Reference					302819 001	302819 002	302819 003
Customer Sample Reference					WS04	WS05	WS11
Date Sampled					01-NOV-2012	01-NOV-2012	01-NOV-2012
Determinand	Method	Test Sample	LOD	Units			
Naphthalene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Acenaphthylene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Acenaphthene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Fluorene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Phenanthrene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Anthracene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Fluoranthene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Pyrene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Benzo(a)Anthracene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Chrysene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Benzo(b/k)Fluoranthene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Benzo(a)Pyrene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
PAH(total)	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01



Value	Description
AR	As Received
13	Results have been blank corrected.
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Method Index

Value	Description
T7	Probe
T686	Discrete Analyser
T149	GC/MS (SIR)
T81	GC/FID (LV)
T281	ICP/MS (Filtered)
T215	GC/MS (Headspace)(LV)
T54	GC/MS (Headspace)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Ammoniacal nitrogen	T686	AR	0.05	mg/l	U	001-003
Nitrate	T686	AR	0.1	mg/l	N	001-003
Sulphate	T686	AR	0.1	mg/l	N	001-003
pH	T7	AR			U	001-003
As (Dissolved)	T281	AR	0.2	µg/l	U	001-003
Cd (Dissolved)	T281	AR	0.02	µg/l	U	001-003
Cr (Dissolved)	T281	AR	1	µg/l	U	001-003
Cu (Dissolved)	T281	AR	0.5	µg/l	U	001-003
Pb (Dissolved)	T281	AR	0.3	µg/l	U	001-003
Hg (Dissolved)	T281	AR	0.05	µg/l	U	001-003
Ni (Dissolved)	T281	AR	1	µg/l	U	001-003
Se (Dissolved)	T281	AR	0.5	µg/l	U	001-003
Zn (Dissolved)	T281	AR	2	µg/l	U	001-003
EthylBenzene	T54	AR	1	µg/l	U	001-003
M/P Xylene	T54	AR	1	µg/l	U	001-003
Methyl tert-Butyl Ether	T54	AR	1	µg/l	U	001-003
TPH (C5-C6 aliphatic)	T215	AR	0.010	mg/l	N	001-003
TPH (C6-C8 aliphatic)	T215	AR	0.010	mg/l	N	001-003
TPH (C8-C10 aliphatic)	T215	AR	0.010	mg/l	N	001-003
TPH DW(C10-C12 aliphatic)	T81	AR	0.01	mg/l	N	001-003
TPH DW(C12-C16 aliphatic)	T81	AR	0.01	mg/l	N	001-003
TPH DW(C16-C21 aliphatic)	T81	AR	0.01	mg/l	N	001-003
TPH DW(C21-C35 aliphatic)	T81	AR	0.01	mg/l	N	001-003
TPH (C6-C7 aromatic)	T215	AR	0.010	mg/l	N	001-003
TPH (C7-C8 aromatic)	T215	AR	0.010	mg/l	N	001-003
TPH (C8-C10 aromatic)	T215	AR	0.010	mg/l	N	001-003
TPH DW(C10-C12 aromatic)	T81	AR	0.01	mg/l	N	001-003
TPH DW(C12-C16 aromatic)	T81	AR	0.01	mg/l	N	001-003
TPH DW(C16-C21 aromatic)	T81	AR	0.01	mg/l	N	001-003
TPH DW(C21-C35 aromatic)	T81	AR	0.01	mg/l	N	001-003
Naphthalene	T149	AR	0.01	µg/l	U	001-003
Acenaphthylene	T149	AR	0.01	µg/l	U	001-003
Acenaphthene	T149	AR	0.01	µg/l	U	001-003
Fluorene	T149	AR	0.01	µg/l	U	001-003
Phenanthrene	T149	AR	0.01	µg/l	U	001-003
Anthracene	T149	AR	0.01	µg/l	U	001-003
Fluoranthene	T149	AR	0.01	µg/l	U	001-003
Pyrene	T149	AR	0.01	µg/l	U	001-003
Benzo(a)Anthracene	T149	AR	0.01	µg/l	U	001-003
Chrysene	T149	AR	0.01	µg/l	U	001-003
Benzo(b/k)Fluoranthene	T149	AR	0.01	µg/l	U	001-003
Benzo(a)Pyrene	T149	AR	0.01	µg/l	U	001-003
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	U	001-003
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	U	001-003
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	U	001-003
PAH(total)	T149	AR	0.01	µg/l	U	001-003
1,1,1,2-Tetrachloroethane	T54	AR	1	µg/l	U	001-003
1,1,1-Trichloroethane	T54	AR	1	µg/l	U	001-003
1,1,2,2-Tetrachloroethane	T54	AR	1	µg/l	U	001-003

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
1,1,2-Trichloroethane	T54	AR	1	µg/l	U	001-003
1,1,2-Trichloroethylene	T54	AR	1	µg/l	U	001-003
1,1-Dichloroethane	T54	AR	1	µg/l	U	001-003
1,1-Dichloroethylene	T54	AR	1	µg/l	U	001-003
1,1-Dichloropropene	T54	AR	1	µg/l	U	001-003
1,2,3-Trichloropropane	T54	AR	1	µg/l	U	001-003
1,2,4-Trimethylbenzene	T54	AR	1	µg/l	U	001-003
1,2-dibromoethane	T54	AR	1	µg/l	U	001-003
1,2-Dichlorobenzene	T54	AR	1	µg/l	U	001-003
1,2-Dichloroethane	T54	AR	1	µg/l	U	001-003
1,2-Dichloropropane	T54	AR	1	µg/l	U	001-003
1,3,5-Trimethylbenzene	T54	AR	1	µg/l	U	001-003
1,3-Dichlorobenzene	T54	AR	1	µg/l	U	001-003
1,3-Dichloropropane	T54	AR	1	µg/l	U	001-003
1,4-Dichlorobenzene	T54	AR	1	µg/l	U	001-003
2,2-Dichloropropane	T54	AR	1	µg/l	U	001-003
2-Chlorotoluene	T54	AR	1	µg/l	U	001-003
4-Chlorotoluene	T54	AR	1	µg/l	U	001-003
Benzene	T54	AR	1	µg/l	U	001-003
Bromobenzene	T54	AR	1	µg/l	U	001-003
Bromochloromethane	T54	AR	1	µg/l	U	001-003
Bromodichloromethane	T54	AR	1	µg/l	U	001-003
Bromoform	T54	AR	1	µg/l	U	001-003
Bromomethane	T54	AR	1	µg/l	U	001-003
Carbon tetrachloride	T54	AR	1	µg/l	U	001-003
Chlorobenzene	T54	AR	1	µg/l	U	001-003
Chlorodibromomethane	T54	AR	1	µg/l	U	001-003
Chloroethane	T54	AR	1	µg/l	U	001-003
Chloroform	T54	AR	1	µg/l	U	001-003
Chloromethane	T54	AR	1	µg/l	U	001-003
Cis-1,2-Dichloroethylene	T54	AR	1	µg/l	U	001-003
Cis-1,3-Dichloropropene	T54	AR	1	µg/l	U	001-003
Dibromomethane	T54	AR	1	µg/l	U	001-003
Dichlorodifluoromethane	T54	AR	1	µg/l	U	001-003
Dichloromethane	T54	AR	50	µg/l	N	001-003
Isopropyl benzene	T54	AR	1	µg/l	U	001-003
n-Propylbenzene	T54	AR	1	µg/l	U	001-003
O Xylene	T54	AR	1	µg/l	U	001-003
p-Isopropyltoluene	T54	AR	1	µg/l	U	001-003
S-Butylbenzene	T54	AR	1	µg/l	U	001-003
Styrene	T54	AR	1	µg/l	U	001-003
T-Butylbenzene	T54	AR	1	µg/l	U	001-003
Tetrachloroethene	T54	AR	1	µg/l	U	001-003
Toluene	T54	AR	1	µg/l	U	001-003
Trans-1,2-Dichloroethene	T54	AR	1	µg/l	U	001-003
Trans-1,3-Dichloropropene	T54	AR	1	µg/l	U	001-003
Trichlorofluoromethane	T54	AR	1	µg/l	U	001-003
Vinyl chloride	T54	AR	1	µg/l	U	001-003