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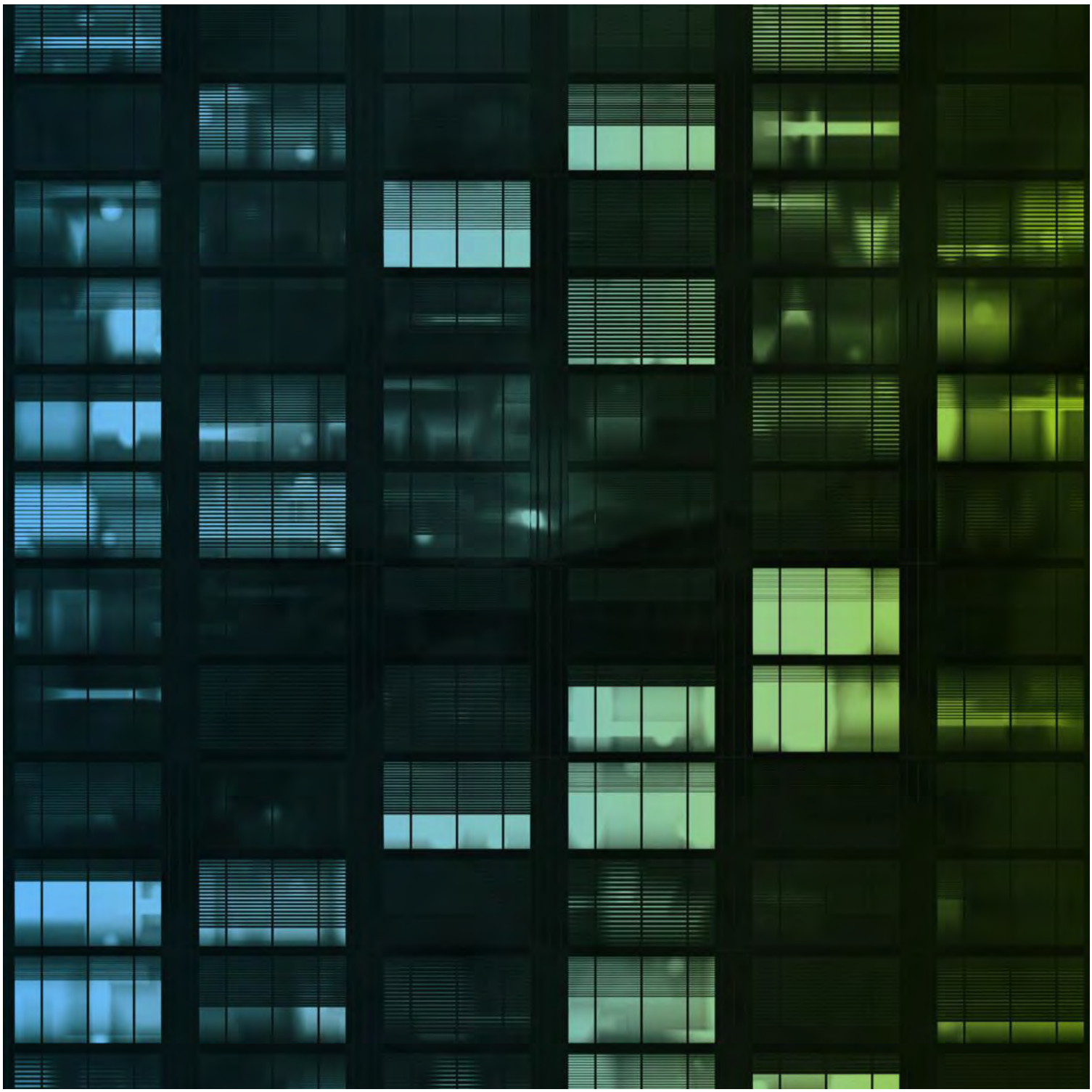
Land Lease (Millers Point) Pty Ltd
23 September 2010

AECOM

FINAL

Data Gap Investigation

EPA Declaration Area (Parts of Barangaroo Site and Hickson Road), Millers Point, NSW



Data Gap Investigation

EPA Declaration Area (Parts of Barangaroo Site and Hickson Road), Millers Point, NSW

Prepared for

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Glossary of Terms

Term	Description
AHD	Australian Height Datum
ALS	ALS Environmental
ANZECC	Australian and New Zealand Environment and Conservation Council
ASS	Acid Sulfate Soils
ASSMP	Acid Sulfate Soil Management Plan
AS	Australian Standard
As	Arsenic
BaP	Benzo-α-pyrene
BDA	Barangaroo Delivery Authority
BH	Borehole Location
BTEX	Benzene, Toluene, Ethyl benzene and Xylenes
Cd	Cadmium
Cr	Chromium
CoPC	Chemicals of Potential Concern
Cr 6+/ Cr VI	Hexavalent Chromium
Cu	Copper
DEC	Department of Environment and Conservation NSW (superseded)
DECC	Department of Environment and Climate Change NSW (superseded)
DECCW	Department of Environment, Climate Change and Water NSW
DGI	Data Gap Investigation
DP	Deposited Plan
DQO	Data Quality Objectives
DQI	Data Quality Indicators
EC	Electrical Conductivity
EE	Excavation Enclosure
EIL	Ecological Investigation Level
EMP	Environment Management Plan
EPA	Environmental Protection Authority
ESA	Environmental Site Assessment
GIL	Groundwater Investigation Level
GME	Groundwater Monitoring Event
GPS	Global Positioning System
Hg	Mercury

Term	Description
HIL	Health Investigation Level
ICP-MS	Inductively Coupled Plasma Mass Spectrometry
m bgs	Metres below ground surface
mbTOC	Metres below top of casing
MW	Monitoring Well Location
LL	Lend Lease (Millers Point) Pty Limited
LOR	Limit of Reporting
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	(National Environmental Protection (Assessment of Site Contamination) Measure
Ni	Nickel
NHMRC	National Health and Medical Research Council
OHS/OH&S	Occupational Health and Safety
PAH	Polycyclic Aromatic Hydrocarbons
PASS	Potential Acid Sulfate Soils
PDA	Project Development Agreement
Pb	Lead
PSI	Preliminary Site Assessment
QA/QC	Quality Assurance/Quality Control
RAP	Remedial Action Plan
RWP	Remediation Work Plan
SAQP	Sampling Analysis and Quality Plan
SAC	Soil Acceptance Criteria
SHFA	Sydney Harbour Foreshore Authority
SIL	Soil Investigation Level
S-ISCO	Surfactant Enhanced In-Situ Chemical Oxidation
SROH	Significant Risk of Harm
SWL	Standing Water Level
SVOC	Semi Volatile Organic Compound
TPH	Total Petroleum Hydrocarbons
VMP	Voluntary Management Proposal
VOC	Volatile Organic Compound
US EPA	United States Environment Protection Agency
VENM	Virgin Excavated Natural Material
Zn	Zinc

Units of Measurement			
°C	degrees Celsius	m	Metres
cm	centimetre	mS	milli-Siemens
ha	hectare	mV	Millivolts
kg	kilogram	ppm	parts per million
km	kilometre	µg	Microgram
		%	Percent

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Executive Summary

Introduction

AECOM Australia Pty Limited (AECOM) was engaged by Lend Lease (Millers Point) Pty Limited (LL) to undertake a Data Gap Investigation (DGI) for the area of land subject to NSW Department of Environment, Climate Change and Water (DECCW) Declaration Area 21122, as issued by the NSW Environment Protection Authority and gazetted on 15 May 2010. The Declaration Area is also known as the former Millers Point gasworks and includes parts of Block 3, Block 4, Block 5, Southern Cove and Hickson Road. For purpose of this report the "Site" is defined as the Declaration Area and selected monitoring wells in part of Block 5, west of the Declaration Area. The DGI was a recommendation of the data review conducted on previous available environmental reports related to the Site.

The majority of the Site has been historically used to manufacture gas from approximately 1840 to 1921. It is understood that some of the former gasworks infrastructure remains in place beneath the current slab and roadways (including Hickson Road). Contamination has been reported in fill material, natural soil and groundwater underlying the Site, other adjacent portions of Barangaroo, adjacent portions of Hickson Road and sediment in the nearby Darling Harbour. Barangaroo has been the subject of reclamation activities over the years, which appears to have consisted of placement of up to 17.5 metres of fill material in the Declaration Area (as defined in the declaration).

It is understood that Barangaroo Delivery Authority (BDA) has entered into a Voluntary Management Proposal (VMP) with DECCW, that addresses (and is limited to) those works required to remove the declaration. Separate to this, AECOM understands that LL intends to re-develop a portion of the Site for high density residential and commercial purposes, with public open space and roadway areas.

While all data related to Site have been combined into this DGI report, it is noted that actual remediation design documents (e.g. human health and ecological risk assessment, remedial action plan and remediation works plan) will be prepared separately for both the removal of the declaration and redevelopment purposes, to delineate the differing objectives and end requirements for these works.

Purpose and Objectives

The purpose of the DGI is to reduce uncertainties which exist in the current data set, confirm the characteristics of soil and groundwater underlying the site, provide the additional data required if a quantitative human health and ecological risk assessment (HHERA) is developed and facilitate the development of a Remedial Action Plan (RAP) and Remediation Works Plan (RWP) for the Site.

The subsequent objectives of the Declaration Area DGI are as follows:

- Complete investigations considering the proposed development incorporating the Site.
- Complete a detailed DGI with a scope, extent and test frequency that will provide a robust data set (including both current and new data) suitable for:
  - Qualification and quantification of soil and groundwater contamination (including assessment of acid sulfate soils [ASS]) to facilitate planning of the proposed remediation strategies.
  - Supporting the further development, refinement, costing and design of remediation strategies for the Site, including preparation of a detailed RAP and RWP.

Scope of Works

To achieve the objective of the investigation, the following scope of work was undertaken:

- A total of 24 boreholes were advanced across the Site, which were subsequently sampled;
- Conversion of nine boreholes to groundwater monitoring wells;
- Installation and sampling of seven soil vapour wells;
- Sampling of a further five groundwater monitoring well locations located down gradient of the Declaration Area.

- Monitoring of groundwater including completion of rising head tests and tidal fluctuation monitoring within selected groundwater monitoring wells; and
- Preparation of this DGI report, discussing the methodologies used, the investigation results and conclusions regarding future requirements for management and/or remediation of the Site.

Results

The results of the investigations conducted by AECOM and others across the Site indicated the following:

Fill and Soil

- The depth of fill materials encountered during the DGI was variable across the Declaration Area, with fill depths ranging from 0.43 m bgs (AECOM BH67) to 17.5 m bgs (AECOM BH56). Fill materials were generally shallower in the eastern portion of the Site closest to Hickson Road and deeper in the western portion of the Site. The thickness of fill material generally increased from east to west across the Site. Observed fill materials generally comprised unconsolidated gravels, sand, bricks, sandstone, timber, slag and steel in a variable gravelly sand to clayey sand matrix. Fill materials were present above natural silty sands, gravelly sands, clays, weathered sandstone and sand with components of clay overlying sandstone bedrock;
- Concentrations of contaminants of potential concern (CoPC) including lead, total petroleum hydrocarbons (TPH) (C6-C9 and C10-C36), benzene, toluene, ethylbenzene, xylene (BTEX) compounds, polycyclic aromatic hydrocarbons (PAHs) (including benzo(a)pyrene [B(a)P]) and sulfate variably exceeded the adopted Site investigation Criteria. Concentrations of some semi volatile organic compounds (SVOCs) exceeding the laboratory limit of reporting (LOR) were also reported. The reported results are generally consistent with the findings of previous investigations with respect to the identified CoPC.
- The maximum concentrations of CoPC were generally located in proximity to and down gradient of the former gasworks infrastructure in Block 4 and Hickson Road. Free tar was identified at eight locations within Hickson Road and Block 4 in the vicinity of the tar tank, purifying beds and 1870 gasholder indicating these locations are the main areas of contamination.

Soil Vapour

- Reported soil vapour results indicated some gasworks-derived impacts (indicated by the presence of naphthalene) in locations closest to the former gasworks area, and low concentrations of toluene, chloroform and tetrachloroethene (below soil vapour guidelines) in some locations. The reported results were below the Site investigation criteria.

Groundwater

- Groundwater is present beneath the site within the fill materials and underlying natural material. Groundwater was encountered at the Site at depths ranging from 1.38 to 2.92 m below ground surface (bgs) and is subject to tidal fluctuation. Water level monitoring within selected wells over a three day period confirmed that groundwater at the Site is tidally influenced, with the influence extending as far east (inland) as Hickson Road, although the degree of fluctuation is much less on the eastern portion of the Site towards Hickson Road.
- Dissolved-phase concentrations of contaminants were variably reported above the Site investigation criteria (e.g. lead, cadmium, chromium (III+VI), cobalt, copper, mercury nickel, zinc, benzene, naphthalene, phenol and ammonia).
- The most significant groundwater contamination was identified in the immediate vicinity of the former gasworks infrastructure and contamination is present in both dissolved and free phase forms. Concentrations of contaminants in excess of the assessment criteria were also identified in down-gradient wells, indicating the westerly migration of contamination. The results of the investigation indicate that the variable nature and distribution of fill materials at the Site cause localised variations in groundwater flow and associated contaminant migration, which is further complicated by tidal movements.

Conceptual Site Model Update

Based on the combined the ERM, Coffey and AECOM dataset, the following points provide an update to the conceptual site model:

- The majority of gasworks related contamination present underlying the Declaration area has been confirmed. With the exception of 4 locations outside of the Declaration Area (ERM BH169, ERM BH191,

AECOM BH40 and AECOM BH60), observations of tar and tarry/strong hydrocarbon odour with sheen on sampled material were entirely in boreholes within the Declaration Area.

- The deeper contamination reported in the Public Domain west of Block 5 has been confirmed as being present in the natural soil immediately underlying the fill material.
- The conceptual model depicted in ERM (2008) Figure 20 generally fits with the exception of deep bedrock contamination (discussed below). AECOM DGI boreholes did not generally extend into bedrock and therefore the deep bedrock contamination interpreted in ERM BH205, BH206 and BH209 has not been confirmed.

Review of the ERM borelogs and soil data indicates that the highly impacted zones of contamination appear to be in the natural soil at the bedrock interface and decrease with depth. Because the wells installed in BH206 and BH209 are screened across the natural soil and sandstone bedrock (as indicated in the borelogs) and there is no evidence for deep contamination in BH205 (other than tar in the well which could be related to well completion issues given the difficult nature of the drilling at the Barangaroo Site), AECOM considers that the dataset does not support the presence of deep bedrock contamination.

The combined dataset indicates that the highly impacted zone is generally at the base of the fill material, through the natural soil and into the top of the sandstone. This is would be expected at a DNAPL site where highly variable and permeable fill material overlies a relatively less permeable natural soil/bedrock. The DNAPL would migrate downwards and pool/adsorb on a less permeable underlying strata. It is also noted that given the high tidal connectivity of the fill material, lower concentrations in the fill material would be expected, with the higher concentrations remaining in the lower permeable material with less connectivity (supported by AECOM 2010c).

Conclusions and Recommendations

The DGI for the Declaration Area has identified elevated concentrations of CoPC exceeding the adopted Site investigation criteria. The reported results are considered to be primarily associated with the Sites former land use as a gas manufacturing plant and with the importation of fill materials to level the Site.

The Site has been declared a Remediation Site by the EPA (now known as DECCW) as it has been previously determined that the land is contaminated in such a way as to present a significant risk of harm to human health and the environment. The reported results of this DGI and previous investigations support this determination.

AECOM considers that the DGI has derived sufficient data to address identified existing data gaps and confirm the general characteristics of soil, fill, soil vapour and groundwater underlying the Site in order to allow:

- Planning of the proposed remediation strategies and commencement of remediation treatability trials;
- Development of contaminant fate and transport modelling;
- Development of a Site specific HHERA demonstrating what soil and groundwater contamination will represent an acceptable risk if reused as part of the development (including placement in Headland Park); and
- Further development and refinement of the proposed remediation strategies and associated environmental management measures, including preparation of a detailed remediation action plan (RAP) and final remediation works plan (RWP).

In order to achieve the objectives of removing the declaration which currently applies to the Site and making the Site suitable for the proposed land use, AECOM recommends completion of the following:

- A site-specific HHERA addressing the remediation required for removal of the Declaration;
- A separate HHERA addressing the remediation of the Declaration Area for the proposed future land use;
- A stand-alone RAP addressing Declaration removal detailing options for remediation and/or management and a recommended preferred strategy that will:
  - Facilitate removal of the DECCW Declaration only.
  - Detail validation requirements to be implemented to demonstrate successful completion of the remedial works.
  - Detail the requirement (if any) for potential future monitoring or management.
- A separate RAP detailing options for remediation and/or management and a recommended preferred strategy that will:
  - Render the areas suitable for their intended land use.

  - Detail validation requirements to be implemented to demonstrate successful completion of the remedial works.
  - Detail the requirement (if any) for potential future monitoring or management.
- Separate RWPs providing technical specifications of the work that must be completed to facilitate delivery of the remediation works prescribed by the RAPs for the Site; and
- An Acid Sulphate Soil Management Plan (ASSMP) for the management of PASS during future excavation works.

1.0 Introduction

AECOM Australia Pty Limited (AECOM) was engaged by Lend Lease (Millers Point) Pty Limited (LL) to undertake a Data Gap Investigation (DGI) for the area of land subject to NSW Department of Environment, Climate Change and Water (DECCW) Declaration Area 21122, as issued by the NSW Environment Protection Authority and gazetted on 15 May 2010. The Declaration Area is also known as the former Millers Point gasworks and includes parts of Block 3, Block 4, Block 5, Southern Cove and Hickson Road. For purpose of this report the "Site" is defined as the Declaration Area and selected monitoring wells in part of Block 5, west of the Declaration Area. The DGI was a recommendation of the data review conducted on previous available environmental reports related to the Site.

Figure F1 shows the location of the Site and **Figure F2** shows the layout of the site.

The majority of the Site has been historically used to manufacture gas from approximately 1840 to 1921. It is understood that some of the former gasworks infrastructure remains in place beneath the current slab and roadways (including Hickson Road). Contamination has been reported in fill material, natural soil and groundwater underlying the Site, other adjacent portions of Barangaroo, adjacent portions of Hickson Road and sediment in the adjacent Darling Harbour. Barangaroo has been the subject of reclamation activities over the years, which appears to have consisted of placement of up to 17.5 metres of fill material in the Declaration Area.

In May 2009, the NSW Environment Protection Authority (EPA) determined that the Declaration Area was contaminated in such a way as to present a significant risk of harm (SROH) to human health and the environment. As a consequence the EPA declared the Declaration Area to be a Remediation Site (Declaration Number 21122; Area Number 3221) under the then section 9 of the Contaminated Land Management Act, 1997.

It is understood that Barangaroo Delivery Authority (BDA) has entered into a Voluntary Management Proposal (VMP) with DECCW, that addresses (and is limited to) those works required to remove the Remediation Site declaration. Separate to this, AECOM understands that LL intends to re-develop a portion of the Site for high density residential and commercial purposes, with public open space and roadway areas.

This DGI represents the first step in the design, planning and remediation of contamination as part of the proposed Site Stage 1 Barangaroo Development.

While all data related to Site have been combined into this DGI report, it is noted that actual remediation design documents (e.g. human health and ecological risk assessment, remedial action plan and remediation works plan) will be prepared separately for both the removal of the declaration and redevelopment purposes, to delineate the differing objectives and end requirements for these works.

AECOM notes that similar data gap investigations are occurring in other designated portions of the Barangaroo Stage 1 area (Other Remediation Works North Area and Other Remediation Works South Area) and these will be reported separately.

1.1 Purpose and Objectives

The purpose of this DGI is to:

- Reduce uncertainties which exist in the current data set;
- Confirm the characteristics of soil and groundwater underlying the Site;
- Provide the additional data required for the development of separate quantitative human health and ecological risk assessments (HHERAs) addressing the remediation required for removal of the DECCW Declaration and remediation of the DECCW Declaration Area for the proposed future land use; and
- Facilitate the development of separate Remedial Action Plans (RAPs) and Remediation Works Plans (RWPs) which describe the remediation strategy to be implemented to address the remediation required for removal of the DECCW Declaration and remediation of the DECCW Declaration Area for the proposed future land use.

The subsequent objectives of the Declaration Area DGI are as follows:

- Complete investigations considering the proposed development of the Site (**Figure F3)**.
- Complete a detailed DGI with a scope, extent and test frequency that will provide a robust data set (including both current and new data) suitable for:

- Qualification and quantification of soil and groundwater contamination (including assessment of ASS) to facilitate planning of the proposed remediation strategies.
- Supporting the further development, refinement, costing and design of remediation strategies for the Site, including preparation of a detailed RAP and RWP.

1.2 Data Quality Objectives

In determining the type, quantity and quality of data needed to support decisions relating to the environmental condition of the Site, AECOM undertook the seven-step process to develop the DQOs in accordance with NSW DEC (2006) in the SAQP (AECOM, 2010a).

In developing the DQOs for the investigation, an initial phase of review was undertaken to appraise relevant and available background information and to develop a preliminary conceptual site contamination model identifying the areas of the Site that required investigation for the purpose of assessing the requirements for either the management and/or remediation during the re-development of the Site. The DQOs are discussed in **Appendix A**.

1.3 Scope of Work

The following scope of work was undertaken to achieve the DGI objectives:

- Underground service location was conducted across the Site, including the marking and clearing of proposed intrusive works locations;
- Following service clearance, all locations were concrete cored and air knifed to a depth of one metre below ground surface (m bgs) to further minimise the risk of striking underground services;
- A total of 24 boreholes were advanced across the Declaration Area at the locations shown on **Figure F4**;
- Soil samples were collected from each borehole location;
- Nine of the boreholes were converted to groundwater monitoring wells at the locations shown on **Figure F4**;
- An additional seven boreholes were advanced across the Site for the installation of seven soil vapour wells at the locations shown on **Figure F4**;
- A further five groundwater monitoring well locations located down gradient groundwater of the Declaration Area were sampled at the locations shown on **Figure F4** to evaluate the potential for migration of contamination (towards Darling Harbour) from the Declaration Area;
- Groundwater levels were gauged at each new AECOM location and existing ERM and Coffey monitoring well locations (where tar was not present);
- Laboratory analysis of samples was conducted by National Association of Testing Authorities (NATA) certified methods using NATA accredited laboratories (ALS, LabMark, SGS and Australian Soil Testing);
- A survey of soil, soil vapour and groundwater sampling locations was conducted; and
- Preparation of this DGI report, discussing the methodologies, the investigation results and conclusions regarding the requirements for management and/or remediation of the Site during the re-development works.

Fieldwork for other aspects of the overall Barangaroo Stage 1 investigations were conducted concurrently and included:

- Excavation of seven test pits for the collection of bulk samples to conduct treatability trials for preferred remedial technologies (surfactant enhanced in situ chemical oxidation and ex situ stabilisation); and
- Installation of multi-level piezometers down gradient of the Site and a stilling well in Darling Harbour.

The details of these works are reported separately (VeruTEK, 2010a, and b and AECOM 2010c) but observations and data are used in this report where relevant to help further develop the conceptual site model.

2.0 Site Identification

The following table provides Site identification details.

Table 1: Site Identification Details

Item	Description
Site Owner	Barangaroo: The Barangaroo Delivery Authority (BDA) Hickson Road: City of Sydney Council
Client	Lend Lease (Millers Point) Pty Ltd (LL)
Site Address	Wharf 8, Hickson Road (Sussex Street), Barangaroo, NSW 2000
Legal Description (Lot and DP)	Part Lot 5 and Part Lot 3 in Deposited Plan 876514 Section of Hickson Road in State Plan 118 and 162 (refer **Appendix B**)
County and Parish	County of Cumberland, Parish of Saint Phillip
Local Government Authority	City of Sydney
Current Zoning	Site within Hickson Road: Maritime and Transport Zone [a] Site within Barangaroo: Part zone B4 Mixed Use [b]
Current Land Use	Vacant. Partial access for public recreation (waking and bike riding).
Proposed Land Use	Block 3: High density residential (minimal access to soil) and commercial with basement car parking Block 4: High density residential (minimal access to soil) and commercial with basement car parking Block 5: High density residential (minimal access to soil) and commercial with basement car parking Southern Cove: Recreational Open Space Hickson Road: Roadway
Site Area**	Block 3: 183 m^2 Block 4: 10,718 m^2 Block 5: 4,583 m^2 Southern Cove: 2,984 m^2 Hickson Road: 5,729 m^2
Approximate Average Elevation	2 - 3 m AHD
Site Location	**Figure F1**
Site Layout	**Figure F2**

Notes:

** Derived from CAD plans provided by LL. Areas are based on Blocks and sub-areas within the prescribed Site boundaries only.

AHD – Australian Height Datum

[a] City of Sydney 2005. *Sydney Local Environmental Plan 2005*, Gazetted 9 December 2005, as amended.

[b] – NSW Department of Planning 2007. Appendix 4 In: *State Environmental Planning Policy (Major Projects) 2005 (Amendment No 19),* Gazetted 12 October 2007.

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3.0 Previous Investigations

A number of previous investigations have been undertaken at the Site. It is noted that these investigations also included areas of Barangaroo not included in this report. The reports considered relevant to the DGI include the following:

- NA&A .1996. Initial Environmental Assessment, Sydney Ports Corporation, Darling Harbour Berths 3-8 Hickson Road, Darling Harbour. June.
- Jeffery and Katauskas (J&K). 2006. Geotechnical Report development of Wharves 3-8 at East Darling Harbour. August.
- ERM. 2007. Environmental Site Assessment, East Darling Harbour, Sydney, NSW, Final Report. 21 June.
- Coffey Environments. 2008. Preliminary Environmental Investigation, 30-38 Hickson Road, Millers Point, NSW 2000. 12 May.
- ERM. 2008a. Additional Investigation Works at Barangaroo, Hickson Road, Millers Point, NSW. July.
- ERM. 2008b. Preliminary Sediment Screening Works at East Darling Harbour, Adjacent to Barangaroo, NSW, Draft, Rev 03. August.
- ERM. 2008c. Draft Stage 2 Remedial Action Plan for Barangaroo, Hickson Road, Sydney. September.
- ARUP. 2008. Barangaroo Development, East Darling Harbour Geotechnical Desk Top Study. 28 October.
- AECOM Australia Pty Ltd, 2009b. Revised Draft Remediation Work Plan, Stage 1 Development, Barangaroo, 30 November.
- AECOM Australia Pty Ltd 2010b. Data Gap Investigation, Other Remediation Works (South) Area Hickson Road, Millers Point NSW. 6 April.

These reports are summarised in **Sections 3.1** to **3.10** below.

Sample locations from the previous investigations are presented in **Figure F4**.

In addition to the above investigations, additional documentation which has been reviewed and considered during the preparation of the DGI report includes the following:

- LL supplied CD, 2010. BDA Supplied Historical Work As Executed Drawings for the Former Wharf Structures at Berths 3 to 8, Barangaroo. CD dated 21 January.
- LL supplied CD, 2010. Geotechnical Information - Barangaroo Area (including CBD Metro Geotechnical and Environmental Investigations, completed by Coffey). CD dated 21 January.
- LL Scheme CAD files provided to AECOM in December 2009.

AECOM notes that the DGI will facilitate the development of a RAP and RWP, which will describe the remediation strategy to be implemented for the Declaration Area. The Overarching Remedial Action Plan for the Barangaroo Project Site (ERM, 2010d) has been finalised, and provides guidance for remediation works across the entire Barangaroo Site. The Overarching RAP requires that specific RAPs be developed to address remediation to remove the Declaration and for development of various parts of the Barangaroo Site.

3.1 NA&A (1996)

Noel Arnold and Associates (NA&A) were commissioned by the Sydney Ports Corporation to undertake an Initial Environmental Assessment at Berths 3-8 Hickson Road, Darling Harbour, NSW.

The report details results of an initial contamination assessment and provides options for remedial management of the area investigated. Known and potential contamination was not determined to be a risk to the ongoing use by the then occupant providing subsurface materials were not disturbed. Impact was identified in the area of the former AGL Gasworks located to the north of the Site.

3.2 Coffey (1998)

Coffey was engaged by Sydney Ports Corporation to undertake an Environmental Soil Quality Assessment of Wharf 8, Darling Harbour.

The investigation was a limited site assessment including soil sampling at Wharf 8 to identify contamination and provide options for disposal of excavated soil associated with proposed development. The ESA reported limited

PAH contamination and identified material required for off-site disposal that would likely require industrial or hazardous waste classification.

3.3 URS (2001)

URS was commissioned by the Sydney Harbour Foreshore Authority (SHFA) to conduct a Contamination Review for Darling Harbour – Berths 3/8, which comprised a review of the contamination issues collated from 11 reports, produced between1993 to 2001. The review identified soil and groundwater contamination associated with the former gasworks, including off-site migration, and soil contamination associated with current vehicle maintenance operations.

3.4 J&K (2006)

Jeffery and Katauskas Pty Ltd (J&K) undertook a Geotechnical Investigation for the East Darling Harbour property (Barangaroo). The investigation was undertaken concurrently with the ERM (2007) Environmental Site Assessment (ESA) which is summarised in **Section 3.5** below.

Key geotechnical findings from the J&K investigation were:

- Fill was sandy and increased in clay content with depth and refusal occurred within fill at several locations across the Site;
- The fill contained large pieces of rubble and was poorly compacted;
- The alluvial sediments consisted predominantly of sandy clays which extended to sandstone bedrock; and
- Sandstone bedrock was generally shallower at the eastern portions of the Site and deepest over the western portion towards Darling Harbour.

3.5 ERM (2007)

Environmental Resources Management Australia (ERM) was commissioned by SHFA to undertake an ESA which consisted of a Stage 1 Preliminary Site Investigation (PSI) and Stage 2 Detailed Site Investigation (DSI) for the East Darling Harbour property (Barangaroo). The investigation was undertaken concurrently with the J&K (2006) investigation (summarised in **Section 3.5** above).

The PSI component of the investigation reported that the area of land which partially encompassed the Site was historically used for port/wharf activities and workshops. The former AGL gasworks site was located within the Site boundary and reclamation activities had historically occurred at Barangaroo for the construction of the wharfs.

Based on the historical information ERM concurred with URS (2001) investigation that the contaminants of potential concern (CoPC) for the Barangaroo Site were TPH, BTEX, heavy metals, PAHs, PCBs, cyanide, sulfates, OCPs and OPPS.

The ESA made the following conclusions:

- Impacts to soil and groundwater were identified predominantly within the area of the former gasworks infrastructure and the reclaimed northwest portion of the Site, with the primary contaminants of concern confirmed as lead, TPH/BTEX and PAH;
- No non aqueous phase liquids (NAPLs) were observed during the investigation, however concentrations of organic contaminants such as TPH indicated that NAPL was likely present in the vicinity of the former gasworks area;
- The groundwater regime was likely to be strongly influenced by tidal fluctuation;
- There appeared to be potential for both migration of contamination onto the Site from the east and migration of contamination from the site into adjacent properties and into Darling Harbour;

The ESA included the following key recommendations:

- The extent of the risks to human health and the environment should be assessed through further investigations and a quantitative risk assessment; and
- Additional delineation investigations and assessment of vapour flux from impacted areas and further assessment of hydrogeological conditions should be undertaken before developing a RAP.

A summary of soil and groundwater results from the ESA is included in **Section 3.7** along with the additional soil data from the 2008 ERM additional investigation.

3.6 Coffey (2008)

Coffey Environments Pty Ltd (Coffey) was commissioned by the Council of the City of Sydney to undertake a Preliminary Environmental Investigation (PEI) at the segment of Hickson Road (between numbers 30 to 38), Millers Point, NSW, which is located on the eastern portion of the Site.

- Soil samples were analysed for Heavy Metals, TPH, BTEX, PAH, phenols, chlorinated hydrocarbons and asbestos. Groundwater samples were analysed for Heavy Metals, TPH, BTEX, PAH, phenols, chlorinated hydrocarbons and ammonia.
- The general ground conditions encountered during the intrusive investigation comprised asphalt overlaying concrete and fill ranging in depth between 3.1 and 9.4 m bgs. The fill generally consisted of gravelly sand and sandy gravels with minimal anthropogenic inclusions. The fill was generally underlain by sandstone, with the exception of residual clayey sand and sand soils at two locations (BH3 and BH2).
- Tar was encountered in boreholes BH7 (4.6-5.4 m bgs) and BH10 (8.5 and 9.4 m bgs) which were located in the southern portion of the investigation area.
- Concentrations of heavy metals, phenols and chlorinated hydrocarbons were either less than the laboratory LOR or the adopted assessment criteria in all samples analysed. Asbestos fibres were not detected in any sample analysed.

Concentrations of TPH, BTEX and PAHs were detected at concentrations greater than the adopted assessment criteria in soil samples from the following locations:

- MW7 - reported the following exceedences:
  - TPH C6-C9 concentrations ranged between 227 mg/kg (3.5 m bgs) and 7890 mg/kg (5.1 m bgs);
  - TPH C10-C36 concentrations ranged between 2660 mg/kg (1.4 m bgs) and 126 300 mg/kg (5.1 m bgs);
  - BTEX concentrations with maximum concentrations of 2080 mg/kg of benzene, 1990 mg/kg of toluene, 154 mg/kg of ethylbenzene and 1863 mg/kg of total xylene;
  - Total PAH concentrations ranging between 267.7 mg/kg(1.4 m bgs) and 370081.9 mg/kg (5 m bgs); and
  - Benzo(a)pyrene concentrations ranging between 32.1 mg/kg (1.4 m bgs)and 677 mg/kg (5 m bgs).
- MW10 - reported the following exceedences:
  - TPH C6-C9 concentration of 7590 mg/kg at 8.6 m bgs;
  - TPH C10-C36 concentrations of 60200 mg/kg and 181 800 mg/kg at 4.9 m bgs and 8.6 m bgs respectively;
  - BTEX concentrations with maximum concentrations of 1510 mg/kg of benzene, 2650 mg/kg of toluene, 261 mg/kg of ethylbenzene and 261 mg/kg of total xylene;
  - Total PAH concentrations ranging between 101.2 mg/kg (1.9 m bgs) and 41 270.8 mg/kg (8.6 m bgs); and
  - Benzo(a)pyrene concentrations ranging between 8.6 mg/kg (1.9 m bgs) and 412 mg/kg (8.6 m bgs).
- MW3- reported the following exceedences:
  - TPH C10-C36 concentrations 4280 mg/kg (1 m bgs) and 9940 mg/kg (3 m bgs);
  - Total PAH concentrations of 360.6 mg/kg (3 m bgs) and 530.5 mg/kg (0.9 m bgs); and
  - Benzo(a)pyrene concentrations10.9 mg/kg (3 m bgs) and 11.7 mg/kg (0.9 m bgs).
- BH4 - reported the following exceedences:
  - TPH C10-C36 concentration of 8860 mg/kg at 2.6 m bgs;
  - Total PAH concentration of 169.7 mg/kg at 2.4 m bgs; and
  - Benzo(a)pyrene concentration 11.4 mg/kg at 2.4 m bgs.
- BH5- reported the following exceedences:
  - TPH C10-C36 concentration of 1700 mg/kg at 0.5 m bgs;
  - Benzene concentration of 2 mg/kg at 0.5 m bgs;
  - Total PAH concentration of 102.9 mg/kg at 0.5 m bgs; and
  - Benzo(a)pyrene concentration of 6.9 mg/kg at 0.5 m bgs.

- BH8- reported the following exceedences:
  - Total PAH concentration of 170.7 mg/kg and 332.9 mg/kg at 0.4 m bgs and 0.7 m bgs respectively; and
  - Benzo(a)pyrene concentration of 16.1 mg/kg and 31.3 mg/kg at 0.4 m bgs and 0.7 m bgs respectively.

Concentrations of TPH, PAH, BTEX, heavy metals and phenols variably exceeded the adopted assessment criteria [ANZECC (2000) Marine 95%)] in the groundwater samples analysed. The groundwater results are summarised below:

- TPH C_6-C_{36} concentrations ranged between 0.22 mg/L (MW6) and 907.87 mg/L (MW7);
- Benzo(a)pyrene concentrations ranged between 0.2 mg/L (MW6) and 709 mg/L (MW10);
- Naphthalene concentrations ranged between 0.6 mg/L (MW6) and 15 800 mg/L (MW10);
- Phenol concentrations ranged between 2 ug/L (MW3) and 249 000 ug/L (MW10);
- Heavy Metals:
  - Arsenic ranged between 5 ug/L (MW3) and 24 ug/L (MW10);
  - Cadmium ranged between 0.1 ug/L (MW10) and 1 ug/L (MW6);
  - Zinc concentrations ranged between 22ug/L (MW7) and 378 ug/L (MW10); and
  - Copper ranged between 1 ug/L (MW3) and 20 ug/L (MW6).

The Coffey PEI made the following conclusions and recommendations:

- High concentrations of soil and groundwater contamination were present in the former gasworks infrastructure, with the nature of the contamination typical of gasworks operations;
- Heavier fractions of hydrocarbons were present in bedrock and separate phase hydrocarbon have the potential to move slowly along fractures and joints in the sandstone bedrock;
- The extent of deeper contamination associated with the former main gas holder annulus could not be delineated as part of the investigation;
- The current use of the land as a public road was considered to be a low risk to human health as there was no direct contact with contaminated soils; and
- It was recommended that following additional investigations to reduce uncertainties and further delineate the impacted soils and groundwater that a Remedial Action Plan be developed.

3.7 ERM (2008a)

ERM was commissioned by SHFA to undertake additional soil and groundwater investigation works at Barangaroo. The objectives of the works were to fill in data gaps in soil and groundwater data to enable a RAP to be developed.

The findings of the ERM Additional Investigation were:

- Concentrations of lead, TPH, BTEX, PAH and sulphate exceeded the adopted assessment criteria in soil across the majority of the Site, with the highest concentrations occurring within the area known to contain historical gasworks infrastructure;
- Concentrations of dissolved TPH C_6-C_{36}, BTEX and PAH compounds exceeded the adopted groundwater assessment criteria within the declared gasworks remediation area. Exceedences within the area known to contain historical gasworks infrastructure were identified in wells screened across fill, natural clayey sand and sandstone bedrock;
- Free phase hydrocarbons or dense non-aqueous phase liquid (DNAPL) were located during drilling at several locations and was accumulated in completed monitoring well MW204D; and
- The likely contamination migration pathways in groundwater were identified by ERM to be through bedding planes in sandstone, the highly permeable fill aquifer and subsurface anthropogenic structures such as utilities or building related disturbances.

A summary of the results from within the Site are provided in **Table 2** below. The table also includes the relevant ERM (2007) ESA results.

Table 2: Summary of Soil Analytical Results from ERM 2007 and 2008 Investigations and ERM (2007) Groundwater Results

Analyte	No. Soil Results	Soil Results (Coffey and ERM)	Groundwater Results (All monitoring rounds, Coffey and ERM)
Heavy Metals	142	Concentrations of metals in samples were all less than NSW DECC (2006) SIL4 Criteria with the exception of lead in the following samples ERM locations listed. • BH201/10.3 (3190 mg/kg) • BH132_1.5-1.95 (12100 mg/kg) • BH074_1.5-1.95 (1930 mg/kg) • BH067-1.5-1.95 (13600 mg/kg) • BH062-1.5-1.95 (2870 mg/kg) Metal concentration ranges are listed below. • Lead (<5 to 13 600 mg/kg) • Arsenic (<5 to 33 mg/kg) • Cadmium (<1 to 2) • Chromium (III+VI) (<2 to 171 mg/kg) • Copper (<5 to 171 mg/kg) • Mercury (<0.1 to 5.2 mg/kg) • Nickel (<2 to 107 mg/kg) • Zinc (<5 to 4770 mg/kg)	Heavy metal concentration ranges are and exceedences are listed below. • Lead : <0.0002 to 0.037 mg/L (ANZECC [2000] 95% trigger value [ANZECC] exceedences in ERM MW15 and Coffey MW6 and MW7) • Arsenic: <0.0005 mg/L to 0.024 mg/L • Cadmium: <0.0001 to 0.007 mg/L • Chromium (III+VI): <0.0005 to 0.017 mg/L (ANZECC exceedences in Coffey MW10, ERM MW15, ERM MW198 and ERM MW204D) • Copper: <0.001 to 0.003 mg/L (ANZECC exceedences in Coffey MW7 and MW10) • Mercury: <0.0001 to 0.0011 mg/L (ANZECC [99%] exceedences in ERM MW15,MW198, MW204D, MW205 and Coffey MW7, MW15 and MW10) • Nickel: 0.005 to 0.158 mg/L (ANZECC exceedences in ERM MW205, MW198, MW15 and Coffey MW10) • Zinc: 0.009 to 0.373 mg/L (ANZECC exceedences in Coffey MW10, MW6, MW15 and MW3 and in ERM MW15, MW198, MW200 and MW205)
TPH C6-C9	137	TPH C6-C9 was detected in 35 samples and the concentration range was <2 to 7590 mg/kg. 19 samples exceeded the NSW EPA (1994) criteria of 65 mg/kg. The highest concentration was in sample MW10_8.6-8.7 (Coffey).	TPH C6-C9 concentrations ranged from <20 to 73600 µg/L The highest concentration was in ERM MW205 and the lowest in Coffey MW6.
TPH C10-C36	143	TPH C10-C36 was detected in 82 samples and the concentration range was <50 to 181 100 mg/kg. 19 samples exceeded the NSW EPA (1994) criteria of 1000 mg/kg. The highest concentration was in sample MW10_8.6-8.7(Coffey).	TPH C10-C36 concentrations ranged from <50 to 205 000 µg/L. The highest concentration was in Coffey MW15 and the lowest in Coffey MW6.

Analyte	No. Soil Results	Soil Results (Coffey and ERM)	Groundwater Results (All monitoring rounds, Coffey and ERM)
BTEX	137	Benzene, Toluene, Ethylbenzene and Total Xylene was detected in 27 to 31 samples and the concentration ranges and number of exceedences of the NSW EPA (1994) criteria were: • Benzene (<0.2 to 1510 mg/kg), 24 exceedences • Toluene (<0.2 to 2650 mg/kg), 4 exceedences • Ethylbenzene (<0.2 to 261 mg/kg), 2 exceedences • Total Xylene (<0.01 to 2576 mg/kg), 16 exceedences The highest concentration was in sample MW10_8.6-8.7 (Coffey).	The following BTEX concentration ranges have been reported: • Benzene: <1 to 40200 µg/L (ANZECC exceedences in ERM MW15,MW200, MW204D, MW205, MW209 and Coffey MW7, MW15 and MW10) • Ethylbenzene: <2 to 3020 µg/ L (highest concentration in MW205) • Toluene: <0.002 to 17.6 µg/L (highest concentration in ERM MW15) • Total Xylene: <4 to 6700 µg/L (highest concentration in ERM MW15)
PAHs	143	Total PAHs was detected in 35 samples and the concentration range was <0.5 to 29652.8 mg/kg. 102 samples exceeded the NSW DECC (2006) SIL4 Criteria for Total PAHs of 100 mg/kg. The highest concentration was in sample MW10_8.6-8.7. B(a)P was detected in 88 samples and the concentration range was <0.5 to 29652.8 mg/kg. 51 samples exceeded the NSW DECC (2006) SIL4 Criteria for B(a)P of 652 mg/kg. The highest concentration was in sample BH204D/1.5.	PAH concentration ranges are listed below. Total PAHs: 2.2 to 384000 µg/L (highest concentration in Coffey MW15) Naphthalene: 0.6 to 192000 µg/L (ANZECC exceedences in Coffey MW15, MW7 and MW3 and ERM MW210, MW209, MW206, MW205, MW204D, MW200 and MW15) B(a)P: <0.2 to 7750 µg/L (highest concentration in Coffey MW15)
Phenols	72	Concentrations of Phenol in all samples were all less than NSW DECC (2006) SIL4 Criteria of 42 500 mg/kg. Phenol was detected in nine samples and the concentration range of was <0.5 to 1720 mg/kg.	The concentrations of Phenol ranged between <1 µg/L to 249 000 µg/L. There were ANZECC exceedences in Coffey MW15, MW7 and MW3 and ERM MW15, MW200 and MW204D. The highest concentration was in ERM MW204D and the lowest in Coffey MW3.
PCBs	73	PCBs were only detected in 2 samples with concentrations of 0.43 mg/kg (BH115 1.5_1.95) and 0.74 mg/kg (BH062-3.0-3.45). Concentrations of PCBs in all samples were all less than NSW DECC (2006) SIL4 Criteria of 50 mg/kg.	Concentrations of PCBs were less than the laboratory LOR in all samples analysed.
OCPs/OPPs	2	OCPs and OPPs were not detected at concentrations greater than the LOR.	Not analysed.
Asbestos	12	Chrysotile and amosite asbestos fibres detected in BH203/1.5	Not applicable

The ERM Additional Investigation made the following recommendations:

- A quantitative human health and ecological risk assessment should be undertaken once further details of future redevelopment are known;
- Results of the investigation should be assessed with reference to previous investigations undertaken for Barangaroo;
- Routine groundwater monitoring should be considered to assess temporal variations in CoPC;
- Considering asbestos was identified in only one sample, it was unlikely that asbestos contamination was wide spread, however it was recommended that further work is required to determine the extent and nature of asbestos in fill; and
- A RAP should be developed and following completion of a RAP, a RWP should be developed.

3.8 ERM (2008b)

ERM was commissioned by SHFA to undertake Preliminary Sediment Screening Works at East Darling Harbour, adjacent to Barangaroo. The preliminary sediment screening works were conducted in East Darling Harbour to identify potential offsite migration of contamination from the Site to sediments in Darling Harbour.

Sediment cores were collected from the Harbour adjacent to Barangaroo along 7 transects. Screening identified PAH, tributyl tin (TBT) and metals exceeding ANZECC/ARMCANZ (2000) interim sediment quality guidelines (low). Elevated concentrations of TPH C_{10}-C_{36} were also reported. The report concluded that remediation of sediments in Darling Harbour would not be required.

3.9 ERM (2008c)

ERM was commissioned by SHFA to complete a RAP for Barangaroo. The RAP envisaged the following scope of works for the site remediation and management of various areas of the site:

- Completion of a Quantitative HHERA to develop Risk Based Cleanup Levels (RBCLs) for each area of the site;
- Preparation of a RWP, Remediation EMP, OH&S Plan, Community Consultation Plan, a Long Term EMP;
- Planning and approvals;
- Site establishment for remediation; and
- Demolition of and appropriate disposal of remaining structures.

The site was divided into four areas (Area 1 to Area 4) for the purposes of the RAP. The majority of the Site is located within Area 1. The following remedial works were envisaged within this area:

Area 1

- If the remediation of Hickson Road is to be completed separately to the remediation of the Site, construction of a barrier between the Site and Hickson Road will be required to minimise potential cross-boundary migration of contaminants;
- Excavation of all materials with concentrations of contaminants exceeding the site specific RBCLs (it is envisaged that sheet piling will be required prior to excavation in most areas to maintain excavation stability and reduce groundwater ingress);
- Abstraction and treatment of contaminated groundwater collecting within excavations;
- Stockpiling and classification of excavated materials according to material type and contaminant concentrations;
- On-site treatment of excavated materials which, following treatment/stabilisation, will be suitable, both geotechnically and chemically, for reinstatement in an appropriately engineered placement area, followed by confirmatory sampling to demonstrate the suitability of the materials;
- Loading, transport and off-site treatment of surplus material and/or material assessed as too heavily impacted to be treated and reused on-site (Restricted Solid or Hazardous Waste) followed by confirmatory sampling and off-site disposal at an appropriately licensed facility;
- Sampling and validation of the excavated surfaces, backfill materials (if required) and groundwater by a suitably qualified environmental consultant;

- Preparation of a Site Audit Report and Site Audit Statement by a NSW DECC Accredited Site Auditor certifying the suitability of the Area for the proposed purposes; and
- Ongoing monitoring of groundwater quality following completion of the remedial works.

3.10 AECOM (2010a)

AECOM was engaged by LL to undertake a Data Gap Investigation (DGI) for the proposed Blocks 1, 2 and 3 (including associated Public Domain areas) within Stage 1 of the Barangaroo redevelopment precinct, that is immediately south of the current Site.

The results of the DGI intrusive investigation are briefly summarised:

- Fill was encountered at the site overlying natural sands, gravelly sands, clays, weathered and sandstone bedrock. The fill was generally shallower (up to 3 m bgs) in the eastern portion of the Site (near Hickson Road) and trending deeper (up to 19.2 m bgs) towards Darling Harbour.
- Soil impacts appeared to be associated with the historical presence of the former gasworks north of Blocks 1 to 3 (located on the current Site) and the presence of fill materials used for land reclamation activities.
- Soil vapour results indicated some gasworks-derived impacts in locations closest to the former gasworks area, and low concentrations of CoPC (below soil vapour and ambient air guidelines) in some locations.
- Groundwater was present beneath the site within fill materials at approximately two metres below the ground surface and was subject to tidal fluctuation. Tidal influence extended as far east (inland) as Hickson Road.
- Groundwater impacts associated with the former gasworks and infrastructure were limited to the north-eastern corner of the Development Area. Groundwater contamination associated with the remaining gasworks infrastructure located to the north of the Site did not appear to be migrating into the harbour in the area of the Site.

The DGI assessment of risk presented the following findings based on considerations of future land use and environment:

- ***Residential/Commercial Land Use at the Development Area***: Whilst the current asphalt and concrete ground surface was considered adequate to limit exposure by Site users to underlying contamination, future earthworks/remediation/development at the Site may complete the exposure pathway.
- ***Passive Recreation Land Use at the Public Domain:*** The area designated as Public Domain is currently covered with concrete and/or asphalt with no complete exposure pathway to underlying soil or groundwater. Given the limited extent of contamination identified within the Public Domain, AECOM considered this area of the Site presents a low risk to human health in its current condition.
- ***Environment:*** The DGI identified potential risks to the down gradient environmental receptor (Darling Harbour). Based on the proposed development plan (i.e. excavation of basements), up gradient contaminant sources will be removed and therefore reduce the potential risk in the future.

The following recommendations were made:

- A RAP should be prepared to address hotspot remediation and potentially impacted materials that may be encountered during the excavation of the Site for future development.
- Additional assessment of the materials should be undertaken in accordance with the RAP in the event that the materials be encountered during the excavation and remediation works that are different to those found during the DGI and/or previous investigations.
- An Acid Sulfate Soil Management Plan may be required for the management of PASS during future excavation works in natural materials.

4.0 Site History and Regulatory Information

4.1 Site History

The history of the Millers Point area in which the Site is located, has been detailed in the publication *Land at Millers Point Ownership and Usage* (Broomham, 2007). It is understood that the study was commissioned by the former gasworks owners (Jemena) and focuses of that portion of Barangaroo. AECOM considers the information is relevant to understanding the development history of the area and associated potential for Site contamination.

The Site history has been discussed in detail in previous publications by Broomham (2007) and ERM (2007, 2008). The following summarises information from these documents:

- **1788-1839**: During early colonial times the shoreline was extended and a wharf and a cottage were constructed near the southern boundary of the original subdivision.
- **1839:** The land was occupied by the Australian Gas Light Company (AGL) in 1839. The gasworks were extended in 1869 to include a retort house and gasholder 100 feet in diameter. The gasworks were located at the Eastern boundary of Lot 5, and including part of Lot 3 and extended beyond the Site across Hickson Road. The remainder of the Site was used for shipping and manufacturing activities.
- **1882**: AGL acquired an additional land on the north side of the gasworks and constructed an additional retort house, demolished the first two gas holders and replaced them with a larger 152 foot diameter gas holder. A tramway system and hydraulic lift was also constructed to transport coke to a depot in Kent Street.
- **1897**: The waterfront was extended by a further 40 feet into Darling Harbour.
- **1899**: A building that housed a carburetted water gas plant was constructed.
- **1908**: Wharf frontages to the north of the gasworks were dredged to make way for the rat-proof sea wall.
- **1912**: The Sydney Harbour Trust Commissioners (SHTC) overtook the site and leased it to AGL until 1921.
- **1918**: Production at the gasworks was terminated.
- **1921**: SHTC gained possession of the gasworks site.
- **Mid 1920s**: The following activities occurred in the mid 1920s:
    - Portions of the gasworks (gasholder and purifier beds) were demolished. The previous gasholder was backfilled with reportedly impacted material. The Site was used by SHTC for workshop and storage facilities.
    - Hickson Road was constructed through the former gasworks site. At those locations where no rock foundation was identified, a 4-inch thick foundation of blue metal followed by an 8 inch thick foundation of concrete was present. A 6-inch thick foundation of concrete was placed in those locations where a rock foundation was identified;
    - New jetties and cross-wharf sections of new berths required the complete dismantling of the AGL's wharf and excavation into a significant part of the former gasworks;
    - The former gasworks site was covered with workshops, including blacksmiths, plumbers, carpenters and a motor garage at the northern end; and
    - There was a SHTC depot located on the western side of Hickson Road.
- **Late 1930s**: The Maritime Services Board (MSB) painted creosote on the wharf piles to protect them against insects.
- **1951**: Five finger wharfs with approximately a dozen east-west oriented narrow warehouse buildings were present along the west side of Hickson Road;
- **1952**: MSB constructed a two storey brick workshop on the southern extremity of the site.
- **1960s**: The wharfs were reconstructed, which included the construction of parallel berths with large cargo-moving areas, demolition and removal of some old wharf structures and formation of new sea walls by sinking caissons filled with concrete.
- **1968**: By 1968 the area behind (east of) the sea wall was in-filled (with unclassified fill) and the area was now a continuous wharf.
- **1970s and 1980s**: The wharves remained utilised for port activities. The 1972 aerial photograph indicated the finger wharfs had been filled in and the Site comprised a sealed area with two large warehouses, on the northern and western boundary. A smaller workshop building in the southeast corner of the Site.

- **1988**: Southern Cove filled in. Ownership of Lot 6 transferred to the Marine Ministerial Holding Corporation (MMHC). Sydney Ports Corporation (SPC) now the proprietor of Lots 3 and 5.
- **1995**: The longshore wharves were leased to Patrick Stevedores No 2 until 2006.
- **1999**: Wharf 8 Overseas Passenger Terminal constructed. The 2004 aerial photograph showed that the two large warehouses had been to make way for the Passenger Terminal building.
- **2007**: Declaration of Investigation Area for Wharfs 5 and 7 and Hickson Road (incorporating the Site) by NSW EPA (see **Section 4.4** below).
- **2008**: The wharf to the north of the Site vacated and warehouses demolished in preparation for development.
- **2009**: Declaration of Remediation Site, Wharves 5 and 7 and portion of Hickson Road (incorporating the Site).
- **2010**: Site remains in use as an Overseas Passenger Terminal for visiting cruise ships.

4.1.1 Gasworks Features

The former AGL gasworks occupied an area of land located within the current Site boundaries. Buried gasworks infrastructure is understood to remain underlying the Site. The footprint of the former gasworks is located within the Site boundary, including the adjacent section of Hickson Road (**Figure F2**). URS (2001) estimated the footprint of the former gasworks to encompass approximately 5,420 m^2 and comprised the following structures:

- Retort House;
- Meter House;
- Gasholders; and
- Purifier Beds.

Other historical structures associated with the former gasworks site include but are not limited to miscellaneous storage sheds, warehouses, and roadways. Gasworks infrastructure underlying Hickson Road include part of the annulus of the former gasholder, a smaller secondary gasholder and a tar well (Broomham 2007, Coffey 2008).

4.2 Planning Information

On 9 February 2007 the Minister for Planning approved the Barangaroo Concept Plan. Following approval of the Concept Plan, on 12 October 2007 Schedule 3 of the State Environmental Planning Policy (Major Developments) 2005 was amended and the Site was rezoned to part RE1 Public Recreation and part B4 Mixed Use.

Rygate and Company Pty Limited obtained the Planning Information from the City of Sydney Council in March 2010. AECOM determined the following areas apply to the Site:

- Part Lot 3 in DP 876514
- Part Lot 5 in DP 876514, and
- Section of Hickson Road across STP 118, and STP 162.

4.3 Historic Certificates of Title

A review of the title information obtained from ERM (2007) ESA indicated the following ownership history:

Table 3: Historical Ownership

Lot and DP	Year	Land Owner
Lot 3 DP 876514	1834-1880	Australian Gaslight Company (AGL)
	1880-1933	Part owned by individual merchants and part leased by AGL
	1933-1936	The Sydney Harbour Trust Commissioners
	1936-1997	The Maritime Services Board of NSW
	1997-2006	Sydney Ports Corporation
Lot 5 DP 876514	1810-1910	Owned by various merchants and a portion by AGL between 1834 and 1864.

Lot and DP	Year	Land Owner
	1910-1936	The Sydney Harbour Trust Commissioners (leases by AGL and North Shore Gas Company Limited)
	1936-1997	The Maritime Services Board of NSW
	1997-2006	Sydney Ports Corporation

4.4 Record of EPA Notices

A search of the Record of Environmental Protection Authority (EPA) Notices on the NSW Department of Environment and Climate Change (NSW DECC) website (http://www.environment.nsw.gov.au/prclmapp/searchregister.aspx) was conducted to evaluate if the Site or surrounding properties were listed under Section 58 of the Contaminated Land Management Act (1997). EPA notices specifically relating to the Site and areas adjacent to the Site are indicated below (refer **Appendix C**):

- **On Site:**
  - **Millers Point Gasworks, Hickson Road, Millers Point:**
    - Former notice to end significantly contaminated land declaration and management order (24 August 2009); and
    - Former Declaration of Investigation Area (28 May 2007 to 24 August 2009).
    - Current Declaration of Remediation Site (6 May 2009)
  - **Millers Point Gasworks, Wharves 5 and 7, Millers Point:**
    - Former notice to end significantly contaminated land declaration and management order (24 August 2009); and
    - Former Declaration of Investigation Area (28 May 2007 to 24 August 2009).
    - Current Declaration of Remediation Site No 21122 (6 May 2009).

The EPA determined that the land is contaminated in such a way as to present a significant risk of harm to human health and the environment for the following reasons:

- 'Groundwater on the site has been found to be contaminated by TPHs, PAHs, BTEX, ammonia, phenol and cyanide at concentrations significantly exceeding the relevant trigger values for the protection of human health and aquatic ecosystems in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC and ARMCANZ, 2000)'.
- 'These groundwater contaminants include human carcinogens and substances toxic to aquatic ecosystems'.
- 'The contaminated groundwater is impacting on the surrounding areas including the basement of a residential building adjacent to the site, potentially exposing humans in that building to harmful vapours; however it is currently being effectively controlled'.
- 'Contaminated groundwater is likely to be migrating from the site to Darling Harbour and could ultimately affect aquatic ecosystems'.

- **Off Site:**
  - Millers Point Gasworks, 36 Hickson Road, Millers Point (north of Site):
  - Former Declaration of Investigation Area No 15036 (28 May 2007 to 24 August 2009), and
  - Former notice to End Remediation Declaration (24 August 2009).

4.5 WorkCover Dangerous Goods Records

ERM (2007) included a search of NSW WorkCover Dangerous Goods Records, which indicated two licences for the greater Barangaroo site (35/032114 and 35/022097) by Patrick Stevedores Operations Pty Ltd and Union Bulkships Pty Ltd for the storage of above ground storage of Liquified Petroleum Gas (LPG). ERM (2007) stated that a WorkCover representative indicated that this may not adequately reflect historic and bulk storage of dangerous goods, as WorkCover was not the only relevant dangerous goods authority for the site.

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5.0 Site Condition and Surrounding Environment

5.1 Current Land Use

The Site covers an irregular shaped area of approximately 2.1 ha (based on existing LL supplied site plans). The location of the Site is presented on **Figure F1** and the Site layout is illustrated in **Figure F2**.

The Site is used as a public road or open, currently vacant and variably paved with concrete and asphalt. The concrete ground surface was observed to be in generally good condition with some cracking noted on the surface of the asphalt. A two story building (referred to as the 'amenities building') is present on the eastern portion of the Site adjacent to Hickson Road. At the time of the AECOM DGI, the building was vacant although it is understood the upper floor is occasionally used for Site meetings by BDA personnel. A sewage pumping station, which ERM (2008c) indicated is identified on the NSW State Heritage List, is located immediately to the north of the amenities building. The northern portion of a second building, known as the 'former maintenance building', which is also located adjacent to Hickson Road falls within the south eastern portion of the Site. The building, which was historically used by Sydney Ports personnel for maintenance, is currently in use as a display building for the Barangaroo development.

Access to the Site (excluding Hickson Road) is limited by the presence of a cyclone wire fence on the eastern side. Three gatehouses are present along the fenced area to permit access to Barangaroo, which is controlled by a 24 hour security presence. During the field investigation undertaken as part of the DGI, a harbour walk was opened to the public. The publicly accessible area is controlled by the presence of temporary fencing.

A section of Hickson Road forms the easternmost portion of the Site. The road is actively used as a vehicle thoroughfare and for parking.

5.2 Surrounding Land Use

The Site is surrounded by the following land use:

- North: Barangaroo, including but not limited to the remainder of Block 5 (open space/concrete hardstand);
- South: Barangaroo Blocks 1 to 3, and the southern portion of Hickson Road followed by Sussex Street (public roads);
- East : Commercial and high density residential buildings with Jenkins Street beyond; and
- West: The remainder of Blocks 4, 5 and Southern Cove, followed by Darling Harbour.

5.3 Topography and Drainage

The topography of the Site is relatively flat having undergone significant historical cut and fill works. The Site abuts Darling Harbour at the western boundary. The entire Site is covered in hardstand (concrete and bitumen), with the exception of a number of trees running along either side of Hickson Road.

The majority of stormwater runoff would be captured by the various stormwater drains across the Site, which drain into Darling Harbour. Please refer to Section 2.8 of ERM (2008c) for more details.

5.4 Geology

Reference to the *1:100, 000 Geological Survey of NSW (Sydney) Sheet 9130 (Ed 1) (*Herbert 1983*)* indicates that the stratigraphy of the Site comprises man-made fill material, marine clays and Hawkesbury Sandstone.

Information from previous investigations indicates that the former 1880s shoreline ran approximately along the western edge of Hickson Road (i.e. along the eastern edge of the proposed Stage 1 Development). The area to the west of Hickson Road is understood to have been progressively reclaimed. Aerial photographs from the 1950s indicate that the area between Hickson Road and the current shoreline was occupied by a number of finger wharves, extending from Hickson Road. It is understood that the space between the historical finger wharfs and seawalls were infilled in several stages between the 1960s and 1980s with various types of material. The former Southern Cove is understood to have been filled in 1988.

ERM (2007) identified and summarised the following subsurface conditions across the wider Barangaroo precinct:

- Hardstand (0 to 0.46 m bgs): consisting of concrete, asphalt and bitumen, generally in good condition with minimal staining;
- Road Base Fill (0 to 0.5 m bgs);
- Fill (0 to 18 m bgs): Fill materials consisting of sandstone, building rubble, bricks and concrete, silty gravelly sand. Black staining and odours (particularly around the former gasworks);
- Marine Clay/Sand (3.0 to18.4 m bgs): Interbedded Clayey Sand and Sandy Clay, dark greyish brown, saturated, some shell fragments and organic matter, Sandy Clay (soft, high plasticity), Clayey Sand and Sand (lose to dense, low plasticity, fine to coarse sand, low to non plasticity);
- Marine Clay/Sand (4.9 to 32.75 m bgs): Interbedded Clayey Sand, Sandy Clay and Sand, pale yellowish brown, white, reddish brown or dark greyish brown. Sandy Clay-stiff to hard, medium to high plasticity. Clayey Sand and Sand – loose to dense, fine to coarse sand, low or no plasticity; and
- Bedrock (1.3 to 32.75 m bgs): Weathered Sandstone, white, light yellowish, brown, olive brown and reddish brown, white, wet, fine to coarse grained, some fracturing noted.

Recent intrusive investigations within Barangaroo Block 3 (located adjacent and south of the Site, AECOM 2010a) encountered the following lithological profile:

- Surficial hardstand consisting of asphalt;
- Fill extending to 3 m bgs on the eastern portion, and 17.3 m bgs on the western portion of Block 3. Fill consisted of mixed materials including road-base gravel, sandstone, building rubble, bricks and concrete, silt, clay, sand and gravels. Black staining and odours were noted in a number of borehole locations across Block 3, and to a lesser extent at Blocks 1 and 2;
- Interbeds of natural clays and sands extending to 14.2 m bgs across the centre of Block 3, and up to 24.0 m bgs on the western portion of Block 3; and
- Sandstone bedrock from 3.0 m bgs on the eastern portion, and from 20.4 m bgs on the western portion of Block 3. Shale bedrock was also encountered on the western portion of the block, from 12.5 m bgs.

Lithological profiles underlying the present Site are expected to be further influenced by the presence of the former gasworks infrastructure; however, lithological trends reported in AECOM (2010a) suggest the sandstone bedrock underlying the present Site slopes down to the west.

5.5 Hydrogeology

A search of the NSW Department of Natural Resources (DNR) groundwater bore data base as reported in ERM (2007) indicated that there were 32 registered groundwater bores within a 4 km radius of the Site. Groundwater bore information indicated that the bores were registered for either recreation, irrigation or monitoring purposes.

Groundwater conditions have been historically described at Barangaroo in ERM (2007). The ERM findings are summarised in AECOM (2010a). In brief, the water table across Barangaroo was reported to be influenced by tidal fluctuations. Potential subsurface service trenches and low permeability fill material were also reported to potentially present preferential pathways for transport of contaminants in groundwater.

More recently, the AECOM (2010a) DGI investigation further assessed tidal influence on groundwater, immediately south of the Site, underlying Barangaroo Blocks 1 to 3. The assessment made the following findings:

- Groundwater was present beneath the site within the fill materials and natural sediments. Groundwater within the fill was encountered at approximately two metres below the ground surface.
- Monitoring of water levels within selected wells over a three day period confirmed that groundwater underlying the Site is tidally influenced, with the influence extending as far east (inland) as Hickson Road. This is also supported by the presence of highly saline water in wells located within Hickson Road and along the eastern boundary of the Site. Tidal fluctuation was greatest in the well closest to Darling Harbour (AECOM MW26), which fluctuated more than 0.8 m over the three day period, and reduced with distance from the Harbour to a maximum fluctuation of 0.07 m in Hickson Road (AECOM MW61) over the same period.
- Groundwater at the Site was anticipated to ultimately flow towards and discharge to Darling Harbour; although tidal influence affected groundwater flow east (inland) and west (to the harbour) throughout the day
- Further to tidal influence, the presence of subsurface structures (including the caisson wall) was attributed to variability in gauging results.

- A hydraulic conductivity assessment of AECOM wells MW12, MW19 and MW26 identified conductivities indicative of a sandy and gravelly environment. Recharge of the wells following removal of a volume of water using a submersible electric pump was extremely rapid.
- Rising head aquifer tests conducted in a number wells across Blocks 4 to 5 indicated hydraulic conductivities were dependent on local lithological variability, with lower conductivities reported for wells screened across fill materials with increased clay content.

5.6 Potentially Sensitive Receptors

The nearest receptor for groundwater and surface water coming from the Site is Darling Harbour, which forms part of the larger Sydney Harbour and is classified in ANZECC (2000) as a '*highly disturbed system*'.

The Site is situated in a mixed commercial and residential area. No other environmentally sensitive receptors have been identified.

Potential human exposure to contaminants of potential concern in impacted soil/fill materials and/or groundwater may occur via the following potential exposure pathways:

- Direct dermal contact with impacted materials;
- Incidental ingestion of impacted materials;
- Inhalation of volatile potential contaminants of concern; and
- Inhalation of potential contaminants of concern sorbed to air-borne particulates.

The following potential human receptors were identified:

- Workers engaged in Site operational activities;
- Workers engaged in future redevelopment of the Site;
- Workers on the Site entering confined spaces or exposed to subsurface materials during maintenance work;
- Future residents inhabiting the Site;
- Off-site workers conducting construction, road or other sub-surface works in the vicinity of the Site;
- Residents in neighbouring properties and;
- Occupants within the day care facility located on Hickson Road.

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6.0 Potentially Contaminating Activities and Contaminants of Concern

Based on the historical review of the Site as presented in the ERM (2007, 2008a) reports and the results of the environmental and geotechnical investigations conducted on the Site, the potentially contaminating activities and associated chemicals of potential concern (CoPC) have been identified and are summarised in the table below.

Table 4: Potential Potentially Contaminating Activities and CoPC

Description of Potentially Contaminating Activity	CoPC	Comments
Former gasworks	Metals, TPH, BTEX, PAHs, phenols, sulfate, cyanide, ammonia	Associated with gasworks waste. Gasworks contamination is likely to be concentrated in the vicinity gasworks infrastructure across the Declaration Area but may have also been relocated.
Importation of fill materials for reclamation activities	Metals, TPH, BTEX, PAHs, PCBs, OCPs, VOCs, SVOCs, Asbestos	Fill materials of unknown origin have been used for land reclamation the existing wharf areas.
Demolition of former buildings potentially containing hazardous materials	Lead, PCBs, Asbestos	Hazardous materials, including asbestos cement sheeting and lead based paints, may have been used in the construction of historical warehouses, buildings and/or industrial infrastructure on the Site and may have been introduced to the sub-surface during demolition works or as a result of leaching or weathering while the building structures were still in place.
Reclamation activities	ASS	Given the proximity of the Site to Darling Harbour the potential for ASS is present. Potential ASS (PASS) are likely to be present in the natural silts, sands and clays overlying the bedrock at depth on the Site.

Notes:

Metals – Arsenic (As), Copper (Cu), Chromium (Cr), Cadmium (Cd), Mercury (Hg), Lead (Pb), Nickel (Ni), Zinc (Zn)
PAHs – Polycyclic aromatic hydrocarbons
TPH – Total petroleum hydrocarbons
BTEX – Benzene, toluene, ethylbenzene and xylenes
OCPs – Organochlorine pesticides
OPPs – Organophosphorus pesticides
PCBs – Polychlorinated biphenyls
SVOCs – Semi volatile organic compounds
VOCs – Volatile organic compounds
ASS – Acid Sulfate Soils

6.1 Proposed Land Use

LL has divided the Site into sub-sites based on the proposed re-development and corresponding proposed land use as follows:

- Block 3: High density residential (minimal access to soil) and commercial with basement car parking.
- Block 4: High density residential (minimal access to soil) and commercial with basement car parking.
- Block 5 is proposed to be developed by others separate to Lend Lease. Proposed land use is currently assumed to be high density residential (minimal access to soil) with basement car parking.
- Southern Cove: Recreational Open Space, waterway open to Darling Harbour.
- Hickson Road: land use to remain public roadway.

The location and layout of the sub-sites are presented on **Figure F2**.

7.0 Field Investigation Methodology

Field investigations were undertaken in accordance with the methodologies described below.

7.1 Soil Investigation

7.1.1 Services Location and Clearance

All borehole locations were cleared for subsurface utilities as follows:

- Plans of underground utilities were requested from the Dial-Before-You-Dig service and relevant utility representatives were contacted to confirm proposed sample points were clear of subsurface utilities. CAD plans relating to the presence of subsurface utilities were also supplied by BDA and LL. All plans were reviewed by AECOM prior to the commencement of service location clearance. Any borehole locations potentially located in the vicinity of identified underground services were changed at this time;
- All sampling points were located in consultation with on-site personnel and previously obtained subsurface utility maps. All sample locations were suitably marked on the ground with spray paint. All locations were measured from nearby building reference points;
- Each sampling location was cleared using a Telstra accredited, underground services location contractor (Locators); and
- Each location was potholed by air-knifing (non-destructive drilling) by a competent subcontractor (Terra Test) to at least 1 m bgs or to refusal.

7.1.2 Intrusive Work

Terratest and Macquarie Drilling were engaged to carry out the drilling operations. The drilling techniques consisted of a combination of solid and hollow flight augers and/or push tube sampling methods, see **Plate No. 1**. Soil from boreholes drilled with augers, were collected using a split tube sampler. The push-tube samplers were hammered into undisturbed soil in one continuous uniform motion without rotating. Where the presence of sub surface obstructions prevented the advancement of boreholes, other techniques such as mud rotary drilling were used. The methodology varied based on the depth and nature of the identified obstruction. Geotechnical samples were collected using dedicated stainless steel U50 tubes by push tube or standard penetration test (SPT) depending on location and depth. Samples were collected based on their location, distribution within the soil/fill profile and suitability for sampling.

Boreholes were drilled into natural material or refusal (whichever was shallower). Where visual or olfactory observations of contamination were made in natural materials the borehole was continued until the contamination dissipated or refusal on bedrock (whichever was shallower).

Borehole locations that were not converted to monitoring or vapour wells were reinstated with grout or soil cuttings that had been drilled out from that location. In many instances, no grout or soil cuttings could be placed down the hole due to the collapse of fill materials following completion of drilling. All boreholes were reinstated to original surface level and condition. Any excess soil generated from the drilling process was placed in drums and stored on-site for future disposal.

As previously discussed a total of 7 test pits were excavated as part of the treatability trials for the collection of bulk samples. Bulk samples of contaminated fill materials were collected using a 20 tonne excavator. Samples were placed in heavy duty plastic bag lined 20 L buckets for the completion of treatability trials.

7.1.3 Soil Sampling

All boreholes were air-knifed to at least a depth of one metre (where possible) to expose underground services, see **Plate No. 2**. Soil samples were then collected from 1 m bgs and then where a significant change in physical characteristics was identified to the base of fill material (where encountered), during auger drilling. Where possible, soil samples were collected from the natural material, at the interface with any overlying fill and underlying bedrock.

Where push tube sampling techniques were employed, continuous soil samples were collected see **Plate No. 3**. The soil was collected in disposable plastic liners and representative soil samples were transferred from liners into laboratory supplied sampling containers using a decontaminated spatula or by nitrile-gloved hand.

Sub-surface soil samples were collected directly from the relatively undisturbed inner core of split spoon sampling device where solid or hollow flight augers or mud rotary drilling was used, see **Plate No. 4**.

All soil samples were placed in laboratory prepared glass sampling containers using single use disposable nitrile gloves. Field duplicates (intra laboratory) and triplicates (inter laboratory) were prepared in the field by splitting soil samples. In order to minimise the loss of volatiles, samples were not mixed or homogenised during collection or splitting and jars were filled so as to minimise the amount of headspace where sample recovery allowed.

Where materials potentially containing asbestos were noted, a sample of the material and the soil at the location that it was sampled will be collected in separate plastic zip lock bags for laboratory analysis for asbestos.

7.1.4 Soil Sample Labelling, Preservation, Storage and Transport

All samples were clearly labelled with unique sample identification numbers consisting of the date, sample location, depth of sample and samplers initials. In the case of field duplicates and triplicates, sample containers were labelled so as to not reveal their purpose or sample location to the laboratory. All samples were kept chilled in an ice-filled esky prior to dispatch to the NATA registered laboratory under chain of custody (COC) procedures.

All samples collected are stored at the laboratory (3 months for metals [28 days for mercury], or 14 days for organics).

7.1.5 Soil Sampling Equipment Decontamination

The decontamination procedures were performed before initial use of re-useable equipment and after each subsequent use.

The augers used in drilling were decontaminated using a pressurised water cleaner between each borehole location. All re-usable sampling equipment (split tube sampler and spatula) were decontaminated between each sample by scrubbing with a solution of Decon 90 (a phosphate-free detergent) followed by a rinse in potable water. For each day of sampling, following decontamination procedures, a rinsate blank was completed by running laboratory prepared deionised water over the re-usable sampling equipment for collection directly into laboratory prepared sampling containers for analysis. Drilling equipment which came into contact with tar was set aside for off-site decontamination using a high pressure steam cleaner. Tar impacted equipment was not utilised again during the drilling program.

At each sample location a new set of disposable nitrile gloves were used to directly collect soil samples from the re-useable sampling equipment for placement into the laboratory prepared glass sampling containers.

7.1.6 Field Screening

For each sample depth, additional soil was placed in a sealed plastic bag and screened for head space vapours and the presence of VOCs, using a calibrated photo-ionisation detector (PID). The headspace reading was taken at ambient temperature and was recorded on the borehole logs (**Appendix D**). The PID readings were considered when selecting soil samples for laboratory analysis.

The PID was calibrated with isobutylene gas at 100 ppm at the commencement of each day of sampling and, if necessary, during the day in accordance with the procedure provided by the supplier. Calibration records are provided in **Appendix E**.

7.1.7 Field Logging

Recording of logs for boreholes and in the field was conducted in accordance with AS1726-1993 and soils were classified in accordance with the Unified Soil Classification System (USCS), including observation of any anthropogenic material (i.e. odours, asbestos cement [AC] sheeting etc). Descriptions were recorded on AECOM's standard borehole and monitoring bore field log sheets for uniformity in descriptions, presentation and to aid in future interpretations.

The American Society for Testing and Materials (ASTM) system and the USCS are the general standards used by AECOM in classifying soil by visual and manual examination. The reference for the USCS system is *Procedure for Determining Unified Soil Classification (Visual Method)*, United States Department of the Interior, Bureau of Reclamation (USBR) 5005-86. The reference for the ASTM system is *Description and Identification of Soils (Visual-Manual Procedure)*, ASTM Standard Practice D 2488-90.

7.1.8 Survey of Boreholes

The borehole location and ground level were surveyed by a registered surveyor from Rygate & Company Pty Ltd.(Rygate) with reference to the Australian Height Datum (AHD) and Australia Map Grid (AMG).

The elevation and position of the boreholes are recorded on the borelogs provided in **Appendix D**.

7.2 Soil Vapour Investigation

7.2.1 Soil Vapour Well Installation

A total of seven soil vapour wells comprising 10 soil vapour ports were installed to a maximum depth of 1.8 m bgs, as outlined below:

- Three multi-level soil vapour probes were constructed with screens at 0.5 - 0.7 m bgs (SV05), 0.8 - 1.0 m bgs (SV07) and 0.3 - 0.5 m bgs (SV11) and 1.5 - 1.7 m bgs (SV05), 1.3 - 1.5 m bgs (SV07) and 1.3 - 1.5 m bgs (SV11).
- The remaining four were constructed with screens at 1.6-1.8 m bgs (SV06 and SV08), 0.8 - 1.0 m bgs (SV09) and 1.3 - 1.5 m bgs (SV10).

These depths were selected to assess vapour in the shallow fill materials and also vapour being generated from the Site's shallow groundwater system.

Based on the above, soil vapour samples were collected from 10 permanently installed AMS gas vapour tips from seven locations. For the purposes of QA/QC assessment two duplicate samples was also collected.

The installation and sampling for the vapour assessment was conducted in general accordance with guidance from the Interstate Technology & Regulatory Council (ITRC, 2007), Vapor Intrusion Pathway: A Practical Guideline, which is summarised in the table below.

Table 5: Soil Vapour Assessment Methodology

Activity	Details
Drilling	Boreholes were advanced using a small diameter push tube to enable the intake of the gas vapour tip to be placed immediately adjacent the side of the borehole.
Vapour Tip Installation	Gas vapour tips were permanently installed by lowering the deeper probe and accompanying 0.25 inch Teflon® tubing into the borehole to the required depth (approximately 1.3-1.7 m). Clean sand was placed around the probe to ensure adequate airflow and a bentonite grout seal was inserted between the probes to ensure the soil gas collected was from the specified depth. The second probes (on nested vapour probes) were installed above a grout plug (at approximately 0.3-1.0 m depth), surrounded by a sand filter, and grouted to surface. The sampling tubes from each of the vapour tips were labelled and left protruding from the well. The tubing was sealed with a vapour cap for a minimum period of seven days prior to sampling to allow for equilibrium with the soil gas.
Leak Testing	The sampling train was set up with a ball valve immediately prior to the Summa canister connector to enable purging and leak testing. Leak testing was conducted prior to sampling using isopropanol with Gastec detector tubes (reporting 0.02 to 5.0% isopropanol). An isopropanol soaked rag was wrapped around the top of the well and the sampling line purged and sampled with the Gastec hand pump via the purge line. The procedure was repeated for all connections and for each well prior to sampling.
Well Sampling	Samples were collected using stainless steel, six litre Summa canisters with stainless steel flow controller attachments provided and calibrated by the contract laboratory. The Summa canisters were fitted with an 8 hour regulator, allowing for collection of a soil vapour sample at a constant rate over the 8 hour sampling period. This method allowed for collection of a time-weighted average air concentration.

7.2.2 Survey of Soil Vapour Wells

The top of each soil vapour well casing and adjacent ground level were also surveyed by Rygate with reference to the Australian Height Datum (AHD) and Australia Map Grid (AMG).

The elevation and position of the soil vapour wells are recorded on the borelogs provided in **Appendix D**.

7.3 Groundwater Investigation

7.3.1 Monitoring Well Installation

Groundwater monitoring wells were constructed using machine slotted (0.5mm aperture), 50mm uPVC screens, variably placed from 1 m above the estimated standing water level (SWL) of groundwater to the base of the well. The wells were installed to depths between 2.8 m bgs (AECOM BH54/MW54) and 22.0 m bgs (AECOM BH60/MW60) and screened across the fill material in some cases. The final screen design was based on the fill and soils encountered, the depth at which groundwater was encountered and the type and extent of contamination, including the potential presence of non-aqueous phase liquids (NAPLs) that may have been noted during the drilling of the borehole. It is noted that the water quality of the entire saturated column is required for dewatering treatment information.

Prior to installation, the total depth of the borehole was measured with a weighted tape. The monitoring well casing was lowered in the borehole and suspended. Graded filter sand (2mm diameter) was added to the annulus between the uPVC casing and the wall of borehole to approximately 0.5 metres above the top of the screened interval. A minimum of 0.5 m hydrated bentonite seal was added above the filter sand. All wells were finished with a lockable metal cap and concrete encased steel cover that was traffic rated and flush to grade, see **Plate No. 5**.

7.3.2 Monitoring Well Development

Newly constructed groundwater monitoring wells were developed using both dedicated Teflon foot valves and low density polyethylene (LDPE) polytube and an electronic high volume submersible pump to entail the removal of accumulated sediment and groundwater from the monitoring well. Development proceeded until at least ten monitoring well volumes were removed or the wells were purged dry. The pumping process creates a surging action that promotes groundwater inflow to the monitoring well and maximising connectivity with the surrounding aquifer.

Monitoring wells were developed using dedicated Teflon foot valves and Low Density Polyethylene tubing (LDPE) and entailed the removal of accumulated sediment and introduced potable water from the monitoring well and surrounding aquifer. Extracted groundwater was placed in labelled and sealed drums for disposal.

7.3.3 Groundwater Purging and Sampling

After allowing the wells to equilibrate for a general period of seven days, water levels were measured using an oil/water interface probe and the standing thickness of any NAPLs were measured and recorded. The groundwater monitoring wells were then purged using low flow methods using a Micropurge submersible pump and dedicated Teflon footvalves and LDPE polytube, see **Plate No. 6**.

The submersible pump was generally positioned approximately 0.5 m from the base of the screened interval (or well where sediment has accumulated). If the pump screen became blocked due to sediment in the water column the pump was positioned further up the screen and recorded on field sampling sheets.

The water level was monitored during purging to ensure there was no significant draw-down of the water table and water quality parameters (dissolved oxygen [DO], oxidation-reduction potential [ORP], electrical conductivity [EC], temperature and pH) were monitored and recorded along with purge rate and volume. The flow rate was reduced if drawdown was observed until water level stabilised.

Purging of the monitoring wells continued until water quality parameters become relatively consistent between successive readings (generally 3 consecutive readings of ± 10% for DO, ± 3% for EC, ± 0.05 for pH, ± 10mV ORP and ± 0.2ºC), generally after purging between 3 and 6 litres. At the completion of purging, the water level was recorded with an oil/water interface probe. Purged water has been stored in drums for disposal as described in **Section 7.3.2.** Following stabilisation of water quality parameters, groundwater was sampled from each monitoring well.

Groundwater samples were carefully decanted into laboratory supplied, appropriately preserved containers as per the preferred analytical method. Sample containers were filled in the order of most volatile to least volatile.

Samples collected for metals analysis were field filtered using a 0.45um filter prior to collection into the sampling container. Field duplicates and triplicates were also prepared in the field.

7.3.4 Survey of Monitoring Wells

The location, top of each monitoring well casing and adjacent ground level were also surveyed by Rygate, with reference to the Australian Height Datum (AHD) and Australia Map Grid (AMG) to allow reliable calculation of groundwater levels including tidal fluctuations.

The elevation and position of the monitoring wells are recorded on the borelogs provided in **Appendix D**.

7.3.5 Hydraulic Conductivity Assessment

Hydraulic conductivity tests (rising head slug tests) were conducted on four AECOM installed monitoring wells located within (MW45, MW58) and down-gradient of the Site (MW56, MW60).

The slug tests involved removing a volume (slug) of water from the well using a submersible pump and monitoring the recovery of groundwater following withdrawal. The groundwater recharge following the cessation of pumping was measured using a Solinst® data logger installed within the well.

Data collected in the field was plotted using a computed based model which was used to calculate the aquifer conductivity using a slope-interception calculation (Hvorslev method). The plotted results and calculations for the hydraulic conductivity assessment are provided in **Appendix F**.

7.4 Tidal Fluctuation Assessment

The influence of tidal fluctuations on groundwater levels at the Site was assessed by installing data loggers in selected wells and monitoring water level fluctuations over a three day period. Data loggers were installed in AECOM monitoring wells MW60, MW61, MW62 and the Stilling Well, which provided coverage across the Site, including Darling Harbour and Hickson Road (Refer to **Figure F4**).

Information from the data loggers was downloaded and plotted to assess the extent and magnitude of tidal influence at the Site. The plotted results of the tidal assessment are detailed in **Appendix G** and discussed in **Section 10.7.**

7.5 Laboratory Methodology

Primary, intra-laboratory duplicate, triplicate, rinsate and trip blank soil and groundwater samples were submitted to either ALS Environmental laboratory located in Smithfield NSW or Labmark laboratory located in Asquith NSW for analysis. The selected laboratories are National Association of Testing Authorities (NATA) certified for the analysis required.

The selection of samples for analysis was based on field observations and was generally conducted in accordance with the analytical program presented in the SAQP (AECOM, 2010a)**Error! Reference source not found.**.

Laboratory analysis was conducted in accordance with the requirements of NEPM and is referenced to USEPA and APHA methods. The analytical schedule, laboratory methods, laboratory limits of reporting (LORs) and reference methods to be applied for the investigation are detailed in **Table 6** and **Table 7** below

Table 6: Soil Analytical Methods

Analysis	Labmark Limit of Reporting	Labmark Reference method	ALS Limit of Reporting	ALS Reference method
Metals suite comprising arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), chromium (Cr), cobalt (Co), copper (Cu),manganese (Mn), nickel (Ni), lead (Pb), vanadium (V) and zinc (Zn).	0.1 - 5.0 mg/kg	Acid Digestion/ICPAES (Alpha 20th 3120-(USEPA SW846, 6010)	1 - 5 mg/kg, Ba 10 mg/kg	Acid Digestion/ICPAES (Alpha 20th 3120-(USEPA SW846, 6010)
Mercury (Hg)	0.1 mg/kg	Acid Digestion/CV-FIMS (Alpha 20th 3120-USEPA SW846, 6010)	0.1 mg/kg	Acid Digestion/CV-FIMS (Alpha 20th 3120-USEPA SW846, 6010)
pH	0.1 pH	Electrode	0.1 pH	Electrode
PAHs	0.5-1.0 mg/kg	Mechanical Agitation/GCMS (USEPA 8270)	0.5 mg/kg	Mechanical Agitation/GCMS (USEPA 8270)
TPH C_6-C_9	0.2 – 10 mg/kg	PT-GC/FID (USEPA 5030/3510/8015)	2 mg/kg	P&T/GC/MS (USEPA 5030/8260)
TPH C_{10}-C_{36}	50 – 100 mg/kg	GC/FID (USEPA 3510/8015)	50 -100 mg/kg	GC/FID (USEPA 3510/8015)
BTEX	0.2-1 mg/kg	Methanol Extraction/P&T/GC/MS (USEPA5030/8260) (USEPA8015)	0.2 – 0.4 mg/kg	GC/MS (USEPA 5030/8260)
OCPs	0.05 - 0.2 mg/kg	GC/Dual ECD (USEPA 3510/8270)	0.05 - 0.2 µg/kg	GC/ECD/ECD/MS (USEPA 3510/8270)
PCBs	0.5 mg/kg	GC/Dual ECD (USEPA 3510/8270)	0.1 mg/kg	GC/ECD/ECD/MS (USEPA 3510/8270)
ASS	0.02% S	POCAS Digest, titration and ICP – In house method	0.02% S	POCAS – Ahern et al (2004)
VOCs	0.2-5 mg/kg	PT-GC/MS	0.2 – 5 mg/kg	USEPA 5030/8260 P&T/GC/MS
SVOCs	0.5 – 10 mg/kg	Analysis by GC/MS (SCAN)	0.2 – 5 mg/kg	USEPA 5030/8260 P&T/GC/MS
Asbestos*	ND/D	PLM & Disp Staining	NA	NA

Analysis	Labmark Limit of Reporting	Labmark Reference method	ALS Limit of Reporting	ALS Reference method
TCLP – metals and PAHs	Metals - 0.1-5 µg/L PAHs - 0.01 - 0.02 µg/L (TL)	Tumbling (USEPA 1311) ICP-AES (metals) GC/MS (PAH's)	NA	NA

Table 7: Groundwater analytical methods

Analysis	Labmark Limit of Reporting	Labmark reference method	ALS Limit of Reporting	ALS Reference method
Metals suite comprising arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), chromium (Cr), cobalt (Co), copper (Cu),manganese (Mn), nickel (Ni), lead (Pb), vanadium (V) and zinc (Zn).	0.1-5 µg/L	ICPMS (USEPA 6020)	Cd – 0.0001 mg/L Zn – 0.005 mg/L Others 0.001 mg/L	ICPMS (USEPA 6020)
Hg	0.01µg/L	CV-FIMS (APHA 3112)	0.0001 mg/L	CV-FIMS (APHA 3112)
pH	0.1 pH	Electrode	0.1 pH	Electrode
TPH C_6-C_9	1 – 50 µg/L	PT-GC/FID (USEPA 5030/5035/8260)	20 µg/L	P&T/GC/MS (USEPA 5030/8260)
TPH C_{10}-C_{36}	50 – 200 µg/L	GC/FID USEPA 3510/8015)	50 – 100 µg/L	GC/FID (USEPA 3510/8015)
BTEX	1 – 2 µg/L	P-T/GCMS (USEPA 5030/8260)	1 – 4 µg/L	P&T/GCMS (USEPA5030/8260)
PAHs	0.01 - 0.02 µg/L (TL)	GC/MS (USEPA 3510/8270)	0.05 – 0.1 µg/L (UT)	GPC-GC/MS-SIM (USEPA 3640/8270)
Free and total cyanide	0.005 – 0.01 mg/L	Diffusion cell/Colourimetric	1 mg/kg	APHA 4500-CNC& N

List of abbreviations to Table 6 and 7:
LL = Low Level
TL = Trace Level
UT = Ultra Trace
CV-FIMS = Cold Vapour-Flow Injection Mercury System
EC = Electron Capture
ECD = Electron Capture Detector
FID = Flame Ionisation Detector
GC = Gas Chromatography

GCFID = Gas Chromatography Flame Ionisation Detector
GCMS = Gas Chromatography Mass Spectrometry
ICP-AES = Inductively Coupled Plasma Atomic Emission Spectrometry
ICP-MS = Inductively Coupled Plasma Mass Spectrometry
MS = Mass Spectrometry
PLM = Polarised light microscopy
POCAS = Peroxide Oxidation Combined Activity & Sulfate
P&T or P-T = Purge and trap

7.5.1 Soil Vapour Methodology

Soil vapour samples were submitted to SGS Australia Pty Ltd (SGS) and analysed for the TO-14A list of analytes (VOCs), and for naphthalene. Analyses were undertaken by the USEPA Method TO-15.

It is noted that SGS is NATA accredited for analysis of the TO-14A analytes via the TO-15 method, but is not NATA accredited for analysis of naphthalene by this method. However, no Australian laboratory is currently NATA accredited for analysis of naphthalene in Summa canisters.

While the naphthalene analysis were not NATA certified, the naphthalene analytical results were subjected to the same rigorous QA/QC procedures as the NATA accredited TO-14A analytes, and quantification of naphthalene was based on freshly prepared naphthalene standards. The overall quality of the naphthalene results is therefore expected to be comparable to that for the NATA accredited target analyte list.

The soil vapour analytes did not include all CoPC at the Site. Rather, the analytical suite included a range of VOCs considered to be of most concern with respect to vapour intrusion, and included naphthalene as an indicator of volatile PAH impact. It is noted that naphthalene is the most volatile of the PAHs, and typically drives PAH-related risks with respect to vapour intrusion. Semi-volatile contaminants of concern (defined as having a Henry's law constant less than 1×10^{-5} atm-m^3/mol; USEPA, 2004) are generally not considered volatile enough to be of concern with respect to vapour intrusion pathways, and have therefore not been included in the soil vapour analytical suite.

8.0 Quality Assurance and Quality Control

The field and laboratory quality assurance and quality control (QA/QC) plan adopted for the investigation has been designed to achieve pre-determined data quality objectives (DQOs) that will be assessed using the data quality indicators (DQIs) that demonstrate the precision, accuracy, representativeness, completeness and comparability of the data set and that the data set is of acceptable quality to meet the objectives of the DGI.

8.1 QA/QC Data Validation

The QA/QC program implemented as part of this DGI was generated as the outcome of the seven-step DQO process, as described in the SAQP (AECOM, 2010a) and summarised in **Appendix A**.

Analyses of primary and intra-laboratory duplicate soil and groundwater samples were undertaken by Australian Laboratory Services Environmental (ALS). Triplicate samples were analysed by Labmark Laboratories. SGS undertook the analysis of soil vapour samples and Australian Soil Testing analysed samples collected for geotechnical purposes. All laboratories are NATA accredited for the analyses undertaken.

Details of the QA/QC data validation are presented in **Appendix H**. It is noted that as the fieldwork (including laboratory sample analysis) for both this DGI and the Other Remediation Works North Area DGI were completed and reported concurrently. As such, the reported QA/QC data validation presents an incorporated review of data from both investigations.

8.2 Data Useability

The data validation procedure employed for the assessment of the AECOM field and laboratory QA/QC data indicated that the reported analytical results are representative of soil conditions at the sample locations, and that the overall quality of the analytical data produced is acceptably reliable for the purpose of the DGI.

AECOM understands that the ERM dataset was reviewed by an independent expert on behalf of SHFA, including data quality. It is also understood that LL are able to rely on the ERM data. AECOM has randomly assessed and verified a portion of the ERM data and accepts the ERM dataset based on the random review and the review of SHFA's independent expert.

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9.0 Basis for Assessment Criteria

In the absence of Site specific acceptance criteria (which are being developed as part of the HHERAs including risk associated with land use and removal of the declaration), generic assessment criteria for the soil, soil vapour and groundwater investigation have been adopted from the following guidance documents:

- NSW DEC, 2007. Guidelines for the Assessment and Management of Groundwater Contamination;
- NSW DEC, 2006. Guidelines for the NSW Site Auditor Scheme (2nd Edition);
- enHealth Council, 2005. Management of asbestos in the non-occupational environment;
- Australian and New Zealand Environment and Conservation Council and Agriculture and Resourced Management Council of Australia and New Zealand. (ANZECC), 2000. *Australian and New Zealand Guidelines for Fresh and Marine Water Quality;*
- National Environment Protection Council (NEPC), 1999. National Environment Protection (Assessment of Site Contamination) Measure (NEPM);
- NSW EPA, 1994. Guidelines for Assessing Service Station Sites; and
- US EPA, 2009. Regional Screening Levels (RSLs)'

9.1 Soil Investigation Criteria

Given the proposed soil analytical program for the Site and the proposed range of uses for the Site, a range of investigation criteria sourced from the guidance documents listed above are required to be applied. Application of these guidelines to the soil samples to be collected and analysed from the Site is described below.

9.1.1 Metals, Cyanide, PAHs, OCPs, OPPs, Phenol and PCBs

The current investigation criteria used in NSW to evaluate soil analytical results for metals, cyanide, PAHs, OCPs, OPPs, phenol and PCBs are provided in NSW DEC (2006) guidelines which are based on guidance provided in NEPC (1999). These guidelines present a range of Health-Based Soil Investigation Levels (SILs) and Provisional Phytotoxicity-based Investigation Levels (PILs) for soils, which are considered to be appropriate for a range of land uses on urban sites in NSW, as follows:

- SIL_1 Residential with gardens and accessible soil.
- SIL_2 Residential with minimal access to soil (including high-rise apartments/flats).
- SIL_3 Parks, recreational open space, playing fields (including secondary schools).
- SIL_4 Commercial or industrial.

The SIL_2, SIL_3 and SIL_4 criteria have been variably adopted for the purposes of the DGI.

It is noted that the PILs assume application to sandy loams with a pH 6 to 8 and the soils on the Site are generally characterised as fill clays and clayey sands to sandy clays. The application of the PILs has significant limitations as phytotoxicity depends on soil and species parameters in ways that are not fully understood. Therefore PILs will not be considered further.

9.1.2 TPH and BTEX

The NSW EPA (1994) *Guidelines for Assessing Service Station Sites* provides investigation criteria to evaluate soil analytical results for TPH and BTEX compounds. These criteria have been developed for sensitive land use scenarios and are the only currently NSW DECC endorsed criteria when considering the environmental impacts from these types of compounds.

The criteria provided in the NSW EPA (1994) guidelines are adopted as the site investigation criteria for TPH and BTEX in soils and are applicable across the entire Site.

9.1.3 SVOCs and VOCs

There are no current NSW DECC endorsed assessment criteria for a number of SVOCs and VOCs in soil. The USEPA (2009) *Regional Screening Levels (RSLs)* provide screening levels for a range of SVOCs and VOCs in soil. The RSLs are risk-based and are adopted for use screening purposes only, for selected SVOC and VOC compounds where Australian-based guidelines are not available and the RSL is greater than the LOR.

9.1.4 Sulfate

Sulfate results have been compared against the NEPM (1999), Schedule B1 - Ecological Investigation Levels Interim urban criterion.

9.1.5 Acid Sulfate Soils

The current assessment guidelines for the assessment and management of Acid Sulfate Soil (ASS) are provided in NSW Acid Sulfate Soil Manual (ASSMAC,1998). These guidelines have been developed primarily of proponents of activities that are likely to disturb acid sulfate soils. The guidelines provide action criteria that trigger the need for the preparation of a management plan for the acid sulfate soils and are based on the percentage of oxidisable sulfur for broad categories of soil types.

9.1.6 Asbestos

There are currently no national or NSW DECCW endorsed guidelines relating to human health or environmental investigation of material containing asbestos on sites. The NSW DEC (2006) guidelines require that auditors exercise their "*professional judgement when assessing whether a site is suitable for a specific use in light of evidence that asbestos may be a contaminant of concern*".

The enHealth Council (2005) guidelines provide some guidance on the assessment and management of asbestos in soil and recommend that, where fragments of asbestos cement are found, that the type of asbestos present should be confirmed by microscopy and that the whole area where fragments are located should be regarded as contaminated and action taken. The enHealth Council (2005) guidelines also state that, depending on where fragments are located and the proportion of fragments present, it may not be necessary to measure the actual concentration present, however, in New Zealand and Western Australia an average of 0.001 percent by weight asbestos in soil has been applied.

The approach of determining the weight of asbestos fibres within asbestos cement fragments over the affected soil by applying an average of 0.001 percent by weight calculation is considered to be a very conservative measure and may not be applicable for this stage of investigation on the Site. For the purposes of this investigation it is important to determine the presence, nature and extent of asbestos. If asbestos is found to be present, a management approach for the affected soils can be developed.

9.2 Aesthetic Conditions

In the decision-making process for assessing urban sites, presented in NSW DEC (2006), the assessment of sites that are to be used for purposes other than commercial/industrial requires the consideration of aesthetic issues in the assessment of contamination. Aesthetic issues include the generation of odours and any discolouration of the soil as a result of contamination.

In accordance with NSW DEC (2006) guidelines, consideration will be given to aesthetic issues such as odour and discolouration during the investigation of soil/fill across the Site.

9.3 Waste Criteria

The current criteria used in NSW to characterise waste materials for off-site disposal are provided in the NSW DECC (2008) Waste Classification Guidelines. The guidelines set different maximum total concentrations and leachable concentrations, for specific contaminants in order for waste to be classified as 'general', 'restricted' or 'hazardous'. This classification then affects the way in which the waste is handled and where the waste is able to be disposed.

For the purpose of characterising soil conditions at the Site for potential offsite disposal, soil analytical results, including TCLP analytical results, may be compared to NSW DECC (2008) guidelines if waste disposal is required.

9.4 Soil Vapour Investigation Criteria

There are currently no national or NSW DECCW endorsed guidelines for assessment of soil vapour concentrations. Investigation levels for assessment of soil vapour results were therefore derived based on relevant ambient air quality criteria and a generic attenuation factor (AF), in accordance with the approach recommended by USEPA (2002). The AF is defined as the factor by which subsurface vapour concentrations migrating into above ground air spaces are reduced due to diffusive, advective or other attenuating factors

(USEPA, 2002). The most conservative screening AF recommended by USEPA (2002) is 0.1 (i.e., ten-fold reduction from shallow soil vapour to above ground air), and this AF will be conservatively used for screening of both shallow and deep soil gas.

Ambient air quality criteria (to which the AF is applied) were adopted from Australian and international sources, in accordance with toxicity criteria source hierarchies recommended by NEPC (1999) and enHealth (2004). These air quality guideline sources, in order of preference, were the following:

- National Environment Protection Council (NEPC), 2004. *National Environment Protection (Air Toxics) Measure* (NEPC, 2004).
- World Health Organization (WHO), 2000a. *Air Quality Guidelines for Europe*
- World Health Organization (WHO), 2000b. *Guidelines for Air Quality*
- For non-genotoxic carcinogens:
  - Minimal Risk Levels (MRLs) published by the Agency for Toxic Substances and Disease Registry (ATSDR).
  - Reference Concentrations (RfCs) published by United States Environmental Protection Agency's (USEPA) Integrated Risk Information System (IRIS).
- For known or likely genotoxic carcinogens for which inhalation unit risk (IUR) values have been derived and published by WHO (2000a, 2000b) or IRIS, the air concentration corresponding to an excess incremental lifetime cancer risk (ILCR) of one in 1,000,000 (1×10^{-6}). This ILCR is consistent with that adopted by the National Health and Medical Research Council (NHMRC) for development of drinking water guideline values, and is considered to represent a negligible level of risk.
- Where no ambient air guideline value for protection of the general population was published, occupational exposure standards published by Safework Australia were adopted. In these cases, an additional safety factor of 30 was applied to convert the time-weighted average (TWA) concentration (which assumes a worker is exposed 8 hours per day, 5 days per week) to a concentration protective of continuously exposed receptors, and to account for sensate receptors within the exposed population. This uncertainty factor (30) is that used by the State of Victoria (2001) for derivation of ambient air design criteria from occupational TWA exposure standards. It is noted that occupational exposure guidelines are generally derived in a different manner than that used for derivation of guidelines for protection of public health, and the use of these guidelines is therefore associated with significant uncertainty. However, these guidelines have been adopted where no other guideline values were available from the above recognised sources.

Soil vapour investigation levels were calculated from adopted ambient air guidelines using the following equation:

$$IL_{sv} = IL_{aa} \times AF$$

Where:

IL_{sv}	=	Soil vapour investigation level (mg/m^3)
IL_{aa}	=	Ambient air guideline or investigation level (mg/m^3)
AF	=	Attenuation factor (soil vapour to above ground air) (unitless)

It should be noted that the use of generic AFs for soil vapour screening is not considered appropriate where shallow soil vapour sources are present (e.g., less than approximately 4 m from a building foundation) and buildings have significant openings to the surface, preferential pathways or very low air exchange rates (USEPA, 2002). Soil vapour results from locations where this may apply should therefore also be assessed by direct comparison with ambient air guideline values.

9.5 Groundwater Investigation Criteria

The ANZECC (2000) guidelines have been adopted for this investigation. ANZECC (2000) provides "Trigger Values" for chemicals within water, which represent the best current estimates of the concentrations of chemicals that should have no significant adverse effects on the aquatic ecosystem. The ANZECC (2000) guidelines indicate that an exceedence of a Trigger Value does not necessarily imply that there is an inherent risk, but that further assessment and monitoring may be required prior to implementing appropriate management actions. It is noted that according to ANZECC (2000), low reliability Trigger Values are Interim Levels only because "*low reliability guideline trigger values were derived, in the absence of a data set of sufficient quantity, using larger*

assessment factors to account for greater uncertainty", and "*low reliability values should not be used as default guidelines*". ANZECC (2000) stipulates that the identification of the receiving environment or the likely beneficial use of the water is essential for selection of the most applicable criteria.

Darling Harbour, located on the western boundary of the Site, can be further considered under the ANZECC (2000) guidelines as a "*highly disturbed system*" and, as such, for the majority of the COPC the Trigger Values for protection of 95% of marine water species have been adopted and 99% protection for the bio-accumulative COPC. There is currently insufficient data to derive high reliability Trigger Values for various COPC. Given the limitations associated with the use of low reliability Trigger Values, these criteria have not been adopted for the DGI.

There are no current NSW DECCW endorsed high reliability assessment criteria for TPH in groundwater, although an arbitrary aesthetic criterion of 10 000 μg/L (10 mg/L) is provided in NSW EPA (1994). The ANZECC (2000) guidelines provide an interim low reliability value for crude oil of 7 μg/L (0.007 mg/L), which is known to contain hundreds of hydrocarbon species, many of which are not present in refined petroleum hydrocarbon fuels. In addition, this criterion is not considered to be appropriate as current commercial laboratory techniques cannot quantify TPH to this concentration and it has been derived on a worst case pollution scenario such as a constant discharge to the environment at a rate that exceeds the losses from evaporation or dispersion (Tsvetnenko, 1998). In the absence of high reliability TPH trigger value, AECOM has adopted the laboratory limits of reporting (LOR) as the 'default' screening criteria for TPH.

10.0 Results

Descriptions of the fill and natural soil materials encountered during the drilling program are described in the following sections, and are also described in the borelogs provided in **Appendix D**.

10.1 Field Observations – Soil and Fill Conditions

Encountered stratigraphic conditions were variable across the Site, but generally comprised fill material overlying natural weathered sandstone with clay components. Sandstone bedrock was generally present underlying natural weathered bedrock materials or in some instances directly underneath fill materials. Cross sections detailing the encountered stratigraphic are detailed in **Figure F13 to Figure F15.** The observed field conditions which were indicative of potential contamination at the Site are summarised in **Table T1A**.

Observations of odours, staining and sheen were generally more common in the overlying fill materials, see **Plate No. 7**, although they were also noted at eight locations within the natural soil and bedrock present on the Site.

The depth of fill materials encountered during the DGI was variable across the Site, with fill depths ranging from 0.43 m bgs (AECOM BH67) to 17.5 m bgs (AECOM BH56). Fill materials were generally shallower in the eastern portion of the Site closest to Hickson Road and deeper in the western portion of the Site. The thickness of fill material generally increased from east to west across the Site.

Observations during the test pitting and drilling works identified unconsolidated, highly variable fill materials, which generally comprised unconsolidated gravels, sand, bricks, sandstone, timber, slag and steel. Visual signs of contamination including black staining, tar and surface sheen (where groundwater was present) were noted in several test pits, predominantly located in the footprint of the former Retort House and Purifying Beds within Block 4 in a variable gravelly sand to clayey sand matrix.

10.1.1 Natural Soil

Natural soils encountered across the Site comprised silty sands, gravelly sands, clays, weathered sandstone and sand with components of clay, see **Plate No. 8.** Gradual boundaries noted between the strength and extent of weathering reflects changes in the energy regime during deposition.

Bedrock encountered across the Site was sandstone in every instance. The depth to bedrock encountered during the DGI was variable across the Site, with depths to sandstone ranging from 0.43 m bgs (AECOM BH67) to 25.0 m bgs (AECOM BH60/MW60). Bedrock was generally shallower in the eastern portion of the Site closest to Hickson Road and deeper in the western portion of the Site. The depth to sandstone bedrock generally increased from east to west across the Site. PID Screening

Soil sub-samples from each sampling location were screened using a calibrated photoionization detector (PID). The PID results are presented on the borelogs provided in **Appendix D**.

PID readings were variable across the Site and ranged from 0.0 ppm (recorded at numerous locations) to 1530 ppm (recorded at BH53_4.0-4.4).

10.2 Soil Analytical Results

A summary of the AECOM sampling and analytical programme, including sample depths, material type and PID readings, is provided in **Table T1.**

All soil analytical results are provided **Table T1** to **Table T25** in the tables section of this report. These tables also include relevant data from previous investigations undertaken by ERM (2007, 2008a and 2008b) and Coffey (2008).

A tabulated summary of results from the Blocks 4 and 5, Hickson Road and the portion of Southern Cove included within the VMP and PDA area are provided in **Table 8** to **Table 10**. It is noted that only analytes which have reported concentrations above the adopted Soil Investigation Criteria have been summarised below. Two locations (AECOM BH33 and AECOM BH36) which are located within Block 3, but also fall within the boundary of the Declaration Area have also been considered in the assessment of results.

10.2.1 Blocks 4 and 5

Table 8: Blocks 4 and 5 Site Investigation Criteria Exceedence Summary

Chemical	Number (count)		Concentration Range (mg/kg)		Number of Adopted Criteria Exceedences *(and criteria mg/kg)*			Exceedence Location (consultant)
	Results	Detects	Min	Max	NSW EPA (1994)	SIL 2	SIL4	
Metals								
Lead	193	172	<5	13600	-	**8** *(1200)*	**6** *(1500)*	BH028 (ERM) BH062 (ERM) BH067 (ERM) BH074 (ERM) BH201 (ERM) BH62 (AECOM) BH65 (AECOM)
TPH, BTEX and PAHs								
TPH C_6-C_9	173	50	<2	1140	**27** *(65)*	-	-	Refer Figures 5 to 8
TPH C_{10}-C_{36}	173	108	<50	147200	**62** *(1000)*	-	-	Refer Figures 5 to 8
Benzene	164	43	<0.2	97.8	**34** *(1)*	-	-	Refer Figures 5 to 8
Toluene	164	43	<0.2	213	**2** *(130)*	-	-	BH087_7-7.5 (ERM) BH209_6.1 (ERM)
Ethylbenzene	164	38	<0.2	88.3	**2** *(50)*	-	-	BH119_7.5-8 (ERM) BH59_34-3.5 (AECOM)
Total Xylene	164	48	<0.01	259.8	**25** *(25)*	-	-	Refer Figures 5 to 8
B(a)P	166	111	<0.5	652	-	**66** *(4)*	**63** *(5)*	Refer Figures 5 to 8
Total PAH	166	127	<0.5	20934.4	-	**65** *(80)*	**62***(100)*	Refer Figures 5 to 8
SVOCs and VOCs								
3,3-Dichlorobenzidine	14	1	<0.5	1.6	-	**1** *(1.1*)*		BH48_14.5-14.7 (AECOM)

*USEPA (2009) RSLs Residential and Commercial.

10.2.2 Hickson Road

Table 9: Hickson Road Site Investigation Criteria Exceedence Summary

Chemical	Number (count)		Concentration Range (mg/kg)		Number of Adopted Criteria Exceedences *(and criteria mg/kg)*		Exceedence Location (consultant)
	Results	Detects	Min	Max	NSW EPA (1994)	SIL4	
TPH, BTEX and PAHs							
TPH C_6-C_9	25	5	<10	7590	**4** *(65)*	-	BH53_4-4.4 (AECOM) BH61_0.3-0.4 (AECOM) BH61_3-3.4 (AECOM) MW10_8.6-8.7 (Coffey)
TPH C_{10}-C_{36}	25	13	<50	181800	**11** *(1000)*	-	Refer Figure 9
Benzene	25	8	<0.2	1510	**7** *(1)*	-	BH53 (AECOM) BH61 (AECOM) BH5 (Coffey) MW10 (Coffey)
Toluene	25	7	<0.5	2650	**2** *(130)*	-	MW10_4.9-5 (Coffey) MW10_8.6-8.7 (Coffey)
Ethylbenzene	25	4	<0.5	261	**2** *(50)*	-	MW10_8.6-8.7 (Coffey) BH53_4-4.4 (AECOM)
Total Xylene	25	7	<1	2576	**2** *(25)*	-	MW10_8.6-8.7 (Coffey) BH53_4-4.4 (AECOM)
B(a)P	24	16	<0.5	412	-	**13** *(5)*	Refer Figure 9
Total PAH	24	18	<0.5	**29652.8**	-	**11** *(100)*	Refer Figure 9

10.2.3 Southern Cove

Table 10: Southern Cove Site Investigation Criteria Exceedence Summary

Chemical	Number (count)		Concentration Range (mg/kg)		Number of Adopted Criteria Exceedences *(and criteria mg/kg)*				Exceedence Location (consultant)
	Results	Detects	Min	Max	NSW EPA (1994)	SIL 2	SIL 3	SIL4	
Metals									
Lead	22	21	<5	12100	-	1	1	1	BH132_1.5-1.95 (ERM)
TPH, BTEX and PAHs									
TPH C_6-C_9	20	3	<2	1050	**1** *(65)*	-	-	-	BH132_8.0-8.5 (ERM)
TPH C_{10}-C_{36}	20	5	<50	6100	**1** *(1000)*	-	-	-	BH132_8.0-8.5 (ERM)
Benzene	21	5	<0.2	140	**2** *(1)*	-	-	-	BH132_8.0-8.5 (ERM) BH40_16.5-16.7 (AECOM)
Toluene	21	4	<0.2	232	**1** *(130)*	-	-	-	BH132_8.0-8.5 (ERM)
Total Xylene	21	3	<0.4	345	**1** *(25)*	-	-	-	BH132_8.0-8.5 (ERM)
B(a)P	22	6	<0.5	28	-	**4** *(4)*	**4** *(2)*	**3** *(5)*	BH132_1.5-1.95 (ERM) BH132_8.0-8.5 (ERM) BH207_12 (ERM) BH40_16.5-16.7 (AECOM)
Total PAH	22	10	<0.5	1700.3	-	**4** *(80)*	**4** *(40)*	**3** *(100)*	BH132_1.5-1.95 (ERM) BH132_8.0-8.5 (ERM) BH207_12 (ERM) BH40_16.5-16.7 (AECOM)
Inorganics									
Sulphate	13	10	<100	2980	-	**1** *(2000)*[1]			BH207_12 (ERM)

1. NEPM (1999), Schedule B1 - Ecological Investigation Levels Interim urban criterion

10.2.4 Site Wide Results

The following results relate to samples collected from across the Site.

10.2.4.1 Waste Classification

Selected soil samples were analysed for waste classification purposes (refer **Table 10).** The results were compared against the NSW DECC (2008) *Waste Classification Guidelines*. Based on the total results and Toxicity Characteristics Leachability Tests (TCLP) results (where analysed), the reported soil/fill results exceed the "General Solid Waste" at the following locations:

Table 11: Waste Classification Results

Consultant and Location ID	Area	Chemical	Adopted SCC / TCLP Criteria	Reported SCC / TCLP Exceedence	Waste Classification
AECOM BH40_16.5-16.7	Southern Cove	Total PAHs	SCC1: 200 mg/kg	288.6 mg/kg	Restricted Solid Waste
AECOM BH42_3.2-3.3	Block 4	B(a)P	SCC2: 23 mg/kg / TCLP 0.16 mg/L	113 mg/kg / <0.0038 mg/L	Hazardous Waste
AECOM BH44_4.9 -5.0	Block 4	Total PAHs	SCC2: 800 mg/kg	963.3 mg/kg	Hazardous Waste
AECOM BH48_14.7_15.5	Block 4	B(a)P	SCC2: 23 mg/kg / TCLP 0.16 mg/L	31 mg/kg / <0.0037 mg/L	Hazardous Waste
AECOM BH49_1.5-1.7	Block 4	Total PAHs	SCC1: 200 mg/kg	428.1 mg/kg	Restricted Solid Waste
AECOM BH49_4.2-4.4	Block 4	Total PAHs	SCC1: 200 mg/kg	374.2 mg/kg	Restricted Solid Waste
AECOM BH49_8.2-8.4	Block 4	Benzene Total PAHs	CT2: 40 mg/kg SCC2: 800 mg/kg	49.7 mg/kg 946.5 mg/kg	Hazardous Waste
AECOM BH49_10.2-10.4	Block 4	Total PAHs	SCC2: 800 mg/kg	963.3 mg/kg	Hazardous Waste
AECOM BH49_12.2-12.4	Block 4	Total PAHs	SCC2: 800 mg/kg	1760.5 mg/kg	Hazardous Waste
AECOM BH52_4.2-4.4	Block 4	Total PAHs	SCC2: 800 mg/kg	1994.9 mg/kg	Hazardous Waste
AECOM BH53_4.0-4.4	Hickson Road	B(a)P Benzene	SCC2: 23 mg/kg / TCLP 0.16 mg/L SCC2: 72 mg/kg / TCLP: 2 mg/L	291 mg/kg / <0.0374 mg/L 678 mg/kg	Hazardous Waste
AECOM BH53_2.0-2.4	Hickson Road	Total PAHs	SCC2: 800 mg/kg	1510.3 mg/kg	Hazardous Waste
AECOM BH54_1.0-1.4	Block 4	B(a)P	SCC2: 23 mg/kg / TCLP 0.16 mg/L	533 mg/kg / <0.0038 mg/L	Hazardous Waste
AECOM BH54_2.8-3.0	Block 4	Total PAHs	SCC1: 200 mg/kg	678.1 mg/kg	Restricted Solid Waste
AECOM BH55_1.0-1.2	Block 4	Total PAHs	SCC2: 800 mg/kg	12143 mg/kg	Hazardous Waste
AECOM BH55_2.2-2.4	Block 4	B(a)P	SCC2: 23 mg/kg / TCLP 0.16 mg/L	84 mg/kg / <0.0037 mg/L;	Hazardous Waste
AECOM BH55_2.7-2.9	Block 4	Total PAHs	SCC2: 800 mg/kg	10434.9 mg/kg	Hazardous Waste
AECOM BH58_1.0-1.2	Block 4	Total PAHs	SCC1: 200 mg/kg	205.8 mg/kg	Restricted Solid Waste
AECOM BH59_1.9-2.0	Block 4	Total PAHs	SCC2: 800 mg/kg	1264.5 mg/kg	Hazardous Waste

Consultant and Location ID	Area	Chemical	Adopted SCC / TCLP Criteria	Reported SCC / TCLP Exceedence	Waste Classification
AECOM BH59_3.4-3.5	Block 4	Benzene	SCC2: 72 mg/kg / TCLP: 2 mg/L	82.4 mg/kg	Hazardous Waste
AECOM BH61_2.2-2.4	Hickson Road	Total PAHs	SCC2: 800 mg/kg	2170 mg/kg	Hazardous Waste
AECOM BH61_3.0 -3.4	Hickson Road	Benzene Total PAHs	CT1: 10 mg/kg SCC1: 200 mg/kg	11.2 mg/kg 728.4 mg/kg	Restricted Solid Waste
AECOM BH64_1.0-1.2	Block 5	Total PAHs	SCC2: 800 mg/kg	1463.6 mg/kg	Hazardous Waste
AECOM BH65_3.4-3.6	Block 5	Total PAHs	SCC1: 200 mg/kg	532.8 mg/kg	Restricted Solid Waste
AECOM BH65_11.2-11.4	Block 5	Total PAHs	SCC1: 200 mg/kg	217.55 mg/kg	Restricted Solid Waste
AECOM SV09_0.2-0.4	Block 5	Total PAHs	SCC1: 200 mg/kg	495.4 mg/kg	Restricted Solid Waste
ERM BH019_2.5-3.0	Block 4	Total PAHs	SCC2: 800 mg/kg	1994.2 mg/kg	Hazardous Waste
ERM BH019_3.0-3.45	Block 4	Total PAHs	SCC2: 800 mg/kg	2733.9 mg/kg	Hazardous Waste
ERM BH028_13-13.5	Block 5	Total PAHs	SCC1: 200 mg/kg	470.5 mg/kg	Restricted Solid Waste
ERM BH058_1.5-1.95	Block 5	Total PAHs	SCC1: 200 mg/kg	368.6 mg/kg	Restricted Solid Waste
ERM BH062_1.5-1.95	Block 5	Total PAHs	SCC1: 200 mg/kg	228.55 mg/kg	Restricted Solid Waste
ERM BH073_1.5-1.95	Block 4	Total PAHs	SCC2: 800 mg/kg	1451.6 mg/kg	Hazardous Waste
ERM BH073_2.0-2.4	Block 4	Total PAHs	SCC1: 200 mg/kg	383.1 mg/kg	Restricted Solid Waste
ERM BH074_9.5-10.0	Block 5	Total PAHs	SCC2: 800 mg/kg	1222.9 mg/kg	Hazardous Waste
ERM BH075_0.3-0.9	Southern Cove	Total PAHs	SCC1: 200 mg/kg	242.1 mg/kg	Restricted Solid Waste
ERM BH087_1.5-1.95	Block 4	Total PAHs	SCC2: 800 mg/kg	2982.2 mg/kg	Hazardous Waste
ERM BH087_3.0-3.45	Block 4	Total PAHs	SCC2: 800 mg/kg	2895.7 mg/kg	Hazardous Waste
ERM BH087_7.0-7.5	Block 4	Benzene Total PAHs	SCC2: 72 mg/kg /TCLP: 2 mg/L SCC2: 800 mg/kg	82.7 mg/kg 2418.5 mg/kg	Hazardous Waste

Consultant and Location ID	Area	Chemical	Adopted SCC / TCLP Criteria	Reported SCC / TCLP Exceedence	Waste Classification
ERM BH119_7.5-8.0	Block 4	TPH (C6-C9) TPH (C10-C36) Benzene Total PAHs	SCC1: TPH (C6-C9) – 650 mg/kg SCC1: TPH (C10-C36) – 10000 mg/kg SCC2: 72 mg/kg /TCLP: 2 mg/L SCC2: 800 mg/kg	TPH C6-C9 – 1140 mg/kg TPH C10-C36 -24 440 mg/kg 82.4 mg/kg 5173.3 mg/kg	Hazardous Waste
ERM BH119_9.5-10.0	Block 4	TPH (C6-C9) TPH (C10-C36) Benzene Total PAHs	SCC1: TPH (C6-C9) – 650 mg/kg SCC1: TPH (C10-C36) – 10000 mg/kg SCC2: 72 mg/kg /TCLP: 2 mg/L SCC2: 800 mg/kg	TPH C6-C9 - 1 060 mg/kg TPH C10-C36 -15 370 mg/kg 97.8 mg/kg 3325.3 mg/kg	Hazardous Waste
ERM BH132_1.5-1.95	Southern Cove	Lead Benzene	SCC2: 6000 mg/kg; TCLP 20 mg/L SCC2: 72 mg/kg / TCLP: 2 mg/L	12 100 mg/kg / 197 mg/L 140 mg/kg	Hazardous Waste
ERM BH132_8.0-8.5	Southern Cove	Total PAHs	SCC2: 800 mg/kg	1700.3 mg/kg	Hazardous Waste
ERM BH141_1.5-1.95	Block 4	B(a)P	SCC2: 23 mg/kg / TCLP 0.160 mg/L	24.6 mg/kg	Hazardous Waste
ERM BH141_3.0-3.45	Block 4	Benzene Total PAHs	CT2: 40 mg/kg SCC2: 800 mg/kg	41.8 mg/kg 13659.4 mg/kg	Hazardous Waste
ERM BH143_0.3-0.5	Southern Cove	Total PAHs	SCC2: 800 mg/kg	849.7 mg/kg	Hazardous Waste
ERM BH146_3.0-3.3	Block 4	Total PAHs	SCC2: 800 mg/kg	951.4 mg/kg	Hazardous Waste
ERM BH146_4.1-4.6	Block 4	B(a)P Total PAHs	SCC2: 23 mg/kg / TCLP 0.16 mg/L SCC2: 800 mg/kg	32.9 mg/kg 1274.6 mg/kg	Hazardous Waste
ERM BH198_3.0	Block 5	B(a)P	SCC2: 23 mg/kg / TCLP 0.16 mg/L	26.3 mg/kg	Hazardous Waste
ERM BH199_2.7	Block 5	Total PAHs	SCC1: 200 mg/kg	217.2 mg/kg	Restricted Solid Waste
ERM BH199_3.7	Block 5	B(a)P Total PAHs	SCC2: 23 mg/kg / TCLP 0.16 mg/L SCC2: 800 mg/kg	27.4 mg/kg 1158.9 mg/kg	Hazardous Waste

Consultant and Location ID	Area	Chemical	Adopted SCC / TCLP Criteria	Reported SCC / TCLP Exceedence	Waste Classification
ERM BH200_1.0	Block 4	Total PAHs	SCC2: 800 mg/kg	1781.5 mg/kg	Hazardous Waste
ERM BH200_2.5	Block 4	Total PAHs	SCC1: 200 mg/kg	220.1 mg/kg	Restricted Solid Waste
ERM BH201_10.3	Block 5	Lead B(a)P	SCC1: 1500 mg/kg / TCLP 5 mg/L SCC1: 10 mg/kg / TCLP 0.04 mg/L	Lead - 3 190 mg/kg / 8.7 mg/L B(a)P - 15.6 mg/kg / <0.0005 mg/L	Restricted Solid Waste
ERM BH204_1.0	Block 4	B(a)P Total PAHs	SCC2: 23 mg/kg / TCLP 0.16 mg/L SCC2: 800 mg/kg	78.6 mg/kg /f <0.0039 mg/L 3702.1 mg/kg	Hazardous Waste
ERM BH204D_1.5	Block 4	B(a)P TPH (C10-C36) Total PAHs	SCC2: 23 mg/kg / TCLP 0.16 mg/L SCC2: 40 000 mg/kg SCC2: 800 mg/kg	652 mg/kg / <0.0039 mg/L TPH C10-C36 – 147 200 mg/kg 20934.4 mg/kg	Hazardous Waste
ERM BH204D_3	Block 4	Total PAHs	SCC2: 800 mg/kg	6223.3 mg/kg	Hazardous Waste
ERM BH204D_4	Block 4	TPH (C10-C36) Benzene Total PAHs	SCC2: 40 000 mg/kg CT2: 40 mg/kg SCC2: 800 mg/kg	TPH C10-C36 – 42 020 mg/kg 44.3 mg/kg 7972.5 mg/kg	Hazardous Waste
ERM BH205_9.3	Block 4	B(a)P Total PAHs	SCC1: 10 mg/kg / TCLP 0.04 mg/L SCC1: 200 mg/kg	15.5 mg/kg / <0.004 mg/L 738.1 mg/kg	Restricted Solid Waste
ERM BH209_4.5	Block 4	B(a)P Benzene Total PAHs	SCC1: 10 mg/kg / TCLP 0.04 mg/L CT1: 10 mg/kg SCC1: 200 mg/kg	11.2 mg/kg / <0.0037 mg/L 15.5 mg/kg 497 mg/kg	Restricted Solid Waste
ERM BH209_6.1	Block 4	TPH (C6-C9) Benzene Total PAHs	SCC1: TPH (C6-C9) – 650 mg/kg SCC2: 72 mg/kg / TCLP: 2 mg/L SCC2: 800 mg/kg	TPH C6-C9 - 929 mg/kg 88.2 mg/kg 814 mg/kg	Hazardous Waste
Coffey MW3_0.9-1.0	Hickson Road	Total PAHs	SCC1: 200 mg/kg	468.5 mg/kg	Restricted Solid Waste
Coffey MW3_2.9-3.0	Hickson Road	Total PAHs	SCC1: 200 mg/kg	312 mg/kg	Restricted Solid Waste

Consultant and Location ID	Area	Chemical	Adopted SCC / TCLP Criteria	Reported SCC / TCLP Exceedence	Waste Classification
Coffey BH8_0.6-0.7	Hickson Road	Total PAHs	SCC1: 200 mg/kg	217.55 mg/kg	Restricted Solid Waste
Coffey MW10_4.9-5.0	Hickson Road	TPH (C10-C36) Total PAHs	SCC2: 40 000 mg/kg SCC2: 800 mg/kg	TPH C10-C36 – 60 200 mg/kg 7282.2 mg/kg	Hazardous Waste
Coffey MW10_8.6-8.7	Hickson Road	TPH (C6-C9) TPH (C10-C36) Benzene Toluene Total PAHs	SCC2: 2600 mg/kg SCC2: 40 000mg/kg SCC2: 72 mg/kg /TCLP: 2 mg/L SCC2: 2073 mg/kg / TCLP: 57.6 mg/L SCC2: 800 mg/kg	TPH C6-C9 – 7 590 mg/kg TPH C10-C36 – 181 800 mg/kg 1510 mg/kg 2650 mg/kg 29652.8 mg/kg	Hazardous Waste

Notes:
SCC – Specific contaminant concentration
CT – Contaminant threshold
Where multiple contaminant exceedences were reported at the same location, the exceedence with the most concentration has been tabulated.

The TCLP testing undertaken to date is considered to provide a preliminary waste classification of the soil/fill present at the Site for remediation planning purposes. Further sampling and analysis of material excavated and stockpiled during remediation works would be required to confirm the waste classification prior to beneficial re-use on-site or off-site disposal.

10.2.4.2 ASLP Tests

ASLP tests were undertaken on selected soil samples to evaluate leaching potential (refer to **Table T20**). Concentrations of metals including As, Ba, Cr, Co, Cu, Pb, Mn, Ni, Vn, Zn and PAHs including acenpathene, acenapthylene, anthracene, fluoranthene, fluorene, naphthalene, phenanthrene and pyrene were reported to be leaching at concentrations above the laboratory LOR.

Based on the samples analysed, the soil and fill material at the Site are considered to have the potential to leach.

10.2.4.3 Asbestos

A total of five samples (collected from locations where buried fill and rubble were identified) were analysed for asbestos during the AECOM DGI. No asbestos was detected in the samples analysed. A single result (AECOM BH48_11.5-11.7) reported the presence of unidentified mineral fibres. The corresponding bore log notes for this sample noted the presence of plastic, minor silt, crushed brick and road base gravels. No visual evidence of bonded fibre cement or possible asbestos fibres was observed by AECOM during the DGI investigation. ERM (2008a) previously analysed a total of 39 samples (12 samples from the Declaration Area) and detected chrysotile and amosite asbestos in a single location (BH203_1.5). Consequently, asbestos containing materials are not considered to be widespread within fill materials at the Site.

10.2.4.4 Acid Sulfate Soils

A total of two samples were analysed for Suspension Peroxide Oxidation Combined Acidity & Sulfur (sPOCAS) by AECOM to evaluate the potential for potential or actual acid sulfate soils to be present. The reported results indicate that Actual Acid Sulfate (AAS) soils were not present in the samples analysed, however there is a low potential for acid sulfate soils (PASS) to be present.

Based on Table 4.4 of the ASSMAC Assessment Guidelines, the reported sulfur trail (% sulfur oxidisable) and Acid trail (mol H^+/tonne) exceeds the Action criteria (0.03% and 18 mol H^+/tonne respectively) if more than 1000 tonnes of soils are to be disturbed triggering the need for an Acid Sulfate Soils management plan. These results are presented in **Table 12**.

Table 12: Sample sulfur trail, acid trail and lime calculation

No	Sample ID	Area	Material Type	Depth interval (m)	Sulfur Trail %S oxidisable (S_{POS})	Acid Trail Titratable Peroxide Acidity (m H^+/t)	Lime calculation Kg $CaCO_3/m^3$
1	AECOM BH49	Block 4	Sandy Gravelly Clay FILL (stiff)	6.2-6.4	1.21	<2	<1
2	AECOM BH68	Block 5	Sandy Gravel FILL (loose to medium dense	7.3-7.5	0.04	83	5

10.2.4.5 Geotechnical Sample Analysis

Flexible wall permemeter tests were undertaken on a total of 13 samples for geotechnical purposes. Reported permeability results were highly variable depending on the nature of the material sampled and ranged between 8.07E-11 metres/second in silty clay at location AECOM BH35_17.5 to 17.8 m bgs to 1.88E-08 metres/second in gravelly sand at location AECOM BH36_10.5 to 10.95 m bgs. It is noted that due to the blocky and variable nature of the fill, undisturbed U50 samples could not be obtained at a number of locations due to the sample tube being crushed and/or bent.

The plotted results of the flexible wall permeameter tests are detailed in **Appendix I**.

Porosity calculations were also undertaken by Australian Soil Testing on three samples for geotechnical purposes. Reported results are summarised in the table below.

Table 13: Porosity Analysis

Borehole	Depth (m bgs)	Area	Porosity
33	5.3	Block 3	0.41
35	17.5	Block 4	0.38
36	10.5	Block 3	0.23

Note: porosity values are based on an assumed particle density of 2.65 $g/cm^{3.}$

10.3 Soil Vapour Analytical Results

Soil vapour analytical results are summarised and compared to adopted ambient air and soil vapour criteria in **Table T23**. Laboratory certificates are provided in **Appendix J**.

A total of 10 soil vapour samples were collected from seven soil vapour wells, all of which were located within the Site and a single location down gradient of Blocks 4 and 5.

Soil vapour analytes reported above the laboratory LOR included the following:

- Toluene was reported in eight of the ten soil vapour samples analysed at concentrations ranging between 10.6 µg/m^3 (SV08_1.6-1.8) and 56.5 µg/m^3 (SV05_0.8-1.0). The reported concentrations were below the adopted ambient air (380 µg/m^3) and soil vapour screening criterion (3,800 µg/m$^{3)}$.
- Chloroform was reported in SV07_1.4-1.6 and SV09_ 0.8-1.0 at concentrations of 12.2 µg/m^3 and 13.2 µg/m^3 respectively. The reported concentrations were below the adopted ambient air (53 µg/m^3) soil vapour screening criterion (530 µg/m^3).
- Tetrachloroethene was reported in SV05_1.5-1.7 at a concentration of 13.5 µg/m^3. The reported concentrations were below the adopted ambient air (680 µg/m^3) soil vapour screening criterion (6,800 µg/m^3).
- Naphthalene was reported in eight of the ten soil vapour samples analysed at concentration ranging between 21 µg/m^3 (SV09_ 0.8-1.0) and 383 µg/m^3 (SV05_1.5-1.7). The reported concentrations were below the adopted soil vapour screening criterion of 3,800 µg/m^3. The reported concentrations exceeded the ambient air screening level (3.7 µg/m^3) in eight locations and the adopted soil vapour screening criterion (37 µg/m^3) in five locations. The locations where naphthalene was reported in soil vapour were generally located closest to the location of the former gasworks infrastructure.

It is noted that laboratory LORs for some chemicals were greater than the adopted ambient air and soil vapour screening criteria. These chemicals included:

- 1,3-butadiene (screening criterion of 0.03 µg/m^3 and 0.3 µg/m^3 vs. reporting limit of 4.4 µg/m^3).
- 1,1,2,2-tetrachloroethane (screening criterion of 0.3 µg/m^3 and 3 µg/m^3 vs. reporting limit of 14 µg/m^3).
- 1,2-dichloroethane (screening criterion of 0.36 µg/m^3 and 3.6 µg/m^3 vs. reporting limit of 8 µg/m^3).
- Hexachlorobutadiene (screening criterion of 0.7 µg/m^3 and 7 µg/m^3 vs. reporting limit of 21 µg/m^3).
- 1,2-dibromoethane (screening criterion of 0.003 µg/m^3 and 0.03 µg/m^3 vs. reporting limit of 15 µg/m^3).

The elevated LORs are not considered to significantly impact the overall dataset given that:

- the chemicals for which LORs exceeded screening criteria are not CoPC at the Site, based on the results of past investigations (i.e., these compounds have not been reported in soil or groundwater at the Site and are not expected to be present at the Site based on the Site history, existing data set and surrounding land uses); and
- the reported exceedences were generally marginal, with the exception of 1,2-dibromomethane.

Overall, the soil vapour results indicated some gasworks-derived impacts (as indicated by naphthalene) in locations closest to the former gasworks area, and low concentrations of toluene, chloroform and tetrachloroethene (below soil vapour and ambient air guidelines) in some locations.

10.4 Field Observations - Groundwater

Groundwater was encountered within fill, natural soil and bedrock at the Site. Groundwater levels were relatively shallow (less than 3 m) which was expected given the Site's location adjacent Darling Harbour and results from the previous investigations. Groundwater was encountered in all 7 testpits within the fill material.

Free tar was observed as a DNAPL in wells ERM MW204D, ERM MW205, ERM MW206, AECOM MW53, Coffey MW15, Coffey BH7 and Coffey BH10, as well as testpits TP05 and TP07. It is noted that groundwater samples were not collected from the wells, however NAPL samples were collected from monitoring wells ERM MW205 and ERM MW206. All wells with free tar were located within the former gasworks area. Coffey BH1 was unable to be sampled as the well was dry. Down-gradient well ERM MW212 was filled with sand and unable to be sampled.

During purging and sampling it was noted that groundwater generally had low turbidity.

A hydrogen sulphide odour was noted during sampling of AECOM MW40, AECOM MW58, AECOM MW62, Coffey BH3, ERM MW22, AECOM MW52, AECOM MW54, AECOM MW60, AECOM MW68, AECOM MW69 and AECOM MW74.

A tar odour was noted during sampling of ERM MW204S, ERM MW15, ERM MW198, ERM MW200, ERM MW209, ERM MW210, AECOM MW61 and AECOM MW64.

Observations made during the purging and sampling of groundwater wells are provided on the field sheets.

10.4.1 Groundwater Level Gauging

Groundwater was encountered at the Site at depths ranging from 1.38 to 2.92 m below ground surface (bgs). Standing water levels (SWLs) were measured from the top of each casing and converted to metres Australian Height Datum (m AHD) to calculate groundwater elevations and enable assessment of the groundwater flow direction.

The groundwater level gauging produced variable results, with no distinct flow direction ascertained, as expected. Groundwater potentiometric surface contour plans were not developed for the following reasons:

- Groundwater at the Site is subject to tidal fluctuation (see Section **10.7)** and the groundwater potentiometric surface would change throughout the tidal cycle;
- Given the large number of groundwater monitoring wells present, there are limitations associated with obtaining depth to groundwater data in a sufficiently short time frame (e.g. at high or low tide) to negate the change in water level associated with tide fluctuations.
- Tthe nature and distribution of fill materials and the presence of subsurface structures (including the caisson wall) are likely to influence groundwater flow.

10.4.2 Groundwater Water Quality Parameters

Field water quality parameters were measured during purging and the results of the water quality measurements and field observations are presented in **Table T24** and are summarised below.

- Dissolved oxygen (DO) in groundwater ranged from 0.03 mg/L (AECOM_MW64) to 1.22 mg/L (Coffey_BH3) indicating generally anaerobic conditions.
- Electrical conductivity (EC) of groundwater ranged from 645 µs/cm (ERM_MW204S) to 47700 µs/cm (AECOM_MW52) indicating the presence of fresh to saline groundwater. Generally groundwater across the Site had the salinity of seawater, with a few exceptions of indicative of fresh to brackish conditions located in proximity to Hickson Road.
- The pH of groundwater ranged from 4.23 to 7.27 with the majority of wells reporting slightly acidic conditions.
- The Oxygen Reduction Potential (Redox) of groundwater ranged from -268 mV (ERM_MW209) to 120 mV (AECOM_MW62) and indicated a generally reducing environment.

10.5 Groundwater Analytical Results

All groundwater analytical results are provided in **Table T25** at the rear of this report. Laboratory certificates are provided in **Appendix J**.

A tabulated summary of groundwater results is provided in **Table 14** below. The tabulated results include both exceedences of the Site investigation criteria and for those analytes where no criteria exists, exceedences of the laboratory LOR.

Table 14: Summary of Groundwater Analytical Results

Chemical	Number (count)		Concentration Range			Adopted Criteria - ANZECC (2000) Marine 95% (99% Hg)	
	Results	Detects	Min	Max	Units	Number of Exceedences	Criteria Value
Dissolved Metals							
Cadmium	21	14	<0.00005	0.0115	mg/L	1	0.0055
Chromium (VI)	21	6	<0.002	0.019	mg/L	5	0.0044
Chromium (III+VI)	21	11	0.0004	0.0102	mg/L	2	0.0044
Cobalt	21	21	0.0002	0.0566	mg/L	13	0.001
Copper	21	5	<0.0005	0.032	mg/L	5	0.0013
Lead	21	15	<0.0001	0.0362	mg/L	5	0.0044
Mercury	21	5	<0.0001	0.0002	mg/L	2	0.0001
Nickel	21	20	<0.0005	0.186	mg/L	6	0.07
Zinc	21	20	<0.005	0.613	mg/L	12	0.015
TPH/BTEX							
Benzene	22	14	<1	16200	µg/L	6	700
Ethylbenzene	22	14	<2	3010	µg/L	-	-
Toluene	22	12	<0.005	5030	µg/L	-	-
TPH C6 - C9	21	12	<20	46200	µg/L	-	-
TPH+C10 - C36 (Sum of total)	22	17	<50	3582000	µg/L	-	-
PAH/Phenols							
Benzo(a) pyrene	23	7	<0.6	9260	µg/L	-	-
Naphthalene	23	19	<0.9	283000	µg/L	12	70
PAHs (Sum of total)	23	20	<0.9	540000	µg/L	-	-
Phenol	23	7	<0.9	503	µg/L	1	400
SVOCS							
1-naphthylamine	23	1	<0.9	91	µg/L	-	-
Aniline	23	4	<0.9	212	µg/L	-	-
Bis(2-ethylhexyl) phthalate	23	4	<20	30	µg/L	-	-
Di-n-butyl phthalate	23	3	<2	4	µg/L	-	-
2-Picoline	23	3	<0.9	129	µg/L	-	-
Acetophenone	23	2	<0.9	13	µg/L	-	-
Carbazole	23	15	<0.9	4600	µg/L	-	-

Chemical	Number (count)		Concentration Range			Adopted Criteria - ANZECC (2000) Marine 95% (99% Hg)	
	Results	Detects	Min	Max	Units	Number of Exceedences	Criteria Value
Dibenzofuran	23	14	<0.9	10200	µg/L	-	-
VOCs							
1,2,4-trimethylbenzene	22	12	<5	920	µg/L	-	-
1,3,5-trimethylbenzene	22	6	<5	210	µg/L	-	-
Isopropylbenzene	22	1	<5	30	µg/L	-	-
n-propylbenzene	22	2	<5	44	µg/L	-	-
Styrene	22	7	<5	194	µg/L	-	-
Inorganics							
Weak Acid Dissociable Cyanide	19	7	<0.004	0.020	mg/L	-	-
Cyanide (Free)	19	5	<0.004	0.013	mg/L	-	-
Calcium (Filtered)	18	18	11	936	mg/L	-	-
Magnesium (Filtered)	18	18	6	1210	mg/L	-	-
Potassium (Filtered)	18	18	3	429	mg/L	-	-
Ammonia as N	18	14	<10	90400	µg/L	13	910
Anions Total	18	18	2.12	567	meq/L	-	-
Cations Total	18	18	2.16	626	meq/L	-	-
Chloride	18	18	25.2	18500	mg/L	-	-
Ferrous Iron	8	7	<0.05	62	mg/L	-	-
Nitrate (as N)	18	13	<0.01	3.4	mg/L	-	-
Nitrite (as N)	18	5	<0.01	0.05	mg/L	-	-
Sodium (Filtered)	18	18	15	11300	mg/L	-	-
Sulphate	18	18	20.6	2510	mg/L	-	-
Alkalinity (total) as CaCO3	18	17	<1	761	mg/L	-	-
Ionic Balance	17	17	0.03	5.56	%	-	-
TOC	21	21	3	112	mg/L	-	-
pH (Lab)	15	15	4.5	8.16	pH_Units	-	-

10.5.1 Groundwater Geochemical Parameters

The cation/anion chemistry of the groundwater obtained from wells across the Site it is dominated by chloride and sodium, with the proportion of sodium and chloride ions tending towards seawater composition. This is expected considering the Sites proximity to Darling Harbor and the saline groundwater encountered during the investigation.

There are some minor variations to this trend which is likely a result of the variable fill materials present at the Site.

10.5.2 Natural Attenuation Parameters

Biodegradation of hydrocarbons (natural attenuation) most commonly occurs by means of aerobic, nitrate-reducing, Fe (III)-reducing, sulphate-reducing, and methanogenic respiration. The analytical results indicate that degradation of contaminants is occurring, with increased alkalinity and TOC concentrations and significantly reduced sulphate and calcium concentrations reported for wells with elevated hydrocarbon concentrations.

Increased alkalinity often occurs in areas if microbial activity. Increases in alkalinity result from the dissolution of clays, known to be present in some areas of the Site, by the production of carbon dioxide from the metabolism of microorganisms. Alkalinity is important in the maintenance of pH as it buffers the groundwater system against acids generated during aerobic and anaerobic biodegradation.

Low redox readings, indicating reducing conditions, and a slightly acidic to neutral pH were reported across the Site, generally indicating a suitable environment to support the degradation of hydrocarbon contamination.

10.6 Hydraulic Conductivity Assessment

Assessment of the hydraulic conductivity was conducted at two locations within the Site (AECOM wells MW45, MW58), and two locations down-hydraulic gradient of the Site (AECOM wells MW56, MW60). The results of the data analysis is summarised in **Table 15** (below) and the data sheets and calculations are provided in **Appendix F**.

Table 15: Summary of Hydraulic Conductivity Results

Well ID	Hydraulic Conductivity (K) m/sec	Description of materials at screened interval
MW45	1.1×10^{-6}	Variety of fill materials including silty sands, gravelly clays and sandy gravels.
MW56	7.3×10^{-7}	Weathered sandstone with clay bands
MW58	1.7×10^{-5}	Loose sands and sandy gravels.
MW60	3.4×10^{-8}	Silty clay, sandy clay and weathered sandstone.

The calculated hydraulic conductivities were variable across the Site and ranged from 1.7×10^{-5} to 3.4×10^{-8} m/sec and averaged 4.71×10^{-6}. These results are consistent with literature values for a sandy, silty environment.

Variable hydraulic conductivities are expected due to the heterogeneous nature of the fill materials used to backfill the Site. Hydraulic conductivities were highest in units containing gravels and sands and were lower in units which displayed an increased level of compaction and/or clay content.

Groundwater flow paths and subsequent migration of groundwater contamination are likely to be complicated by the spatial variability in conductivities across the Site as well as subsurface structures such as the existing caissons.

10.7 Tidal Assessment

Standing water levels within AECOM wells MW60, MW61, MW62 and the Stilling Well were monitored over a three day period to assess the extent and amplitude of tidal influence across the Site. The data are presented graphically in **Appendix G** and summarised in **Table 16** below.

Table 16: Tidal Assessment Results

Well ID	Distance from Harbour (approx)	Maximum Water Level Fluctuation	Time Lag of High/Low Tide from Shoreline
Stilling Well	0 m	1.7933 m*	0
MW60	40 m	0.5743 m	12 mins
MW62	140 m	0.2428 m	168 mins
MW61	200 m	0.0716 m	231 mins

*Includes water level variations resulting from passing boats/ships

Tidal fluctuations were found to influence groundwater levels at the Site.

In unconfined aquifers, such as those present at the Site, tidal fluctuations cause changes in groundwater levels as the seawater enters or leaves the aquifer which outcrops or subcrops at the shoreline. Thus, a high tide next to an unconfined aquifer will result in a rising of groundwater levels as a result of the entering seawater.

Groundwater level fluctuations at the Site over the three day period ranged from 1.79 m in the Stilling Well (including waves caused by passing boats) to 0.072 m in MW61 located in Hickson Road. Groundwater level changes resulting from tidal changes decreased with distance from the harbour.

The time lag between rising tidal level and rising groundwater level at the Site increased with distance from the harbour, although the time lag was not consistent across the Site. The variation is likely a result of the anisotropic distribution of fill materials of differing permeability.

In summary, the results of the tidal assessment indicate the Site is tidally influenced, with the influence extending as far inland as Hickson Road. This is supported by the presence of highly saline water within wells across the Site. The amplitude of tidal induced groundwater fluctuations reduce with distance from Darling Harbour and the inconsistent nature of backfill materials appear to influence flow directions and velocity of groundwater movement at the Site.

10.8 Injection Tests

As part of the pre-injection monitoring to inform the S-ISCO Pilot Trials, AECOM completed injection tests on selected existing groundwater monitoring wells to:

- verify flow rates for injections well; and
- ensure injection wells will be efficient at injecting chemicals into the subsurface.

The injection tests included the collection of baseline depth to water measurements in observation wells located in the vicinity of the injection wells (as detailed in **Table 17**).

The injection testing methodology comprised the following:

- Installation of data loggers into each selected injection monitoring well, to log depth to water changes throughout the duration of the test;
- Pumping water from a water cart (provided by Terratest) via a hose fixed by an inflatable pressure seal to the injection well head.
- The water injection tests comprised the injection of potable water at increasing flow rates for approximately one hour duration at each flow rate. The tests commenced with the injection of water at a rate of 4 litres per minutes for approximately 1 hour. During this time pressure and flow rate at the well head were monitored every 5 minutes.

- This same methodology was followed for injecting at flow rates of 10 litres per minute, 20 litres per minute and 40 litres per minute, where subsurface conditions permitted. Following the test all data collected (pressure, flow rates, and elevation) was forwarded to VeruTEK for analysis.

A summary of the monitoring wells selected for injection testing purposes are detailed in **Table 17** :

Table 17: Injection Testing Well Details

Test Well	Date	Start Time	Finish Time	Observation Wells
MW68	30/03/2010	12:02 PM	4:56 PM	MW69, MW61, MW198, MW64, MW62
MW69	31/03/2010	7:49 AM	11:40 AM	MW68, MW61, MW198, MW64
MW64	31/03/2010	12:34 PM	4:01 PM	MW61, MW198, MW68, MW200
MW54	4/06/2010	10:00 AM	1:41 PM	MW58, MW42, MW204D (tar impacted)
MW62	4/06/2010	2:14 PM	5:15 PM	MW58, MW42, MW204D (tar impacted)

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11.0 Site Characterisation/Site Conceptual Model

11.1 Fill Materials and Natural Soils

To evaluate the nature and distribution of CoPC at the Site and in accordance with the objectives of the investigation, AECOM results have been combined with previous consultant's data (ERM and Coffey) to fill in identified data gaps and update the site conceptual model. The results of the DGI indicate the following:

- Observed fill materials generally comprised unconsolidated gravels, sand, bricks, sandstone, timber, slag and steel in a variable gravelly sand to clayey sand matrix. Fill materials were present above natural silty sands, gravelly sands, clays, weathered sandstone and sand with components of clay overlying sandstone bedrock. These results are generally similar to the previous investigations and confirm the presence highly variable fill material underlying the Declaration Area, thickening to the west towards Darling Harbour.
- Concentrations of CoPC including lead, TPH (C_6-C_9 and C_{10}-C_{36}), BTEX compounds, PAHs (including B(a)P), and sulfate variably exceeded the adopted Site investigation criteria. Concentrations of some SVOC compounds exceeding the laboratory LOR (carbazole and dibenzofuran) and/or USEPA screening criteria (3,3 dichlorobenzidine) were also reported. The reported results are generally consistent with the findings of previous investigations with respect to the identified CoPC.
- The reported contamination was identified in fill and natural soils and at the bedrock interface. No rock coring was undertaken during this DGI but previous investigations (ERM 2007) have identified residual gasworks related material within bedrock underlying the Site.
- The presence of contamination was variably confirmed by the presence of odours, black staining, surface sheen on groundwater and the presence of tar.
- Elevated concentrations of lead (greater than the site assessment criteria) were primarily detected within shallow fill materials in Block 5 and a single location in Southern Cove. The lead was generally reported at depths of 1.5 to 3.5 m bgs and was not widespread across other areas of the Site. It is noted that lead can be associated with gasworks wastes (NSW DEC 2005), however the data indicate that only 3 of 8 the elevated concentrations were directly associated with the presence of gasworks-like contamination.
- Waste characterisation results indicated soil and fill materials variably meet either the Restricted Solid Waste or Hazardous Waste criteria across a large portion of the Site.
- TCLP and ASLP testing of samples collected by AECOM indicated that leaching of some metals and PAHs occurred under the test conditions. These results indicated that there is a potential for adverse impacts from the impacted fill to groundwater beneath the Site.

Based on the reported results, AECOM notes the following regarding the lateral and vertical extent of contamination in fill and natural material:

- The maximum concentrations of CoPC were generally located in proximity to and down gradient from the former gasworks in the Declaration Area. Free tar was identified in a number of additional locations in Hickson Road and Block 4 within and in the vicinity of the tar tank, purifying beds and 1870 gasholder, indicating these locations are source areas of contamination.
- Reported concentrations of TPH, BTEX and PAHs generally decreased with distance from the inferred source areas. The results indicate that lateral migration of contamination has and continues to occur.
- Asbestos was identified in a single sample during a previous investigation. A second sample reported the presence of unidentified mineral fibres. The reported results and visual observations during sampling indicate that asbestos is not widespread within fill materials at the Site.

11.2 Hydrogeological Conditions

The results of this investigation indicated that groundwater beneath the Site is present as an unconfined, shallow aquifer within the fill materials and the underlying natural sediments. Groundwater is also likely to occur as a deeper bedrock aquifer within the underlying sandstone bedrock. Groundwater within the bedrock would occur as a fractured bedrock aquifer, potentially confined by an overlying clay unit in some areas of the Site.

Due to the proximity of the Site to Darling Harbour, the depth to groundwater is shallow and the overall direction of groundwater flow is expected to be towards Darling Harbour. Groundwater at the Site is tidally influenced, resulting in the fluctuation of groundwater levels within the fill materials and natural sediments. Groundwater

chemistry at the Site is dominated by sodium and chloride ions, indicative of a saline environment. Variability in the groundwater chemistry and hardness was present in some areas of the Site, which is contributed to the presence of the fill materials.

The hydraulic conductivities reported for the Site were variable due to the inconsistent nature and distribution of fill materials. This variability in conductivity results in inconsistent lag times for tidal influence across the Site and creates a tortuous flow path for groundwater and associated contamination.

Based on the preliminary results reported in AECOM (2010c) there appears to be an efficient hydraulic connection between the saturated fill material and Darling Harbour indicating a significant exchange of water during tidal cycles. However groundwater flux in the underlying natural material was determined to be negligible. It is also noted that dissolved oxygen measurements in monitoring wells at the Site and surrounding area (Other Remediation Works South Area) were generally less than 2 mg/L, with an average of 0.45 mg/L, indicating oxygen depleted conditions. This may indicate that the hydraulic connection is heterogeneous across the Barangaroo Site owing to the various underlying caisson structures.

Contaminants associated with the former gasworks operation were present in groundwater within and down-gradient of the Site. The distribution of groundwater contamination across the Site appears to be influenced by tidal fluctuations and the variable nature and distribution of fill materials used to backfill the Site.

Free phase tar was reported in several wells located within the footprint of the former gasworks site. Tar was observed within wells installed at varied depths throughout the profile, indicating dense non aqueous phase liquid (DNAPL) is present at the Site within the fill materials, natural sediments and bedrock.

The migration of DNAPL occurs both vertically and horizontally through the profile under the influence of gravity. Changes in hydraulic conductivity (e.g. from a sand to a clayey sand) would slow the downwards migration of DNAPL and promote lateral dispersion. The slope of the bedrock interface at the Site towards the west is also likely to be influencing DNAPL migration.

Dissolved phase contamination associated with the former gasworks, were present across the Site and in down-gradient wells to the west. Significant concentrations of TPH, BTEX, PAH and ammonia were reported in groundwater across the former footprint of the gasworks infrastructure. Cyanide concentrations (free and weak acid dissociable) were reported in various wells in the Declaration Area but showed no correlation with naphthalene (considered a gasworks indicator CoPC) indicating that if the reported cyanide is related to the gasworks it does not appear to be as persistent as the organic contaminants.

Given the varied depth of DNAPL occurrence at the Site, it is likely that the associated dissolved phase contamination also exhibits significant spatial variability in terms of depth of occurrence and concentration.

Groundwater contamination appears to be migrating in a westerly direction towards Darling Harbour as monitoring wells located down-hydraulic gradient (west) of the Site reported the presence of contamination indicative of gasworks waste.

Contaminant concentrations reported in down-gradient well AECOM MW60, screened between 14 and 22 mbgs (-11.31 to – 19.31 m AHD) across the base of the fill and natural sediments immediately overlying bedrock, was an order of magnitude higher than concentrations reported for more shallow down-gradient wells. This suggests the most significant dissolved phase concentrations are at depth down-gradient of the Site and based on the depths to the harbour floor reported in ERM (2008b), which ranged between 10 m to 13.2 m below the water surface, are present at an elevation below the sea floor of Darling Harbour.

The northern and eastern extents of contamination were not defined by this investigation, with contamination extending beyond AECOM MW69 to the north and Hickson Road to the east. The assessment of adjacent Blocks 1 to 3 (AECOM, 2010a) indicated the southerly migration of groundwater contamination is limited, not extending past AECOM MW08, located within Block 3.

Heavy metals concentrations exceeding the guidelines were widespread across the Site. Compounds exceeding the criteria in numerous monitoring wells included cobalt, copper, lead, nickel and zinc. The slightly acidic nature of groundwater at the Site may also be contributing to the mobilisation of heavy metals from within the fill materials. Metals concentrations were generally consistent with previous investigations.

The assessment of natural attenuation parameters indicate that a suitable environment for biodegradation of hydrocarbons is present at the Site, and there is evidence the degradation processes is actively occurring. Evidence of this included reduced sulphate concentrations, increased alkalinity and higher TOC concentrations in wells reporting the presence on hydrocarbon contamination.

The assessment of natural attenuation parameters indicate that a suitable environment for biodegradation of hydrocarbons is present at the Site, and there is evidence the degradation processes is actively occurring. Evidence of this included reduced sulphate concentrations, increased alkalinity and higher TOC concentrations in wells reporting the presence on hydrocarbon contamination.

In summary, the most significant groundwater contamination was identified in the immediate vicinity of the former gasworks infrastructure and contamination is present in both dissolved and free phase forms. Concentrations of contaminants in excess of the assessment criteria were also identified in down-gradient wells, indicating the westerly migration of contamination. The results of the investigation indicate that the variable nature and distribution of fill materials at the Site cause localised variations in groundwater flow and associated contaminant migration, which is further complicated by tidal movements.

11.3 Conceptual Site Model Update

ERM (2008) provided a conceptual site model with the following salient points:

- Gasworks related contamination was generally present within the fill material, natural soil and bedrock underlying the Declaration Area.
- Primary pathways for contaminants "*are likely to be within the sandstone bedrock, to the east, and via highly permeable fill/service lines towards Darling Harbour*".
- With the exception of one location in the Public Domain west of Block 5 (described as Area 3 and 4 in ERM 2008) observations of tar were made in a number monitoring wells within the Declaration Area.

Based on the combined ERM, Coffey and AECOM dataset, the following points provide an update to the conceptual site model:

- The majority of gasworks related contamination present underlying the Declaration area has been confirmed. With the exception of 4 locations outside of the Declaration Area (ERM BH169, ERM BH191, AECOM BH40 and AECOM BH60), observations of tar and tarry/strong hydrocarbon odour with sheen on sampled material were entirely in boreholes within the Declaration Area.
- The deeper contamination reported in the Public Domain west of Block 5 has been confirmed as being present in the natural soil immediately underlying the fill material.
- The conceptual model depicted in ERM (2008) Figure 20 generally fits with the exception of deep bedrock contamination (discussed below). AECOM DGI boreholes did not generally extend into bedrock and therefore the deep bedrock contamination interpreted in ERM BH205, BH206 and BH209 has not been confirmed.

Review of the ERM borelogs and soil data indicates that the highly impacted zones of contamination appear to be in the natural soil at the bedrock interface and decrease with depth. Because the wells installed in BH206 and BH209 are screened across the natural soil and sandstone bedrock (as indicated in the borelogs) and there is no evidence for deep contamination in BH205 (other than tar in the well which could be related to well completion issues given the difficult nature of the drilling at the Barangaroo Site), AECOM considers that the dataset does not support the presence of deep bedrock contamination.

The combined dataset indicates that the highly impacted zone is generally at the base of the fill material, through the natural soil and into the top of the sandstone. This would be expected at a DNAPL site where highly variable and permeable fill material overlies a relatively less permeable natural soil/bedrock. The DNAPL would migrate downwards and pool/adsorb on a less permeable underlying strata. It is also noted that given the high tidal connectivity of the fill material, lower concentrations in the fill material would be expected, with the higher concentrations remaining in the lower permeable material with less connectivity (supported by AECOM 2010c).

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12.0 Assessment of Risk

The following sections provide a qualitative evaluation of the potential for the reported concentrations of CoPC at the Site to pose a risk to human health or the environment by consideration of the extent and source(s) of contamination, pathways, exposure routes and receptors. The following tables provide the source-pathway-receptor assessment based on the understood declaration and for the current use of the Site. Specific exposure scenarios have been modelled in the HHERA(s).

Table 18: Source-pathway-receptor summary related to the declaration

Source/CoPC	Pathway	Receptor	Complete Pathway/Exposure Risk
Gasworks – TPH, PAHs, BTEX	Inhalation (vapour)	Human –adjacent properties	Possible – odours in basement of 38 Hickson Road when groundwater is not adequately removed.
Gasworks – TPH, PAHs, BTEX, cyanide, sulfate, heavy metals, ammonia Fill – heavy metals	Surface water	Environment (Darling Harbour)	No – concrete slab/asphalt and existing drainage infrastructure in place
Gasworks – TPH, PAHs, BTEX, cyanide, sulfate, heavy metals, ammonia Fill – heavy metals	Groundwater	Environment (Darling Harbour)	Yes – concentrations reported in groundwater (risk assessment pending) underlying the Site but decrease down gradient.

Table 19: Source-pathway-receptor summary related to current/approved land use

Source/CoPC	Pathway	Receptor	Complete Pathway/Exposure Risk
Gasworks – TPH, PAHs, BTEX	Inhalation (vapour)	Human – Site workers, visitors, public	No – concrete slab/asphalt in place. Vapour results less than Site investigation Criteria
Gasworks – TPH, PAHs, BTEX, cyanide, sulfate, heavy metals, ammonia Fill – heavy metals	Dermal contact	Human – Site workers, visitors, public	No – concrete slab/asphalt in place Assume existing services maintenance is undertaken via existing access infrastructure
Gasworks – TPH, PAHs, BTEX, cyanide, sulfate, heavy metals, ammonia Fill – heavy metals	Ingestion (soil, groundwater, dust)	Human – Site workers, visitors, public	No – concrete slab/asphalt in place, groundwater saline and not used
Gasworks – TPH, PAHs, BTEX, cyanide, sulfate, heavy metals, ammonia Fill – heavy metals	Surface water	Environment (Darling Harbour)	No – concrete slab/asphalt and existing drainage infrastructure in place

Source/CoPC	Pathway	Receptor	Complete Pathway/Exposure Risk
Gasworks – TPH, PAHs, BTEX, cyanide, sulfate, heavy metals, ammonia Fill – heavy metals	Groundwater	Environment (Darling Harbour)	Yes – concentrations reported in groundwater (risk assessment pending) underlying the Site but decrease down gradient.

AECOM notes that:

- The existing concrete and asphalt ground surface provides a barrier to contamination identified in subsurface soil and fill materials;
- Reported dissolved-phase concentrations of contaminants have been variably detected above the Site investigation criteria (e.g. cadmium, chromium, cobalt, copper, lead, mercury, nickel, zinc, naphthalene and ammonia) and above detection limits (e.g. TPH C_6-C_9, TPH C_{10}-C_{36}, BTEX, PAHs, phenols, SVOCs and VOCs). The contamination detected in groundwater is likely to be related to the presence of both gasworks waste and buried fill materials indicating there may be a potential risk to the environment if migration to off-site receptors is occurring; and
- Free tar has been reported at a number of locations and would represent an ongoing source of contamination and would likely need to be removed to the extent practical.

12.1 Declaration Related Risk

The Declaration states:

> *The EPA has considered the matters in s.9 of the Act and for the following reasons has determined that the site is contaminated in such a way as to present a significant risk of harm to human health and the environment:*
>
> - *Groundwater on the site has been found to be contaminated by TPHs, PAHs, BTEX, ammonia, phenol and cyanide at concentrations significantly exceeding the relevant trigger values for the protection of human health and aquatic ecosystems in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC and ARMCANZ, 2000).*
> - *These groundwater contaminants include human carcinogens and substances toxic to aquatic ecosystems.*
> - *The contaminated groundwater is impacting on the surrounding areas including the basement of a residential building adjacent to the site, potentially exposing humans in that building to harmful vapours; however it is currently being effectively controlled.*
> - *Contaminated groundwater is likely to be migrating from the site to Darling Harbour and could ultimately affect aquatic ecosystems.*

Therefore the EPA is concerned with the particular contaminants reported in groundwater and the potential for these to migrate from the site. With the exception of point 3 the determination of significant contamination is related to migration of contaminated groundwater to Darling Harbour.

Based on the source-pathway-receptor analysis, a complete pathway exists for contaminated groundwater to enter Darling Harbour. Based on the contaminants (including known carcinogens such as benzene) and reported concentrations (i.e. greater than the assessment criteria) in this and previous investigations, a risk is likely to exist to the receptor. AECOM notes that the risk will be quantified in the HHERA(s).

12.2 Land Use Related Risk

AECOM understands the Site may be developed for a mix of high density residential (minimal access to soil), commercial (including basement level car parking) and open space land uses in the vicinity of the Southern Cove. Whilst the existing asphalt and concrete ground surface is considered adequate to limit exposure by Site users to underlying contamination, it is noted that any future earthworks/remediation/development at the Site is likely to complete the exposure pathway.

The site specific HHERA which is currently being prepared for the Site will consider in further detail the proposed future land use scenarios and provide and evaluate the potential risks associated with the identified contamination during future development works.

However, as with the Declaration related risk, there is a complete pathway for the migration of contaminated groundwater to Darling Harbour and therefore a likely risk to that receptor. AECOM notes that the risk will be quantified in the HHERA(s).

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13.0 Conclusions and Recommendations

The DGI has identified elevated concentrations of contaminants exceeding the adopted Site investigation criteria within the Declaration Area. The reported results are considered to be primarily associated with the former land use as a gasworks, as well as the importation of fill materials during reclamation activities.

The Declaration Area has been declared a Remediation Site by the NSW EPA as it has previously determined that the land is contaminated in such a way as to present a significant risk of harm (i.e. significant enough to warrant regulation) to human health and the environment. The reported results of this DGI and previous investigations support this determination.

AECOM considers that the DGI has derived sufficient data to address identified existing data gaps and confirm the general characteristics of soil, fill, soil vapour and groundwater underlying the Site in order to allow:

- Planning of the proposed remediation strategies and commencement of remediation treatability trials;
- Development of contaminant fate and transport modelling;
- Development of a Site specific HHERA demonstrating what soil and groundwater contamination will represent an acceptable risk if reused as part of the development (including placement in Headland Park); and
- Further development and refinement of the proposed remediation strategies and associated environmental management measures, including preparation of a detailed RAP and final RWP.

In order to achieve the objectives of removing the declaration which currently applies to the Declaration Area and making the Site suitable for the proposed land use, AECOM recommends completion of the following:

- A site-specific HHERA addressing the remediation required for removal of the Declaration;
- A separate HHERA addressing the remediation of the Declaration Area for the proposed future land use;
- RAP detailing options for remediation and/or management and a recommended preferred strategy that will:
  - Facilitate removal of the DECCW Declaration;
  - Render the areas suitable for their intended land use;
  - Detail validation requirements to be implemented to demonstrate successful completion of the remedial works; and
  - Detail the requirement (if any) for potential future monitoring or management.
- RWP providing a technical specification that is suitable for issue by LL to its contractors, and that provides specific details of the work that must be completed to facilitate delivery of the remediation works prescribed by the RAP for the Site.

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Tables

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Table T1
Analysis Summary

Sample Location and Depth (m bgs)	Consultant	Area	Lithology Type	PID (ppm)	Rationale	Analyses																																		
			Parent Sample / Trip Spike OR Trip Blank			Asbestos	TCLP	ASLP	Amino Aliphatics	Amino Aromatics	Anilines	BTEX	Chlorinated Hydrocarbons	Explosives	Halogenated Benzenes	Halogenated Hydrocarbons	Halogenated Phenols	Herbicides	Cyanide (Free)	Cyanide (Total)	Anions / Cations	Inorganics	Ferrous iron	pH Lab	TOC	WAD Cyanide	MAH	M8	M13	Hexavalent Chromium	Iron	OCPs	OPPs	PAHs	PAHs / Phenols
Boreholes																																								
BH33_0.75-0.85	AECOM	Declaration Area - Block 3	Gravelly Sandy Clay (FILL)	1.1	Further characterisation of FILL material.							1															1							
BH33_1.0-1.2	AECOM	Declaration Area - Block 3	Silty Sandy Clay (FILL)	11.7	NA																																			
BH33_2.0-2.2	AECOM	Declaration Area - Block 3	Clayey Sand (FILL)	3.2	NA																																			
BH33_3.0-3.2	AECOM	Declaration Area - Block 3	Clayey Sand (FILL)	7.4	NA																																			
BH33_4.0-4.2	AECOM	Declaration Area - Block 3	Clayey Sand (FILL)	6.4	NA																																			
BH33_5.0-5.2	AECOM	Declaration Area - Block 3	Clayey Sand (FILL)	12.7	Further characterisation of FILL material.							1					1		1					1		1		1													1
BH33_6.0-6.2	AECOM	Declaration Area - Block 3	SANDSTONE	9.6	NA																																			
BH33_7.0-7.2	AECOM	Declaration Area - Block 3	SANDSTONE	8.5	NA																																			
BH33_8.0-8.2	AECOM	Declaration Area - Block 3	SANDSTONE	10.3	Base of borehole. Further characterisation of Natural materials.							1												1				1							
BH34_0.6-0.8	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	0.0	NA																																			
BH34_1.0-1.2	AECOM	Declaration Area - Block 4	Gravelly Sand (FILL)	0.0	NA																																			
BH34_1.8-2.2	AECOM	Declaration Area - Block 4	Sandy Clay (FILL)	0.8	Further characterisation of FILL material.							1					1			1				1	1	1			1	1					1
BH34_3.8-4.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	1.0	Further characterisation of FILL material.																								1						
BH34_5.0-5.2	AECOM	Declaration Area - Block 4	Sand (FILL)	0.6	NA																																			
BH34_6.0-6.2	AECOM	Declaration Area - Block 4	Clayey Gravelly Sand (FILL)	1.3	Further characterisation of FILL material.							1					1												1						1
BH34_7.5-7.7	AECOM	Declaration Area - Block 4	Sandy Clay (FILL)	0.8	NA																																			
BH34_9.0-9.2	AECOM	Declaration Area - Block 4	Clayey Sandy Gravel (FILL)	0.8	NA																																			
BH34_11.0-11.2	AECOM	Declaration Area - Block 4	SANDSTONE	0.6	Further characterisation of Natural material.							1					1												1						1
BH35_0.9-1.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	0.2	Further characterisation of FILL material.																								1						
BH35_1.9-2.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	0.5	NA																																			
BH35_3.4-3.5	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	0.9	NA																																			
BH35_4.9-5.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	1.0	Further characterisation of FILL material.							1					1		1					1		1			1						1
BH35_6.4-6.5	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	0.2	Further characterisation of FILL material.																								1						
BH35_7.9-8.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	0.8	NA																																			
BH35_9.9-10.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	0.5	Further characterisation of FILL material.							1					1							1	1				1	1	1				1
BH36_0.07-0.1	AECOM	Declaration Area - Block 3	Silty Sandy Gravel (FILL)	0.3	Further characterisation of FILL material.																								1						
BH36_1.0-1.2	AECOM	Declaration Area - Block 3	Sandstone (FILL)	0.4	Further characterisation of FILL material.		1					1					1							1					1						1
BH36_2.5-2.9	AECOM	Declaration Area - Block 3	Gravelly Sand (FILL)	0.3	Further characterisation of FILL material.																																			
BH36_4.0-4.4	AECOM	Declaration Area - Block 3	Gravelly Sand (FILL)	0.5	Further characterisation of FILL material.				1	1	1	1	1	1	1	1	1	1		1						1	1		1			1	1			1
BH36_5.5-5.9	AECOM	Declaration Area - Block 3	Sandstone (FILL)	0.5	NA																																			
BH36_7.0-7.4	AECOM	Declaration Area - Block 3	Sandstone (FILL)	-	NA																																			
BH36_8.5-8.9	AECOM	Declaration Area - Block 3	Sandstone (FILL)	-	Further characterisation of FILL material.							1					1												1						1
BH36_10.0-10.4	AECOM	Declaration Area - Block 3	Gravelly Sand (FILL)	-	NA																																			
BH36_13.0-13.4	AECOM	Declaration Area - Block 3	Sandy Gravel (FILL)	0.3	Further characterisation of FILL material.																								1						
BH36_15.0-15.05	AECOM	Declaration Area - Block 3	SANDSTONE	16.9	Odour. Base of borehole.				1	1	1	1	1	1	1	1	1	1		1				1	1	1	1		1	1	1	1	1		1
BH42_1.0-1.1	AECOM	Declaration Area - Block 4	Sandstone (FILL)	-	Further characterisation of FILL material.							1					1							1					1						1
BH42_2.0-2.1	AECOM	Declaration Area - Block 4	Sandstone (FILL)	0.5	Further characterisation of FILL material.	1																																		
BH42_2.4-2.5	AECOM	Declaration Area - Block 4	Sandstone (FILL)	0.9	Further characterisation of FILL material.																																			
BH42_3.0-3.1	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	3.1	Further characterisation of FILL material.																																			
BH42_3.2-3.3	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	168.0	High PID value. Further characterisation of FILL material.		1		1	1	1	1	1	1	1	1	1	1		1				1	1	1	1		1	1	1	1	1		1
BH42_3.5-3.6	AECOM	Declaration Area - Block 4	SANDSTONE	25.5	Base of borehole.							1					1							1					1						1
BH43_0.4-0.5	AECOM	Declaration Area - Hickson Road	Gravelly Sand (FILL)	0.0	Further characterisation of FILL material.																								1	1					
BH44_1.4-1.5	AECOM	Declaration Area - Block 4	Gravelly Sand (FILL)	0.4	Further characterisation of FILL material.																								1						
BH44_1.9-2.0	AECOM	Declaration Area - Block 4	Clayey SAND	0.2	Odour and staining. Base of borehole.							1					1		1					1	1	1			1	1	1				1
BH44_2.9-3.0	AECOM	Declaration Area - Block 4	Clayey SAND	1.1	NA																																			
BH44_4.9-5.0	AECOM	Declaration Area - Block 4	SANDSTONE	407.0	High PID value. Further characterisation of Natural material.				1	1	1	1	1	1	1	1	1	1	1	1				1	1	1	1		1	1	1	1	1		1
BH44_5.4-5.5	AECOM	Declaration Area - Block 4	SANDSTONE	73.4	High PID value. Base of borehole.																																			
BH48_0.15-0.16	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	1.3	Odour. Further characterisation of FILL material.																								1						
BH48_1.0-1.2	AECOM	Declaration Area - Block 4	Silty Sand (FILL)	0.4	Contains ash. Further characterisation of FILL material.							1					1												1						1
BH48_4.0-4.2	AECOM	Declaration Area - Block 4	Sand (FILL)	0.7	NA																																			
BH48_5.5-5.7	AECOM	Declaration Area - Block 4	Sand (FILL)	0.9	NA																																			
BH48_7.0-7.2	AECOM	Declaration Area - Block 4	Sand (FILL)	0.6	NA																																			

Table T1
Analysis Summary

Sample Location and Depth (m bgs)	Consultant	Area	Lithology Type	PID (ppm)	Rationale	Analyses																																		
			Parent Sample / Trip Spike OR Trip Blank			Asbestos	TCLP	ASLP	Amino Aliphatics	Amino Aromatics	Anilines	BTEX	Chlorinated Hydrocarbons	Explosives	Halogenated Benzenes	Halogenated Hydrocarbons	Halogenated Phenols	Herbicides	Cyanide (Free)	Cyanide (Total)	Anions / Cations	Inorganics	Ferrous iron	pH Lab	TOC	WAD Cyanide	MAH	M8	M13	Hexavalent Chromium	Iron	OCPs	OPPs	PAHs	PAHs / Phenols
BH48_8.5-8.7	AECOM	Declaration Area - Block 4	Sand (FILL)	1.0	Contains ash. Further characterisation of FILL material.							1					1												1						1
BH48_10.0-10.2	AECOM	Declaration Area - Block 4	Sand (FILL)	0.7	NA																																			
BH48_11.5-11.7	AECOM	Declaration Area - Block 4	Sand (FILL)	0.7	Further characterisation of FILL material.	1																																		
BH48_14.5-14.7	AECOM	Declaration Area - Block 4	SANDSTONE	260.8	High PID. Contains tar. Staining. Odour.		1		1	1	1	1	1	1	1	1	1	1	1					1	1	1	1		1	1	1	1	1		1
BH48_15.5-15.7	AECOM	Declaration Area - Block 4	SANDSTONE	139.2	NA																																			
BH48_17.0-17.2	AECOM	Declaration Area - Block 4	SANDSTONE	-	Staining. Odour. Base of borehole.							1					1							1					1						1
BH49_0.15-0.16	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	0.6	NA																																			
BH49_0.8-1.0	AECOM	Declaration Area - Block 4	Silty Gravelly Sand (FILL)	2.5	NA																																			
BH49_1.5-1.7	AECOM	Declaration Area - Block 4	Clayey Silty Sand (FILL)	0.9	Contains ash. Further characterisation of FILL material.							1					1												1						1
BH49_2.5-2.7	AECOM	Declaration Area - Block 4	Gravelly Clayey Silty Sand (FILL)	2.2	NA																																			
BH49_3.2-3.4	AECOM	Declaration Area - Block 4	Silty Sand (FILL)	2.0	NA																																			
BH49_4.2-4.4	AECOM	Declaration Area - Block 4	Clayey Silty Sand (FILL)	2.2	Staining. Further characterisation of FILL material.							1					1												1						1
BH49_4.8-5.0	AECOM	Declaration Area - Block 4	Clayey Silty Sand (FILL)	8.0	NA																																			
BH49_6.2-6.4	AECOM	Declaration Area - Block 4	Sandy Gravelly Clay (FILL)	8.0	Odour. Further characterisation of FILL material.				1	1	1	1	1	1	1	1	1	1	1					1	1	1	1		1	1	1	1	1		1
BH49_7.2-7.4	AECOM	Declaration Area - Block 4	Sandy Gravel (FILL)	31.5	NA																																			
BH49_8.2-8.4	AECOM	Declaration Area - Block 4	Sandy Clay (FILL)	125.4	Contains tar. Staining. Odour.							1					1												1						1
BH49_9.2-9.4	AECOM	Declaration Area - Block 4	Sandy Clay (FILL)	114.3	NA																																			
BH49_10.2-10.4	AECOM	Declaration Area - Block 4	Sandy Clay (FILL)	282.9	High PID. Contains tar. Staining. Sheen.							1					1		1							1			1						1
BH49_11.2-11.4	AECOM	Declaration Area - Block 4	Sandy CLAY	292.7	NA																																			
BH49_12.2-12.4	AECOM	Declaration Area - Block 4	Clayey SAND	327.5	High PID. Contains tar. Staining. Odour. Base of borehole.				1	1	1	1	1	1	1	1	1		1					1	1	1	1		1	1	1	1	1		1
BH50_0.15-0.25	AECOM	Declaration Area - Block 4	Sandy Clayey Gravel (FILL)	1.6	Further characterisation of FILL material.																			1					1						
BH50_1.1-1.3	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	0.6	Odour. Further characterisation of FILL material.																																			
BH50_1.3-1.5	AECOM	Declaration Area - Block 4	SANDSTONE	0.5	Base of borehole.							1					1		1	1				1	1				1		1				1
BH51_0.4-0.5	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	0.0	Further characterisation of FILL material.							1					1												1						1
BH52_0.15-0.16	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	1.6	Further characterisation of FILL material.																								1	1	1				
BH52_1.0-1.2	AECOM	Declaration Area - Block 4	Silty Gravelly Sand (FILL)	0.9	Contains ash. Odour.							1																	1						
BH52_2.2-2.6	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	1.0	Odour. Further characterisation of FILL material.							1					1		1					1	1	1			1	1	1				1
BH52_3.2-3.4	AECOM	Declaration Area - Block 4	Sand (FILL)	1.5	NA																																			
BH52_4.2-4.4	AECOM	Declaration Area - Block 4	Clayey Gravelly Sand (FILL)	1.9	Staining. Odour.							1					1		1					1					1						1
BH53_1.1-1.5	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	0.0	Odour. Sheen.							1					1							1	1				1						1
BH53_2.0-2.4	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	0.0	Odour. Sheen.							1					1			1				1		1			1	1	1				1
BH53_3.0-3.4	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	32.7	NA																																			
BH53_4.0-4.4	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	1530.0	High PID. Staining. Odour.		1		1	1	1	1	1	1	1	1	1			1				1	1	1	1		1	1	1	1	1		1
BH53_5.0-5.4	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	920.0	NA																																			
BH54_0.6-0.7	AECOM	Declaration Area - Block 4	Clayey Sandy Gravel (FILL)	1.7	Odour. Further characterisation of FILL material.																								1	1	1				
BH54_1.0-1.4	AECOM	Declaration Area - Block 4	Clayey Silty Sand (FILL)	137.9	High PID. Odour.		1					1	1		1	1	1							1	1		1		1	1	1				1
BH54_2.8-3.0	AECOM	Declaration Area - Block 4	SAND	32.1	Staining. Sheen. Base of borehole.				1	1	1	1	1	1	1	1	1	1	1					1		1	1		1			1	1		1
BH55_0.15-0.25	AECOM	Declaration Area - Block 4	Sandy Gravelly Clay (FILL)	0.9	NA																																			
BH55_1.0-1.2	AECOM	Declaration Area - Block 4	Silty Sand (FILL)	104.3	High PID. Contains tar. Staining.							1					1			1						1			1						1
BH55_2.2-2.4	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	345.4	High PID. Staining. Odour. Sheen.		1		1	1	1	1	1	1	1	1	1	1		1						1	1		1		1	1	1		1
BH55_2.7-2.9	AECOM	Declaration Area - Block 4	Silty Sandy Clay (FILL)	104.2	High PID. Odour. Sheen.							1					1			1						1			1						1
BH58_0.15-0.16	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	1.8	Further characterisation of FILL material.																								1	1	1				
BH58_1.0-1.2	AECOM	Declaration Area - Block 4	Gravelly Silty Sand (FILL)	1.9	Contains ash. Odour.							1					1							1					1						1
BH58_2.4-2.6	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	0.6	NA																																			

Table T1
Analysis Summary

Sample Location and Depth (m bgs)	Consultant	Area	Lithology Type	PID (ppm)	Rationale	Analyses																																		
			Parent Sample / Trip Spike OR Trip Blank			Asbestos	TCLP	ASLP	Amino Aliphatics	Amino Aromatics	Anilines	BTEX	Chlorinated Hydrocarbons	Explosives	Halogenated Benzenes	Halogenated Hydrocarbons	Halogenated Phenols	Herbicides	Cyanide (Free)	Cyanide (Total)	Anions / Cations	Inorganics	Ferrous iron	pH Lab	TOC	WAD Cyanide	MAH	M8	M13	Hexavalent Chromium	Iron	OCPs	OPPs	PAHs	PAHs / Phenols
BH58_3.2-3.4	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	1.0	Odour. Further characterisation of FILL material.							1					1							1					1						1
BH58_4.6-4.8	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	1.3	NA																																			
BH58_5.2-5.4	AECOM	Declaration Area - Block 4	Clayey Silty Sandy Gravel (FILL)	1.6	Staining. Odour.							1					1		1					1		1			1						1
BH58_6.2-6.4	AECOM	Declaration Area - Block 4	Clayey Silty Sandy Gravel (FILL)	2.3	NA																																			
BH58_7.4-7.6	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	1.8	NA																																			
BH58_8.6-8.8	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	2.3	Staining. Odour.				1	1	1	1	1	1	1	1	1	1						1	1		1		1	1	1	1	1		1
BH58_9.4-9.6	AECOM	Declaration Area - Block 4	Silty Sandy Clay (FILL)	1.8	NA																																			
BH58_10.2-10.4	AECOM	Declaration Area - Block 4	Silty Gravelly Sand (FILL)	1.7	Odour. Further characterisation of FILL material.																								1							
BH58_10.8-11.2	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	1.9	Odour. Further characterisation of FILL material.							1					1								1				1	1	1				1
BH59_0.15-0.16	AECOM	Declaration Area - Block 4	Clayey Sandy Gravel (FILL)	1.9	Further characterisation of FILL material.																								1	1	1					
BH59_1.0-1.1	AECOM	Declaration Area - Block 4	Sand (FILL)	0.1	Further characterisation of FILL material.																								1							
BH59_1.3-1.4	AECOM	Declaration Area - Block 4	Gravelly Sand (FILL)	0.8	NA																																			
BH59_1.9-2.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	62.0	Odour. Further characterisation of FILL material.							1					1		1							1			1						1
BH59_2.8-2.9	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	72.6	NA																																			
BH59_3.4-3.5	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	944.0	High PID. Staining. Odour. Sheen.		1		1	1	1	1	1	1	1	1	1	1						1	1		1		1	1	1	1	1		1
BH59_4.2-4.3	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	197.0	High PID. Odour. Sheen.							1					1		1					1		1			1						1
BH61_0.3-0.4	AECOM	Declaration Area - Hickson Road	Sandstone (FILL)	0.0	Further characterisation of FILL material.							1												1					1						
BH61_1.0-1.4	AECOM	Declaration Area - Hickson Road	Gravelly Sand (FILL)	11.1	NA																																			
BH61_2.0-2.4	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	0.9	Odour. Further characterisation of FILL material.							1					1			1				1	1	1			1	1	1				1
BH61_3.0-3.4	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	105.0	High PID. Contains tar. Odour. Staining.				1	1	1	1	1	1	1	1	1												1	1	1	1	1		1
BH62_0.15-0.25	AECOM	Declaration Area - Block 5	Silty Sandy Gravel (FILL)	1.6	NA																																			
BH62_1.0-1.2	AECOM	Declaration Area - Block 5	Silty Gravelly Sand (FILL)	6.3	Contains ash. Odour.							1					1			1						1			1						1
BH62_2.0-2.2	AECOM	Declaration Area - Block 5	Sandy Gravel (FILL)	2.7	NA																																			
BH62_3.4-3.8	AECOM	Declaration Area - Block 5	Clayey Sandy Gravel (FILL)	1.8	Staining. Odour.							1					1												1						1
BH62_4.7-4.9	AECOM	Declaration Area - Block 5	Gravelly Sand (FILL)	1.7	NA																																			
BH62_5.4-5.6	AECOM	Declaration Area - Block 5	Gravelly Sand (FILL)	1.9	Staining. Odour.		1					1					1			1									1						1
BH62_6.5-6.7	AECOM	Declaration Area - Block 5	Silty Gravelly Sand (FILL)	1.3	NA																																			
BH62_8.8-9.0	AECOM	Declaration Area - Block 5	Gravelly Sand (FILL)	0.9	Odour. Further characterisation of FILL material.																								1							
BH62_9.9-10.1	AECOM	Declaration Area - Block 5	Sandy Clay (FILL)	0.8	NA																																			
BH62_11.0-11.2	AECOM	Declaration Area - Block 5	Gravelly Sandy Clay (FILL)	1.0	NA																																			
BH62_11.8-12.0	AECOM	Declaration Area - Block 5	Sand (FILL)	1.3	Staining. Odour.				1	1	1	1	1	1	1	1	1	1		1				1		1	1		1		1	1	1		1
BH64_0.15-0.25	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	1.8	Further characterisation of FILL material.																								1							
BH64_1.0-1.2	AECOM	Declaration Area - Block 4	Clayey Silty Sandy Gravel (FILL)	-	Contains ash and slag. Odour.							1					1												1						1
BH64_2.5-2.7	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	3.5	Odour. Further characterisation of FILL material.		1					1	1		1	1				1					1				1		1				
BH64_5.5-5.7	AECOM	Declaration Area - Block 4	Clayey Sandy Gravel (FILL)	2.1	Odour. Further characterisation of FILL material.							1																	1						
BH64_8.5-8.7	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	3.1	NA																																			
BH64_10.0-10.3	AECOM	Declaration Area - Block 4	SANDSTONE	4.9	Base of borehole.							1																	1						
BH65_0.15-0.25	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	2.3	Further characterisation of FILL material.																								1							
BH65_0.8-1.0	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	0.4	NA																																			
BH65_3.4-3.6	AECOM	Declaration Area - Block 4	Gravel (FILL)	1.5	Odour. Staining. Sheen.							1					1		1							1			1						1
BH65_4.2-4.4	AECOM	Declaration Area - Block 4	Gravelly Silty Clay (FILL)	1.7	NA																																			
BH65_5.6-5.8	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	0.9	NA																																			
BH65_6.2-6.3	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	2.6	NA																																			
BH65_7.5-7.7	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	2.4	NA																																			
BH65_8.2-8.6	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	2.2	Odour. Sheen.												1												1						1
BH65_9.5-9.7	AECOM	Declaration Area - Block 4	Sandy CLAY	3.9	NA																																			
BH65_11.2-11.4	AECOM	Declaration Area - Block 4	Clayey SAND	176.7	High PID. Staining. Odour. Sheen.				1	1	1	1	1	1	1	1	1	1	1	1				1	1	1	1		1	1	1	1	1		1
BH65_12.5-12.7	AECOM	Declaration Area - Block 4	Sandy CLAY	10.7	NA																																			
BH65_13.4-13.6	AECOM	Declaration Area - Block 4	Sandy CLAY	103.0	High PID. Odour. Base of borehole.							1					1		1							1			1						1
BH66_0.1-0.2	AECOM	Declaration Area - Block 4	Sandstone (FILL)	0.1	NA																																			
BH66_0.9-1.0	AECOM	Declaration Area - Block 4	Gravelly Sand (FILL)	0.4	NA																																			
BH66_1.9-2.0	AECOM	Declaration Area - Block 4	Gravelly Sand (FILL)	0.4	Odour. Further characterisation of FILL material.	1																																		
BH66_2.3-2.4	AECOM	Declaration Area - Block 4	Gravelly Sand (FILL)	0.3	Contains ash and slag. Odour.							1					1		1					1	1	1			1	1	1				1
BH66_2.7-2.9	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	1.0	NA																																			
BH66_3.2-3.6	AECOM	Declaration Area - Block 4	Silty Sand (FILL)	1.7	Odour. Further characterisation of FILL material.							1												1					1						
BH66_5.2-5.4	AECOM	Declaration Area - Block 4	Sandy CLAY	1.3	NA																																			
BH66_7.0-7.2	AECOM	Declaration Area - Block 4	SANDSTONE	0.4	Odour. Base of borehole.												1												1						1
BH67_0.4-0.43	AECOM	Declaration Area - Hickson Road	Gravelly Clayey Sand (FILL)	0.0	Odour. Further characterisation of FILL material.							1					1							1					1	1					1
BH68_1.0-1.3	AECOM	Declaration Area - Block 5	Gravelly Clayey Sand (FILL)	0.9	Odour. Further characterisation of FILL material.	1																																		
BH68_2.5-2.9	AECOM	Declaration Area - Block 5	Sand (FILL)	1.0	Further characterisation of FILL material.																								1							
BH68_4.0-4.3	AECOM	Declaration Area - Block 5	Sandy Gravel (FILL)	0.8	Further characterisation of FILL material.							1					1							1					1						1
BH68_5.5-5.8	AECOM	Declaration Area - Block 5	Sandstone (FILL)	0.7	NA																																			
BH68_7.0-7.1	AECOM	Declaration Area - Block 5	Silty SAND	0.8	Further characterisation of FILL material.																								1							
BH68_7.1-7.3	AECOM	Declaration Area - Block 5	Clayey SAND	-	NA																																			
BH68_7.3-7.5	AECOM	Declaration Area - Block 5	Clayey SAND	-	Base of borehole.																																			
BH69_1.0-1.5	AECOM	Declaration Area - Block 5	Sand (FILL)	1.7	Odour. Further characterisation of FILL material.		1					1					1			1					1	1			1						1
BH69_4.0-4.2	AECOM	Declaration Area - Block 5	Silty Sand (FILL)	2.5	Odour. Sheen.	1						1					1							1					1						1
BH69_10.0-10.2	AECOM	Declaration Area - Block 5	SANDSTONE	16.8	Base of borehole. Start of Natural material.				1	1	1	1	1	1	1	1	1	1	1	1				1			1		1		1	1	1		1
SV09_0.2-0.4	AECOM	Declaration Area - Block 5	Silty Sandy Gravel (FILL)	0.4	Contains ash. Odour.							1					1							1					1						1
SV09_1.3-1.5	AECOM	Declaration Area - Block 5	Clayey Sand (FILL)	0.6	Contains ash. Odour.																								1							
Sub Total - Primary Soil Samples						5	10	0	16	16	16	70	18	16	18	18	64	13	20	16	0	0	0	42	22	30	16	3	90	26	28	16	16	0	64
QC Soil Duplicates/Replicates (Primary Laboratory)																																								
Boreholes																																								
QC240	AECOM	Declaration Area - Block 4	BH34_1.8-2.2									1					1			1				1	1	1			1	1	1				1
QC204	AECOM	Declaration Area - Block 4	BH42_3.2-3.3																																					
QC202	AECOM	Declaration Area - Block 4	BH44_5.4-5.5																																					
QC74	AECOM	Declaration Area - Block 4	BH47_18.6-18.8																										1							
QC76	AECOM	Declaration Area - Block 4	BH48_1.0-1.2									1					1												1						1
QC78	AECOM	Declaration Area - Block 4	BH48_14.5-14.7						1	1	1	1	1	1	1	1	1	1	1	1				1	1	1	1		1	1		1	1		1
QC223	AECOM	Declaration Area - Block 4	BH49_6.2-6.4						1	1	1	1	1	1	1	1	1	1	1	1				1	1	1	1		1	1	1	1	1		1
QC238	AECOM	Declaration Area - Block 4	BH50_1.1-1.3																																					
QC220	AECOM	Declaration Area - Block 4	BH52_2.2-2.6									1	1		1	1	1		1					1	1	1	1		1	1	1				1

Table T1
Analysis Summary

Sample Location and Depth (m bgs)	Consultant	Area	Lithology Type	PID (ppm)	Rationale	Analyses																																		
			Parent Sample / Trip Spike OR Trip Blank			Asbestos	TCLP	ASLP	Amino Aliphatics	Amino Aromatics	Anilines	BTEX	Chlorinated Hydrocarbons	Explosives	Halogenated Benzenes	Halogenated Hydrocarbons	Halogenated Phenols	Herbicides	Cyanide (Free)	Cyanide (Total)	Anions / Cations	Inorganics	Ferrous iron	pH Lab	TOC	WAD Cyanide	MAH	M8	M13	Hexavalent Chromium	Iron	OCPs	OPPs	PAHs	PAHs / Phenols
QC208	AECOM	Declaration Area - Hickson Road	BH53_1.1-1.5									1					1												1						1
QC55	AECOM	Declaration Area - Block 4	BH54_0.6-0.7																																	
QC228	AECOM	Declaration Area - Block 4	BH54_1.0-1.4									1					1		1					1	1	1			1	1	1				1
QC225	AECOM	Declaration Area - Block 4	BH58_3.2-3.4									1					1							1					1						1
QC210	AECOM	Declaration Area - Hickson Road	BH61_1.0-1.4																																	
QC211	AECOM	Declaration Area - Hickson Road	BH61_2.0-2.4									1					1							1	1				1	1	1				1
QC244	AECOM	Declaration Area - Block 5	BH62_3.4-3.8																																	
QC247	AECOM	Declaration Area - Block 5	BH62_8.8-9.0																																	
QC234	AECOM	Declaration Area - Block 4	BH65_3.4-3.6									1					1		1							1			1						1
QC235	AECOM	Declaration Area - Block 4	BH65_8.2-8.6																																	
QC206	AECOM	Declaration Area - Hickson Road	BH67_0.4-0.43																																	
Sub Total - Replicate Soil Sample Analyses						0	0	0	2	2	2	10	3	2	3	3	10	2	5	1				7	6	6	3	0	11	6	5	2	2	0	10
Boreholes																																								
QC241	AECOM	Declaration Area - Block 4	BH34_1.8-2.2									1					1			1					1	1			1	1	1				1
QC205	AECOM	Declaration Area - Block 4	BH42_3.2-3.3																																	
QC203	AECOM	Declaration Area - Block 4	BH44_5.4-5.5																																	
QC75	AECOM	Declaration Area - Block 4	BH47_18.6-18.8																										1							
QC77	AECOM	Declaration Area - Block 4	BH48_1.0-1.2									1																	1							1
QC224	AECOM	Declaration Area - Block 4	BH49_6.2-6.4					1	1	1	1	1		1	1	1		1						1	1	1	1		1	1	1	1	1		1
QC221	AECOM	Declaration Area - Block 4	BH52_2.2-2.6								1	1		1	1	1		1						1	1	1	1		1	1	1				1
QC229	AECOM	Declaration Area - Block 4	BH54_1.0-1.4																																	
QC226	AECOM	Declaration Area - Block 4	BH58_3.2-3.4																																	
QC212	AECOM	Declaration Area - Hickson Road	BH61_2.0-2.4									1					1							1	1				1	1	1				1
QC245	AECOM	Declaration Area - Block 5	BH62_3.4-3.8																																	
QC236	AECOM	Declaration Area - Block 4	BH65_8.2-8.6																																	
QC207	AECOM	Declaration Area - Hickson Road	BH67_0.4-0.43																																	
Sub Total - Split Soil Sample Analyses						0	0	0	1	1	1	5	2	0	2	2	4	0	2	1				3	4	3	2	0	6	4	4	1	1		5
QC Soil Sampling Equipment Rinsate Samples																																								
QC51	Declaration Area - Block 4	Last sampled borehole = BH54 - Taken from SPT/Push-tube Shoe									1																	1							
QC100	Declaration Area - Block 4	Last sampled borehole = BH48 - Taken from SPT/Push-tube Shoe									1																	1							
QC227	Declaration Area - Block 4	Last sampled borehole = BH58 - Taken from SPT/Push-tube Shoe									1																	1							
QC233	Declaration Area - Proposed Southern Cove	Last sampled borehole = BH45 - Taken from SPT/Push-tube Shoe									1																	1							
QC239	Declaration Area - Block 4	Last sampled borehole = SV06 - Taken from SPT/Push-tube Shoe									1																	1							
QC246	Declaration Area - Block 4	Last sampled borehole = SV05 - Taken from SPT/Push-tube Shoe									1																	1							
QC251	Declaration Area - Public Domain	Last sampled borehole = BH56 - Taken from SPT/Push-tube Shoe									1																	1							
QC252	Declaration Area - Public Domain	Last sampled borehole = BH56 - Taken from SPT/Push-tube Shoe									1																	1							
QC250	Declaration Area - Public Domain	Last sampled borehole = BH74 - Taken from SPT/Push-tube Shoe									1																	1							
QC209	Declaration Area - Hickson Road	Last sampled borehole = BH61 - Taken from SPT/Push-tube Shoe									1																	1							
QC213	Declaration Area - Hickson Road	Last sampled borehole = BH61 - Taken from SPT/Push-tube Shoe									1																	1							
Sub Total - Soil Equipment Rinsate Sample Analyses						0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0
QC Soil Sampling Trip Blank and Trip Spike Samples																																								
QC52	Declaration Area	Trip Blank									1	1		1	1	1												1					1		
TB03	Declaration Area	Trip Blank									1																								
TB05	Declaration Area	Trip Blank									1	1		1	1													1					1		
TB06	Declaration Area	Trip Blank									1	1		1	1													1					1		
TB07	Declaration Area	Trip Blank									1	1		1	1													1					1		
TB08	Declaration Area	Trip Blank									1																								
TB09	Declaration Area	Trip Blank									1	1		1	1													1					1		
TB10	Declaration Area	Trip Blank									1	1		1	1													1					1		
TB11	Declaration Area	Trip Blank									1																								
TB12	Declaration Area	Trip Blank									1											1													
TB13	Declaration Area	Trip Blank									1																								
TB14	Declaration Area	Trip Blank									1											1													
TB14	Declaration Area	Trip Blank									1	1		1	1							1						1					1		
TB15	Declaration Area	Trip Blank									1	1		1	1													1					1		
TB16	Declaration Area	Trip Blank									1	1		1	1							1						1					1		
TB17	Declaration Area	Trip Blank									1	1		1	1							1						1					1		
TB18	Declaration Area	Trip Blank						1	1	1	1	1	1	1	1	1	1					1						1			1	1		1
Sub Total - Soil Trip Blank and Trip Spike Analyses						0	0	0	1	1	1	17	11	1	11	11	2	1	0	0	0	6	0	0	0	0	11	0	0	0	0	1	1	10	1
Total - Soil Samples						**5**	**10**	**0**	**20**	**20**	**20**	**113**	**34**	**19**	**34**	**34**	**80**	**16**	**27**	**18**	**0**	**6**	**0**	**52**	**32**	**39**	**32**	**3**	**118**	**36**	**37**	**20**	**20**	**10**	**80**
Groundwater																																								
BH3	Coffey	Declaration Area - Hickson Road	Coffey BH3						1	1	1	1	1	1	1	1	1		1		1	1			1	1	1		1			1	1		1
BH6	Coffey	Declaration Area - Hickson Road	Coffey BH6					1	1	1	1	1	1	1	1	1		1		1	1				1	1	1		1			1	1		1
MW15	ERM	Declaration Area - Block 4	ERM BH087					1	1	1	1	1	1	1	1	1		1		1	1	1	1	1	1	1	1		1			1	1		1
MW198	ERM	Declaration Area - Block 5	ERM BH198					1	1	1	1	1	1	1	1	1		1		1	1	1	1	1	1	1	1		1			1	1		1
MW200	ERM	Declaration Area - Block 4	ERM BH200					1	1	1	1	1	1	1	1	1		1		1	1	1	1	1	1	1	1		1			1	1		1
MW204S	ERM	Declaration Area - Block 4	ERM BH204					1	1	1	1	1	1	1	1	1		1		1	1	1	1	1	1	1	1		1			1	1		1
MW205	ERM	Declaration Area - Block 4	ERM BH205					1	1	1			1																			1	1		1
MW206	ERM	Declaration Area - Block 4	ERM BH206					1	1	1	1	1	1	1	1	1											1					1	1		1
MW209	ERM	Declaration Area - Block 4	ERM BH209					1	1	1	1	1	1	1	1	1		1		1	1	1	1	1	1	1	1		1			1	1		1
MW210	ERM	Declaration Area - Proposed Southern Cove	ERM BH210					1	1	1	1	1	1	1	1	1				1	1	1	1	1		1	1		1			1	1		1
MW40	AECOM	Downgradient of Declaration Area - Proposed Southern Cove	AECOM BH40					1	1	1	1	1	1	1	1	1				1	1			1	1		1		1			1	1		1
MW45	AECOM	Declaration Area - Proposed Southern Cove	AECOM BH45					1	1	1	1	1	1	1	1	1		1		1	1		1	1	1	1	1		1			1	1		1
MW52	AECOM	Declaration Area - Block 4	AECOM BH52					1	1	1	1	1	1	1	1	1		1		1	1		1	1	1	1	1		1			1	1		1
MW54	AECOM	Declaration Area - Block 4	AECOM BH54					1	1	1	1	1	1	1	1	1		1		1	1		1	1	1	1	1		1			1	1		1
MW56	AECOM	Downgradient of Declaration Area - Public Domain	AECOM BH56					1	1	1	1	1	1	1	1	1		1					1	1	1	1	1		1			1	1		1
MW58	AECOM	Declaration Area - Block 4	AECOM BH58					1	1	1	1	1	1	1	1	1		1		1	1	1	1	1	1	1	1		1			1	1		1
MW60	AECOM	Downgradient of Declaration Area - Public Domain	AECOM BH60					1	1	1	1	1	1	1	1	1	1	1					1	1	1	1	1		1			1	1		1
MW61	AECOM	Declaration Area - Hickson Road	AECOM BH61					1	1	1	1	1	1	1	1	1		1		1	1			1	1	1	1		1			1	1		1
MW62	AECOM	Declaration - Block 5	AECOM BH62					1	1	1	1	1	1	1	1	1		1		1	1	1	1	1	1	1	1		1			1	1		1
MW64	AECOM	Declaration - Block 5	AECOM BH64					1	1	1	1	1	1	1	1	1		1		1	1			1	1	1	1		1			1	1		1
MW68	AECOM	Declaration - Block 5	AECOM BH68					1	1	1	1	1	1	1	1	1	1	1		1	1		1	1	1	1	1		1			1	1		1

Table T1
Analysis Summary

Sample Location and Depth (m bgs)	Consultant	Area	Lithology Type	PID (ppm)	Rationale	Analyses																														
			Parent Sample / Trip Spike OR Trip Blank			Asbestos	TCLP	ASLP	Amino Aliphatics	Amino Aromatics	Anilines	BTEX	Chlorinated Hydrocarbons	Explosives	Halogenated Benzenes	Halogenated Hydrocarbons	Halogenated Phenols	Herbicides	Cyanide (Free)	Cyanide (Total)	Anions / Cations	Inorganics	Ferrous iron	pH Lab	TOC	WAD Cyanide	MAH	M8	M13	Hexavalent Chromium	Iron	OCPs	OPPs	PAHs	PAHs / Phenols
MW69	AECOM	Downgradient of Declaration Area - Block 5	AECOM BH69						1	1	1	1	1	1	1	1	1		1		1	1			1	1	1		1			1	1		1
MW74	AECOM	Downgradient of Declaration Area - Public Domain	AECOM BH74						1	1	1	1	1	1	1	1	1	1	1						1	1	1		1			1	1		1
Sub Total - Primary Groundwater Samples						0	0	0	23	23	23	22	22	23	22	22	22	3	19	0	18	18	8	14	21	19	22	0	21	0	0	23	23	0	23
QC Groundwater Duplicates/Replicates (Primary Laboratory)																																				
QC237	AECOM	Declaration - Block 4	AECOM MW58						1	1	1	1	1	1	1	1	1	1			1	1	1	1	1	1	1		1			1	1		1
QC323	ERM	Declaration - Block 5	ERM MW198						1	1	1	1	1	1	1	1	1	1			1	1	1		1	1	1		1			1	1		1
Sub Total - Replicate Groundwater Sample Analyses						0	0	0	2	2	2	2	2	2	2	2	2	2	0	0	2	2	2	1	2	2	2	0	2	0	0	2	2	0	2
QC Groundwater Inter-Laboratory Duplicates/Splits (Secondary Laboratory)																																				
QC324	ERM	Declaration Area - Block 5	ERM MW198						1	1	1	1	1		1	1	1	1							1	1	1		1			1	1		1
QC328	AECOM	Declaration Area - Block 4	AECOM MW58									1	1		1	1											1		1						
Sub Total - Split Groundwater Sample Analyses						0	0	0	1	1	1	2	2	0	2	2	1	1	0	0	0	0	0	0	1	1	2	0	2	0	0	1	1	0	1
QC Groundwater Sampling Equipment Rinsate Samples																																				
QC325	Declaration Area		Last sampled monitoring well = ERM MW210									1	1		1	1											1		1						
QC326	Declaration Area		Last sampled monitoring well = ERM MW210									1	1		1	1											1		1						
QC329	Declaration Area		Last sampled monitoring well = AECOM MW54									1	1		1	1											1		1						
QC330	Declaration Area		Last sampled monitoring well = AECOM MW69									1	1		1	1											1		1						
QC340	Declaration Area		Last sampled monitoring well = AECOM MW64									1	1		1	1											1		1						
Sub Total - Groundwater Equipment Rinsate Sample Analyses						0	0	0	0	0	0	6	6	0	6	6	0	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	0
QC Groundwater Sampling Trip Blank and Trip Spike Samples																																				
QC52	Declaration Area		Trip Blank									1	1		1	1											1							1	
TB302	Declaration Area		Trip Blank									1	1		1	1											1								
TB303	Declaration Area		Trip Blank									1	1		1	1											1								
TB304	Declaration Area		Trip Blank									1	1		1	1											1								
TB306	Declaration Area		Trip Blank									1	1		1	1											1								
Sub Total - Groundwater Trip Blank and Trip Spike Analyses						0	0	0	0	0	0	6	6	0	6	6	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	1	0
Total - Groundwater Samples						**0**	**0**	**0**	**26**	**26**	**26**	**32**	**32**	**25**	**32**	**32**	**25**	**6**	**19**	**0**	**20**	**20**	**10**	**15**	**24**	**22**	**32**	**0**	**31**	**0**	**0**	**26**	**26**	**0**	**26**
Total - Soil and Groundwater Sampling Equipment Rinsate Sample Analyses						0	0	0	0	0	0	17	6	0	6	6	0	0	0	0	0	0	0	0	0	0	6	0	17	0	0	0	0	0	0
Total - Soil and Groundwater Trip Blank and Trip Spike Samples Analyses						0	0	0	1	1	1	23	17	1	17	17	2	1	0	0	0	6	0	0	0	0	17	0	0	0	0	1	1	11	1

Notes:
PID - Photoionisation Detector
BH - Borehole
IT - Intertidal Well
MW - Monitoring Well
TB - Trip Blank
DUP - Duplicate (Intra-laboratory) Sample
TRIP - Triplicate (Inter-laboratory) Sample
QC - Quality Control Sample
Ion Balance = Chloride, Sulphate, Total Alkalinity, Cations, pH and Electrical Conductivity
NA = Not Analysed

Table T1
Analysis Summary

Sample Location and Depth (m bgs)	Consultant	Area	Lithology Type	PID (ppm)	Rationale	Pesticides	Phthalates	Solvents	SPOCAs	SVOCs	TPH	VOCs	HOLD
Parent Sample / Trip Spike OR Trip Blank													
						B							
BH33_0.75-0.85	AECOM	Declaration Area - Block 3	Gravelly Sandy Clay (FILL)	1.1	Further characterisation of FILL material.						1		
BH33_1.0-1.2	AECOM	Declaration Area - Block 3	Silty Sandy Clay (FILL)	11.7	NA								1
BH33_2.0-2.2	AECOM	Declaration Area - Block 3	Clayey Sand (FILL)	3.2	NA								1
BH33_3.0-3.2	AECOM	Declaration Area - Block 3	Clayey Sand (FILL)	7.4	NA								1
BH33_4.0-4.2	AECOM	Declaration Area - Block 3	Clayey Sand (FILL)	6.4	NA								1
BH33_5.0-5.2	AECOM	Declaration Area - Block 3	Clayey Sand (FILL)	12.7	Further characterisation of FILL material.						1		
BH33_6.0-6.2	AECOM	Declaration Area - Block 3	SANDSTONE	9.6	NA								1
BH33_7.0-7.2	AECOM	Declaration Area - Block 3	SANDSTONE	8.5	NA								1
BH33_8.0-8.2	AECOM	Declaration Area - Block 3	SANDSTONE	10.3	Base of borehole. Further characterisation of Natural materials.						1		
BH34_0.6-0.8	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	0.0	NA								1
BH34_1.0-1.2	AECOM	Declaration Area - Block 4	Gravelly Sand (FILL)	0.0	NA								1
BH34_1.8-2.2	AECOM	Declaration Area - Block 4	Sandy Clay (FILL)	0.8	Further characterisation of FILL material.						1		
BH34_3.8-4.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	1.0	Further characterisation of FILL material.								
BH34_5.0-5.2	AECOM	Declaration Area - Block 4	Sand (FILL)	0.6	NA								1
BH34_6.0-6.2	AECOM	Declaration Area - Block 4	Clayey Gravelly Sand (FILL)	1.3	Further characterisation of FILL material.						1		
BH34_7.5-7.7	AECOM	Declaration Area - Block 4	Sandy Clay (FILL)	0.8	NA								1
BH34_9.0-9.2	AECOM	Declaration Area - Block 4	Clayey Sandy Gravel (FILL)	0.8	NA								1
BH34_11.0-11.2	AECOM	Declaration Area - Block 4	SANDSTONE	0.6	Further characterisation of Natural material.						1		
BH35_0.9-1.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	0.2	Further characterisation of FILL material.								
BH35_1.9-2.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	0.5	NA								1
BH35_3.4-3.5	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	0.9	NA								1
BH35_4.9-5.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	1.0	Further characterisation of FILL material.						1		
BH35_6.4-6.5	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	0.2	Further characterisation of FILL material.								
BH35_7.9-8.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	0.8	NA								1
BH35_9.9-10.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	0.5	Further characterisation of FILL material.						1		
BH36_0.07-0.1	AECOM	Declaration Area - Block 3	Silty Sandy Gravel (FILL)	0.3	Further characterisation of FILL material.								
BH36_1.0-1.2	AECOM	Declaration Area - Block 3	Sandstone (FILL)	0.4	Further characterisation of FILL material.						1		
BH36_2.5-2.9	AECOM	Declaration Area - Block 3	Gravelly Sand (FILL)	0.3	Further characterisation of FILL material.								
BH36_4.0-4.4	AECOM	Declaration Area - Block 3	Gravelly Sand (FILL)	0.5	Further characterisation of FILL material.	1	1	1		1	1	1	
BH36_5.5-5.9	AECOM	Declaration Area - Block 3	Sandstone (FILL)	0.5	NA								1
BH36_7.0-7.4	AECOM	Declaration Area - Block 3	Sandstone (FILL)	-	NA								1
BH36_8.5-8.9	AECOM	Declaration Area - Block 3	Sandstone (FILL)	-	Further characterisation of FILL material.						1		
BH36_10.0-10.4	AECOM	Declaration Area - Block 3	Gravelly Sand (FILL)	-	NA								1
BH36_13.0-13.4	AECOM	Declaration Area - Block 3	Sandy Gravel (FILL)	0.3	Further characterisation of FILL material.								
BH36_15.0-15.05	AECOM	Declaration Area - Block 3	SANDSTONE	16.9	Odour. Base of borehole.	1	1	1		1	1	1	
BH42_1.0-1.1	AECOM	Declaration Area - Block 4	Sandstone (FILL)	-	Further characterisation of FILL material.						1		
BH42_2.0-2.1	AECOM	Declaration Area - Block 4	Sandstone (FILL)	0.5	Further characterisation of FILL material.								
BH42_2.4-2.5	AECOM	Declaration Area - Block 4	Sandstone (FILL)	0.9	Further characterisation of FILL material.								1
BH42_3.0-3.1	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	3.1	Further characterisation of FILL material.								1
BH42_3.2-3.3	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	168.0	High PID value. Further characterisation of FILL material.	1	1	1		1	1	1	
BH42_3.5-3.6	AECOM	Declaration Area - Block 4	SANDSTONE	25.5	Base of borehole.						1		
BH43_0.4-0.5	AECOM	Declaration Area - Hickson Road	Gravelly Sand (FILL)	0.0	Further characterisation of FILL material.								
BH44_1.4-1.5	AECOM	Declaration Area - Block 4	Gravelly Sand (FILL)	0.4	Further characterisation of FILL material.								
BH44_1.9-2.0	AECOM	Declaration Area - Block 4	Clayey SAND	0.2	Odour and staining. Base of borehole.						1		
BH44_2.9-3.0	AECOM	Declaration Area - Block 4	Clayey SAND	1.1	NA								1
BH44_4.9-5.0	AECOM	Declaration Area - Block 4	SANDSTONE	407.0	High PID value. Further characterisation of Natural material.	1	1	1		1	1	1	
BH44_5.4-5.5	AECOM	Declaration Area - Block 4	SANDSTONE	73.4	High PID value. Base of borehole.								1
BH48_0.15-0.16	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	1.3	Odour. Further characterisation of FILL material.								
BH48_1.0-1.2	AECOM	Declaration Area - Block 4	Silty Sand (FILL)	0.4	Contains ash. Further characterisation of FILL material.						1		
BH48_4.0-4.2	AECOM	Declaration Area - Block 4	Sand (FILL)	0.7	NA								1
BH48_5.5-5.7	AECOM	Declaration Area - Block 4	Sand (FILL)	0.9	NA								1
BH48_7.0-7.2	AECOM	Declaration Area - Block 4	Sand (FILL)	0.6	NA								1

Table T1
Analysis Summary

Sample Location and Depth (m bgs)	Consultant	Area	Lithology Type	PID (ppm)	Rationale	Parent Sample / Trip Spike OR Trip Blank							
						Pesticides	Phthalates	Solvents	SPOCAs	SVOCs	TPH	VOCs	HOLD
BH48_8.5-8.7	AECOM	Declaration Area - Block 4	Sand (FILL)	1.0	Contains ash. Further characterisation of FILL material.						1		
BH48_10.0-10.2	AECOM	Declaration Area - Block 4	Sand (FILL)	0.7	NA								1
BH48_11.5-11.7	AECOM	Declaration Area - Block 4	Sand (FILL)	0.7	Further characterisation of FILL material.								
BH48_14.5-14.7	AECOM	Declaration Area - Block 4	SANDSTONE	260.8	High PID. Contains tar. Staining. Odour.	1	1	1		1	1	1	
BH48_15.5-15.7	AECOM	Declaration Area - Block 4	SANDSTONE	139.2	NA								1
BH48_17.0-17.2	AECOM	Declaration Area - Block 4	SANDSTONE	-	Staining. Odour. Base of borehole.						1		
BH49_0.15-0.16	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	0.6	NA								1
BH49_0.8-1.0	AECOM	Declaration Area - Block 4	Silty Gravelly Sand (FILL)	2.5	NA								1
BH49_1.5-1.7	AECOM	Declaration Area - Block 4	Clayey Silty Sand (FILL)	0.9	Contains ash. Further characterisation of FILL material.						1		
BH49_2.5-2.7	AECOM	Declaration Area - Block 4	Gravelly Clayey Silty Sand (FILL)	2.2	NA								1
BH49_3.2-3.4	AECOM	Declaration Area - Block 4	Silty Sand (FILL)	2.0	NA								1
BH49_4.2-4.4	AECOM	Declaration Area - Block 4	Clayey Silty Sand (FILL)	2.2	Staining. Further characterisation of FILL material.						1		
BH49_4.8-5.0	AECOM	Declaration Area - Block 4	Clayey Silty Sand (FILL)	8.0	NA								1
BH49_6.2-6.4	AECOM	Declaration Area - Block 4	Sandy Gravelly Clay (FILL)	8.0	Odour. Further characterisation of FILL material.	1	1	1	1	1	1	1	
BH49_7.2-7.4	AECOM	Declaration Area - Block 4	Sandy Gravel (FILL)	31.5	NA								1
BH49_8.2-8.4	AECOM	Declaration Area - Block 4	Sandy Clay (FILL)	125.4	Contains tar. Staining. Odour.						1		
BH49_9.2-9.4	AECOM	Declaration Area - Block 4	Sandy Clay (FILL)	114.3	NA								1
BH49_10.2-10.4	AECOM	Declaration Area - Block 4	Sandy Clay (FILL)	282.9	High PID. Contains tar. Staining. Sheen.						1		
BH49_11.2-11.4	AECOM	Declaration Area - Block 4	Sandy CLAY	292.7	NA								1
BH49_12.2-12.4	AECOM	Declaration Area - Block 4	Clayey SAND	327.5	High PID. Contains tar. Staining. Odour. Base of borehole.	1	1	1		1		1	
BH50_0.15-0.25	AECOM	Declaration Area - Block 4	Sandy Clayey Gravel (FILL)	1.6	Further characterisation of FILL material.								
BH50_1.1-1.3	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	0.6	Odour. Further characterisation of FILL material.								1
BH50_1.3-1.5	AECOM	Declaration Area - Block 4	SANDSTONE	0.5	Base of borehole.						1		
BH51_0.4-0.5	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	0.0	Further characterisation of FILL material.						1		
BH52_0.15-0.16	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	1.6	Further characterisation of FILL material.								
BH52_1.0-1.2	AECOM	Declaration Area - Block 4	Silty Gravelly Sand (FILL)	0.9	Contains ash. Odour.						1		
BH52_2.2-2.6	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	1.0	Odour. Further characterisation of FILL material.						1		
BH52_3.2-3.4	AECOM	Declaration Area - Block 4	Sand (FILL)	1.5	NA								1
BH52_4.2-4.4	AECOM	Declaration Area - Block 4	Clayey Gravelly Sand (FILL)	1.9	Staining. Odour.						1		
BH53_1.1-1.5	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	0.0	Odour. Sheen.						1		
BH53_2.0-2.4	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	0.0	Odour. Sheen.						1		
BH53_3.0-3.4	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	32.7	NA								1
BH53_4.0-4.4	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	1530.0	High PID. Staining. Odour.	1	1	1		1	1	1	
BH53_5.0-5.4	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	920.0	NA								1
BH54_0.6-0.7	AECOM	Declaration Area - Block 4	Clayey Sandy Gravel (FILL)	1.7	Odour. Further characterisation of FILL material.								
BH54_1.0-1.4	AECOM	Declaration Area - Block 4	Clayey Silty Sand (FILL)	137.9	High PID. Odour.			1			1	1	
BH54_2.8-3.0	AECOM	Declaration Area - Block 4	SAND	32.1	Staining. Sheen. Base of borehole.	1	1	1		1	1	1	
BH55_0.15-0.25	AECOM	Declaration Area - Block 4	Sandy Gravelly Clay (FILL)	0.9	NA								1
BH55_1.0-1.2	AECOM	Declaration Area - Block 4	Silty Sand (FILL)	104.3	High PID. Contains tar. Staining.						1		
BH55_2.2-2.4	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	345.4	High PID. Staining. Odour. Sheen.	1	1	1		1	1	1	
BH55_2.7-2.9	AECOM	Declaration Area - Block 4	Silty Sandy Clay (FILL)	104.2	High PID. Odour. Sheen.						1		
BH58_0.15-0.16	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	1.8	Further characterisation of FILL material.								
BH58_1.0-1.2	AECOM	Declaration Area - Block 4	Gravelly Silty Sand (FILL)	1.9	Contains ash. Odour.						1		
BH58_2.4-2.6	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	0.6	NA								1

Table T1
Analysis Summary

Sample Location and Depth (m bgs)	Consultant	Area	Lithology Type	PID (ppm)	Rationale	Pesticides	Phthalates	Solvents	SPOCAs	SVOCs	TPH	VOCs	HOLD
			Parent Sample / Trip Spike OR Trip Blank										
BH58_3.2-3.4	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	1.0	Odour. Further characterisation of FILL material.						1		
BH58_4.6-4.8	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	1.3	NA								1
BH58_5.2-5.4	AECOM	Declaration Area - Block 4	Clayey Silty Sandy Gravel (FILL)	1.6	Staining. Odour.						1		
BH58_6.2-6.4	AECOM	Declaration Area - Block 4	Clayey Silty Sandy Gravel (FILL)	2.3	NA								1
BH58_7.4-7.6	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	1.8	NA								1
BH58_8.6-8.8	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	2.3	Staining. Odour.	1	1	1		1	1	1	
BH58_9.4-9.6	AECOM	Declaration Area - Block 4	Silty Sandy Clay (FILL)	1.8	NA								1
BH58_10.2-10.4	AECOM	Declaration Area - Block 4	Silty Gravelly Sand (FILL)	1.7	Odour. Further characterisation of FILL material.								
BH58_10.8-11.2	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	1.9	Odour. Further characterisation of FILL material.						1		
BH59_0.15-0.16	AECOM	Declaration Area - Block 4	Clayey Sandy Gravel (FILL)	1.9	Further characterisation of FILL material.								
BH59_1.0-1.1	AECOM	Declaration Area - Block 4	Sand (FILL)	0.1	Further characterisation of FILL material.								
BH59_1.3-1.4	AECOM	Declaration Area - Block 4	Gravelly Sand (FILL)	0.8	NA								1
BH59_1.9-2.0	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	62.0	Odour. Further characterisation of FILL material.						1		
BH59_2.8-2.9	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	72.6	NA								1
BH59_3.4-3.5	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	944.0	High PID. Staining. Odour. Sheen.	1	1	1		1	1	1	
BH59_4.2-4.3	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	197.0	High PID. Odour. Sheen.						1		
BH61_0.3-0.4	AECOM	Declaration Area - Hickson Road	Sandstone (FILL)	0.0	Further characterisation of FILL material.						1		
BH61_1.0-1.4	AECOM	Declaration Area - Hickson Road	Gravelly Sand (FILL)	11.1	NA								1
BH61_2.0-2.4	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	0.9	Odour. Further characterisation of FILL material.						1		
BH61_3.0-3.4	AECOM	Declaration Area - Hickson Road	Sandy Gravel (FILL)	105.0	High PID. Contains tar. Odour. Staining.	1	1	1		1	1	1	
BH62_0.15-0.25	AECOM	Declaration Area - Block 5	Silty Sandy Gravel (FILL)	1.6	NA								1
BH62_1.0-1.2	AECOM	Declaration Area - Block 5	Silty Gravelly Sand (FILL)	6.3	Contains ash. Odour.						1		
BH62_2.0-2.2	AECOM	Declaration Area - Block 5	Sandy Gravel (FILL)	2.7	NA								1
BH62_3.4-3.8	AECOM	Declaration Area - Block 5	Clayey Sandy Gravel (FILL)	1.8	Staining. Odour.						1		
BH62_4.7-4.9	AECOM	Declaration Area - Block 5	Gravelly Sand (FILL)	1.7	NA								1
BH62_5.4-5.6	AECOM	Declaration Area - Block 5	Gravelly Sand (FILL)	1.9	Staining. Odour.						1		
BH62_6.5-6.7	AECOM	Declaration Area - Block 5	Silty Gravelly Sand (FILL)	1.3	NA								1
BH62_8.8-9.0	AECOM	Declaration Area - Block 5	Gravelly Sand (FILL)	0.9	Odour. Further characterisation of FILL material.								
BH62_9.9-10.1	AECOM	Declaration Area - Block 5	Sandy Clay (FILL)	0.8	NA								1
BH62_11.0-11.2	AECOM	Declaration Area - Block 5	Gravelly Sandy Clay (FILL)	1.0	NA								1
BH62_11.8-12.0	AECOM	Declaration Area - Block 5	Sand (FILL)	1.3	Staining. Odour.	1	1	1		1	1	1	
BH64_0.15-0.25	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	1.8	Further characterisation of FILL material.								
BH64_1.0-1.2	AECOM	Declaration Area - Block 4	Clayey Silty Sandy Gravel (FILL)	-	Contains ash and slag. Odour.						1		
BH64_2.5-2.7	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	3.5	Odour. Further characterisation of FILL material.			1			1	1	
BH64_5.5-5.7	AECOM	Declaration Area - Block 4	Clayey Sandy Gravel (FILL)	2.1	Odour. Further characterisation of FILL material.						1		
BH64_8.5-8.7	AECOM	Declaration Area - Block 4	Clayey Sand (FILL)	3.1	NA								1
BH64_10.0-10.3	AECOM	Declaration Area - Block 4	SANDSTONE	4.9	Base of borehole.						1		
BH65_0.15-0.25	AECOM	Declaration Area - Block 4	Gravelly Sandy Clay (FILL)	2.3	Further characterisation of FILL material.								
BH65_0.8-1.0	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	0.4	NA								1
BH65_3.4-3.6	AECOM	Declaration Area - Block 4	Gravel (FILL)	1.5	Odour. Staining. Sheen.						1		
BH65_4.2-4.4	AECOM	Declaration Area - Block 4	Gravelly Silty Clay (FILL)	1.7	NA								1
BH65_5.6-5.8	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	0.9	NA								1
BH65_6.2-6.3	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	2.6	NA								1
BH65_7.5-7.7	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	2.4	NA								1
BH65_8.2-8.6	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	2.2	Odour. Sheen.						1		
BH65_9.5-9.7	AECOM	Declaration Area - Block 4	Sandy CLAY	3.9	NA								1
BH65_11.2-11.4	AECOM	Declaration Area - Block 4	Clayey SAND	176.7	High PID. Staining. Odour. Sheen.	1	1	1		1	1	1	
BH65_12.5-12.7	AECOM	Declaration Area - Block 4	Sandy CLAY	10.7	NA								1
BH65_13.4-13.6	AECOM	Declaration Area - Block 4	Sandy CLAY	103.0	High PID. Odour. Base of borehole.						1		
BH66_0.1-0.2	AECOM	Declaration Area - Block 4	Sandstone (FILL)	0.1	NA								1
BH66_0.9-1.0	AECOM	Declaration Area - Block 4	Gravelly Sand (FILL)	0.4	NA								1
BH66_1.9-2.0	AECOM	Declaration Area - Block 4	Gravelly Sand (FILL)	0.4	Odour. Further characterisation of FILL material.								
BH66_2.3-2.4	AECOM	Declaration Area - Block 4	Gravelly Sand (FILL)	0.3	Contains ash and slag. Odour.						1		
BH66_2.7-2.9	AECOM	Declaration Area - Block 4	Silty Sandy Gravel (FILL)	1.0	NA								1
BH66_3.2-3.6	AECOM	Declaration Area - Block 4	Silty Sand (FILL)	1.7	Odour. Further characterisation of FILL material.						1		
BH66_5.2-5.4	AECOM	Declaration Area - Block 4	Sandy CLAY	1.3	NA								1
BH66_7.0-7.2	AECOM	Declaration Area - Block 4	SANDSTONE	0.4	Odour. Base of borehole.						1		
BH67_0.4-0.43	AECOM	Declaration Area - Hickson Road	Gravelly Clayey Sand (FILL)	0.0	Odour. Further characterisation of FILL material.						1		
BH68_1.0-1.3	AECOM	Declaration Area - Block 5	Gravelly Clayey Sand (FILL)	0.9	Odour. Further characterisation of FILL material.								
BH68_2.5-2.9	AECOM	Declaration Area - Block 5	Sand (FILL)	1.0	Further characterisation of FILL material.						1		
BH68_4.0-4.3	AECOM	Declaration Area - Block 5	Sandy Gravel (FILL)	0.8	Further characterisation of FILL material.						1		
BH68_5.5-5.8	AECOM	Declaration Area - Block 5	Sandstone (FILL)	0.7	NA								1
BH68_7.0-7.1	AECOM	Declaration Area - Block 5	Silty SAND	0.8	Further characterisation of FILL material.						1		
BH68_7.1-7.3	AECOM	Declaration Area - Block 5	Clayey SAND	-	NA								1
BH68_7.3-7.5	AECOM	Declaration Area - Block 5	Clayey SAND	-	Base of borehole.				1				
BH69_1.0-1.5	AECOM	Declaration Area - Block 5	Sand (FILL)	1.7	Odour. Further characterisation of FILL material.						1		
BH69_4.0-4.2	AECOM	Declaration Area - Block 5	Silty Sand (FILL)	2.5	Odour. Sheen.						1		
BH69_10.0-10.2	AECOM	Declaration Area - Block 5	SANDSTONE	16.8	Base of borehole. Start of Natural material.	1	1	1		1	1	1	
SV09_0.2-0.4	AECOM	Declaration Area - Block 5	Silty Sandy Gravel (FILL)	0.4	Contains ash. Odour.						1		
SV09_1.3-1.5	AECOM	Declaration Area - Block 5	Clayey Sand (FILL)	0.6	Contains ash. Odour.								
Sub Total - Primary Soil Samples						16	16	18	2	16	73	18	67
QC Soil Duplicates/Re													
B													
QC240	AECOM	Declaration Area - Block 4	BH34_1.8-2.2								1		
QC204	AECOM	Declaration Area - Block 4	BH42_3.2-3.3										1
QC202	AECOM	Declaration Area - Block 4	BH44_5.4-5.5										1
QC74	AECOM	Declaration Area - Block 4	BH47_18.6-18.8										
QC76	AECOM	Declaration Area - Block 4	BH48_1.0-1.2								1		
QC78	AECOM	Declaration Area - Block 4	BH48_14.5-14.7			1	1	1		1	1	1	
QC223	AECOM	Declaration Area - Block 4	BH49_6.2-6.4			1	1	1		1	1	1	
QC238	AECOM	Declaration Area - Block 4	BH50_1.1-1.3										1
QC220	AECOM	Declaration Area - Block 4	BH52_2.2-2.6					1			1	1	

Data Entry: KP
Data Review: AD
AECOM

Table T1
Analysis Summary

Sample Location and Depth (m bgs)	Consultant	Area	Lithology Type	PID (ppm)	Rationale	Pesticides	Phthalates	Solvents	SPOCAs	SVOCs	TPH	VOCs	HOLD
			Parent Sample / Trip Spike OR Trip Blank										
QC208	AECOM	Declaration Area - Hickson Road	BH53_1.1-1.5								1		
QC55	AECOM	Declaration Area - Block 4	BH54_0.6-0.7										1
QC228	AECOM	Declaration Area - Block 4	BH54_1.0-1.4								1		
QC225	AECOM	Declaration Area - Block 4	BH58_3.2-3.4								1		
QC210	AECOM	Declaration Area - Hickson Road	BH61_1.0-1.4										1
QC211	AECOM	Declaration Area - Hickson Road	BH61_2.0-2.4								1		
QC244	AECOM	Declaration Area - Block 5	BH62_3.4-3.8										1
QC247	AECOM	Declaration Area - Block 5	BH62_8.8-9.0										1
QC234	AECOM	Declaration Area - Block 4	BH65_3.4-3.6								1		
QC235	AECOM	Declaration Area - Block 4	BH65_8.2-8.6										1
QC206	AECOM	Declaration Area - Hickson Road	BH67_0.4-0.43										1
Sub Total - Replicate Soil Sample Analyses						2	2	3	0	2	10	3	9
B													
QC241	AECOM	Declaration Area - Block 4	BH34_1.8-2.2								1		
QC205	AECOM	Declaration Area - Block 4	BH42_3.2-3.3										1
QC203	AECOM	Declaration Area - Block 4	BH44_5.4-5.5										1
QC75	AECOM	Declaration Area - Block 4	BH47_18.6-18.8										
QC77	AECOM	Declaration Area - Block 4	BH48_1.0-1.2								1		
QC224	AECOM	Declaration Area - Block 4	BH49_6.2-6.4				1			1	1	1	
QC221	AECOM	Declaration Area - Block 4	BH52_2.2-2.6								1	1	
QC229	AECOM	Declaration Area - Block 4	BH54_1.0-1.4										1
QC226	AECOM	Declaration Area - Block 4	BH58_3.2-3.4										1
QC212	AECOM	Declaration Area - Hickson Road	BH61_2.0-2.4								1		
QC245	AECOM	Declaration Area - Block 5	BH62_3.4-3.8										1
QC236	AECOM	Declaration Area - Block 4	BH65_8.2-8.6										1
QC207	AECOM	Declaration Area - Hickson Road	BH67_0.4-0.43										1
Sub Total - Split Soil Sample Analyses						0	1	0	0	1	5	2	7
QC Soil Sampling E													
QC51	Declaration Area - Block 4		Last sampled borehole = BH54 - Taken from SPT/Push-tube Shoe								1		
QC100	Declaration Area - Block 4		Last sampled borehole = BH48 - Taken from SPT/Push-tube Shoe								1		
QC227	Declaration Area - Block 4		Last sampled borehole = BH58 - Taken from SPT/Push-tube Shoe								1		
QC233	Declaration Area - Proposed Southern Cove		Last sampled borehole = BH45 - Taken from SPT/Push-tube Shoe								1		
QC239	Declaration Area - Block 4		Last sampled borehole = SV06 - Taken from SPT/Push-tube Shoe								1		
QC246	Declaration Area - Block 4		Last sampled borehole = SV05 - Taken from SPT/Push-tube Shoe								1		
QC251	Declaration Area - Public Domain		Last sampled borehole = BH56 - Taken from SPT/Push-tube Shoe								1		
QC252	Declaration Area - Public Domain		Last sampled borehole = BH56 - Taken from SPT/Push-tube Shoe								1		
QC250	Declaration Area - Public Domain		Last sampled borehole = BH74 - Taken from SPT/Push-tube Shoe								1		
QC209	Declaration Area - Hickson Road		Last sampled borehole = BH61 - Taken from SPT/Push-tube Shoe								1		
QC213	Declaration Area - Hickson Road		Last sampled borehole = BH61 - Taken from SPT/Push-tube Shoe								1		
Sub Total - Soil Equipment Rinsate Sample Analyses						0	0	0	0	0	11	0	0
QC Soil Sampling Trip													
QC52	Declaration Area		Trip Blank					1				1	
TB03	Declaration Area		Trip Blank										
TB05	Declaration Area		Trip Blank					1				1	
TB06	Declaration Area		Trip Blank					1				1	
TB07	Declaration Area		Trip Blank					1				1	
TB08	Declaration Area		Trip Blank										
TB09	Declaration Area		Trip Blank					1				1	
TB10	Declaration Area		Trip Blank					1				1	
TB11	Declaration Area		Trip Blank										
TB12	Declaration Area		Trip Blank										
TB13	Declaration Area		Trip Blank										
TB14	Declaration Area		Trip Blank										
TB14	Declaration Area		Trip Blank					1				1	
TB15	Declaration Area		Trip Blank					1				1	
TB16	Declaration Area		Trip Blank					1				1	
TB17	Declaration Area		Trip Blank					1			1	1	
TB18	Declaration Area		Trip Blank			1	1	1				1	
Sub Total - Soil Trip Blank and Trip Spike Analyses						1	1	11	0	0	1	11	0
Total - Soil Samples						**19**	**20**	**32**	**2**	**19**	**100**	**34**	**83**
Gr													
BH3	Coffey	Declaration Area - Hickson Road	Coffey BH3			1	1	1		1	1	1	
BH6	Coffey	Declaration Area - Hickson Road	Coffey BH6			1	1	1		1	1	1	
MW15	ERM	Declaration Area - Block 4	ERM BH087			1	1	1		1	1	1	
MW198	ERM	Declaration Area - Block 5	ERM BH198			1	1	1		1	1	1	
MW200	ERM	Declaration Area - Block 4	ERM BH200			1	1	1		1	1	1	
MW204S	ERM	Declaration Area - Block 4	ERM BH204			1	1	1		1	1	1	
MW205	ERM	Declaration Area - Block 4	ERM BH205			1	1			1			
MW206	ERM	Declaration Area - Block 4	ERM BH206			1	1	1		1	1	1	
MW209	ERM	Declaration Area - Block 4	ERM BH209			1	1	1		1	1	1	
MW210	ERM	Declaration Area - Proposed Southern Cove	ERM BH210			1	1	1		1	1	1	
MW40	AECOM	Downgradient of Declaration Area - Proposed Southern Cove	AECOM BH40			1	1	1		1		1	
MW45	AECOM	Declaration Area - Proposed Southern Cove	AECOM BH45			1	1	1		1	1	1	
MW52	AECOM	Declaration Area - Block 4	AECOM BH52			1	1	1		1	1	1	
MW54	AECOM	Declaration Area - Block 4	AECOM BH54			1	1	1		1	1	1	
MW56	AECOM	Downgradient of Declaration Area - Public Domain	AECOM BH56			1	1	1		1	1	1	
MW58	AECOM	Declaration Area - Block 4	AECOM BH58			1	1	1		1	1	1	
MW60	AECOM	Downgradient of Declaration Area - Public Domain	AECOM BH60			1	1	1		1	1	1	
MW61	AECOM	Declaration Area - Hickson Road	AECOM BH61			1	1	1		1	1	1	
MW62	AECOM	Declaration - Block 5	AECOM BH62			1	1	1		1	1	1	
MW64	AECOM	Declaration - Block 5	AECOM BH64			1	1	1		1	1	1	
MW68	AECOM	Declaration - Block 5	AECOM BH68			1	1	1		1	1	1	

Data Entry: KP
Data Review: AD
AECOM

Table T1
Analysis Summary

Sample Location and Depth (m bgs)	Consultant	Area	Lithology Type	PID (ppm)	Rationale	Parent Sample / Trip Spike OR Trip Blank	Pesticides	Phthalates	Solvents	SPOCAs	SVOCs	TPH	VOCs	HOLD
MW69	AECOM	Downgradient of Declaration Area - Block 5				AECOM BH69	1	1	1		1	1	1	
MW74	AECOM	Downgradient of Declaration Area - Public Domain				AECOM BH74	1	1	1		1	1	1	
Sub Total - Primary Groundwater Samples							23	23	22	0	23	21	22	0
QC Groundwater Duplicates/Replicates (Primary Laboratory)														
QC237	AECOM	Declaration - Block 4				AECOM MW58	1	1	1		1	1	1	
QC323	ERM	Declaration - Block 5				ERM MW198	1	1	1		1	1	1	
Sub Total - Replicate Groundwater Sample Analyses							2	2	2	0	2	2	2	0
QC Groundwater Inter-Laboratory Duplicates/Splits (Secondary Laboratory)														
QC324	ERM	Declaration Area - Block 5				ERM MW198		1	1		1	1	1	
QC328	AECOM	Declaration Area - Block 4				AECOM MW58			1		1	1	1	
Sub Total - Split Groundwater Sample Analyses							0	1	2	0	2	2	2	0
QC Groundwater Sampling Equipment Rinsate Samples														
QC325	Declaration Area					Last sampled monitoring well = ERM MW210			1			1	1	
QC326	Declaration Area					Last sampled monitoring well = ERM MW210			1			1	1	
QC329	Declaration Area					Last sampled monitoring well = AECOM MW54			1			1	1	
QC330	Declaration Area					Last sampled monitoring well = AECOM MW69			1			1	1	
QC340	Declaration Area					Last sampled monitoring well = AECOM MW64			1			1	1	
Sub Total - Groundwater Equipment Rinsate Sample Analyses							0	0	6	0	0	6	6	0
QC Groundwater Sampling Trip Blank and Trip Spike Samples														
QC52	Declaration Area					Trip Blank			1				1	
TB302	Declaration Area					Trip Blank			1			1	1	
TB303	Declaration Area					Trip Blank			1			1	1	
TB304	Declaration Area					Trip Blank			1			1	1	
TB306	Declaration Area					Trip Blank			1			1	1	
Sub Total - Groundwater Trip Blank and Trip Spike Analyses							0	0	6	0	0	5	6	0
Total - Groundwater Samples							**25**	**26**	**32**	**0**	**27**	**31**	**32**	**0**
Total - Soil and Groundwater Sampling Equipment Rinsate Sample Analyses							0	0	6	0	0	17	6	0
Total - Soil and Groundwater Trip Blank and Trip Spike Samples Analyses							1	1	17	0	0	6	17	0

Notes:
PID - Photoionisation Detector
BH - Borehole
IT - Intertidal Well
MW - Monitoring Well
TB - Trip Blank
DUP - Duplicate (Intra-laboratory) Sample
TRIP - Triplicate (Inter-laboratory) Sample
QC - Quality Control Sample
Ion Balance = Chloride, Sulphate, Total Alkalinity, Cations, pH and Electrical Conductivity
NA = Not Analysed

Table T1A
Observations in Soil

Location	Borehole ID	Depth	Lithology	PID	Observations
Block 3	BH36	14.5-15.0	Sandy CLAY	-	Tar odour.
		15.0-15.05	SANDSTONE	16.9	Tar odour.
Block 4	BH42	2.8-3.2	Clayey Sand (FILL)	3.1	Black staining. Moderate tar odour.
		3.2-3.4	Clayey Sand (FILL)	-	Strong tar and hydrogen sulphide odour. Sheen noted.
		3.4-3.5	SAND	-	Black staining. Strong tar odour. Sheen noted.
		3.5-3.6	SANDSTONE	-	Strong tar odour.
	BH44	4.5-5.5	SANDSTONE	407.0	Black staining. Moderate tar odour.
Proposed Southern Cove	BH45 / MW45	0.07-1.0	Gravelly Silty Sand (FILL)	1.3	Contains trace ash.
		1.0-3.2	Gravelly Sand (FILL)	4.3	Slight tar odour.
		3.2-4.4	Silty Gravelly Sand (FILL)	1.3	Trace black staining. Slight tar odour.
		4.4-5.6	Silty Sandy Clayey Gravel (FILL)	0.6	Slight tar odour.
		5.6-5.8	Silty Sandy Clayey Gravel (FILL)	0.8	Black staining. Moderate tar/hydrocarbon odour.
		5.8-7.2	Gravelly Sandy Clay (FILL)	0.7	Trace black staining. Slight tar odour.
		7.2-8.2	Clayey Sandy Gravel (FILL)	0.5	Very slight tar odour.
		10.5-11.2	SANDSTONE	0.6	Very slight gaseous odour.
		11.2-12.15	SANDSTONE	1.1	Very slight tar odour.
		12.15-12.2	SANDSTONE	1.1	Trace vein of tar. Black staining. Very slight tar odour.
		12.2-13.4	SANDSTONE	1.3	Very slight tar odour.
Block 4	BH48	1.0-2.5	Silty Sand (FILL)	0.4	Slight hydrocarbon odour.
		2.5-4.0	Sandy Clay (FILL)	-	Contains minor ash.
		8.5-11.5	Sand (FILL)	1.0	Contains minor ash.
		13.0-14.5	Sand (FILL)	0.7	Slight hydrocarbon odour.
		14.5-15.5	Clayey Silty Sand (FILL)	-	Contains crude tar. Black staining. Strong tar odour.
		15.5-17.0	SANDSTONE	260.8	Black staining. Strong tar odour.
	BH49	0.8-1.5	Silty Gravelly Sand (FILL)	2.5	Contains trace ash. Slight gaseous/chemical odour.
		1.5-2.5	Clayey Silty Sand (FILL)	0.9	Contains trace ash.
		2.5-3.2	Gravelly Clayey Silty Sand (FILL)	2.2	Slight gaseous/chemical odour.
		3.2-4.2	Silty Sand (FILL)	2.0	Black staining.
		4.2-4.8	Clayey Silty Sand (FILL)	2.2	Black staining.
		4.8-6.2	Clayey Silty Sand (FILL)	8.0	Moderate gaseous/chemical odour.
		6.2-7.2	Sandy Gravelly Clay (FILL)	8.0	Moderate gaseous/chemical odour.
		7.2-8.2	Sandy Gravel (FILL)	31.5	Black staining. Moderate gaseous/chemical odour.
		8.2-9.2	Sandy Clay (FILL)	125.4	Vein of tar. Black staining. Moderate to strong tar odour.
		9.2-10.2	Sandy Clay (FILL)	114.3	Veins of tar (20 %). Black staining. Moderate to strong tar odour. Slight sheen noted.
		10.2-11.2	Sandy Clay (FILL)	282.9	Minor veins of tar. Black staining. Tar odour. Sheen noted.
		11.2-12.2	Sandy CLAY	292.7	Minor veins of tar. Black staining. Moderate to strong tar odour.
		12.2-12.7	Clayey SAND	327.5	Minor veins of tar. Black staining. Moderate to strong tar odour.
	BH50	1.0-1.3	Silty Sandy Gravel (FILL)	0.6	Very slight gaseous odour.
	BH52 / MW52	0.95-2.2	Silty Gravelly Sand (FILL)	1.6	Contains minor ash. Slight gaseous odour.
		2.2-3.2	Clayey Sand (FILL)	0.9	Slight gaseous odour.
		3.2-4.2	Sand (FILL)	1.0	Black staining. Slight to moderate gaseous/tar odour.
		4.2-4.9	Clayey Gravelly Sand (FILL)	1.5	Black staining. Slight gaseous/tar odour.
		4.9-5.2	Silty Gravel (FILL)	1.9	Slight gaseous/tar odour.
Hickson Road	BH53 / MW53	2.8-5.0	Sandy Gravel (FILL)	32.7	Black staining. Slight tar odour. Sheen noted.
		5.0-5.4	Sandy Gravel (FILL)	1530.0	Black staining. Strong tar odour. Sheen noted.
		5.4-5.45	SANDSTONE	920.0	Black staining. Strong tar odour. Sheen noted.
Block 4	BH54 / MW54	0.06-1.0	Clayey Sandy Gravel (FILL)	1.7	Slight hydrocarbon odour.
		1.0-1.2	Clayey Silty Sand (FILL)	137.9	Moderate to strong tar odour.
		1.2-1.3	Clayey Silty Sand (FILL)	137.9	Black staining. Moderate to strong tar odour. Sheen noted.
		1.3-1.9	Clayey Silty Sand (FILL)	137.9	Moderate to strong tar odour.
		1.9-2.8	SAND	32.1	Black staining.
		2.8-3.0	SAND	32.1	Minor black staining. Slight to moderate tar odour.
	BH55	0.83-2.2	Silty Sand (FILL)	104.3	Minor tar. Black staining.
		2.2-2.7	Clayey Sand (FILL)	345.4	Black staining. Moderate to strong tar odour. Sheen noted.
		2.7-2.9	Silty Sandy Clay (FILL)	104.2	Black staining. Moderate to strong tar odour. Slight to moderate sheen noted.
	BH58 / MW58	1.0-2.2	Gravelly Silty Sand (FILL)	1.9	Contains minor ash. Slight gaseous/tar odour.
		2.2-4.2	Silty Sandy Gravel (FILL)	1.0	Black staining. Slight tar/chemical/gaseous odour.
		4.2-5.2	Silty Sandy Gravel (FILL)	1.3	Slight to moderate gaseous/tar odour.
		5.2-7.4	Clayey Silty Sandy Gravel (FILL)	2.3	Black staining. Moderate gaseous/tar odour.
		7.4-9.4	Silty Sandy Gravel (FILL)	2.3	Black staining. Slight to moderate gaseous/tar odour.
		9.4-10.2	Silty Sandy Clay (FILL)	1.8	Black staining. Slight to moderate gaseous/tar odour.
		10.2-10.8	Silty Gravelly Sand (FILL)	1.7	Very slight gaseous odour.
		10.8-11.4	Silty Sandy Gravel (FILL)	1.9	Very slight gaseous odour.
	BH59	1.9-3.5	Clayey Sand (FILL)	62.0	Moderate tar odour.
		3.5-3.9	Clayey Sand (FILL)	944.0	Black staining. Strong tar odour. Sheen noted.
		3.9-4.4	Clayey Sand (FILL)	197.0	Tar odour. Sheen noted.

Location	Borehole ID	Depth	Lithology	PID	Observations
Hickson Road	BH61 / MW61	1.0-2.0	Gravelly Sand (FILL)	11.1	Slight tar odour.
		2.0-3.0	Sandy Gravel (FILL)	0.9	Contains slag. Slight tar odour.
		3.0-3.45	Clayey SAND	105.0	Vein of tar. Black staining. Slight tar odour.
Block 5	BH62 / MW62	0.9-2.0	Silty Gravelly Sand (FILL)	6.3	Very slight tar odour.
		2.0-3.2	Sandy Gravel (FILL)	2.7	Black staining. Slight to moderate tar odour.
		3.2-4.7	Clayey Sandy Gravel (FILL)	1.8	Minor black staining. Slight gaseous odour.
		4.7-5.2	Gravelly Sand (FILL)	1.7	Slight gaseous odour.
		5.2-6.5	Gravelly Sand (FILL)	1.9	Black staining. Moderate gaseous odour.
		6.5-8.8	Silty Gravelly Sand (FILL)	1.3	Slight gaseous odour.
		8.8-9.9	Gravelly Sand (FILL)	0.9	Slight gaseous odour.
		9.9-11.0	Sandy Clay (FILL)	0.8	Minor black staining. Slight gaseous odour.
		11.0-11.8	Gravelly Sandy Clay (FILL)	1.0	Black staining. Slight gaseous odour.
		11.8-12.2	Sand (FILL)	1.3	Minor black staining. Slight gaseous odour.
Block 4	BH64 / MW64	0.8-2.5	Clayey Silty Sandy Gravel (FILL)	-	Contains slag and ash (20 %). Slight naphthalene/chemical odour.
		2.5-4.0	Silty Sandy Gravel (FILL)	3.5	Slight gaseous odour.
		5.3-6.7	Clayey Sandy Gravel (FILL)	2.1	Very slight gaseous odour.
	BH65	0.8-2.2	Silty Sandy Gravel (FILL)	0.4	Slight tar odour.
		2.2-3.2	Silty Sand (FILL)	-	Black staining. Slight to moderate tar odour.
		3.2-4.2	Gravel (FILL)	1.5	Black staining. Moderate tar odour. Moderate sheen noted.
		4.2-5.6	Gravelly Silty Clay (FILL)	1.7	Black staining. Moderate tar odour. Sheen noted.
		5.6-7.5	Silty Sandy Gravel (FILL)	2.6	Black staining. Moderate tar odour.
		7.5-8.6	Silty Sandy Gravel (FILL)	2.4	Slight to moderate tar odour. Very slight sheen noted.
		8.6-8.9	Silty Sandy Gravel (FILL)	2.2	Moderate tar odour. Slight to moderate sheen noted.
		8.9-9.5	Silty Sandy Gravel (FILL)	3.9	Black staining. Moderate tar odour.
		9.5-11.2	Sandy CLAY	3.9	Minor veins of tar. Slight black staining. Slight to moderate tar and naphthalene odour.
		11.2-12.5	Clayey SAND	176.7	Minor red/orange product. Moderate chemical/naphthalene odour. Moderate sheen noted.
		12.5-13.4	Sandy CLAY	10.7	Moderate to strong chemical/naphthalene odour. Slight sheen noted.
		13.4-13.6	Sandy CLAY	103.0	Moderate naphthalene odour.
Block 4	BH66	0.2-2.4	Gravelly Sand (FILL)	0.4	Slight tar odour.
		2.4-3.2	Silty Sandy Gravel (FILL)	1.0	Contains minor ash and slag (60 %). Slight tar/chemical odour.
		3.2-4.2	Silty Sand (FILL)	1.7	Slight tar odour.
		5.2-7.0	Sandy CLAY	1.3	Slight gaseous odour.
		7.0-7.2	SANDSTONE	0.4	Very slight gaseous odour.
Hickson Road	BH67	0.36-0.43	Gravelly Clayey Sand (FILL)	0.0	Slight tar odour.
Block 5	BH68 / MW68	0.07-2.5	Gravelly Clayey Sand (FILL)	0.9	Slight tar odour.
Block 4	SV05	0.07-1.0	Silty Sandy Gravel (FILL)	0.4	Contains minor ash.
		1.6-1.8	Gravelly Sand (FILL)	0.2	Contains band of ash and slag 200 mm thick.
	SV06	1.45-2.2	Silty Gravelly Sand (FILL)	-	Contains ash (40 %). Black staining. Slight gaseous odour.
	SV07	0.22-0.7	Silty Sandy Gravel (FILL)	-	Contains minor ash.
Block 5	SV09	0.09-1.3	Silty Sandy Gravel (FILL)	0.4	Contains ash (20 %) and slag (50 %). Slight gaseous/chemical odour.
		1.3-2.2	Clayey Sand (FILL)	0.6	Contains minor ash. Slight gaseous/chemical odour.
	SV10	0.08-1.2	Gravelly Sand (FILL)	1.6	Contains trace ash.
		1.2-1.6	Sandy Silty Clay (FILL)	0.9	Contains minor ash.
		1.6-2.2	Silty Sand (FILL)	1.8	Contains trace ash.
	SV11	0.07-1.0	Sandy Silty Gravel (FILL)	1.8	Contains minor ash.

Table T2
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
Metals, TPH and BTEX

					BTEX						Metals																		TPH				
					Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	Aluminium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Vanadium	Zinc	TPH C6 - C9	TPH C10 - C14	TPH C15 - C28	TPH C29-C36	TPH+C10 - C36 (Sum of total)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Laboratory LOR					0.2	0.2	0.2	0.2	0.2		50	5	5	10	1	1	0.5	2	2	5	50	5	5	0.1	2	5	2	5	5	2	50	100	100	50
Adopted Residential Criteria					1**	50**	130**			25**			40	15000*	80	80	400	400	400	4000		1200	6000	60	2400			550*	28000	65**				1000**
Adopted Commercial Criteria					**1****	**50****	**130****			**25****			**500**	**190000***	**100**	**100**	**500**	**500**	**500**	**5000**	**720000***	**1500**	**7500**	**75**	**3000**			**7200***	**35000**	**65****				**1000****
		Declaration Area																															
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Block**																													
ERM	BH001	1	01/05/2006	Block 5	0.5	<0.2	0.4	0.2	<0.2	0.3	-	-	6	-	-	<1	-	44	-	40	-	49	-	0.3	23	-	-	-	67	3	2360	3280	1190	6830
ERM	BH001	4	02/05/2006	Block 5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	5	-	-	<1	-	28	-	16	-	65	-	<0.1	9	-	-	-	35	<2	<50	160	<100	235
ERM	BH019	0.3-0.5	08/05/2006	Block 4	-	-	-	-	-	-	-	-	<5	-	-	<1	-	11	-	23	-	42	-	<0.1	21	-	-	-	43	-	-	-	-	-
ERM	BH019	1.5-1.95	08/05/2006	Block 4	-	-	-	-	-	-	-	-	<5	-	-	<1	-	15	-	8	-	13	-	<0.1	<2	-	-	-	<5	50	100	<100	<100	200
ERM	BH019	2.5-3	08/05/2006	Block 4	-	-	-	-	-	-	-	-	<5	-	-	<1	-	8	-	37	-	117	-	<0.1	<2	-	-	-	6	354	2180	3840	1060	7080
ERM	BH019	3-3.45	08/05/2006	Block 4	-	-	-	-	-	-	-	-	<5	-	-	<1	-	8	-	21	-	51	-	<0.1	5	-	-	-	9	210	3160	5450	1870	10480
ERM	BH020	0.3-0.5	09/05/2006	Block 4	-	-	-	-	-	-	-	-	<5	-	-	<1	-	12	-	42	-	178	-	0.2	22	-	-	-	121	<2	<50	460	350	835
ERM	BH020	1.5-2.1	09/05/2006	Block 4	-	-	-	-	-	-	-	-	<5	-	-	<1	-	8	-	32	-	106	-	<0.1	10	-	-	-	98	<2	<50	280	340	645
ERM	BH020	3-3.25	09/05/2006	Block 4	-	-	-	-	-	-	-	-	<5	-	-	<1	-	8	-	28	-	183	-	0.2	6	-	-	-	90	-	-	-	-	-
ERM	BH021	0.3-0.5	09/05/2006	Block 4	-	-	-	-	-	-	-	-	<5	-	-	<1	-	10	-	17	-	48	-	<0.1	12	-	-	-	40	<2	<50	130	100	255
ERM	BH028	0.3-0.5	12/05/2006	Block 5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.01	-	-	<5	-	-	<1	-	10	-	40	-	136	-	0.2	29	-	-	-	100	<2	<50	200	140	365
ERM	BH028	13-13.5	12/05/2006	Block 5	8.2	2.7	14.8	15.4	6.9	22.3	-	-	<5	-	-	<1	-	6	-	<5	-	10	-	<0.1	<2	-	-	-	<5	119	780	1370	250	2400
ERM	BH028	3-3.45	12/05/2006	Block 5	-	-	-	-	-	-	-	-	7	-	-	<1	-	10	-	45	-	1500	-	<0.1	4	-	-	-	312	-	-	-	-	-
ERM	BH058	1.5-1.95	31/05/2006	Block 5	0.3	0.3	0.2	<0.2	<0.2	<0.4	-	-	7	-	-	<1	-	89	-	102	-	212	-	0.5	58	-	-	-	253	8	120	1960	1070	3150
ERM	BH058	6-6.5	31/05/2006	Block 5	3.1	5.9	0.4	8.5	4.3	12.8	-	-	<5	-	-	<1	-	11	-	<5	-	7	-	<0.1	<2	-	-	-	11	40	220	510	<100	780
ERM	BH059	1.5-1.95	31/05/2006	Block 5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	6	-	-	<1	-	13	-	61	-	53	-	<0.1	7	-	-	-	99	<2	<50	290	260	575
ERM	BH059	3-3.45	31/05/2006	Block 5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	8	-	47	-	102	-	0.2	4	-	-	-	48	<2	<50	170	120	315
ERM	BH059	8.5-9	31/05/2006	Block 5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	13	-	<5	-	9	-	<0.1	<2	-	-	-	8	<2	<50	<100	<100	<250
ERM	BH060	1.7-2	31/05/2006	Block 5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	8	-	-	<1	-	13	-	1050	-	502	-	<0.1	15	-	-	-	712	<2	<50	<100	140	215
ERM	BH060	9.5-10	31/05/2006	Block 5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	17	-	<5	-	12	-	<0.1	<2	-	-	-	7	<2	<50	<100	<100	<250
ERM	BH062	1.5-1.95	31/05/2006	Block 5	<0.2	<0.2	0.4	0.3	<0.2	0.4	-	-	<5	-	-	<1	-	11	-	32	-	2870	-	0.4	8	-	-	-	284	8	100	610	510	1220
ERM	BH062	3-3.45	31/05/2006	Block 5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	15	-	130	-	236	-	2.3	24	-	-	-	187	<2	<50	420	410	855
ERM	BH065	0.3-0.5	01/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	16	-	39	-	144	-	0.1	24	-	-	-	110	<2	<50	180	350	555
ERM	BH065	1.5-1.95	01/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	12	-	32	-	144	-	0.2	11	-	-	-	103	<2	<50	<100	<100	<250
ERM	BH065	3-3.45	01/06/2006	Block 4	<0.2	<0.2	<0.2	0.5	0.3	0.8	-	-	5	-	-	<1	-	12	-	61	-	210	-	0.3	9	-	-	-	169	3	90	1040	720	1850
ERM	BH067	1.5-1.95	01/06/2006	Block 5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	14	-	-	2	-	35	-	84	-	13600	-	0.2	28	-	-	-	4770	<2	<50	480	620	1125
ERM	BH067	3-3.45	01/06/2006	Block 5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	14	-	-	<1	-	6	-	137	-	195	-	0.4	6	-	-	-	216	2	<50	1490	3020	4535
ERM	BH070	0.3-0.5	02/05/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	7	-	16	-	87	-	<0.1	5	-	-	-	63	<2	<50	600	210	835
ERM	BH070	1.5-1.95	02/05/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	5	-	-	<1	-	11	-	26	-	320	-	0.5	3	-	-	-	169	<2	<50	230	340	595
ERM	BH073	1.5-1.95	02/05/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	13	-	29	-	130	-	0.1	25	-	-	-	38	<2	<50	560	270	855
ERM	BH073	2-2.4	02/05/2006	Block 4	<0.2	2.1	<0.2	3.4	2.1	5.5	-	-	<5	-	-	<1	-	35	-	11	-	59	-	<0.1	<2	-	-	-	6	8	260	1340	260	1860
ERM	BH074	1.5-1.95	02/05/2006	Block 5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	10	-	-	<1	-	7	-	1410	-	1930	-	0.5	10	-	-	-	1380	<2	<50	<100	<100	<250
ERM	BH074	3-3.45	02/05/2006	Block 5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	7	-	-	<1	-	12	-	363	-	1420	-	1.3	7	-	-	-	418	3	<50	260	<100	335
ERM	BH074	9.5-10	02/05/2006	Block 5	14.9	1.6	21.1	20.7	7.6	28.3	-	-	<5	-	-	<1	-	13	-	<5	-	11	-	<0.1	<2	-	-	-	<5	122	1510	2480	870	4860
ERM	BH075	0.3-0.5	06/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	14	-	52	-	83	-	0.2	54	-	-	-	80	<2	<50	570	440	1035
ERM	BH075	3-3.45	06/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	36	-	11	-	31	-	<0.1	11	-	-	-	83	<2	<50	<100	<100	<250
ERM	BH087	1.5-1.95	08/06/2006	Block 4	0.7	1.2	0.8	7.3	3.2	10.5	-	-	<5	-	-	<1	-	9	-	<5	-	14	-	<0.1	<2	-	-	-	<5	20	2230	5820	1520	9570
ERM	BH087	3-3.45	08/06/2006	Block 4	15	47.5	24.9	79.9	38.6	118.5	-	-	<5	-	-	<1	-	12	-	17	-	128	-	<0.1	<2	-	-	-	13	271	4560	7310	1670	13540
ERM	BH087	7-7.5	08/06/2006	Block 4	82.7	24.3	149	116	57.1	173.1	-	-	<5	-	-	<1	-	15	-	<5	-	13	-	<0.1	<2	-	-	-	<5	442	4360	6720	1550	12630
ERM	BH089	0.3-0.5	09/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	12	-	29	-	19	-	<0.1	26	-	-	-	43	<2	<50	<100	<100	<250
ERM	BH089	1.5-1.95	09/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	44	-	51	-	269	-	0.2	14	-	-	-	165	<2	70	440	170	680
ERM	BH089	3-3.45	09/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	28	-	16	-	198	-	0.3	5	-	-	-	100	<2	<50	170	<100	245
ERM	BH090	1.5-1.95	09/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	13	-	14	-	602	-	0.2	5	-	-	-	281	<2	<50	<100	<100	<250
ERM	BH090	3-3.45	09/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	20	-	33	-	480	-	0.2	34	-	-	-	401	<2	<50	140	<100	215
ERM	BH109	0.3-0.5	27/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	3	-	225	-	12	-	<0.1	6	-	-	-	53	<2	<50	<100	<100	<250
ERM	BH109	3-3.45	27/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	41	-	20	-	14	-	<0.1	8	-	-	-	34	<2	<50	<100	130	205
ERM	BH109	9.5-10	27/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	23	-	6	-	17	-	<0.1	7	-	-	-	40	<2	<50	<100	<100	<250
ERM	BH113	1.5-1.95	27/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	10	-	<5	-	9	-	<0.1	4	-	-	-	21	<2	<50	<100	<100	<250
ERM	BH113	3-3.45	27/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	5	-	-	<1	-	33	-	12	-	17	-	<0.1	8	-	-	-	52	<2	70	540	470	1080
ERM	BH114	0.3-0.5	28/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	4	-	198	-	15	-	<0.1	5	-	-	-	54	<2	<50	130	210	365
ERM	BH114	3-3.45	28/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	6	-	-	<1	-	37	-	12	-	15	-	<0.1	7	-	-	-	47	<2	60	620	360	1040
ERM	BH115	0.8-1	28/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	14	-	28	-	358	-	5.2	8	-	-	-	236	<2	<50	560	340	925
ERM	BH115	1.5-1.95	28/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	11	-	26	-	330	-	1.2	4	-	-	-	279	<2	<50	<100	<100	<250
ERM	BH115	3-3.45	28/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	11	-	21	-	278	-	2.7	6	-	-	-	180	<2	<50	<100	<100	<250
ERM	BH119	1.6-2.05	30/06/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	32	-	36	-	634	-	0.2	7	-	-	-	283	<2	<50	<100	<100	<250
ERM	BH119	7.5-8	30/06/2006	Block 4	82.4	63	118	182	69.8	251.8	-	-	10	-	-	1	-	27	-	115	-	361	-	2.1	10	-	-	-	389	1140	6750	13000	4690	24440
ERM	BH119	9.5-10	30/06/2006	Block 4	97.8	14.7	124	152	53	205	-	-	<5	-	-	<1	-	13	-	<5	-	20	-	<0.1	<2	-	-	-	13	1060	5320	7940	2110	15370
ERM	BH133	1.5-1.95	06/07/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	11	-	-	<1	-	14	-	21	-	40	-	<0.1	<2	-	-	-	45	<2	<50	<100	<100	<250
ERM	BH133	0.3-0.5	06/07/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<50	<100	<100	<250

Table T2
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
Metals, TPH and BTEX

AECOM

					BTEX						Metals																			TPH				
					Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	Aluminium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Vanadium	Zinc	TPH C6 - C9	TPH C10 - C14	TPH C15 - C28	TPH C29-C36	TPH+C10 - C36 (Sum of total)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Laboratory LOR					0.2	0.2	0.2	0.2	0.2		50	5	5	10	1	1	0.5	2	2	5	50	5	5	0.1	2	5	2	5	5	2	50	100	100	50
Adopted Residential Criteria					1**	50**	130**			25**			40	15000*	80	80	400	400	400	4000		1200	6000	60	2400			550*	28000	65**				1000**
Adopted Commercial Criteria					**1****	**50****	**130****			**25****			**500**	**190000***	**100**	**100**	**500**	**500**	**500**	**5000**	**720000***	**1500**	**7500**	**75**	**3000**			**7200***	**35000**	**65****				**1000****
Declaration Area																																		
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Block**																														
ERM	BH135A	0.4-0.6	11/07/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	6	-	-	<1	-	10	-	57	-	30	-	<0.1	11	-	-	-	79	<2	<50	<100	<100	<250
ERM	BH135A	3-3.45	11/07/2006	Block 4	-	-	-	-	-	-	-	-	<5	-	-	<1	-	9	-	6	-	16	-	<0.1	4	-	-	-	28	-	-	-	-	-
ERM	BH141	1.5-1.95	07/07/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	25	-	16	-	17	-	<0.1	16	-	-	-	55	<2	70	1600	590	2260
ERM	BH141	3-3.45	07/07/2006	Block 4	41.8	49.1	17.3	86.5	60.3	146.8	-	-	<5	-	-	<1	-	5	-	9	-	99	-	<0.1	<2	-	-	-	<5	325	1800	4490	1430	7720
ERM	BH145	0.3-0.5	11/07/2006	Block 5	0.2	<0.2	0.4	0.3	<0.2	0.4	-	-	5	-	-	1	-	13	-	47	-	154	-	0.3	34	-	-	-	671	4	80	2120	1270	3470
ERM	BH145	3-3.45	11/07/2006	Block 5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	9	-	13	-	15	-	0.1	10	-	-	-	49	<2	<50	<100	<100	<250
ERM	BH146	1.5-1.95	11/07/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	<5	-	-	<1	-	9	-	14	-	5	-	<0.1	<2	-	-	-	10	2	<50	<100	<100	<250
ERM	BH146	3-3.33	11/07/2006	Block 4	-	-	-	-	-	-	-	-	<5	-	-	<1	-	9	-	12	-	31	-	0.3	<2	-	-	-	14	-	-	-	-	-
ERM	BH146	4.1-4.6	11/07/2006	Block 4	15.2	13.9	25.3	56	31	87	-	-	<5	-	-	<1	-	18	-	<5	-	7	-	<0.1	2	-	-	-	<5	222	3020	3750	860	7630
ERM	BH159		14/08/2006	Block 4	<0.2	<0.2	<0.2	0.3	<0.2	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<50	270	960	1255
ERM	BH160	0.3-0.4	14/08/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<50	<100	<100	<250
ERM	BH161	0.3-0.4	14/08/2006	Block 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<50	<100	<100	<250
ERM	BH197	0.4	03/03/2008	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	15	-	34	-	18	-	<0.1	63	-	-	-	49	<10	<50	150	450	625
ERM	BH197	5	09/04/2008	Block 5	4.8	1.9	8	4.2	1.9	6.1	-	-	15	-	-	<1	-	17	-	1080	-	78	-	<0.1	14	-	-	-	706	26	560	3820	1480	5860
ERM	BH197	6.5	09/04/2008	Block 5	0.5	<0.5	0.8	0.6	<0.5	0.85	-	-	19	-	-	<1	-	30	-	5	-	10	-	<0.1	9	-	-	-	26	<10	<50	<100	<100	<250
ERM	BH197	11.5	09/04/2008	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	14	-	<5	-	<5	-	<0.1	<2	-	-	-	6	<10	160	400	<100	610
ERM	BH197	18.6	10/04/2008	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	4	-	<5	-	13	-	<0.1	<2	-	-	-	<5	<10	<50	<100	<100	<250
ERM	BH197	15.9	10/04/2008	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	5	-	<5	-	<5	-	<0.1	<2	-	-	-	<5	<10	<50	<100	<100	<250
ERM	BH198	3	06/03/2008	Block 5	<0.2	<0.5	<0.5	0.7	<0.5	0.95	-	-	5	-	-	1	-	48	-	239	-	47	-	<0.1	28	-	-	-	473	<10	1360	6690	1440	9490
ERM	BH198	4.5	06/03/2008	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	6	-	-	<1	-	5	-	<5	-	<5	-	<0.1	<2	-	-	-	<5	<10	<50	<100	<100	<250
ERM	BH198	6.9	06/03/2008	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	11	-	<5	-	<5	-	<0.1	<2	-	-	-	<5	<10	<50	<100	<100	<250
ERM	BH199	2.7	11/03/2008	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	17	-	<5	-	16	-	<0.1	6	-	-	-	20	<10	<50	740	380	1145
ERM	BH199	3.7	11/03/2008	Block 5	6.4	16.3	2.6	22.4	22.9	45.3	-	-	<5	-	-	<1	-	7	-	21	-	24	-	<0.1	<2	-	-	-	8	96	950	2620	920	4490
ERM	BH199	5.6	11/03/2008	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	7	-	-	<1	-	5	-	<5	-	<5	-	<0.1	<2	-	-	-	<5	<10	<50	<100	<100	<250
ERM	BH199	6***	17/03/2008	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	6	-	<5	-	9	-	<0.1	4	-	-	-	16	<10	<50	<100	<100	<250
ERM	BH199	6***	17/03/2008	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	5	-	<5	-	7	-	<0.1	4	-	-	-	15	<10	<50	<100	<100	<250
ERM	BH200	1	07/04/2008	Block 4	1.6	<0.5	2.2	2	0.8	2.8	-	-	9	-	-	<1	-	38	-	70	-	937	-	1	28	-	-	-	75	<10	520	10200	4730	15450
ERM	BH200	2.5	07/04/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	17	-	19	-	101	-	0.3	4	-	-	-	27	<10	110	1060	500	1670
ERM	BH200	6.53	07/04/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	<2	-	<5	-	10	-	0.5	<2	-	-	-	<5	<10	<50	<100	<100	<250
ERM	BH201	10.3	18/03/2008	Block 5	<0.2	0.7	<0.5	<0.5	<0.5	<1	-	-	19	-	-	2	-	27	-	156	-	3190	-	4.6	14	-	-	-	784	<10	<50	1930	1350	3305
ERM	BH201	11	18/03/2008	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	5	-	-	<1	-	22	-	<5	-	23	-	0.3	<2	-	-	-	5	<10	<50	<100	<100	<250
ERM	BH201	2.4	04/03/2008	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	7	-	33	-	161	-	0.1	5	-	-	-	177	<10	<50	<100	<100	<250
ERM	BH202	2.3	10/03/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	8	-	-	<1	-	13	-	146	-	579	-	0.4	12	-	-	-	369	<10	<50	240	270	535
ERM	BH202	4.7	10/03/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	6	-	-	<1	-	6	-	142	-	93	-	0.1	8	-	-	-	80	<10	<50	280	340	645
ERM	BH202	6.8	10/03/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	8	-	20	-	28	-	<0.1	<2	-	-	-	35	<10	<50	<100	<100	<250
ERM	BH203	1.9	10/03/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	11	-	-	<1	-	10	-	402	-	790	-	1.2	37	-	-	-	372	<10	<50	330	360	715
ERM	BH203	7.3	10/03/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	9	-	51	-	53	-	0.1	10	-	-	-	86	<10	<50	560	450	1035
ERM	BH204	1	18/03/2008	Block 4	0.6	3.5	1.4	4.2	4.4	8.6	-	-	<5	-	-	<1	-	6	-	14	-	44	-	<0.1	<2	-	-	-	6	20	2890	9620	3070	15580
ERM	BH204D	1.5	07/04/2008	Block 4	61	7	69.2	67.2	26.9	94.1	-	-	<5	-	-	<1	-	48	-	8	-	172	-	4.6	40	-	-	-	146	226	54200	72400	20600	147200
ERM	BH204D	3	07/04/2008	Block 4	36.8	34.9	49.3	112	39.9	151.9	-	-	<5	-	-	<1	-	6	-	6	-	19	-	0.6	<2	-	-	-	7	289	11600	19400	6340	37340
ERM	BH204D	4	07/04/2008	Block 4	44.3	15.1	53	72.8	26.7	99.5	-	-	<5	-	-	<1	-	11	-	8	-	38	-	0.4	3	-	-	-	14	215	12600	22400	7020	42020
ERM	BH205	7.8	27/03/2008	Block 4	1.4	<0.5	0.7	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	26	-	<5	-	31	-	<0.1	3	-	-	-	7	<10	<50	<100	<100	<250
ERM	BH205	9.3	27/03/2008	Block 4	7.5	5.4	34.7	42.4	21.9	64.3	-	-	<5	-	-	<1	-	9	-	<5	-	<5	-	<0.1	<2	-	-	-	<5	138	1500	2710	640	4850
ERM	BH205	13.8	01/04/2008	Block 4	0.7	<0.5	0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	5	-	<5	-	19	-	<0.1	<2	-	-	-	16	<10	<50	<100	<100	<250
ERM	BH205	13	01/04/2008	Block 4	2.5	<0.5	3.3	2.8	1.2	4	-	-	<5	-	-	<1	-	21	-	15	-	24	-	<0.1	<2	-	-	-	9	13	<50	<100	<100	<250
ERM	BH205	19.2	02/04/2008	Block 4	<0.2	<0.5	<0.5	0.5	<0.5	0.75	-	-	<5	-	-	<1	-	8	-	<5	-	<5	-	<0.1	<2	-	-	-	<5	<10	<50	<100	<100	<250
ERM	BH205	22.2	02/04/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	15	-	<5	-	7	-	<0.1	<2	-	-	-	14	<10	<50	<100	<100	<250
ERM	BH206	0.5	07/03/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	8	-	135	-	18	-	0.1	12	-	-	-	64	<10	<50	310	180	515
ERM	BH206	1.8	17/04/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	13	-	31	-	38	-	<0.1	12	-	-	-	152	<10	<50	190	340	555
ERM	BH206	4.6	17/04/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	11	-	38	-	30	-	0.1	5	-	-	-	108	<10	<50	230	230	485
ERM	BH206	7.1	17/04/2008	Block 4	<0.2	1	<0.5	2.7	2.2	4.9	-	-	<5	-	-	<1	-	12	-	<5	-	8	-	0.6	<2	-	-	-	12	15	200	350	<100	600
ERM	BH206	10.7	21/04/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	<2	-	<5	-	33	-	<0.1	<2	-	-	-	<5	<10	<50	110	<100	185
ERM	BH208	2.25	04/04/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	29	-	8	-	6	-	<0.1	12	-	-	-	62	<10	<50	<100	<100	<250
ERM	BH208	9.5	04/04/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	8	-	<5	-	8	-	<0.1	6	-	-	-	38	<10	<50	<100	<100	<250
ERM	BH208	13.5	04/04/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	23	-	-	1	-	54	-	156	-	392	-	2.4	13	-	-	-	551	<10	80	3320	2520	5920
ERM	BH209	2.3	22/04/2008	Block 4	<0.2	<0.5	0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	11	-	21	-	29	-	<0.1	9	-	-	-	55	<10	<50	880	580	1485
ERM	BH209	4.5	22/04/2008	Block 4	15.5	37.2	4.3	36	50	86	-	-	7	-	-	<1	-	8	-	16	-	18	-	<0.1	9	-	-	-	25	227	1190	1950	460	3600
ERM	BH209	6.1	22/04/2008	Block 4	88.2	34.8	213	165	94.8	259.8	-	-	<5	-	-	<1	-	11	-	<5	-	<5	-	<0.1	<2	-	-	-	<5	929	2280	2350	430	5060
ERM	BH209	9.4	23/04/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	3	-	<5	-	<5	-	<0.1	<2	-	-	-	<5	<10	<50	<100	<100	<250

Table T2
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
Metals, TPH and BTEX

AECOM

					BTEX						Metals																			TPH				
					Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	Aluminium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Vanadium	Zinc	TPH C6 - C9	TPH C10 - C14	TPH C15 - C28	TPH C29-C36	TPH+C10 - C36 (Sum of total)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Laboratory LOR					0.2	0.2	0.2	0.2	0.2		50	5	5	10	1	1	0.5	2	2	5	50	5	5	0.1	2	5	2	5	5	2	50	100	100	50
Adopted Residential Criteria					1**	50**	130**			25**			40	15000*	80	80	400	400	400	4000		1200	6000	60	2400			550*	28000	65**				1000**
Adopted Commercial Criteria					**1****	**50****	**130****			**25****			**500**	**190000***	**100**	**100**	**500**	**500**	**500**	**5000**	**720000***	**1500**	**7500**	**75**	**3000**			**7200***	**35000**	**65****				**1000****
Declaration Area																																	
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Block**																													
ERM	BH211	14	26/03/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	6	-	<5	-	8	-	<0.1	5	-	-	-	28	<10	<50	<100	<100	<250
ERM	BH211	15.5	26/03/2008	Block 4	3.4	0.6	5.5	3.3	1.8	5.1	-	-	11	-	-	<1	-	13	-	<5	-	5	-	<0.1	<2	-	-	-	<5	19	<50	<100	<100	<250
ERM	BH211	16.05-16.15	26/03/2008	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	21	-	<5	-	7	-	<0.1	2	-	-	-	12	<10	<50	<100	<100	<250
AECOM	BH33	0.75-0.85	12/02/2010	Block 3	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	8	-	264	-	6	-	<0.1	10	-	-	-	50	<10	<50	<100	<100	<50
AECOM	BH33	5-5.2	12/02/2010	Block 3	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	6	-	-	<1	-	10	-	12	-	36	-	<0.1	12	-	-	-	77	<10	<50	<100	<100	<50
AECOM	BH33	8-8.2	12/02/2010	Block 3	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	-	-	<1	-	9	-	10	-	37	-	<0.1	7	-	-	-	40	<10	<50	<100	<100	<50
AECOM	BH34	1.8-2.2	25/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	80	<1	<1	<0.5	16	5	6	-	15	252	<0.1	6	-	-	18	33	<10	<50	<100	<100	<50
AECOM	BH34	11-11.2	25/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	30	<1	<1	-	9	4	<5	-	11	219	<0.1	5	-	-	13	27	<10	<50	<100	<100	<50
AECOM	BH34	3.8-4	25/02/2010	Block 4	-	-	-	-	-	-	-	-	<5	40	<1	<1	-	9	4	<5	-	9	160	<0.1	4	-	-	14	17	-	-	-	-	-
AECOM	BH34	6-6.2	25/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	40	<1	<1	-	11	6	6	-	11	285	<0.1	8	-	-	17	40	<10	<50	<100	<100	<50
AECOM	BH35	0.9-1	22/02/2010	Block 4	-	-	-	-	-	-	-	-	7	70	1	<1	-	9	10	9	-	40	457	<0.1	13	-	-	19	89	-	-	-	-	-
AECOM	BH35	4.9-5	22/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	110	<1	<1	-	10	5	<5	-	13	268	<0.1	6	-	-	17	27	<10	<50	<100	<100	<50
AECOM	BH35	6.4-6.5	22/02/2010	Block 4	-	-	-	-	-	-	-	-	<5	90	<1	<1	-	10	5	<5	-	12	308	<0.1	7	-	-	18	28	-	-	-	-	-
AECOM	BH35	9.9-10	22/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	20	<1	<1	<0.5	9	4	<5	13200	12	154	<0.1	6	-	-	19	37	<10	<50	<100	<100	<50
AECOM	BH36	0.7-0.1	19/02/2010	Block 3	-	-	-	-	-	-	-	-	<5	20	<1	<1	-	2	12	256	-	6	753	<0.1	7	-	-	119	51	-	-	-	-	-
AECOM	BH36	1-1.2	03/03/2010	Block 3	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	10	<1	<1	-	8	<2	<5	-	17	43	<0.1	<2	-	-	12	14	<10	<50	<100	<100	<50
AECOM	BH36	4-4.4	03/03/2010	Block 3	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	30	<1	<1	-	7	<2	<5	-	9	73	<0.1	2	-	-	12	17	<10	<50	<100	<100	<50
AECOM	BH36	8.5-8.9	03/03/2010	Block 3	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	50	<1	<1	-	9	6	7	-	13	308	<0.1	10	-	-	14	46	<10	<50	<100	<100	<50
AECOM	BH36	13-13.4	03/03/2010	Block 3	-	-	-	-	-	-	-	-	<5	50	<1	<1	-	8	4	6	-	13	254	<0.1	5	-	-	14	40	-	-	-	-	-
AECOM	BH36	15-15.05	03/03/2010	Block 3	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	40	<1	<1	<0.5	12	<2	<5	12800	12	43	<0.1	5	-	-	20	11	<10	<50	<100	<100	<50
AECOM	BH42	1-1.1	23/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	5	70	<1	<1	-	11	4	25	-	142	203	0.2	8	-	-	18	89	<10	<50	110	<100	110
AECOM	BH42	3.2-3.3	23/02/2010	Block 4	1	40.8	1.5	39.9	83.6	123.5	-	-	6	<10	<1	<1	<0.5	4	<2	<5	4550	8	6	<0.1	<2	-	-	8	<5	234	4680	13200	4150	22000
AECOM	BH42	3.5-3.6	23/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	10	<10	<1	<1	-	5	<2	<5	-	<5	9	<0.1	<2	-	-	10	<5	<10	<50	<100	<100	<50
AECOM	BH44	1.4-1.5	23/02/2010	Block 4	-	-	-	-	-	-	-	-	<5	100	<1	<1	-	18	18	50	-	127	406	0.1	66	-	-	31	89	-	-	-	-	-
AECOM	BH44	1.9-2	23/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	5	130	<1	<1	<0.5	8	<2	9	11300	17	<5	<0.1	<2	-	-	32	<5	10	<50	<100	<100	<50
AECOM	BH44	4.9-5	23/02/2010	Block 4	2.1	18.1	5.4	25.7	20.9	46.6	-	-	<5	50	<1	<1	<0.5	11	<2	<5	8600	<5	<5	<0.1	<2	-	-	10	<5	147	1040	2650	650	4340
AECOM	BH48	0.15-0.16	19/02/2010	Block 4	-	-	-	-	-	-	-	-	<5	70	<1	<1	-	12	29	77	-	<5	599	<0.1	83	-	-	32	41	-	-	-	-	-
AECOM	BH48	1-1.2	22/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	130	<1	<1	-	8	<2	13	-	259	90	0.3	3	-	-	14	201	<10	<50	200	150	350
AECOM	BH48	8.5-8.7	23/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	90	<1	<1	-	8	2	15	-	88	111	0.3	6	-	-	18	906	<10	<50	<100	<100	<50
AECOM	BH48	14.5-14.7	23/02/2010	Block 4	8.9	1.6	20.8	20.1	7	27.1	-	-	<5	30	<1	<1	<0.8	4	<2	23	4420	12	33	0.3	<2	-	-	8	27	90	1750	3610	1040	6400
AECOM	BH48	17-17.2	23/02/2010	Block 4	0.2	<0.5	0.8	0.8	<0.5	1.05	-	-	<5	10	<1	<1	-	3	<2	<5	-	5	<5	<0.1	<2	-	-	5	<5	<10	60	110	<100	170
AECOM	BH49	1.5-1.7	22/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	70	<1	<1	-	14	6	56	-	141	251	0.2	11	-	-	18	110	11	80	1460	790	2330
AECOM	BH49	4.2-4.4	22/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	50	<1	<1	-	3	<2	15	-	30	110	0.7	3	-	-	6	6	13	250	1610	1080	2940
AECOM	BH49	6.2-6.4	22/02/2010	Block 4	1.6	<0.5	1.8	2	0.8	2.8	-	-	14	<10	<1	<1	<0.5	23	<2	<5	24400	7	20	<0.1	2	-	-	49	<5	<10	160	450	150	760
AECOM	BH49	8.2-8.4	22/02/2010	Block 4	49.7	5.2	74.6	61.5	22.6	84.1	-	-	6	<10	<1	<1	-	30	<2	<5	-	14	33	<0.1	<2	-	-	44	<5	348	1160	2650	790	4600
AECOM	BH49	10.2-10.4	22/02/2010	Block 4	5.5	1.4	10.8	9.9	4.7	14.6	-	-	<5	30	<1	<1	-	35	<2	<5	-	8	<5	<0.1	<2	-	-	54	<5	56	670	1240	420	2330
AECOM	BH49	12.2-12.4	22/02/2010	Block 4	10.2	2	16.6	21.2	7.7	28.9	-	-	<5	<10	<1	<1	<0.5	19	<2	<5	12200	26	<5	<0.1	<2	-	-	9	<5	-	-	-	-	-
AECOM	BH50	0.15-0.25	24/02/2010	Block 4	-	-	-	-	-	-	-	-	<5	30	<1	<1	-	10	28	80	-	<5	507	<0.1	91	-	-	22	36	-	-	-	-	-
AECOM	BH50	1.3-1.5	26/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	<10	<1	<1	-	3	<2	<5	2310	<5	<5	<0.1	<2	-	-	6	<5	<10	<50	<100	<100	<50
AECOM	BH52	0.15-0.16	17/02/2010	Block 4	-	-	-	-	-	-	-	-	<5	60	<1	<1	<0.5	25	39	72	60700	<5	677	<0.1	160	-	-	34	48	-	-	-	-	-
AECOM	BH52	1-1.2	22/02/2010	Block 4	0.2	2.7	3.9	20.2	8.7	28.9	-	-	<5	50	<1	<1	-	8	<2	57	-	132	69	0.2	4	-	-	11	114	78	<50	580	370	950
AECOM	BH52	2.2-2.6	22/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	20	<1	<1	<0.5	18	3	14	12400	35	150	<0.1	8	-	-	19	61	<10	<50	<100	<100	<50
AECOM	BH52	4.2-4.4	22/02/2010	Block 4	1.7	1	1.1	1.4	0.7	2.1	-	-	<5	60	<1	<1	-	19	<2	190	-	93	35	0.2	6	-	-	24	38	10	<50	6600	2370	8970
AECOM	BH54	0.6-0.7	18/02/2010	Block 4	-	-	-	-	-	-	-	-	<5	100	<1	<1	<0.5	10	5	30	55000	630	246	0.2	16	-	-	18	231	-	-	-	-	-
AECOM	BH54	1-1.4	23/02/2010	Block 4	2.5	3.5	7.3	25	10.5	35.5	-	-	<5	40	<1	<1	<0.5	12	3	28	118000	206	652	<0.1	3	-	-	22	20	72	4380	11700	3560	19600
AECOM	BH54	2.8-3	23/02/2010	Block 4	<0.2	0.8	<0.5	3.2	1.6	4.8	-	-	<5	10	<1	<1	-	12	<2	<5	-	9	8	<0.1	<2	-	-	17	<5	13	900	2980	1000	4880
AECOM	BH55	1-1.2	25/02/2010	Block 4	7.8	2.8	14	24.1	10.8	34.9	-	-	<5	40	<1	<1	-	5	<2	<5	-	20	15	0.4	<2	-	-	10	<5	109	11300	19400	5550	36200
AECOM	BH55	2.2-2.4	25/02/2010	Block 4	22.2	29.6	2.3	48.8	51.6	100.4	1430	<5	<5	10	<1	<1	-	5	<2	<5	6640	9	<5	<0.1	<2	<5	<2	8	<5	304	6420	10600	3740	20760
AECOM	BH55	2.7-2.9	25/02/2010	Block 4	9.4	8.9	2	19.8	21.1	40.9	-	-	<5	20	<1	<1	-	10	<2	11	-	30	6	0.1	<2	-	-	6	<5	104	9150	14800	4750	28700
AECOM	BH58	0.15-0.16	17/02/2010	Block 4	-	-	-	-	-	-	-	-	<5	60	<1	<1	<0.5	21	34	65	55000	<5	618	<0.1	137	-	-	30	46	-	-	-	-	-
AECOM	BH58	1-1.2	22/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	8	60	<1	<1	-	11	4	30	-	54	186	0.6	8	-	-	25	49	<10	<50	550	460	1010
AECOM	BH58	3.2-3.4	22/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	50	<1	<1	-	9	6	70	-	118	160	0.1	12	-	-	28	120	<10	80	450	380	910
AECOM	BH58	5.2-5.4	22/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	120	<1	<1	-	13	4	55	-	386	127	0.2	10	-	-	21	261	<10	<50	320	300	620
AECOM	BH58	8.6-8.8	22/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	7	160	<1	<1	<0.5	12	3	145	13600	585	122	0.7	8	-	-	16	380	<10	<50	640	510	1150
AECOM	BH58	10.2-10.4	22/02/2010	Block 4	-	-	-	-	-	-	-	-	<5	60	<1	<1	-	9	<2	41	-	131	59	0.5	4	-	-	10	159	-	-	-	-	-
AECOM	BH58	10.8-11.2	22/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	50	<1	<1	<0.5	8	3	28	10100	66	133	0.1	5	-	-	17	74	<10	<50	420	430	850
AECOM	BH59	0.15-0.16	17/02/2010	Block 4	-	-	-	-	-	-	-	-	<5	20	<1	<1	<0.5	7	26	111	43200	<5	502	<0.1	70	-	-	28	37	-	-	-	-	-
AECOM	BH59	1-1.1	22/02/2010	Block 4	-	-	-	-	-	-	-	-	6	50	<1	<1	-	30	3	27	-	112	83	1.2	11	-	-	11	96	-	-	-	-	-
AECOM	BH59	1.9-2	22/02/2010	Block 4	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	10	<1	<1	-	21	<2	<5	-	10	<5	<0.1	23	-	-	12	27	<10	980	2290	860	4130

Table T2
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
Metals, TPH and BTEX

					BTEX						Metals																		TPH				
					Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	Aluminium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Vanadium	Zinc	TPH C6 - C9	TPH C10 - C14	TPH C15 - C28	TPH C29-C36	TPH+C10 - C36 (Sum of total)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Laboratory LOR					0.2	0.2	0.2	0.2	0.2		50	5	5	10	1	1	0.5	2	2	5	50	5	5	0.1	2	5	2	5	5	2	50	100	100	50
Adopted Residential Criteria					1**	50**	130**			25**			40	15000*	80	80	400	400	400	4000		1200	6000	60	2400			550*	28000	65**				1000**
Adopted Commercial Criteria					**1****	**50****	**130****			**25****			**500**	**190000***	**100**	**100**	**500**	**500**	**500**	**5000**	**720000***	**1500**	**7500**	**75**	**3000**			**7200***	**35000**	**65****				**1000****
Declaration Area																																	
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Block**																													
AECOM	BH59	3.4-3.5	22/02/2010	Block 4	82.4	88.3	32.5	103	51.2	154.2	-	-	14	<10	<1	<1	<0.5	5	<2	<5	15000	<5	106	<0.1	<2	-	-	9	<5	459	9120	19200	6140	34460
AECOM	BH59	4.2-4.3	22/02/2010	Block 4	3.4	<0.5	2.9	2.4	0.9	3.3	-	-	<5	<10	<1	<1	-	6	<2	<5	-	<5	<5	<0.1	<2	-	-	10	<5	14	140	380	130	650
AECOM	BH62	1-1.2	26/02/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	30	<1	<1	-	7	<2	16	-	102	25	0.2	<2	-	-	16	68	<10	<50	<100	<100	<50
AECOM	BH62	11.8-12	26/02/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	50	<1	<1	-	7	<2	6	3300	120	9	<0.1	<2	-	-	13	174	<10	<50	<100	<100	<50
AECOM	BH62	3.4-3.8	26/02/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	130	<1	<1	-	11	2	10	-	1300	146	<0.1	6	-	-	19	97	<10	<50	140	240	380
AECOM	BH62	5.4-5.6	26/02/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	6	150	<1	<1	-	13	3	37	-	364	92	<0.1	9	-	-	28	244	<10	<50	390	330	720
AECOM	BH62	8.8-9	26/02/2010	Block 5	-	-	-	-	-	-	-	-	<5	60	<1	<1	-	8	2	22	-	78	112	<0.1	6	-	-	22	56	-	-	-	-	-
AECOM	BH64	0.15-0.25	01/03/2010	Block 5	-	-	-	-	-	-	-	-	<5	60	<1	<1	-	18	32	63	-	<5	550	<0.1	119	-	-	32	45	-	-	-	-	-
AECOM	BH64	1-1.2	01/03/2010	Block 5	0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	70	<1	<1	-	9	3	28	-	52	101	0.5	6	-	-	17	37	<10	260	1970	1000	3230
AECOM	BH64	2.5-2.7	01/03/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	7	540	<1	<1	-	176	3	150	19900	163	54	0.2	19	-	-	43	53	<10	<50	640	590	1230
AECOM	BH64	5.5-5.7	01/03/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	<10	<1	<1	-	11	<2	<5	-	<5	7	<0.1	<2	-	-	20	<5	<10	<50	<100	<100	<50
AECOM	BH64	10-10.3	01/03/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	6	<10	<1	<1	-	34	<2	9	-	12	7	<0.1	<2	-	-	83	12	<10	<50	<100	<100	<50
AECOM	BH65	0.15-0.25	23/02/2010	Block 5	-	-	-	-	-	-	-	-	<5	80	<1	<1	-	19	32	76	-	<5	636	<0.1	118	-	-	32	41	-	-	-	-	-
AECOM	BH65	3.4-3.6	24/02/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	7	690	<1	5	-	309	6	161	-	2110	96	0.3	45	-	-	19	1150	<10	710	7500	5760	13970
AECOM	BH65	8.2-8.6	24/02/2010	Block 5	-	-	-	-	-	-	-	-	<5	220	<1	<1	-	32	4	47	-	869	120	0.1	27	-	-	19	325	<10	<50	560	470	1030
AECOM	BH65	11.2-11.4	24/02/2010	Block 5	<0.2	0.8	<0.5	3.5	2.3	5.8	-	-	11	<10	<1	<1	<0.5	31	<2	6	43100	7	<5	<0.1	<2	-	-	67	8	14	450	1110	220	1780
AECOM	BH65	13.4-13.6	24/02/2010	Block 5	<0.2	<0.5	<0.5	1.1	0.7	1.8	-	-	<5	30	<1	<1	-	5	<2	<5	-	42	<5	<0.1	<2	-	-	6	<5	<10	100	380	<100	480
AECOM	BH66	2.3-2.4	24/02/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	120	<1	<1	<0.5	20	6	33	15500	35	218	<0.1	22	-	-	26	96	<10	<50	420	390	810
AECOM	BH66	3.2-3.6	24/02/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	14	10	<1	<1	-	8	<2	15	-	13	15	<0.1	3	-	-	19	7	<10	<50	<100	<100	<50
AECOM	BH66	7-7.2	24/02/2010	Block 5	-	-	-	-	-	-	-	-	<5	<10	<1	<1	-	3	<2	<5	-	<5	<5	<0.1	<2	-	-	5	<5	<10	<50	<100	<100	<50
AECOM	BH68	2.5-2.9	02/03/2010	Block 5	-	-	-	-	-	-	-	-	10	100	<1	<1	-	27	7	129	-	120	261	<0.1	26	-	-	30	190	<10	<50	320	450	770
AECOM	BH68	4-4.3	02/03/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	30	<1	<1	-	10	8	20	-	16	260	<0.1	10	-	-	15	56	<10	<50	<100	<100	<50
AECOM	BH68	7-7.1	02/03/2010	Block 5	-	-	-	-	-	-	-	-	<5	30	<1	<1	-	8	<2	<5	-	6	22	<0.1	2	-	-	15	8	<10	<50	<100	<100	<50
AECOM	BH69	1-1.15	26/02/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	50	<1	<1	-	10	3	24	-	104	71	0.1	8	-	-	14	79	<10	<50	260	200	460
AECOM	BH69	4-4.2	26/02/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	90	<1	<1	-	12	2	29	-	235	61	0.2	15	-	-	23	189	<10	<50	320	270	590
AECOM	BH69	10-10.2	26/02/2010	Block 5	<0.2	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	<10	<1	<1	-	7	<2	<5	4590	6	6	<0.1	<2	-	-	8	8	<10	<50	420	<100	420
AECOM	SV09	0.2-0.4	26/02/2010	Block 5	0.5	<0.5	<0.5	<0.5	<0.5	<1	-	-	<5	60	<1	<1	-	28	2	17	-	144	26	0.2	15	-	-	8	14	<10	120	1920	1240	3280
AECOM	SV09	1.3-1.5	26/02/2010	Block 5	-	-	-	-	-	-	-	-	18	110	<1	2	-	139	<2	42	-	499	13	<0.1	<2	-	-	149	7	-	-	-	-	-

Notes
mg/kg = milligrams per kilogram
Adopted Residential Criteria= NSW DEC SIL_2 (2006), * US EPA, 2009. Regional Screening Levels (Residential), ** NSW EPA (1994) Sensative Use
Adopted Commercial Criteria= NSW DEC SIL_4 (2006), * US EPA, 2009. Regional Screening Levels (Industrial), ** NSW EPA (1994) Sensative Use
LOR = Limit of Reporting
# denotes sum of concentrations not calculable as all <LOR
< denotes result less than LOR
- denotes not analysed
BTEX = Benzene, Toluene, Ethylbenzene and Total Xylenes
TPH = Total Petroleum Hydrocarbons
Shading = Exceedence of Criteria
*** There are two BH199_6 samples. Note the samples have different lab IDs.

Table T3
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
Phenols, PAH and PCBs

AECOM

					PAH/Phenols																										PAH	Polychlorinated Biphenyls
					2,4-dimethylphenol	2-chloronaphthalene	2-methylnaphthalene	2-methylphenol	2-nitrophenol	3-&4-methylphenol	3-methylcholanthrene	4-chloro-3-methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)&(k)fluoranthene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Phenol	Phenolics Total	Pyrene	7,12-dimethylbenz(a)anthracene	PCBs (Sum of total)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg
Laboratory LOR					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.1
Adopted Residential Criteria					1200*	6300*	310*	3100*									4											80		34000					40
Adopted Commercial Criteria					**12000***	**82000***	**4100***	**31000***									**5**											**100**		**42500**					**50**
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Block**																														
ERM	BH001	1	01/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	1.1	14.4	19.2	65.9	33.4	-	98.6	25.5	29.6	70.5	10.4	104	3.6	28.6	11.5	699.1	84.4	-	-	-	98.4	-
ERM	BH001	4	02/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	0.5	0.8	3.3	2.6	-	3.3	1	1.3	3.1	<0.5	5	<0.5	1	1.3	31.45	2.4	-	-	-	5.1	-
ERM	BH019	1.5-1.95	08/05/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	1	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	1.4	<0.5	29.3	40.7	4.1	-	-	1.1	-	<0.1
ERM	BH019	2.5-3	08/05/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	24.3	82	79.3	70.3	58.2	-	56.9	22.6	25.5	54.1	6.4	208	110	22.6	700	1994.2	295	-	-	179	-	-
ERM	BH019	3-3.45	08/05/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	31.6	120	114	103	86.3	-	85.3	32.2	37.2	77.6	8.8	295	157	32.9	891	2733.9	407	-	-	255	-	-
ERM	BH020	0.3-0.5	09/05/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	0.6	1.6	2.5	6.2	6.8	-	7.7	3.7	2.3	5.4	0.8	14.6	1.2	3.1	0.8	80.3	7.8	-	-	15.2	-	-
ERM	BH020	1.5-2.1	09/05/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	1.3	1.6	3.9	4.4	-	5	2.5	1.9	3.6	0.6	8.5	0.7	2.1	0.5	50.25	4.7	-	-	8.7	-	-
ERM	BH021	0.3-0.5	09/05/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	0.9	0.9	2.2	2.3	-	2.8	1.2	1.1	1.8	<0.5	4.5	<0.5	1.2	0.8	28.05	2.8	-	-	4.8	-	-
ERM	BH028	13-13.5	12/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	6.7	38.6	20.4	13.2	8.4	-	9	3.1	3.2	11.1	0.8	28.2	32.3	2.6	183	470.5	76	-	-	33.9	-	-
ERM	BH058	1.5-1.95	31/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	1.2	8.4	11.1	29	25.3	-	37.9	19.3	11.8	26.9	4.3	65.3	5.1	16.1	5.7	368.6	39.5	-	-	61.7	-	<0.1
ERM	BH058	6-6.5	31/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	2.7	15.6	6.9	3.6	2	-	1.6	0.6	0.6	3.2	<0.5	6.6	12.3	<0.5	59.5	154.6	28.9	-	-	10	-	<0.1
ERM	BH059	1.5-1.95	31/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	2.1	2.1	4.3	3.9	-	4.6	2.5	1.9	3.7	0.5	8.5	0.6	2	1	52.85	6.4	-	-	8.5	-	<0.1
ERM	BH059	3-3.45	31/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	0.7	1	2.5	2.4	-	3	1.4	1.2	2	<0.5	4.4	0.5	1.2	<0.5	28.65	2.6	-	-	5	-	<0.25
ERM	BH059	8.5-9	31/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	1.4	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	1.2	<0.5	2.7	13.15	3	-	-	1.2	-	<0.1
ERM	BH060	1.7-2	31/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	1.2	1.3	3.6	3.6	-	6.3	3.5	2.3	3.7	0.9	5.4	<0.5	2.9	0.6	44.5	3.2	-	-	5.5	-	<0.25
ERM	BH060	9.5-10	31/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	4.9	0.9	-	-	0.5	-	<0.1
ERM	BH062	1.5-1.95	31/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	6.6	5.1	17.1	19.9	-	29.7	14.4	10.1	16.8	3.6	38.2	1.1	14	4	228.55	17.1	-	-	30.6	-	<0.25
ERM	BH062	3-3.45	31/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	1	1.8	3.5	4.2	-	5	3	1.8	3.3	0.5	7.4	0.6	2.3	<0.5	47.9	4.9	-	-	8.1	-	0.74
ERM	BH065	0.3-0.5	01/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	1.1	1.2	3	3.1	-	3.6	2.1	1.3	2.7	<0.5	5.9	<0.5	1.6	<0.5	36.4	3.6	-	-	6.2	-	<0.25
ERM	BH065	1.5-1.95	01/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	0.6	1.1	0.9	-	1.1	0.6	<0.5	0.8	<0.5	2.4	<0.5	<0.5	<0.5	13.45	1.9	-	-	2.3	-	<0.25
ERM	BH065	3-3.45	01/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	7	1.4	9.7	9.5	7.7	-	9.4	4.5	3.5	8.7	0.9	28.3	7.8	3.6	13.9	176.3	34.6	-	-	25.8	-	<0.25
ERM	BH067	1.5-1.95	01/06/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	<0.5	0.8	1.2	1.3	-	1.4	0.9	0.6	1.2	<0.5	3.1	0.7	0.7	0.8	19.35	2.9	-	-	3	-	<0.25
ERM	BH067	3-3.45	01/06/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	1.1	1.8	5.1	4.5	-	5.7	2.1	2.4	4.3	<0.5	12.5	0.9	1.8	1.5	63.6	7.5	-	-	11.9	-	<0.25
ERM	BH070	0.3-0.5	02/05/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	0.5	0.6	1.3	1.4	-	1.6	0.7	0.6	1.1	<0.5	3	<0.5	0.6	0.9	18.45	2.3	-	-	3.1	-	<0.1
ERM	BH070	1.5-1.95	02/05/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	0.7	1.2	2.5	2.5	-	3.1	1.5	1.2	2.4	<0.5	4.9	<0.5	1.3	<0.5	31	3.7	-	-	5	-	<0.1
ERM	BH073	1.5-1.95	02/05/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	20.6	87.8	77.3	107	100	-	99.3	44	33.5	88.7	10.7	252	56.5	41.4	14.8	1451.6	190	-	-	228	-	<0.1
ERM	BH073	2-2.4	02/05/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	4.4	24.4	18.7	19	15.3	-	15.6	6.3	6.2	14.6	1.5	48.8	20.8	5.7	80.5	383.1	58.3	-	-	43	-	<0.1
ERM	BH074	1.5-1.95	02/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	0.6	0.5	1.2	1	-	1.1	<0.5	<0.5	0.9	<0.5	2.4	<0.5	<0.5	<0.5	13.05	1.4	-	-	2.2	-	<0.1
ERM	BH074	3-3.45	02/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	1.5	2.6	3.7	2.8	-	3	1.1	1.2	2.8	<0.5	8.2	1.3	1	<0.5	46.25	8.6	-	-	7.7	-	<0.1
ERM	BH074	9.5-10	02/05/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	10.5	80.5	60	41.3	32.7	-	30.6	11.5	12.9	30.1	3.1	112	71.6	10.7	435	1222.9	184	-	-	96.4	-	<0.1
ERM	BH075	0.3-0.5	06/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	0.5	8.4	7.9	19.4	19	-	21.2	11.3	9.4	16.4	2.4	42.7	2.2	9.8	2.8	242.1	25.7	-	-	43	-	<0.1
ERM	BH075	3-3.45	06/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	0.9	0.8	-	1.1	0.6	0.5	0.7	<0.5	1.8	<0.5	<0.5	<0.5	11.05	1	-	-	1.9	-	<0.1
ERM	BH087	1.5-1.95	08/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	21.6	177	136	114	78.5	-	83.6	34	35.2	69.5	8.6	325	182	31.2	925	2982.2	496	-	-	265	-	<0.5
ERM	BH087	3-3.45	08/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	24.4	158	120	97.4	79.6	-	79.6	34	31.9	70.7	8.6	285	160	30.5	1030	2895.7	439	-	-	247	-	<0.5
ERM	BH087	7-7.5	08/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	23.7	135	104	64.5	49	-	45.7	20	19.9	50	5.3	163	125	17.4	1090	2418.5	333	-	-	173	-	<0.1
ERM	BH089	0.3-0.5	09/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	5.45	0.7	-	-	0.7	-	<0.1
ERM	BH089	1.5-1.95	09/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	2.5	2.3	3.7	3.3	-	3.4	1.6	1.7	3.1	<0.5	7.7	2	1.4	9	57.9	8.3	-	-	7.4	-	<0.5
ERM	BH089	3-3.45	09/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	2.3	3.4	6.2	5.6	-	5.9	2.6	2.7	5.4	0.6	13.5	1.1	2.3	0.7	77.05	11.5	-	-	13	-	<0.5
ERM	BH090	1.5-1.95	09/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	0.6	0.7	-	0.8	<0.5	<0.5	0.5	<0.5	1.1	<0.5	<0.5	<0.5	7.85	0.8	-	-	1.1	-	<0.1
ERM	BH090	3-3.45	09/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	1	2	3.5	3.3	-	3.3	1.6	1.7	3.1	<0.5	7.1	<0.5	1.4	<0.5	42.6	6.3	-	-	7.3	-	<0.1
ERM	BH109	0.3-0.5	27/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	-	<0.5	-	<0.1
ERM	BH109	3-3.45	27/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	-	<0.5	-	<0.1
ERM	BH109	9.5-10	27/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	-	<0.5	-	<0.1
ERM	BH113	1.5-1.95	27/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	-	<0.5	-	<0.1
ERM	BH113	3-3.45	27/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	0.6	0.9	0.7	-	0.8	<0.5	<0.5	0.8	<0.5	1.8	<0.5	<0.5	<0.5	11.2	1.8	-	-	1.8	-	<0.1
ERM	BH114	0.3-0.5	28/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	1.2	1.7	-	2	1.3	0.9	1.2	<0.5	2.3	<0.5	0.9	<0.5	16.5	1	-	-	2.5	-	<0.3
ERM	BH114	3-3.45	28/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	-	<0.5	-	<0.1
ERM	BH115	1.5-1.95	28/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	0.8	0.7	-	0.9	<0.5	<0.5	0.7	<0.5	1.7	<0.5	<0.5	<0.5	9.65	1	-	-	1.6	-	0.43
ERM	BH115	3-3.45	28/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	0.7	0.6	-	0.8	<0.5	<0.5	0.6	<0.5	1.6	<0.5	<0.5	<0.5	8.75	0.8	-	-	1.4	-	<0.1
ERM	BH119	1.6-2.05	30/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	0.6	0.8	-	0.9	0.6	<0.5	0.6	<0.5	1	<0.5	<0.5	<0.5	8	0.5	-	-	1	-	<1
ERM	BH119	7.5-8	30/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	53.5	273	236	152	149	-	113	59.9	71.3	121	27.4	550	313	57.2	1620	5173.3	880	-	-	497	-	<5
ERM	BH119	9.5-10	30/06/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	39.7	240	163	88.9	80	-	55.5	23.5	43.5	69.8	9	289	239	26.4	1210	3825.3	504	-	-	244	-	<10
ERM	BH133	0.3-0.5	06/07/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	1	0.9	2.2	2.1	-	2.6	1.4	0.9	1.9	<0.5	4	<0.5	1	1.3	26.75	2.7	-	-	4	-	-
ERM	BH133	1.5-1.95	06/07/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	-	<0.5	-	-
ERM	BH135A	0.4-0.6	11/07/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	-	<0.5	-	-
ERM	BH135A	3-3.45	11/07/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	-	<0.5	-	-
ERM	BH141	1.5-1.95	07/07/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	1.8	11.8	14.6	28.2	24.6	-	25.2	12.2	10.6	24.1	2.5	72.2	4.5	9.6	2.3	350.5	38.4	-	-	67.9	-	-

Data Entry: KP
Data Review: BE
AECOM

Table T3
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
Phenols, PAH and PCBs

					PAH/Phenols																											PAH	Polychlorinated Biphenyls
					2,4-dimethylphenol	2-chloronaphthalene	2-methylnaphthalene	2-methylphenol	2-nitrophenol	3-&4-methylphenol	3-methylcholanthrene	4-chloro-3-methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)&(k)fluoranthene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Phenol	Phenolics Total	Pyrene	7,12-dimethylbenz(a)anthracene	PCBs (Sum of total)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg
Laboratory LOR					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.1
Adopted Residential Criteria					1200*	6300*	310*	3100*									4											80		34000					40
Adopted Commercial Criteria					**12000***	**82000***	**4100***	**31000***									**5**											**100**		**42500**					**50**
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Block**																														
ERM	BH141	3-3.45	07/07/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	127	600	499	429	344	-	359	149	140	328	35.4	1160	725	124	5840	13659.4	1820	-	-	980	-	-
ERM	BH145	0.3-0.5	11/07/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	1.5	22	24.1	81.4	72.4	-	91.3	45.6	36.4	72	11.9	130	5.6	36.1	8.8	849.7	61.6	-	-	149	-	-
ERM	BH145	3-3.45	11/07/2006	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	4.9	<0.5	-	-	0.7	-	-
ERM	BH146	1.5-1.95	11/07/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	-	<0.5	-	-
ERM	BH146	3-3.33	11/07/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	8.8	58.8	35.4	89.7	67.3	-	72.8	33	28.9	69	8.5	184	10.9	31.4	28.3	951.4	26.6	-	-	198	-	-
ERM	BH146	4.1-4.6	11/07/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	16	78.8	58.6	43.5	32.9	-	37.2	16.2	14.8	34.7	4.1	107	71.6	14.2	454	1274.6	186	-	-	105	-	-
ERM	BH159		14/08/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	-	<0.5	-	-
ERM	BH160	0.3-0.4	14/08/2006	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-
ERM	BH161	0.3-0.4	14/08/2006	Declaration Area - Block 4	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	-	<0.5	-	-
ERM	BH197	0.4	03/03/2008	Declaration Area - Block 5	-	-	<0.5	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	0.5	0.6	<0.5	-	0.6	0.5	<0.5	<0.5	<0.5	3.5	0.6	<0.5	<0.5	14.1	2.9	<0.5	-	-	2.9	-
ERM	BH197	5	09/04/2008	Declaration Area - Block 5	-	-	<0.5	<0.5	<0.5	<1	-	<0.5	5.1	27	19.2	57.7	34.2	-	31.4	9.2	15.7	36.5	3	86.6	10.1	9.5	83	546.8	23.6	<0.5	-	-	95	-
ERM	BH197	6.5	09/04/2008	Declaration Area - Block 5	-	-	<0.5	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	0.5	0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1	0.6	<0.5	4.8	12.25	1.6	<0.5	-	-	1	-
ERM	BH197	11.5	09/04/2008	Declaration Area - Block 5	-	-	<0.5	<0.5	<0.5	<1	-	<0.5	1.7	9.9	3.6	2.7	1.2	-	1	<0.5	<0.5	1.7	<0.5	3.8	9.2	<0.5	31.1	92.3	19.3	<0.5	-	-	6.1	<0.1
ERM	BH197	18.6	10/04/2008	Declaration Area - Block 5	-	-	<0.5	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	-	<0.5	-
ERM	BH197	15.9	10/04/2008	Declaration Area - Block 5	-	-	<0.5	<0.5	<0.5	<1	-	<0.5	<0.5	1	0.7	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	1	<0.5	2	12.5	2.7	<0.5	-	-	1.2	-
ERM	BH198	3	06/03/2008	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	3.4	16.3	12.7	13.3	26.3	-	26.5	12.7	10.5	12.7	4.3	26.6	4.7	11.8	17.2	274.8	21	<0.5	-	54.8	-	<0.1
ERM	BH198	4.5	06/03/2008	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	4.75	<0.5	<0.5	-	<0.5	-	-
ERM	BH198	6.9	06/03/2008	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-
ERM	BH199	2.7	11/03/2008	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	2	11.6	9	20.3	14.4	-	14.6	5.4	6.5	14.6	1.3	42.7	3.8	4.8	1.5	217.2	25.3	<0.5	-	39.4	-	-
ERM	BH199	3.7	11/03/2008	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	14.2	47.2	44.7	39.8	27.4	-	29.8	10.3	11.9	28	2.5	122	69	10.4	439	1158.9	164	<0.5	-	98.7	-	<0.1
ERM	BH199	5.6	11/03/2008	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	1.4	1.3	1.8	1.1	-	1	<0.5	0.6	1.4	<0.5	4.8	1	<0.5	3.5	26.2	2.9	<0.5	-	4.4	-	-
ERM	BH199	6***	17/03/2008	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-
ERM	BH199	6***	17/03/2008	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	<0.1
ERM	BH200	1	07/04/2008	Declaration Area - Block 4	<0.5	-	-	3.8	<0.5	8.5	-	<0.5	5.2	54.8	75.7	158	113	-	158	30.4	48.2	128	11.6	320	14.8	34.4	64.4	1781.5	269	6.7	-	296	-	-
ERM	BH200	2.5	07/04/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	1.3	-	<0.5	1	6.7	9.9	16.9	12.4	-	18.2	8.3	7.3	14.6	2.2	34.7	5.4	6.9	10.1	220.1	32.4	<0.5	-	33.1	-	<0.1
ERM	BH200	6.53	07/04/2008	Declaration Area - Block 4	1.1	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	<0.1
ERM	BH201	11	18/03/2008	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	0.6	0.6	-	0.6	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	7.15	<0.5	<0.5	-	1.5	-	-
ERM	BH201	2.4	04/03/2008	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	<0.1
ERM	BH201	10.3	18/03/2008	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	1.5	6.5	5.5	13.1	15.6	-	16.7	6.7	4.7	11	1.9	21.9	4.3	6.2	5	160.4	16.2	<0.5	-	23.6	-	-
ERM	BH202	2.3	10/03/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	1	1.6	6.5	6.5	-	6.4	3.9	3	5.5	0.9	11.4	<0.5	3.9	1	67.1	3.4	<0.5	-	11.6	-	-
ERM	BH202	4.7	10/03/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	1.1	0.8	2	4	3.6	-	3.5	1.7	1.8	3.1	<0.5	8.9	0.8	1.7	<0.5	48.1	4.8	<0.5	-	9.8	-	<0.1
ERM	BH202	6.8	10/03/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-
ERM	BH203	1.9	10/03/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	1.4	2.2	5	5.1	-	5.3	3.4	2.3	4.1	0.9	9.3	<0.5	3.4	<0.5	58.15	5.9	<0.5	-	9.1	-	<0.1
ERM	BH203	7.3	10/03/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	0.8	1.3	2.9	2.6	-	2.4	1.2	1.1	2.2	<0.5	5.5	0.6	1.2	0.7	32	3.4	<0.5	-	5.6	-	-
ERM	BH204	1	18/03/2008	Declaration Area - Block 4	1.5	-	-	<0.5	<0.5	<1	-	<0.5	45.2	194	187	128	78.6	-	68.8	39.8	59	83.5	9.9	373	295	41.3	1180	3702.1	673	<0.5	-	246	-	<0.1
ERM	BH204D	1.5	07/04/2008	Declaration Area - Block 4	754	-	-	1160	<8	2290	-	<8	222	605	1200	823	652	-	587	305	231	631	71.4	1550	1190	247	8410	20934.4	2700	1720	-	1510	-	<0.1
ERM	BH204D	3	07/04/2008	Declaration Area - Block 4	<0.5	-	-	38.4	<0.5	63.4	-	<0.5	85.6	234	283	255	195	-	210	38.2	40.4	184	13.3	655	384	40.8	1970	6223.3	1090	55.8	-	545	-	-
ERM	BH204D	4	07/04/2008	Declaration Area - Block 4	<0.5	-	-	80	<0.5	100	-	<0.5	73.4	336	338	299	224	-	239	42.5	41	212	16.3	777	462	48.3	2930	7972.5	1290	84.2	-	644	-	-
ERM	BH205	13	01/04/2008	Declaration Area - Block 4	5.2	-	-	<0.5	<0.5	5	-	<0.5	1.2	3.8	3.9	2.9	1.9	-	2.1	0.6	0.8	2	<0.5	7.5	6	0.6	28.8	81.75	13.1	<0.5	-	6.3	-	-
ERM	BH205	7.8	27/03/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	4.7	0.5	<0.5	-	<0.5	-	-
ERM	BH205	13.8	01/04/2008	Declaration Area - Block 4	1.3	-	-	<0.5	<0.5	1.2	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	<0.1
ERM	BH205	19.2	02/04/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	0.7	6.75	1.4	<0.5	-	0.7	-	-
ERM	BH205	22.2	02/04/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	<0.1
ERM	BH205	9.3	27/03/2008	Declaration Area - Block 4	9.5	-	-	2.1	<0.5	2.6	-	<0.5	11	57.6	30.7	25.2	15.5	-	14.3	5.6	6.7	20.8	1.6	42.4	42.9	5	291	738.1	117	<0.5	-	50.8	-	<0.1
ERM	BH206	0.5	07/03/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	4.2	3.9	8.4	7.8	-	7.7	3.6	3.6	7.5	1.1	15.6	0.9	3.4	1.9	98.45	11.8	<0.5	-	16.8	-	<0.1
ERM	BH206	1.8	17/04/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	4.25	<0.5	<0.5	-	0.5	-	-
ERM	BH206	4.6	17/04/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	0.6	0.7	1.7	1.2	-	1.5	0.7	0.6	1.1	<0.5	4	<0.5	0.6	<0.5	19.7	2.4	<0.5	-	3.6	-	-
ERM	BH206	7.1	17/04/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	1.4	10	5.6	4.1	2.1	-	1.9	0.7	0.7	2.5	<0.5	6.7	8.3	0.6	39.8	110.35	16.9	<0.5	-	8.8	-	<0.1
ERM	BH206	10.7	21/04/2008	Declaration Area - Block 4	0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	1.9	1.6	1.2	0.7	-	0.8	<0.5	<0.5	0.9	<0.5	2.1	1.4	<0.5	3.5	22.95	5.1	<0.5	-	2.5	-	<0.1
ERM	BH208	2.25	04/04/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	<0.1
ERM	BH208	9.5	04/04/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-
ERM	BH208	13.5	04/04/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	1.8	3.2	9.4	9.3	-	11.4	4.9	3	8.9	0.9	20.5	0.7	3.9	0.7	110.05	8.4	<0.5	-	22.8	-	-
ERM	BH209	2.3	22/04/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	0.7	7.5	4.8	10.8	16.5	-	19.8	7.7	6.4	8	2.2	20.1	1.9	6.6	2.6	168	7.6	<0.5	-	44.8	-	-
ERM	BH209	4.5	22/04/2008	Declaration Area - Block 4	1	-	-	<0.5	<0.5	<1	-	<0.5	5.9	33.8	19.1	17.7	11.2	-	11.4	4.5	2.7	12.9	1.2	28.3	24.8	3.4	203	497	75.5	<0.5	-	41.6	-	<0.1
ERM	BH209	6.1	22/04/2008	Declaration Area - Block 4	14	-	-	<0.5	<0.5	<1	-	<0.5	6.8	54.9	22.3	15.4	9.1	-	7	3.2	2.9	11	1	24.6	27	2.2	498	814	86.5	<0.5	-	42.1	-	<0.1
ERM	BH209	9.4	23/04/2008	Declaration Area - Block 4	1.6	-	-	3.5	<0.5	6	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	10	-	<0.5	-	<0.1
ERM	BH211	14	26/03/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-

Table T3
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
Phenols, PAH and PCBs

AECOM

					PAH/Phenols																											PAH	Polychlorinated Biphenyls
					2,4-dimethylphenol	2-chloronaphthalene	2-methylnaphthalene	2-methylphenol	2-nitrophenol	3-&4-methylphenol	3-methylcholanthrene	4-chloro-3-methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)&(k)fluoranthene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Phenol	Phenolics Total	Pyrene	7,12-dimethylbenz(a)anthracene	PCBs (Sum of total)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg
Laboratory LOR					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.1
Adopted Residential Criteria					1200*	6300*	310*	3100*									4											80		34000				40
Adopted Commercial Criteria					**12000***	**82000***	**4100***	**31000***									**5**											**100**		**42500**				**50**
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Block**																														
ERM	BH211	15.5	26/03/2008	Declaration Area - Block 4	0.6	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	1.9	1.4	0.8	<0.5	-	<0.5	<0.5	<0.5	0.6	<0.5	1.2	1.2	<0.5	5.2	19.45	3.6	<0.5	-	1.8	-	<0.1
ERM	BH211	16.05-16.15	26/03/2008	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-
AECOM	BH33	5-5.2	12/02/2010	Declaration Area - Block 3	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-
AECOM	BH34	1.8-2.2	25/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-
AECOM	BH34	6-6.2	25/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-
AECOM	BH34	11-11.2	25/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-
AECOM	BH35	4.9-5	22/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-
AECOM	BH35	9.9-10	22/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-
AECOM	BH36	1-1.2	03/03/2010	Declaration Area - Block 3	<0.5	-	<0.5	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	-
AECOM	BH36	4-4.4	03/03/2010	Declaration Area - Block 3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<7	<0.5	<0.5	-	<0.5	<0.5	-
AECOM	BH36	15-15.05	03/03/2010	Declaration Area - Block 3	<0.5	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	6.15	1	<0.5	-	0.7	<0.5	-
AECOM	BH36	8.5-8.9	03/03/2010	Declaration Area - Block 3	<0.5	-	<0.5	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	-
AECOM	BH42	1-1.1	23/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	2	1.5	-	2.3	0.8	1	1.7	<0.5	2.9	<0.5	0.6	<0.5	18.7	1.2	<0.5	-	3.2	-	-
AECOM	BH42	3.2-3.3	23/02/2010	Declaration Area - Block 4	<1.2	<1.2	431	3.2	<1.2	<2.5	<1.2	<1.2	35	250	217	157	113	136	-	22.9	-	122	7.9	369	243	23.8	926	4064.60	660	<1.2	-	351	<1.2	-
AECOM	BH42	3.5-3.6	23/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	0.6	<0.5	1	8.9	2.4	<0.5	-	0.8	-	-
AECOM	BH44	1.9-2	23/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	-	<0.5	-	-
AECOM	BH44	4.9-5	23/02/2010	Declaration Area - Block 4	<1.2	<1.2	204	<1.2	<1.2	<2.5	<1.2	<1.2	11.3	90	41.9	27.6	15.6	18	-	3.2	-	22.8	<1.2	59.2	54.5	3.4	410	963.3	156	<1.2	-	67.2	<1.2	-
AECOM	BH48	1-1.2	22/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	0.9	0.7	-	0.9	<0.5	<0.5	0.7	<0.5	1.7	<0.5	<0.5	<0.5	9.95	1	<0.5	-	1.8	-	-
AECOM	BH48	8.5-8.7	23/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	-	0.6	<0.5	<0.5	0.6	<0.5	1.2	<0.5	<0.5	<0.5	7.7	0.9	<0.5	-	1.4	-	-
AECOM	BH48	14.5-14.7	23/02/2010	Declaration Area - Block 4	97.6	<1.2	144	30.2	<1.2	57.1	<1.2	<1.2	12.9	113	54	39.2	31	39	-	8.5	-	30.8	2.9	124	94.3	8.9	517	1535.5	215	9.4	-	101	<1.2	-
AECOM	BH48	17-17.2	23/02/2010	Declaration Area - Block 4	6.4	-	-	4.8	<0.5	10.8	-	<0.5	<0.5	1.9	2	1.2	0.6	-	0.8	<0.5	<0.5	0.9	<0.5	3.1	2.3	<0.5	11	32.65	5.2	2.1	-	2.4	-	-
AECOM	BH49	1.5-1.7	22/02/2010	Declaration Area - Block 4	0.8	-	-	0.8	<0.5	2.1	-	<0.5	1.1	11	18.1	35.8	22.7	-	37	13.2	11.8	32	3.8	76.7	4.5	11.4	9.7	428.1	61.4	1.9	-	77.9	-	-
AECOM	BH49	4.2-4.4	22/02/2010	Declaration Area - Block 4	5.1	-	-	6.4	<0.5	13.9	-	<0.5	4.1	23.8	16	23.2	19.2	-	27.6	9.2	13.4	16.2	2.6	38.8	12.5	7.9	64.7	374.2	41.7	15.8	-	53.3	-	-
AECOM	BH49	6.2-6.4	22/02/2010	Declaration Area - Block 4	1.4	<0.5	4	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	2.3	1.7	3.1	2.5	3	-	0.6	-	2.4	<0.5	4.4	2.7	0.7	19.5	50.35	5.7	<0.5	-	3.7	<0.5	-
AECOM	BH49	8.2-8.4	22/02/2010	Declaration Area - Block 4	4.5	-	-	4.1	<0.5	1.2	-	<0.5	11.2	55.1	43.6	30.9	16.4	-	21.4	6.7	12	22.6	2	83.3	62	6	373	946.5	130	<0.5	-	70.3	-	-
AECOM	BH49	10.2-10.4	22/02/2010	Declaration Area - Block 4	9	-	-	7.8	<0.5	9.5	-	<0.5	5.3	32.6	25.8	23.1	11.4	-	14.8	4.7	6.5	15.3	1.1	54.6	33.4	3.8	343	813.1	191	1.6	-	46.7	-	-
AECOM	BH49	12.2-12.4	22/02/2010	Declaration Area - Block 4	57.6	<1.2	211	14.4	<1.2	25.5	<1.2	<1.2	16.5	132	59.1	48.4	35.8	45	-	8.7	-	37.8	3.4	161	125	9.8	703	1760.5	283	2.8	-	137	<1.2	-
AECOM	BH50	1.3-1.5	26/02/2010	Declaration Area - Block 4	<0.5	-	<0.5	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	-	0.5	-	-
AECOM	BH52	2.2-2.6	22/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	1	1	2.4	1.6	-	2.4	0.9	1	1.9	<0.5	4.1	<0.5	0.8	<0.5	23.3	2.3	<0.5	-	3.9	-	-
AECOM	BH52	4.2-4.4	22/02/2010	Declaration Area - Block 4	5.7	-	-	5.1	<0.5	11.7	-	<0.5	36.1	85.7	115	140	82.2	-	93.8	43.2	52.9	109	11.6	306	123	37.6	55.8	1994.9	412	7.4	-	291	-	-
AECOM	BH54	1-1.4	23/02/2010	Declaration Area - Block 4	22.8	-	-	7	<4	<8	-	<4	273	1000	1070	912	533	-	824	248	324	549	72.5	2130	1290	231	6370	20626.5	3130	5	-	1670	-	-
AECOM	BH54	2.8-3	23/02/2010	Declaration Area - Block 4	<1.2	<1.2	41.8	<1.2	<1.2	<2.5	<1.2	<1.2	11.1	29.3	32.6	27.5	21.7	28	-	5.8	-	22.5	2.2	66.1	40.2	6.6	227	678.1	131	<1.2	-	54.5	<1.2	-
AECOM	BH55	1-1.2	25/02/2010	Declaration Area - Block 4	41.3	-	<4	28.3	<4	33.2	-	<4	80.7	473	482	425	252	-	300	123	107	282	23.3	1280	460	95	4510	12100	2030	23.5	-	1220	-	-
AECOM	BH55	2.2-2.4	25/02/2010	Declaration Area - Block 4	4.2	<1.2	308	<1.2	<1.2	<2.5	<1.2	<1.2	25.3	149	119	107	84	102	-	17.2	-	87	5.4	274	151	17.5	1740	3886.4	463	<1.2	-	237	<1.2	-
AECOM	BH55	2.7-2.9	25/02/2010	Declaration Area - Block 4	8.4	-	<4	<4	<4	<8	-	<4	67.1	386	341	294	160	-	187	65	117	200	14.5	783	440	53.3	4810	10400	1840	<4	-	677	-	-
AECOM	BH58	1-1.2	22/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	0.6	8.2	8.5	16.2	12.7	-	19	9.8	6.9	14	1.8	36.1	1.5	7.2	2.3	205.8	23.4	<0.5	-	37.6	-	-
AECOM	BH58	3.2-3.4	22/02/2010	Declaration Area - Block 4	0.6	-	-	<0.5	<0.5	<1	-	<0.5	1.6	1.1	2.2	2.8	2.1	-	3.6	1.4	1	2.5	<0.5	6.6	1.3	1	10.9	51.05	5.9	<0.5	-	6.8	-	-
AECOM	BH58	5.2-5.4	22/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	1.2	0.9	2	3.3	2.6	-	3.8	1.7	1.9	3.1	<0.5	7.5	1.3	1.4	1.3	45.85	6.2	<0.5	-	7.4	-	-
AECOM	BH58	8.6-8.8	22/02/2010	Declaration Area - Block 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.1	2.2	5.6	5.3	7	-	1.4	-	4.6	<0.5	7.9	0.7	1.3	1.2	48	4.6	<0.5	-	10.6	<0.5	-
AECOM	BH58	10.8-11.2	22/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	0.8	0.9	1.3	3.3	2.2	-	3.2	1.3	1.7	2.8	<0.5	7.3	0.7	1	1.2	40.05	3.6	<0.5	-	8.5	-	-
AECOM	BH59	1.9-2	22/02/2010	Declaration Area - Block 4	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	10.3	58.8	60.3	45.9	26.5	-	35.8	13.1	14.3	32.2	3.2	121	68.3	11.8	453	1264.5	206	<0.5	-	104	-	-
AECOM	BH59	3.4-3.5	22/02/2010	Declaration Area - Block 4	42.5	<1.2	967	8.2	<1.2	7	<1.2	1.3	104	404	368	271	189	232	-	44.5	-	214	21.7	669	462	52.2	3560	9561.4	1400	1.8	-	603	<1.2	-
AECOM	BH59	4.2-4.3	22/02/2010	Declaration Area - Block 4	8.1	-	-	5	<0.5	7.2	-	<0.5	1.4	9.1	8.3	6.2	3.4	-	4.6	1.4	2	4.5	<0.5	14.2	8.8	1.2	46.4	147.85	23.5	1.6	-	12.6	-	-
AECOM	BH62	1-1.2	26/02/2010	Declaration Area - Block 5	<0.5	-	<0.5	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	-	0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	0.7	4.4	0.9	<0.5	-	0.9	-	-
AECOM	BH62	3.4-3.8	26/02/2010	Declaration Area - Block 5	<0.5	-	<0.5	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	-
AECOM	BH62	5.4-5.6	26/02/2010	Declaration Area - Block 5	<0.5	-	<0.5	<0.5	<0.5	<1	-	<0.5	<0.5	0.6	2.2	5.1	2.9	-	4.3	1.7	2.2	4	<0.5	10.8	0.5	1.3	0.5	52.5	6.1	<0.5	-	10.3	-	-
AECOM	BH62	11.8-12	26/02/2010	Declaration Area - Block 5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<7	<0.5	<0.5	-	<0.5	<0.5	-
AECOM	BH64	1-1.2	01/03/2010	Declaration Area - Block 5	2.4	-	1	1.9	<0.5	5.3	-	<0.5	7.5	51.9	70.8	95.5	69.8	-	104	37.2	29.4	79.7	10.8	246	31.1	33.2	76.7	1460	261	3.8	-	259	-	-
AECOM	BH65	3.4-3.6	24/02/2010	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	5.2	13.8	28.1	40.6	27	-	32.3	17.4	17.2	30.2	3.7	82.9	29.1	13.6	10.1	532.8	98.8	<0.5	-	82.8	-	-
AECOM	BH65	8.2-8.6	24/02/2010	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	0.8	3	5	9.2	7.9	-	9.5	4.7	3.9	7.4	1.4	17.1	5	3.9	2.3	115	15.6	<0.5	-	18.3	-	-
AECOM	BH65	11.2-11.4	24/02/2010	Declaration Area - Block 5	<0.5	<0.5	57.6	<0.5	<0.5	<0.5	<0.5	<0.5	3.1	24.9	11.7	4.7	2.9	3	-	<0.5	-	4.5	<0.5	10.8	20.8	<0.5	65	217.55	51.5	<0.5	-	16.9	<0.5	-
AECOM	BH65	13.4-13.6	24/02/2010	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	2.4	7.3	6.6	3.8	2.1	-	1.8	0.5	0.6	3	<0.5	6.4	10.8	<0.5	34.6	114.9	25.1	<0.5	-	9.4	-	-
AECOM	BH66	2.3-2.4	24/02/2010	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	0.8	1.5	3.5	8.8	10.9	-	11.9	7.3	4.2	6.9	2.2	12.4	1.5	5.6	5.3	105	9.2	<0.5	-	13	-	-
AECOM	BH66	3.2-3.6	24/02/2010	Declaration Area - Block 5	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	-	<0.5	-	-
AECOM	BH66	7-7.2	24/02/2010	Declaration Area - Block 5	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	4.9	<0.5	<0.5	-	0.7	-	-
AECOM	BH68	4-4.3	02/03/2010	Declaration Area - Block 5	<0.5	-	<0.5	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	-
AECOM	BH69	1-1.15	26/02/2010	Declaration Area - Block 5	<0.5	-	<0.5	<0.5	<0.5	<1	-	<0.5	<0.5	2.3	3.3	5.8	3.4	-	5.8	1.9	1.7	4.8	<0.5	11.6	1.8	1.4	2.9	68.8	11.3	<0.5	-	10.8	-	-

Table T3
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
Phenols, PAH and PCBs

					PAH/Phenols																											PAH	Polychlorinated Biphenyls
					2,4-dimethylphenol	2-chloronaphthalene	2-methylnaphthalene	2-methylphenol	2-nitrophenol	3-&4-methylphenol	3-methylcholanthrene	4-chloro-3-methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)&(k)fluoranthene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Phenol	Phenolics Total	Pyrene	7,12-dimethylbenz(a)anthracene	PCBs (Sum of total)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg
Laboratory LOR					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.1
Adopted Residential Criteria					1200*	6300*	310*	3100*									4										80		34000					40
Adopted Commercial Criteria					**12000***	**82000***	**4100***	**31000***									**5**										**100**		**42500**					**50**
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Block**																														
AECOM	BH69	10-10.2	26/02/2010	Declaration Area - Block 5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	5.9	4.7	3.1	1.4	2	-	<0.5	-	2.8	<0.5	11.3	4.6	<0.5	<0.5	73.2	24.4	<0.5	-	12.4	<0.5	-
AECOM	BH69	4-4.2	26/02/2010	Declaration Area - Block 5	<0.5	-	<0.5	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	0.6	1.5	1.4	-	1.9	0.9	1.1	1.2	<0.5	2	<0.5	0.7	<0.5	15.3	1.4	<0.5	-	2.6	-	-
AECOM	SV09	0.2-0.4	26/02/2010	Declaration Area - Block 5	<0.5	-	<0.5	<0.5	<0.5	1.4	-	<0.5	1.4	9.9	18.5	45.3	25.4	-	43.7	14.5	18	33.9	4.2	97.5	3.4	12.6	5.8	495	69.1	<0.5	-	92.2	-	-

Notes
mg/kg = milligrams per kilogram
Adopted Residential Criteria= NSW DEC SIL_2 (2006), *US EPA, 2009. Regional Screening Levels (Residential)
Adopted Commercial Criteria= NSW DEC SIL_4 (2006), * US EPA, 2009. Regional Screening Levels (Industrial)
LOR = Limit of Reporting
# denotes sum of concentrations not calculable as all <LOR
< denotes result less than LOR
- denotes not analysed

Table T4
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
SVOCs

AECOM

				N-Nitrosodiphenyl & Diphenylamine	Pronamide	N-nitrosodiethylamine	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	N-Nitrosomethylethylamine	1-naphthylamine	2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline	2-methyl-5-nitroaniline	Aniline	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	1,3,5-Trinitrobenzene	2,4-Dinitrotoluene	2,6-dinitrotoluene	1,2,4,5-tetrachlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3,5-Trichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Hexachlorobenzene	Pentachlorobenzene	Diallate	Ethyl methanesulfonate	Isosafrole (cis)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	EQL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	BAC - Residential				4600	0.00077	0.093	0.069	0.022			18	9	23	15	85	6.2	370	35	2200	120	61	87	2000			2.6	1600	49		8		
	BAC-Commercial				**46000**	**0.011**	**0.43**	**0.25**	**0.078**			**82**	**32**	**82**	**52**	**300**	**22**	**3700**	**120**	**27000**	**1200**	**620**	**180**	**400**	**10000**			**13**	**1.1**	**490**	**28**		
Consultant	**Field_ID**	**Sampled Date**	**Block**																														
AECOM	BH36_4.0-4.4	03/03/2010	Declaration Area - Block 3	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
AECOM	BH36_15-15.05	03/03/2010	Declaration Area - Block 3	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
AECOM	BH42_3.2-3.3	23/02/2010	Declaration Area - Block 4	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
AECOM	BH44_4.9-5.0	23/02/2010	Declaration Area - Block 4	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
AECOM	BH48-14.5-14.7	23/02/2010	Declaration Area - Block 4	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
AECOM	BH49_6.2-6.4	22/02/2010	Declaration Area - Block 4	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
AECOM	BH49_12.2-12.4	22/02/2010	Declaration Area - Block 4	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	1.4	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	-	<1.2	<1.2	-	<1.2	<1.2	<1.2	<1.2	-	-	-
AECOM	BH54_2.8-3.0	23/02/2010	Declaration Area - Block 4	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
AECOM	BH55_2.2-2.4	25/02/2010	Declaration Area - Block 4	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
AECOM	BH58_8.6-8.8	22/02/2010	Declaration Area - Block 4	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
AECOM	BH59_3.4-3.5	22/02/2010	Declaration Area - Block 4	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	1.6	<1.2	<1.2
AECOM	BH62_11.8-12.0	26/02/2010	Declaration Area - Block 5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
AECOM	BH65_11.2-11.4	24/02/2010	Declaration Area - Block 5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
AECOM	BH69_10.0-10.2	26/02/2010	Declaration Area - Block 5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5

Notes
mg/kg = milligrams per kilogram
Adopted Residential Criteria= US EPA, 2009. Regional Screening Levels (Residential)

Adopted Commercial Criteria= US EPA, 2009. Regional Screening Levels (Industrial)

LOR = Limit of Reporting
# denotes sum of concentrations not calculable as all <LOR
< denotes result less than LOR
- denotes not analysed

Table T4
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
SVOCs

AECOM

				Isosafrole (trans)	Methyl methanesulfonate	Safrole	Chlorobenzilate	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Isophorone	2-(acetylamino) fluorene	2-Picoline	3,3-Dichlorobenzidine	4-(dimethylamino) azobenzene	4-aminobiphenyl	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	4-Nitroquinoline-N-oxide	Acetophenone	Azobenzene	Bis(2-chloroethoxy) methane	Bis(2-chloroisopropyl) ether	Carbazole	Dibenzofuran	Hexachloropropene	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Pentachloronitrobenzene	Phenacetin
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	EQL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	BAC - Residential						4.4	35	260	49000		6100		510			1.1							7800	4.9	180	3.5							0.23	1.9	
	BAC-Commercial						**16**	**120**	**910**	**490000**		**62000**		**1800**			**3.8**							**100000**	**22**	**1800**	**17**							**0.82**	**6.6**	
Consultant	**Field_ID**	**Sampled Date**	**Block**																																	
AECOM	BH36_4.0-4.4	03/03/2010	Declaration Area - Block 3	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
AECOM	BH36_15-15.05	03/03/2010	Declaration Area - Block 3	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
AECOM	BH42_3.2-3.3	23/02/2010	Declaration Area - Block 4	<1.2	<1.2	<1.2	<1.2	<5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	1	<1.2	<1.2	69.7	103	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
AECOM	BH44_4.9-5.0	23/02/2010	Declaration Area - Block 4	<1.2	<1.2	<1.2	<1.2	<5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1	<1.2	<1.2	11.1	21.7	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
AECOM	BH48-14.5-14.7	23/02/2010	Declaration Area - Block 4	<1.2	<1.2	<1.2	<1.2	<5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1	<1.2	<1.2	32.8	49.4	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
AECOM	BH49_6.2-6.4	22/02/2010	Declaration Area - Block 4	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	2	2.1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
AECOM	BH49_12.2-12.4	22/02/2010	Declaration Area - Block 4	-	-	-	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1	<1.2	<1.2	32.3	60.8	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
AECOM	BH54_2.8-3.0	23/02/2010	Declaration Area - Block 4	<1.2	<1.2	<1.2	<1.2	<5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1	<1.2	<1.2	20	31	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
AECOM	BH55_2.2-2.4	25/02/2010	Declaration Area - Block 4	<1.2	<1.2	<1.2	<1.2	<5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	1.2	<1.2	<1.2	<1.2	<1	<1.2	<1.2	67.6	124	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
AECOM	BH58_8.6-8.8	22/02/2010	Declaration Area - Block 4	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
AECOM	BH59_3.4-3.5	22/02/2010	Declaration Area - Block 4	<1.2	<1.2	<1.2	<1.2	<5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	1.3	<1.2	<1.2	<1.2	<1.2	<1	<1.2	<1.2	186	327	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
AECOM	BH62_11.8-12.0	26/02/2010	Declaration Area - Block 5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
AECOM	BH65_11.2-11.4	24/02/2010	Declaration Area - Block 5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	0.5	1.9	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
AECOM	BH69_10.0-10.2	26/02/2010	Declaration Area - Block 5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5

Notes
mg/kg = milligrams per kilogram
Adopted Residential Criteria= US EPA, 2009. Regional Screening Levels (Residential)

Adopted Commercial Criteria= US EPA, 2009. Regional Screening Levels (Industrial)

LOR = Limit of Reporting
# denotes sum of concentrations not calculable as all <LOR
< denotes result less than LOR
- denotes not analysed

Table T5
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
VOCs

AECOM

	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Vinyl acetate	Carbon disulfide	1,2-dibromoethane	1,2-dichloropropane	2,2-dichloropropane	cis-1,3-dichloropropene	trans-1,3-dichloropropene	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	5	5	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
BAC - Residential	67	47	2200					6500		28000		5300	990	670		0.93				2	9000	0.59	1.1	3.4	250		0.091	0.0056	0.45
BAC-Commercial	**280**	**200**	**11000**					**38000**		**190000**		**52000**	**4200**	**3000**		**4.7**				**9.8**	**39000**	**2.9**	**5.5**	**17**	**1100**		**0.41**	**0.073**	**2.2**

Field_ID	LocCode	Sample_Depth	Sampled_Date-Time	Area																											
BH36_4.0-4.4	AECOM_BH36	4-4.4	03/03/2010	Declaration Area - Block 3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH36_15-15.05	AECOM_BH36	15-15.05	03/03/2010	Declaration Area - Block 3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH42_3.2-3.3	AECOM_BH42	3.2-3.3	23/02/2010	Declaration Area - Block 4	92.9	31	7.3	<0.5	4.9	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH44_4.9-5.0	AECOM_BH44	4.9-5	23/02/2010	Declaration Area - Block 4	22	8.4	<0.5	<0.5	0.9	<0.5	<0.5	11.8	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH48-14.5-14.7	AECOM_BH48	14.5-14.7	23/02/2010	Declaration Area - Block 4	8.7	3.9	<0.5	<0.5	<0.5	<0.5	<0.5	9.1	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH49_6.2-6.4	AECOM_BH49	6.2-6.4	22/02/2010	Declaration Area - Block 4	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH49_12.2-12.4	AECOM_BH49	12.2-12.4	22/02/2010	Declaration Area - Block 4	9.5	3.8	<0.5	<0.5	<0.5	<0.5	<0.5	8.7	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH54_1.0-1.4	AECOM_BH54	1-1.4	23/02/2010	Declaration Area - Block 4	16.4	5.8	<0.5	<0.5	<0.5	<0.5	<0.5	4.8	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH54_2.8-3.0	AECOM_BH54	2.8-3	23/02/2010	Declaration Area - Block 4	2.8	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH55_2.2-2.4	AECOM_BH55	2.2-2.4	25/02/2010	Declaration Area - Block 4	76.5	31.2	0.6	<0.5	1.4	<0.5	<0.5	6.2	<0.5	<5	<5	<5	<5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH58_8.6-8.8	AECOM_BH58	8.6-8.8	22/02/2010	Declaration Area - Block 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH59_3.4-3.5	AECOM_BH59	3.4-3.5	22/02/2010	Declaration Area - Block 4	59.3	24.2	0.8	<0.5	1.2	<0.5	<0.5	5.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH62_11.8-12.0	AECOM_BH62	11.8-12	26/02/2010	Declaration Area - Block 5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH64_2.5-2.7	AECOM_BH64	2.5-2.7	01/03/2010	Declaration Area - Block 5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH65_11.2-11.4	AECOM_BH65	11.2-11.4	24/02/2010	Declaration Area - Block 5	3	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	2	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH69_10.0-10.2	AECOM_BH69	10-10.2	26/02/2010	Declaration Area - Block 5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes
mg/kg = milligrams per kilogram
Adopted Residential Criteria= US EPA, 2009. Regional Screening Levels (Residential)
Adopted Commercial Criteria= US EPA, 2009. Regional Screening Levels (Industrial)
LOR = Limit of Reporting
# denotes sum of concentrations not calculable as all <LOR
< denotes result less than LOR
- denotes not analysed

Table T5
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
VOCs

AECOM

					1,3-dichloropropane	Bromomethane	Carbon tetrachloride	Chloroethane	Chloromethane	cis-1,2-dichloroethene	cis-1,4-Dichloro-2-butene	Dibromomethane	Dichlorodifluoromethane	Hexachlorobutadiene	Iodomethane	Pentachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,4-Dichloro-2-butene	Trichlorofluoromethane	Vinyl chloride	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroform
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.5	5	0.5	5	5	0.5	0.5	0.5	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
BAC - Residential					1600	7.9	0.25	15000	1.7	780		780	190	6.2		5.4	2.8	0.57	110		800	0.06	18	2000		2.6	1600	5500	94	310	0.3	10	61	5.8	0.3
BAC-Commercial					**20000**	**35**	**1.3**	**62000**	**8.4**	**10000**		**10000**	**780**	**22**		**19**	**14**	**2.7**	**500**		**3400**	**1.7**		**400**	**10000**		**13**	**20000**	**72000**	**410**	**1500**	**46**	**220**	**21**	**1.5**
Field_ID	**LocCode**	**Sample_Depth**	**Sampled_Date-Time**	**Area**																																
BH36_4.0-4.4	AECOM_BH36	4-4.4	03/03/2010	Declaration Area - Block 3	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH36_15-15.05	AECOM_BH36	15-15.05	03/03/2010	Declaration Area - Block 3	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH42_3.2-3.3	AECOM_BH42	3.2-3.3	23/02/2010	Declaration Area - Block 4	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH44_4.9-5.0	AECOM_BH44	4.9-5	23/02/2010	Declaration Area - Block 4	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH48-14.5-14.7	AECOM_BH48	14.5-14.7	23/02/2010	Declaration Area - Block 4	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH49_6.2-6.4	AECOM_BH49	6.2-6.4	22/02/2010	Declaration Area - Block 4	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH49_12.2-12.4	AECOM_BH49	12.2-12.4	22/02/2010	Declaration Area - Block 4	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH54_1.0-1.4	AECOM_BH54	1-1.4	23/02/2010	Declaration Area - Block 4	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH54_2.8-3.0	AECOM_BH54	2.8-3	23/02/2010	Declaration Area - Block 4	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH55_2.2-2.4	AECOM_BH55	2.2-2.4	25/02/2010	Declaration Area - Block 4	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH58_8.6-8.8	AECOM_BH58	8.6-8.8	22/02/2010	Declaration Area - Block 4	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH59_3.4-3.5	AECOM_BH59	3.4-3.5	22/02/2010	Declaration Area - Block 4	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH62_11.8-12.0	AECOM_BH62	11.8-12	26/02/2010	Declaration Area - Block 5	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH64_2.5-2.7	AECOM_BH64	2.5-2.7	01/03/2010	Declaration Area - Block 5	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH65_11.2-11.4	AECOM_BH65	11.2-11.4	24/02/2010	Declaration Area - Block 5	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH69_10.0-10.2	AECOM_BH69	10-10.2	26/02/2010	Declaration Area - Block 5	<0.5	<5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes
mg/kg = milligrams per kilogram
Adopted Residential Criteria= US EPA, 2009. Regional Screening Levels (Residential)
Adopted Commercial Criteria= US EPA, 2009. Regional Screening Levels (Industrial)
LOR = Limit of Reporting
# denotes sum of concentrations not calculable as all <LOR
< denotes result less than LOR
- denotes not analysed

Table T6
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
Pesticides

					Herbicides	Organochlorine Pesticides																								
					Diallate	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Laboratory LOR					0.5	0.05	0.05	0.05		0.05	0.05	0.05	0.05	0.05	0.2		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05
Adopted Residential Criteria					8	1.4	0.077	0.029	40	0.27				2	1.7	800*	0.03				18			0.52	40*	0.053		
Adopted Commercial Criteria					**28**	**5.1**	**0.27**	**0.1**	**50**	**0.96**				**7.2**	**7**	**1000***	**0.11**				**180**			**2.1**	**50***	**0.19**	**3100**	
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Area**																								
ERM	BH160	0.3-0.4	14/08/2006	Declaration Area - Block 4	-	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
AECOM	BH36	15-15.05	03/03/2010	Declaration Area - Block 3	<0.5	<0.5	<0.5	<0.5	<1	<0.5	-	-	<0.5	<0.5	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-
AECOM	BH36	4-4.4	03/03/2010	Declaration Area - Block 3	<0.5	<0.5	<0.5	<0.5	<1	<0.5	-	-	<0.5	<0.5	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-
AECOM	BH42	3.2-3.3	23/02/2010	Declaration Area - Block 4	<1.2	<1.2	<1.2	<1.2	<2.4	<1.2	-	-	<1.2	<1.2	<1.2	<3.6	<1.2	<1.2	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	<1.2	-	-
AECOM	BH44	4.9-5	23/02/2010	Declaration Area - Block 4	<1.2	<1.2	<1.2	<1.2	<2.4	<1.2	-	-	<1.2	<1.2	<1.2	<3.6	<1.2	<1.2	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	<1.2	-	-
AECOM	BH48	14.5-14.7	23/02/2010	Declaration Area - Block 4	<1.2	<1.2	<1.2	<1.2	<2.4	<1.2	-	-	<1.2	<1.2	<1.2	<3.6	<1.2	<1.2	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	<1.2	-	-
AECOM	BH49	12.2-12.4	22/02/2010	Declaration Area - Block 4	-	<1.2	<1.2	<1.2	<2.4	<1.2	-	-	<1.2	<1.2	<1.2	<3.6	<1.2	<1.2	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	<1.2	-	-
AECOM	BH49	6.2-6.4	22/02/2010	Declaration Area - Block 4	<0.5	<0.5	<0.5	<0.5	<1	<0.5	-	-	<0.5	<0.5	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-
AECOM	BH54	2.8-3	23/02/2010	Declaration Area - Block 4	<1.2	<1.2	<1.2	<1.2	<2.4	<1.2	-	-	<1.2	<1.2	<1.2	<3.6	<1.2	<1.2	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	<1.2	-	-
AECOM	BH55	2.2-2.4	25/02/2010	Declaration Area - Block 4	<1.2	<1.2	<1.2	<1.2	<2.4	<1.2	-	-	<1.2	<1.2	<1.2	<3.6	<1.2	<1.2	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	<1.2	-	-
AECOM	BH58	8.6-8.8	22/02/2010	Declaration Area - Block 4	<0.5	<0.5	<0.5	<0.5	<1	<0.5	-	-	<0.5	<0.5	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-
AECOM	BH59	3.4-3.5	22/02/2010	Declaration Area - Block 4	1.6	<1.2	<1.2	<1.2	<2.4	<1.2	-	-	<1.2	<1.2	<1.2	<3.6	<1.2	<1.2	<1.2	4.2	<1.2	-	-	<1.2	<1.2	<1.2	-	-
AECOM	BH62	11.8-12	26/02/2010	Declaration Area - Block 5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	-	-	<0.5	<0.5	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-
AECOM	BH65	11.2-11.4	24/02/2010	Declaration Area - Block 5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	-	-	<0.5	<0.5	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-
AECOM	BH69	10-10.2	26/02/2010	Declaration Area - Block 5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	-	-	<0.5	<0.5	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-

Notes
mg/kg = milligrams per kilogram
Adopted Residential Criteria= *NSW DEC SIL_2 (2006), US EPA, 2009. Regional Screening Levels (Residential)

Adopted Commercial Criteria= *NSW DEC SIL_4 (2006), US EPA, 2009. Regional Screening Levels (Industrial)

LOR = Limit of Reporting
# denotes sum of concentrations not calculable as all <LOR
< denotes result less than LOR
- denotes not analysed

Table T6
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results
Pesticides

					Organophosphorous Pesticides																		Pesticides					
					Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Ethyl methanesulfonate	Fenthion	Isosafrole (cis)	Isosafrole (trans)	Malathion	Methyl methanesulfonate	Methyl parathion	Monocrotophos	Prothiofos	Safrole	Bromophos	Chlorobenzilate	Demeton-S-methyl	Fenamiphos	Parathion	Pirimphos-ethyl
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Laboratory LOR					0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.05	0.5	0.5	0.05	0.5	0.2	0.2	0.05	0.5	0.05	0.5	0.05	0.05	0.2	0.05
Adopted Residential Criteria							180	610	55	1.7	12	31					1200							4.4				
Adopted Commercial Criteria							**1800**	**6200**	**550**	**5.9**	**120**	**310**					**12000**		**150**				**3100**	**16**		**150**	**3700**	
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Area**																								
ERM	BH160	0.3-0.4	14/08/2006	Declaration Area - Block 4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	-	<0.05	-	<0.2	<0.2	<0.05	-	<0.05	-	<0.05	<0.05	<0.2	<0.05
AECOM	BH36	15-15.05	03/03/2010	Declaration Area - Block 3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	-	<0.5	-	-	-	<0.5
AECOM	BH36	4-4.4	03/03/2010	Declaration Area - Block 3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	-	<0.5	-	-	-	<0.5
AECOM	BH42	3.2-3.3	23/02/2010	Declaration Area - Block 4	-	<1.4	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	-	<1.2	-	-	-	<1.2
AECOM	BH44	4.9-5	23/02/2010	Declaration Area - Block 4	-	<1.4	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	-	<1.2	-	-	-	<1.2
AECOM	BH48	14.5-14.7	23/02/2010	Declaration Area - Block 4	-	<1.4	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	-	<1.2	-	-	-	<1.2
AECOM	BH49	12.2-12.4	22/02/2010	Declaration Area - Block 4	-	<1.4	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	-	<1.2	-	-	<1.2	-	-	-	<1.2	-	-	<1.2	-	-	-	<1.2
AECOM	BH49	6.2-6.4	22/02/2010	Declaration Area - Block 4	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	-	<0.5	-	-	-	<0.5
AECOM	BH54	2.8-3	23/02/2010	Declaration Area - Block 4	-	<1.4	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	-	<1.2	-	-	-	<1.2
AECOM	BH55	2.2-2.4	25/02/2010	Declaration Area - Block 4	-	<1.4	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	-	<1.2	-	-	-	<1.2
AECOM	BH58	8.6-8.8	22/02/2010	Declaration Area - Block 4	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	-	<0.5	-	-	-	<0.5
AECOM	BH59	3.4-3.5	22/02/2010	Declaration Area - Block 4	-	<1.4	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	-	<1.2	-	-	-	1.4
AECOM	BH62	11.8-12	26/02/2010	Declaration Area - Block 5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	-	<0.5	-	-	-	<0.5
AECOM	BH65	11.2-11.4	24/02/2010	Declaration Area - Block 5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	-	<0.5	-	-	-	<0.5
AECOM	BH69	10-10.2	26/02/2010	Declaration Area - Block 5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	-	<0.5	-	-	-	<0.5

Notes
mg/kg = milligrams per kilogram
Adopted Residential Criteria= *NSW DEC SIL_2 (2006), US EPA, 2009. Regional Screening Levels (Residential)

Adopted Commercial Criteria= *NSW DEC SIL_4 (2006), US EPA, 2009. Regional Screening Levels (Industrial)

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< denotes result less than LOR
- denotes not analysed

Table T7
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results

					Inorganics							
					Cyanide (Free)	Cyanide Total	Moisture	Moisture Content (dried @ 103°C)	pH (Lab)	Sulphate	TOC	Weak Acid Dissociable Cyanide
					mg/kg	mg/kg	%	%	pH Units	mg/kg	%	mg/kg
Laboratory LOR					1	1	1	1	0.1	100	0.5	1
Adopted Residential Criteria					1000	2000*				2000**		
Adopted Commercial Criteria					**1250**	**2500***				**2000****		
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Area**								
ERM	BH001	1	01/05/2006	Declaration Area - Block 5	-	322	-	15.1	-	31500	-	-
ERM	BH001	4	02/05/2006	Declaration Area - Block 5	-	29.6	-	29.6	-	4620	-	-
ERM	BH197	0.4	03/03/2008	Declaration Area - Block 5	-	<1	13	-	-	<100	-	-
ERM	BH197	5	09/04/2008	Declaration Area - Block 5	-	<1	26.5	-	-	1300	-	-
ERM	BH197	6.5	09/04/2008	Declaration Area - Block 5	-	<1	34.4	-	-	1430	-	-
ERM	BH197	11.5	09/04/2008	Declaration Area - Block 5	-	<1	15.6	-	-	950	-	-
ERM	BH197	18.6	10/04/2008	Declaration Area - Block 5	-	<1	9.8	-	-	510	-	-
ERM	BH197	15.9	10/04/2008	Declaration Area - Block 5	-	<1	8.5	-	-	100	-	-
ERM	BH199	6	17/03/2008	Declaration Area - Block 5	-	<1	6.8	-	-	170	-	-
ERM	BH019	0.3-0.5	08/05/2006	Declaration Area - Block 4	-	-	-	6.6	-	-	-	-
ERM	BH019	1.5-1.95	08/05/2006	Declaration Area - Block 4	-	-	-	18.5	-	-	-	-
ERM	BH019	2.5-3	08/05/2006	Declaration Area - Block 4	-	-	-	18	-	-	-	-
ERM	BH019	3-3.45	08/05/2006	Declaration Area - Block 4	-	-	-	18.9	-	-	-	-
ERM	BH020	0.3-0.5	09/05/2006	Declaration Area - Block 4	-	-	-	7.4	-	-	-	-
ERM	BH021	0.3-0.5	09/05/2006	Declaration Area - Block 4	-	-	-	2.8	-	-	-	-
ERM	BH020	1.5-2.1	09/05/2006	Declaration Area - Block 4	-	-	-	8.3	-	-	-	-
ERM	BH020	3-3.25	09/05/2006	Declaration Area - Block 4	-	-	-	20.2	-	-	-	-
ERM	BH028	0.3-0.5	12/05/2006	Declaration Area - Block 5	-	-	-	6.9	-	-	-	-
ERM	BH028	3-3.45	12/05/2006	Declaration Area - Block 5	-	-	-	18.3	-	-	-	-
ERM	BH028	13-13.5	12/05/2006	Declaration Area - Block 5	-	-	-	21	-	-	-	-
ERM	BH058	1.5-1.95	31/05/2006	Declaration Area - Block 5	-	69.7	-	17.3	-	27100	-	-
ERM	BH058	6-6.5	31/05/2006	Declaration Area - Block 5	-	<1	-	17	-	420	-	-
ERM	BH059	1.5-1.95	31/05/2006	Declaration Area - Block 5	-	<1	-	12.9	-	380	-	-
ERM	BH059	3-3.45	31/05/2006	Declaration Area - Block 5	-	<1	-	14.8	-	260	-	-
ERM	BH059	8.5-9	31/05/2006	Declaration Area - Block 5	-	<1	-	17.7	-	390	-	-
ERM	BH060	1.7-2	31/05/2006	Declaration Area - Block 5	-	5.6	-	20.8	-	3940	-	-
ERM	BH060	9.5-10	31/05/2006	Declaration Area - Block 5	-	<1	-	15.8	-	450	-	-
ERM	BH062	1.5-1.95	31/05/2006	Declaration Area - Block 5	-	489	-	21	-	1820	-	-
ERM	BH062	3-3.45	31/05/2006	Declaration Area - Block 5	-	2.6	-	9.7	-	700	-	-
ERM	BH065	0.3-0.5	01/06/2006	Declaration Area - Block 4	-	2.6	-	6.2	-	370	-	-
ERM	BH065	1.5-1.95	01/06/2006	Declaration Area - Block 4	-	<1	-	8.9	-	420	-	-
ERM	BH065	3-3.45	01/06/2006	Declaration Area - Block 4	-	12.7	-	17.6	-	960	-	-
ERM	BH067	1.5-1.95	01/06/2006	Declaration Area - Block 5	-	<1	-	14	-	6780	-	-
ERM	BH067	3-3.45	01/06/2006	Declaration Area - Block 5	-	<1	-	15.7	-	1230	-	-
ERM	BH070	0.3-0.5	02/05/2006	Declaration Area - Block 4	-	<1	-	8.6	-	370	-	-
ERM	BH070	1.5-1.95	02/05/2006	Declaration Area - Block 4	-	<1	-	12.1	-	730	-	-
ERM	BH073	1.5-1.95	02/05/2006	Declaration Area - Block 4	-	8.7	-	14.6	-	730	-	-
ERM	BH073	2-2.4	02/05/2006	Declaration Area - Block 4	-	2.1	-	8.3	-	190	-	-
ERM	BH074	1.5-1.95	02/05/2006	Declaration Area - Block 5	-	<1	-	13.8	-	700	-	-
ERM	BH074	3-3.45	02/05/2006	Declaration Area - Block 5	-	<1	-	18.7	-	1190	-	-
ERM	BH074	9.5-10	02/05/2006	Declaration Area - Block 5	-	<1	-	16.9	-	<100	-	-
ERM	BH075	0.3-0.5	06/06/2006	Declaration Area - Block 4	-	7.6	-	11.2	-	1120	-	-
ERM	BH075	3-3.45	06/06/2006	Declaration Area - Block 4	-	1.5	-	22	-	1300	-	-
ERM	BH087	1.5-1.95	08/06/2006	Declaration Area - Block 4	-	9.8	-	12	-	490	-	-
ERM	BH087	3-3.45	08/06/2006	Declaration Area - Block 4	-	26.7	-	18.4	-	760	-	-
ERM	BH087	7-7.5	08/06/2006	Declaration Area - Block 4	-	2.1	-	17.5	-	120	-	-
ERM	BH089	0.3-0.5	09/06/2006	Declaration Area - Block 4	-	<1	-	5.6	-	280	-	-
ERM	BH089	1.5-1.95	09/06/2006	Declaration Area - Block 4	-	2.1	-	10	-	1190	-	-
ERM	BH089	3-3.45	09/06/2006	Declaration Area - Block 4	-	<1	-	15.3	-	1340	-	-
ERM	BH090	1.5-1.95	09/06/2006	Declaration Area - Block 4	-	<1	-	10.7	-	1500	-	-
ERM	BH090	3-3.45	09/06/2006	Declaration Area - Block 4	-	<1	-	29.9	-	1690	-	-
ERM	BH109	0.3-0.5	27/06/2006	Declaration Area - Block 4	-	<1	-	4.7	-	<100	-	-
ERM	BH109	3-3.45	27/06/2006	Declaration Area - Block 4	-	<1	-	8.9	-	130	-	-
ERM	BH109	9.5-10	27/06/2006	Declaration Area - Block 4	-	<1	-	18.6	-	360	-	-
ERM	BH113	1.5-1.95	27/06/2006	Declaration Area - Block 4	-	<1	-	8.2	-	<100	-	-
ERM	BH113	3-3.45	27/06/2006	Declaration Area - Block 4	-	1	-	11.3	-	320	-	-
ERM	BH114	0.3-0.5	28/06/2006	Declaration Area - Block 4	-	<1	-	3.5	-	150	-	-
ERM	BH114	3-3.45	28/06/2006	Declaration Area - Block 4	-	<1	-	11	-	160	-	-
ERM	BH115	0.8-1	28/06/2006	Declaration Area - Block 4	-	-	-	10.4	-	-	-	-
ERM	BH115	1.5-1.95	28/06/2006	Declaration Area - Block 4	-	1.1	-	12.6	-	1880	-	-
ERM	BH115	3-3.45	28/06/2006	Declaration Area - Block 4	-	<1	-	6.4	-	1390	-	-
ERM	BH119	1.6-2.05	30/06/2006	Declaration Area - Block 4	-	<1	-	10.9	-	1180	-	-
ERM	BH119	7.5-8	30/06/2006	Declaration Area - Block 4	-	<1	-	45.6	-	3780	-	-
ERM	BH119	9.5-10	30/06/2006	Declaration Area - Block 4	-	<1	-	15.4	-	490	-	-
ERM	BH133	0.3-0.5	06/07/2006	Declaration Area - Block 4	-	-	-	8.1	-	-	-	-
ERM	BH133	1.5-1.95	06/07/2006	Declaration Area - Block 4	-	<1	-	11.1	-	340	-	-
ERM	BH135A	0.4-0.6	11/07/2006	Declaration Area - Block 4	-	-	-	7	-	-	-	-
ERM	BH135A	1.6-2.05	11/07/2006	Declaration Area - Block 4	-	-	-	4.6	-	140	-	-
ERM	BH135A	3-3.45	11/07/2006	Declaration Area - Block 4	-	-	-	12.7	-	-	-	-
ERM	BH141	1.5-1.95	07/07/2006	Declaration Area - Block 4	-	71.7	-	23.1	-	790	-	-
ERM	BH141	3-3.45	07/07/2006	Declaration Area - Block 4	-	-	-	16.5	-	-	-	-
ERM	BH145	0.3-0.5	11/07/2006	Declaration Area - Block 5	-	-	-	9.7	-	-	-	-
ERM	BH145	3-3.45	11/07/2006	Declaration Area - Block 5	-	-	-	16.2	-	-	-	-
ERM	BH146	1.5-1.95	11/07/2006	Declaration Area - Block 4	-	8.6	-	8	-	290	-	-
ERM	BH146	3-3.33	11/07/2006	Declaration Area - Block 4	-	-	-	18.8	-	-	-	-
ERM	BH146	4.1-4.6	11/07/2006	Declaration Area - Block 4	-	1.2	-	21.9	-	560	-	-
ERM	BH159		14/08/2006	Declaration Area - Block 4	-	<1	-	2.4	-	210	-	-
ERM	BH160	0.3-0.4	14/08/2006	Declaration Area - Block 4	-	-	-	7	-	-	-	-
ERM	BH161	0.3-0.4	14/08/2006	Declaration Area - Block 4	-	-	-	10.6	-	-	-	-
ERM	BH198	3	06/03/2008	Declaration Area - Block 5	-	3	40.6	-	-	610	-	-
ERM	BH198	4.5	06/03/2008	Declaration Area - Block 5	-	<1	25.6	-	-	280	-	-

Table T7
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results

					Inorganics							
					Cyanide (Free)	Cyanide Total	Moisture	Moisture Content (dried @ 103°C)	pH (Lab)	Sulphate	TOC	Weak Acid Dissociable Cyanide
					mg/kg	mg/kg	%	%	pH Units	mg/kg	%	mg/kg
Laboratory LOR					1	1	1	1	0.1	100	0.5	1
Adopted Residential Criteria					1000	2000*				2000**		
Adopted Commercial Criteria					**1250**	**2500***				**2000****		
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Area**								
ERM	BH198	6.9	06/03/2008	Declaration Area - Block 5	-	<1	13.6	-	-	220	-	-
ERM	BH199	2.7	11/03/2008	Declaration Area - Block 5	-	11	16.5	-	-	600	-	-
ERM	BH199	3.7	11/03/2008	Declaration Area - Block 5	-	1	17	-	-	750	-	-
ERM	BH199	5.6	11/03/2008	Declaration Area - Block 5	-	1	29.1	-	-	1770	-	-
ERM	BH199	6	17/03/2008	Declaration Area - Block 5	-	<1	-	-	-	230	-	-
ERM	BH199	6	27/03/2008	Declaration Area - Block 5	-	-	7.9	-	-	-	-	-
ERM	BH200	1	07/04/2008	Declaration Area - Block 4	-	200	15.9	-	-	30600	-	-
ERM	BH200	2.5	07/04/2008	Declaration Area - Block 4	-	44	21	-	-	2160	-	-
ERM	BH200	6.53	07/04/2008	Declaration Area - Block 4	-	<1	10.2	-	-	260	-	-
ERM	BH201	10.3	18/03/2008	Declaration Area - Block 5	-	2	28.5	-	-	960	-	-
ERM	BH201	2.4	04/03/2008	Declaration Area - Block 5	-	<1	16.6	-	-	1700	-	-
ERM	BH201	11	18/03/2008	Declaration Area - Block 5	-	2	15.8	-	-	220	-	-
ERM	BH202	2.3	10/03/2008	Declaration Area - Block 4	-	<1	12.6	-	-	660	-	-
ERM	BH202	4.7	10/03/2008	Declaration Area - Block 4	-	<1	12	-	-	440	-	-
ERM	BH202	6.8	10/03/2008	Declaration Area - Block 4	-	<1	17	-	-	340	-	-
ERM	BH203	1.9	10/03/2008	Declaration Area - Block 4	-	<1	14.9	-	-	870	-	-
ERM	BH203	7.3	10/03/2008	Declaration Area - Block 4	-	<1	16.2	-	-	1740	-	-
ERM	BH204	1	18/03/2008	Declaration Area - Block 4	-	8	18.9	-	-	430	-	-
ERM	BH204D	1.5	07/04/2008	Declaration Area - Block 4	-	575	22.3	-	-	5440	-	-
ERM	BH204D	3	07/04/2008	Declaration Area - Block 4	-	76	14.8	-	-	660	-	-
ERM	BH204D	4	07/04/2008	Declaration Area - Block 4	-	44	20	-	-	710	-	-
ERM	BH205	13	01/04/2008	Declaration Area - Block 4	-	<1	20.2	-	-	1570	-	-
ERM	BH205	13.8	01/04/2008	Declaration Area - Block 4	-	<1	8.4	-	-	330	-	-
ERM	BH205	19.2	02/04/2008	Declaration Area - Block 4	-	<1	5.4	-	-	150	-	-
ERM	BH205	22.2	02/04/2008	Declaration Area - Block 4	-	<1	5.9	-	-	220	-	-
ERM	BH205	7.8	27/03/2008	Declaration Area - Block 4	-	<1	18	-	-	540	-	-
ERM	BH205	9.3	27/03/2008	Declaration Area - Block 4	-	<1	8.5	-	-	150	-	-
ERM	BH206	0.5	07/03/2008	Declaration Area - Block 4	-	8	16.6	-	-	400	-	-
ERM	BH206	1.8	17/04/2008	Declaration Area - Block 4	-	<1	12.5	-	-	600	-	-
ERM	BH206	4.6	17/04/2008	Declaration Area - Block 4	-	<1	20.6	-	-	1130	-	-
ERM	BH206	7.1	17/04/2008	Declaration Area - Block 4	-	<1	16.5	-	-	100	-	-
ERM	BH206	10.7	21/04/2008	Declaration Area - Block 4	-	<1	8.7	-	-	120	-	-
ERM	BH208	2.25	04/04/2008	Declaration Area - Block 4	-	<1	9	-	-	17500	-	-
ERM	BH208	9.5	04/04/2008	Declaration Area - Block 4	-	<1	21.7	-	-	230	-	-
ERM	BH208	13.5	04/04/2008	Declaration Area - Block 4	-	<1	35.4	-	-	1700	-	-
ERM	BH209	2.3	22/04/2008	Declaration Area - Block 4	-	<1	13.6	-	-	710	-	-
ERM	BH209	4.5	22/04/2008	Declaration Area - Block 4	-	4	23.4	-	-	710	-	-
ERM	BH209	6.1	22/04/2008	Declaration Area - Block 4	-	<1	12.9	-	-	140	-	-
ERM	BH209	9.4	23/04/2008	Declaration Area - Block 4	-	<1	10.5	-	-	130	-	-
ERM	BH211	14	26/03/2008	Declaration Area - Block 4	-	<1	22.2	-	-	150	-	-
ERM	BH211	15.5	26/03/2008	Declaration Area - Block 4	-	<1	17.3	-	-	860	-	-
ERM	BH211	16.05-16.15	26/03/2008	Declaration Area - Block 4	-	<1	12.2	-	-	420	-	-
AECOM	BH33	0.75-0.85	12/02/2010	Declaration Area - Block 3	-	-	4.2	-	-	-	-	-
AECOM	BH33	5-5.2	12/02/2010	Declaration Area - Block 3	<1	-	15.4	-	7.8	-	-	<1
AECOM	BH33	8-8.2	12/02/2010	Declaration Area - Block 3	-	-	10.4	-	7.8	-	-	-
AECOM	BH34	1.8-2.2	25/02/2010	Declaration Area - Block 4	-	<1	12.1	-	7.7	-	<0.5	<1
AECOM	BH34	3.8-4	25/02/2010	Declaration Area - Block 4	-	-	14.5	-	-	-	-	-
AECOM	BH34	6-6.2	25/02/2010	Declaration Area - Block 4	-	-	12.4	-	-	-	-	-
AECOM	BH34	11-11.2	25/02/2010	Declaration Area - Block 4	-	-	15.2	-	-	-	-	-
AECOM	BH35	0.9-1	22/02/2010	Declaration Area - Block 4	-	-	8.1	-	-	-	-	-
AECOM	BH35	4.9-5	22/02/2010	Declaration Area - Block 4	<1	-	14.2	-	7.5	-	-	<1
AECOM	BH35	6.4-6.5	22/02/2010	Declaration Area - Block 4	-	-	14.7	-	-	-	-	-
AECOM	BH35	9.9-10	22/02/2010	Declaration Area - Block 4	-	-	15.9	-	7.1	-	0.5	-
AECOM	BH36	0.7-0.1	19/02/2010	Declaration Area - Block 3	-	-	9.1	-	-	-	-	-
AECOM	BH36	1-1.2	03/03/2010	Declaration Area - Block 3	-	-	8.1	-	8.9	-	-	-
AECOM	BH36	4-4.4	03/03/2010	Declaration Area - Block 3	-	<1	14	-	-	-	-	<1
AECOM	BH36	8.5-8.9	03/03/2010	Declaration Area - Block 3	-	-	11.2	-	-	-	-	-
AECOM	BH36	13-13.4	03/03/2010	Declaration Area - Block 3	-	-	12	-	-	-	-	-
AECOM	BH36	15-15.05	03/03/2010	Declaration Area - Block 3	-	<1	9.8	-	8.6	-	<0.5	<1
AECOM	BH42	1-1.1	23/02/2010	Declaration Area - Block 4	-	-	8.1	-	8.9	-	-	-
AECOM	BH42	3.2-3.3	23/02/2010	Declaration Area - Block 4	-	-	20.5	-	8.6	-	2.8	<1
AECOM	BH42	3.5-3.6	23/02/2010	Declaration Area - Block 4	-	-	12.2	-	8.6	-	-	-
AECOM	BH44	1.4-1.5	23/02/2010	Declaration Area - Block 4	-	-	10.9	-	-	-	-	-
AECOM	BH44	1.9-2	23/02/2010	Declaration Area - Block 4	<1	-	24.1	-	8.2	-	0.8	<1
AECOM	BH44	4.9-5	23/02/2010	Declaration Area - Block 4	<1	-	11.7	-	8.8	-	<0.5	<1
AECOM	BH48	0.15-0.16	19/02/2010	Declaration Area - Block 4	-	-	4.8	-	-	-	-	-
AECOM	BH48	1-1.2	22/02/2010	Declaration Area - Block 4	-	-	8.4	-	-	-	-	-
AECOM	BH48	8.5-8.7	23/02/2010	Declaration Area - Block 4	-	-	19.8	-	-	-	-	-
AECOM	BH48	14.5-14.7	23/02/2010	Declaration Area - Block 4	<1	-	15.2	-	7	-	<0.5	<1
AECOM	BH48	17-17.2	23/02/2010	Declaration Area - Block 4	-	-	17.2	-	6.8	-	-	-
AECOM	BH49	1.5-1.7	22/02/2010	Declaration Area - Block 4	-	-	13.2	-	-	-	-	-
AECOM	BH49	4.2-4.4	22/02/2010	Declaration Area - Block 4	-	-	29.4	-	-	-	-	-
AECOM	BH49	6.2-6.4	22/02/2010	Declaration Area - Block 4	<1	-	40.1	-	8.2	-	<0.5	<1
AECOM	BH49	8.2-8.4	22/02/2010	Declaration Area - Block 4	-	-	20	-	-	-	-	-
AECOM	BH49	10.2-10.4	22/02/2010	Declaration Area - Block 4	<1	-	16.5	-	-	-	-	<1
AECOM	BH49	12.2-12.4	22/02/2010	Declaration Area - Block 4	<1	-	20.4	-	7.5	-	<0.5	<1
AECOM	BH50	0.15-0.25	24/02/2010	Declaration Area - Block 4	-	-	7.7	-	-	-	-	-
AECOM	BH50	1.3-1.5	26/02/2010	Declaration Area - Block 4	-	<1	12.7	-	6.2	-	<0.5	<1
AECOM	BH52	0.15-0.16	17/02/2010	Declaration Area - Block 4	-	-	13.2	-	-	-	-	-
AECOM	BH52	1-1.2	22/02/2010	Declaration Area - Block 4	-	-	12.7	-	-	-	-	-
AECOM	BH52	2.2-2.6	22/02/2010	Declaration Area - Block 4	<1	-	20.9	-	7.4	-	<0.5	<1

Table T7
Declaration Area
Blocks 3, 4 and 5
Soil Analytical Results

					Inorganics							
					Cyanide (Free)	Cyanide Total	Moisture	Moisture Content (dried @ 103°C)	pH (Lab)	Sulphate	TOC	Weak Acid Dissociable Cyanide
					mg/kg	mg/kg	%	%	pH Units	mg/kg	%	mg/kg
Laboratory LOR					1	1	1	1	0.1	100	0.5	1
Adopted Residential Criteria					1000	2000*				2000**		
Adopted Commercial Criteria					**1250**	**2500***				**2000****		
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Area**								
AECOM	BH52	4.2-4.4	22/02/2010	Declaration Area - Block 4	<1	-	20.6	-	-	-	-	<1
AECOM	BH54	0.6-0.7	18/02/2010	Declaration Area - Block 4	-	-	16.2	-	-	-	-	-
AECOM	BH54	1-1.4	23/02/2010	Declaration Area - Block 4	-	-	20.2	-	7.8	-	1.4	-
AECOM	BH54	2.8-3	23/02/2010	Declaration Area - Block 4	<1	-	17.4	-	8.4	-	-	<1
AECOM	BH55	1-1.2	25/02/2010	Declaration Area - Block 4	-	127	14.9	-	-	-	-	8
AECOM	BH55	2.2-2.4	25/02/2010	Declaration Area - Block 4	-	249	12.8	-	8.5	-	-	<1
AECOM	BH55	2.7-2.9	25/02/2010	Declaration Area - Block 4	-	22	17.6	-	-	-	-	<1
AECOM	BH58	0.15-0.16	17/02/2010	Declaration Area - Block 4	-	-	11.6	-	-	-	-	-
AECOM	BH58	1-1.2	22/02/2010	Declaration Area - Block 4	-	-	17.5	-	8.4	-	-	-
AECOM	BH58	3.2-3.4	22/02/2010	Declaration Area - Block 4	-	-	23.5	-	9.5	-	-	-
AECOM	BH58	5.2-5.4	22/02/2010	Declaration Area - Block 4	<1	-	20.1	-	9.8	-	-	<1
AECOM	BH58	8.6-8.8	22/02/2010	Declaration Area - Block 4	-	-	21	-	9.8	-	1	-
AECOM	BH58	10.2-10.4	22/02/2010	Declaration Area - Block 4	-	-	25.1	-	-	-	-	-
AECOM	BH58	10.8-11.2	22/02/2010	Declaration Area - Block 4	-	-	16.7	-	9.6	-	<0.5	-
AECOM	BH59	0.15-0.16	17/02/2010	Declaration Area - Block 4	-	-	8.1	-	-	-	-	-
AECOM	BH59	1-1.1	22/02/2010	Declaration Area - Block 4	-	-	8.9	-	-	-	-	-
AECOM	BH59	1.9-2	22/02/2010	Declaration Area - Block 4	<1	-	16.6	-	-	-	-	<1
AECOM	BH59	3.4-3.5	22/02/2010	Declaration Area - Block 4	-	-	29	-	8.1	-	1.1	-
AECOM	BH59	4.2-4.3	22/02/2010	Declaration Area - Block 4	<1	-	14.8	-	7.5	-	-	<1
AECOM	BH62	1-1.2	26/02/2010	Declaration Area - Block 5	-	9	9.7	-	-	-	-	<1
AECOM	BH62	3.4-3.8	26/02/2010	Declaration Area - Block 5	-	-	31.1	-	-	-	-	-
AECOM	BH62	5.4-5.6	26/02/2010	Declaration Area - Block 5	-	<1	16.1	-	9.1	-	-	-
AECOM	BH62	8.8-9	26/02/2010	Declaration Area - Block 5	-	-	14.5	-	-	-	-	-
AECOM	BH62	11.8-12	26/02/2010	Declaration Area - Block 5	-	<1	16	-	8.9	-	-	<1
AECOM	BH64	0.15-0.25	01/03/2010	Declaration Area - Block 5	-	-	7.4	-	-	-	-	-
AECOM	BH64	1-1.2	01/03/2010	Declaration Area - Block 5	-	-	15.8	-	-	-	-	-
AECOM	BH64	2.5-2.7	01/03/2010	Declaration Area - Block 5	-	<1	30.5	-	-	-	0.7	-
AECOM	BH64	5.5-5.7	01/03/2010	Declaration Area - Block 5	-	-	19	-	-	-	-	-
AECOM	BH64	10-10.3	01/03/2010	Declaration Area - Block 5	-	-	17.8	-	-	-	-	-
AECOM	BH65	0.15-0.25	23/02/2010	Declaration Area - Block 5	-	-	8.8	-	-	-	-	-
AECOM	BH65	3.4-3.6	24/02/2010	Declaration Area - Block 5	<1	-	38.6	-	-	-	-	<1
AECOM	BH65	8.2-8.6	24/02/2010	Declaration Area - Block 5	-	-	25.5	-	-	-	-	-
AECOM	BH65	11.2-11.4	24/02/2010	Declaration Area - Block 5	<1	-	16.2	-	7.3	-	<0.5	<1
AECOM	BH65	13.4-13.6	24/02/2010	Declaration Area - Block 5	<1	-	13	-	-	-	-	<1
AECOM	BH66	2.3-2.4	24/02/2010	Declaration Area - Block 5	<1	-	27.2	-	9.6	-	<0.5	<1
AECOM	BH66	3.2-3.6	24/02/2010	Declaration Area - Block 5	-	-	25	-	8.4	-	-	-
AECOM	BH66	7-7.2	24/02/2010	Declaration Area - Block 5	-	-	18.7	-	-	-	-	-
AECOM	BH68	2.5-2.9	02/03/2010	Declaration Area - Block 5	-	-	24.2	-	-	-	-	-
AECOM	BH68	4-4.3	02/03/2010	Declaration Area - Block 5	-	-	16.6	-	8.4	-	-	-
AECOM	BH68	7-7.1	02/03/2010	Declaration Area - Block 5	-	-	22.4	-	-	-	-	-
AECOM	BH69	1-1.15	26/02/2010	Declaration Area - Block 5	-	8	7.4	-	-	-	<0.5	<1
AECOM	BH69	4-4.2	26/02/2010	Declaration Area - Block 5	-	-	20.5	-	6.8	-	-	-
AECOM	BH69	10-10.2	26/02/2010	Declaration Area - Block 5	-	<1	14.3	-	8.1	-	-	<1
AECOM	SV09	0.2-0.4	26/02/2010	Declaration Area - Block 5	-	-	12.2	-	4	-	-	-
AECOM	SV09	1.3-1.5	26/02/2010	Declaration Area - Block 5	-	-	28	-	-	-	-	-

Notes
mg/kg = milligrams per kilogram
Adopted Residential Criteria= *NSW DEC SIL_2 (2006), US EPA, 2009. Regional Screening Levels (Residential)
Adopted Commercial Criteria= *NSW DEC SIL_4 (2006), US EPA, 2009. Regional Screening Levels (Industrial)
**NEPM (1999), Schedule B1 - Ecological Investigation Levels Interim urban criterion.
LOR = Limit of Reporting
< denotes result less than LOR
- denotes not analysed
WAD = Weak Acid Dissociable Cyanide
# denotes sum of concentrations not calculable as all <LOR

Table T8
Declaration Area
Proposed Southern Cove
Soil Analytical Results
Metals, BTEX and TPH

					BTEX						Metals															TPH				
					Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	Arsenic	Barium	Beryllium	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Vanadium	Zinc	TPH C6 - C9	TPH C10 - C14	TPH C15 - C28	TPH C29-C36	TPH+C10 - C36 (Sum of total)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Laboratory LOR					0.2	0.2	0.2	0.2	0.2		5	10	1	1	0.5	2	2	5	50		5	0.1	2	5	5	2	50	100	100	50
Adopted Assessment Criteria - Public Domain					1**	50**	130**			25**	200	15000*	40	40	200	200	200	2000	55000*	600	3000	30	600	550*	14000	65**				1000**
Adopted Residential Criteria					1**	50**	130**			25**	40	15000*	80	80	400	400	400	4000		1200	6000	60	2400	550*	28000	65**				1000**
Adopted Commercial Criteria					***1****	***50****	***130****			***25****	***500***	***190000****	***100***	***100***	***500***	***500***	***500***	***5000***	***720000****	***1500***	***7500***	***75***	***3000***	***7200****	***35000***	***65****				***1000****
Consultant	**LocCode**	**Depth**	**Date**	**Area**																										
ERM	BH071	1.5-1.95	02/05/2006	Proposed Southern Cove	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	<5	-	-	<1	-	10	-	18	-	55	-	<0.1	5	-	43	<2	<50	<100	<100	<250
ERM	BH071	3-3.45	02/05/2006	Proposed Southern Cove	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	<5	-	-	<1	-	10	-	21	-	20	-	<0.1	7	-	42	<2	<50	<100	<100	<250
ERM	BH072	0.3-0.5	02/05/2006	Proposed Southern Cove	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	<5	-	-	<1	-	2	-	226	-	7	-	<0.1	5	-	50	<2	<50	<100	<100	<250
ERM	BH072	3-3.45	02/05/2006	Proposed Southern Cove	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	<5	-	-	<1	-	11	-	168	-	23	-	<0.1	7	-	54	<2	<50	120	<100	195
ERM	BH072	9.5-10	02/05/2006	Proposed Southern Cove	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	<5	-	-	<1	-	16	-	12	-	16	-	<0.1	7	-	34	<2	<50	<100	<100	<250
ERM	BH132	1.5-1.95	06/07/2006	Proposed Southern Cove	0.5	<0.2	<0.2	<0.2	<0.2	<0.4	33	-	-	<1	-	42	-	34	-	***12100***	-	<0.1	11	-	45	<2	<50	500	390	915
ERM	BH132	8-8.5	06/07/2006	Proposed Southern Cove	*140*	44.7	*232*	225	120	*345*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1050*	1870	3040	1190	*6100*
ERM	BH156	0.4-0.5	14/08/2006	Proposed Southern Cove	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<50	<100	<100	<250
ERM	BH156	0.9-1	14/08/2006	Proposed Southern Cove	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<50	<100	<100	<250
ERM	BH207	7.45	03/04/2008	Proposed Southern Cove	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<5	-	-	<1	-	9	-	7	-	15	-	0.2	8	-	49	<10	<50	<100	<100	<250
ERM	BH207	12	03/04/2008	Proposed Southern Cove	<0.2	<0.5	<0.5	<0.5	<0.5	<1	8	-	-	<1	-	23	-	37	-	257	-	2.1	6	-	209	<10	<50	430	340	795
ERM	BH207	13.1	03/04/2008	Proposed Southern Cove	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<5	-	-	<1	-	4	-	<5	-	31	-	<0.1	<2	-	263	<10	<50	140	<100	215
ERM	BH207	15	03/04/2008	Proposed Southern Cove	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<5	-	-	<1	-	15	-	<5	-	<5	-	<0.1	4	-	25	<10	<50	<100	<100	<250
ERM	BH210	1.5	18/03/2008	Proposed Southern Cove	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<5	-	-	<1	-	12	-	<5	-	12	-	<0.1	5	-	23	<10	<50	<100	<100	<250
ERM	BH210	15.9	27/03/2008	Proposed Southern Cove	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<5	-	-	<1	-	7	-	<5	-	7	-	<0.1	2	-	20	<10	<50	<100	<100	<250
AECOM	BH40	1-1.2	18/02/2010	Proposed Southern Cove	-	-	-	-	-	-	<5	20	<1	<1	-	9	3	<5	-	-	181	<0.1	4	13	20	-	-	-	-	-
AECOM	BH40	7-7.2	18/02/2010	Proposed Southern Cove	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<5	20	<1	<1	-	7	4	<5	-	-	180	<0.1	5	9	30	<10	<50	<100	<100	<50
AECOM	BH40	13-13.2	18/02/2010	Proposed Southern Cove	-	-	-	-	-	-	<5	<10	<1	<1	-	4	<2	<5	-	-	77	<0.1	<2	8	36	-	-	-	-	-
AECOM	BH40	16.5-16.7	18/02/2010	Proposed Southern Cove	*52*	1.3	14	17.2	5.6	22.8	20	<10	<1	<1	<0.5	22	<2	<5	17800	-	<5	<0.1	<2	86	<5	-	-	-	-	-
AECOM	BH40	17.8-18	18/02/2010	Proposed Southern Cove	0.8	<0.5	1.5	2.4	1	3.4	<5	10	<1	<1	<0.5	5	<2	<5	890	-	<5	<0.1	<2	6	<5	-	-	-	-	-
AECOM	BH40	19-19.4	18/02/2010	Proposed Southern Cove	0.6	<0.5	0.6	<0.5	<0.5	<1	38	20	<1	<1	<0.5	28	<2	<5	24500	-	9	<0.1	2	116	8	<10	<50	<100	<100	<50
AECOM	BH45	0.8-1	23/02/2010	Proposed Southern Cove	-	-	-	-	-	-	<5	70	<1	<1	-	12	5	<5	-	18	283	<0.1	6	17	28	-	-	-	-	-
AECOM	BH45	3.2-3.4	23/02/2010	Proposed Southern Cove	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<5	60	<1	<1	-	16	5	<5	-	13	318	<0.1	7	19	29	10	<50	<100	<100	<50
AECOM	BH45	7.2-7.4	23/02/2010	Proposed Southern Cove	<0.2	<0.5	<0.5	<0.5	<0.5	<1	<5	50	1	<1	<0.5	9	5	5	21800	16	193	<0.1	6	15	51	12	<50	<100	<100	<50
AECOM	BH45	13.2-13.4	23/02/2010	Proposed Southern Cove	-	-	-	-	-	-	<5	40	<1	<1	-	12	5	<5	-	13	297	<0.1	6	18	32	<10	<50	<100	<100	<50

Notes

mg/kg = milligrams per kilogram
Adopted Residential Criteria= NSW DEC SIL_2 (2006), * US EPA, 2009. Regional Screening Levels (Residential), ** NSW EPA (1994) Sensitive Use
Adopted Commercial Criteria= NSW DEC SIL_4 (2006), * US EPA, 2009. Regional Screening Levels (Industrial), ** NSW EPA (1994) Sensitive Use
Adopted Public Domain Criteria= NSW DEC SIL_3 (2006), * US EPA, 2009. Regional Screening Levels (Residential), ** NSW EPA (1994) Sensitive Use
LOR = Limit of Reporting
# denotes sum of concentrations not calculable as all <LOR
< denotes result less than LOR
- denotes not analysed
BTEX = Benzene, Toluene, Ethylbenzene and Total Xylenes
TPH = Total Petroleum Hydrocarbons
Shading = Exceedance of Criteria

Table T9
Declaration Area
Proposed Southern Cove
Soil Analytical Results
PAHs, Phenols, PCBs

	PAH/Phenols																									PAH	Polychlorinated Biphenyls
	2,4-dimethylphenol	2-chloronaphthalene	2-methylnaphthalene	2-methylphenol	2-nitrophenol	3-&4-methylphenol	3-methylcholanthrene	4-chloro-3-methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)&(k)fluoranthene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Phenol	Pyrene	7,12- dimethylbenz(a)anthracene	PCBs (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Laboratory LOR	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.1
Adopted Assessment Criteria - Public Domain	1200*	6300*	310*	3100*									2											40		17000			
Adopted Residential criteria	1200*	6300*	310*	3100*									1*											100		42500			50
Adopted Commercial Criteria	***12000****	***82000****	***4100****	***31000****									***5***											***100***		***42500***			***50***

Consultant	LocCode	Depth	Date	Area																										
ERM	BH071	3-3.45	02/05/2006	Declaration Area - Proposed Southern Cove	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	<0.5	-	<0.1
ERM	BH071	1.5-1.95	02/05/2006	Declaration Area - Proposed Southern Cove	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	<0.5	-	<0.1
ERM	BH072	0.3-0.5	02/05/2006	Declaration Area - Proposed Southern Cove	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	<0.5	-	<0.1
ERM	BH072	3-3.45	02/05/2006	Declaration Area - Proposed Southern Cove	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	<0.5	-	<0.1
ERM	BH072	9.5-10	02/05/2006	Declaration Area - Proposed Southern Cove	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	<0.5	-	<0.1
ERM	BH132	1.5-1.95	06/07/2006	Declaration Area - Proposed Southern Cove	-	-	-	-	-	-	-	-	0.9	3.5	5.4	19.5	*17.1*	-	21.9	8.8	9	14.8	2.3	29.5	2	7.1	3.8	*159.2*	16.1	-	27.5	-	-
ERM	BH132	8-8.5	06/07/2006	Declaration Area - Proposed Southern Cove	-	-	-	-	-	-	-	-	18.4	148	57	45	*28*	-	27.4	11	11.6	37.5	3	77.6	76.9	8.3	825	*1470.3*	228	-	97.6	-	-
ERM	BH156	0.4-0.5	14/08/2006	Declaration Area - Proposed Southern Cove	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	-	<0.5	-	<0.1
ERM	BH156	0.9-1	14/08/2006	Declaration Area - Proposed Southern Cove	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	<0.5	-	-
ERM	BH207	7.45	03/04/2008	Declaration Area - Proposed Southern Cove	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	<0.5	-	<0.1
ERM	BH207	12	03/04/2008	Declaration Area - Proposed Southern Cove	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	2.2	1.9	4.4	*4.8*	-	5.2	2.5	1.7	3.6	0.6	8.8	0.7	2.2	1.2	53.85	4.3	<0.5	9.5	-	-
ERM	BH207	13.1	03/04/2008	Declaration Area - Proposed Southern Cove	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	2.4	2	1.8	1.2	-	1.3	<0.5	<0.5	1.5	<0.5	3.5	2.4	<0.5	6.1	34.25	6.5	<0.5	4.3	-	-
ERM	BH207	15	03/04/2008	Declaration Area - Proposed Southern Cove	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	4.35	<0.5	<0.5	<0.5	-	-
ERM	BH210	1.5	18/03/2008	Declaration Area - Proposed Southern Cove	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	<0.5	-	-
ERM	BH210	15.9	27/03/2008	Declaration Area - Proposed Southern Cove	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	<0.5	-	<0.1
AECOM	BH40	7-7.2	18/02/2010	Declaration Area - Proposed Southern Cove	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	<0.5	-	-
AECOM	BH40	16.5-16.7	18/02/2010	Declaration Area - Proposed Southern Cove	5.9	<0.5	28.6	<0.5	<0.5	3	<0.5	<0.5	2.5	13.1	10	8.4	*6.8*	6	-	2	-	6	0.6	31.8	12.6	2	137	*288.5*	36.6	<0.5	19.2	<0.5	-
AECOM	BH40	17.8-18	18/02/2010	Declaration Area - Proposed Southern Cove	1	<0.5	0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	2.2	0.8	<0.5	<0.5	<0.5	-
AECOM	BH40	19-19.4	18/02/2010	Declaration Area - Proposed Southern Cove	3.1	-	-	1.3	<0.5	2.7	-	<0.5	<0.5	2	2	1.4	0.8	-	0.9	<0.5	<0.5	1.2	<0.5	3.8	2.7	<0.5	10.5	36.55	6.6	<0.5	3.4	-	-
AECOM	BH45	3.2-3.4	23/02/2010	Declaration Area - Proposed Southern Cove	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4.5	0.5	<0.5	<0.5	-	-
AECOM	BH45	13.2-13.4	23/02/2010	Declaration Area - Proposed Southern Cove	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	6.55	1.2	<0.5	1	-	-
AECOM	BH45	7.2-7.4	23/02/2010	Declaration Area - Proposed Southern Cove	<0.5	-	-	<0.5	<0.5	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<8	<0.5	<0.5	<0.5	-	-

Notes
mg/kg = milligrams per kilogram
Adopted Residential Criteria= NSW DEC SIL_2 (2006), * US EPA, 2009. Regional Screening Levels (Residential)
Adopted Commercial Criteria= NSW DEC SIL_4 (2006), * US EPA, 2009. Regional Screening Levels (Industrial)
Adopted Public Domain Criteria= NSW DEC SIL_3 (2006), * US EPA, 2009. Regional Screening Levels (Residential)
LOR = Limit of Reporting
# denotes sum of concentrations not calculable as all <LOR
< denotes result less than LOR
- denotes not analysed

Table T10
Declaration Area
Proposed Southern Cove
Soil Analytical Results
SVOCs, VOCs

				Field_ID	BH40_16.5-16.7	BH40_17.8-18.0
				LocCode	AECOM_BH40	AECOM_BH40
				Sample_Depth	16.5-16.7	17.8-18
				Sampled_Date	18/02/2010	18/02/2010
				Area	Proposed Southern Cove	Proposed Southern Cove
Chem Name	**Units**	**EQL**	**BAC - Residential**	**BAC-Commercial**		
1,2,4-trimethylbenzene	mg/kg	0.5	67	**280**	7.5	1.3
1,3,5-trimethylbenzene	mg/kg	0.5	47	**200**	3	0.6
Isopropylbenzene	mg/kg	0.5	2200	**11000**	<0.5	<0.5
n-butylbenzene	mg/kg	0.5			<0.5	<0.5
n-propylbenzene	mg/kg	0.5			<0.5	<0.5
p-isopropyltoluene	mg/kg	0.5			<0.5	<0.5
sec-butylbenzene	mg/kg	0.5			<0.5	<0.5
Styrene	mg/kg	0.5	6500	**38000**	6.7	0.9
tert-butylbenzene	mg/kg	0.5			<0.5	<0.5
Methyl Ethyl Ketone	mg/kg	5	28000	**190000**	<5	<5
2-hexanone (MBK)	mg/kg	5			<5	<5
4-Methyl-2-pentanone	mg/kg	5	5300	**52000**	<5	<5
Vinyl acetate	mg/kg	5	990	**4200**	<5	<5
Carbon disulfide	mg/kg	0.5	670	**3000**	<0.5	<0.5
1,2-dibromoethane	mg/kg	0.5			-	-
1,2-dichloropropane	mg/kg	0.5	0.93	**4.7**	<0.5	<0.5
2,2-dichloropropane	mg/kg	0.5			<0.5	<0.5
cis-1,3-dichloropropene	mg/kg	0.5			<0.5	<0.5
trans-1,3-dichloropropene	mg/kg	0.5			<0.5	<0.5
1,1,1,2-tetrachloroethane	mg/kg	0.5	2	**9.8**	<0.5	<0.5
1,1,1-trichloroethane	mg/kg	0.5	9000	**39000**	<0.5	<0.5
1,1,2,2-tetrachloroethane	mg/kg	0.5	0.59	**2.9**	<0.5	<0.5
1,1,2-trichloroethane	mg/kg	0.5	1.1	**5.5**	<0.5	<0.5
1,1-dichloroethane	mg/kg	0.5	3.4	**17**	<0.5	<0.5
1,1-dichloroethene	mg/kg	0.5	250	**1100**	<0.5	<0.5
1,1-dichloropropene	mg/kg	0.5			<0.5	<0.5
1,2,3-trichloropropane	mg/kg	0.5	0.091	**0.41**	<0.5	<0.5
1,2-dibromo-3-chloropropan	mg/kg	0.5	0.0056	**0.073**	<0.5	<0.5
1,2-dichloroethane	mg/kg	0.5	0.45	**2.2**	<0.5	<0.5
1,3-dichloropropane	mg/kg	0.5	1600	**20000**	<0.5	<0.5
Bromomethane	mg/kg	5	7.9	**35**	<5	<5
Carbon tetrachloride	mg/kg	0.5	0.25	**1.3**	<0.5	<0.5
Chloroethane	mg/kg	5	15000	**62000**	<5	<5
Chloromethane	mg/kg	5	1.7	**8.4**	<5	<5
cis-1,2-dichloroethene	mg/kg	0.5	780	**10000**	<0.5	<0.5
cis-1,4-Dichloro-2-butene	mg/kg	0.5			<0.5	<0.5
Dibromomethane	mg/kg	0.5	780	**10000**	<0.5	<0.5
Dichlorodifluoromethane	mg/kg	5	190	**780**	<5	<5
Hexachlorobutadiene	mg/kg	0.5	6.2	**22**	-	-
Iodomethane	mg/kg	0.5			<0.5	<0.5
Pentachloroethane	mg/kg	0.5	5.4	**19**	<0.5	<0.5
Trichloroethene	mg/kg	0.5	2.8	**14**	<0.5	<0.5
Tetrachloroethene	mg/kg	0.5	0.57	**2.7**	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.5	110	**500**	<0.5	<0.5
trans-1,4-Dichloro-2-butene	mg/kg	0.5			<0.5	<0.5
Trichlorofluoromethane	mg/kg	5	800	**3400**	<5	<5
Vinyl chloride	mg/kg	5	0.06	**1.7**	<5	<5
1,2,3-trichlorobenzene	mg/kg	0.5	18		<0.5	<0.5
1,2,4-trichlorobenzene	mg/kg	0.5	2000	**400**	-	-
1,2-dichlorobenzene	mg/kg	0.5		**10000**	-	-
1,3-dichlorobenzene	mg/kg	0.5	2.6		-	-
1,4-dichlorobenzene	mg/kg	0.5	1600	**13**	-	-
2-chlorotoluene	mg/kg	0.5	5500	**20000**	<0.5	<0.5
4-chlorotoluene	mg/kg	0.5	94	**72000**	<0.5	<0.5
Bromobenzene	mg/kg	0.5	310	**410**	<0.5	<0.5
Chlorobenzene	mg/kg	0.5	0.3	**1500**	<0.5	<0.5
Bromodichloromethane	mg/kg	0.5	10	**46**	<0.5	<0.5
Bromoform	mg/kg	0.5	61	**220**	<0.5	<0.5
Chlorodibromomethane	mg/kg	0.5	5.8	**21**	<0.5	<0.5
Chloroform	mg/kg	0.5	0.3	**1.5**	<0.5	<0.5
Naphthalene	mg/kg	5	3.9	**20**	-	-
Bis(2-ethylhexyl) phthalate	mg/kg	0.5	35	**120**	<0.5	<0.5
Butyl benzyl phthalate	mg/kg	0.5	260	**910**	<0.5	<0.5
Diethylphthalate	mg/kg	0.5	49000	**490000**	<0.5	<0.5
Dimethyl phthalate	mg/kg	0.5			<0.5	<0.5
Di-n-butyl phthalate	mg/kg	0.5	6100	**62000**	<0.5	<0.5
Di-n-octyl phthalate	mg/kg	0.5			<0.5	<0.5
Methapyrilene	mg/kg	0.5			<0.5	<0.5
N-nitrosodiethylamine	mg/kg	0.5	0.00077	**0.011**	<0.5	<0.5
N-nitrosodi-n-butylamine	mg/kg	0.5	0.093	**0.43**	<0.5	<0.5
N-nitrosodi-n-propylamine	mg/kg	0.5	0.069	**0.25**	<0.5	<0.5
N-Nitrosodiphenyl & Diphen	mg/kg	0.5			<0.5	<0.5
N-Nitrosomethylethylamine	mg/kg	0.5	0.022	**0.078**	<0.5	<0.5
N-nitrosomorpholine	mg/kg	0.5			<0.5	<0.5
N-nitrosopiperidine	mg/kg	0.5			<0.5	<0.5
N-nitrosopyrrolidine	mg/kg	0.5	0.23	**0.82**	<0.5	<0.5
1,3,5-Trinitrobenzene	mg/kg	0.5	2200	**27000**	<0.5	<0.5
1-naphthylamine	mg/kg	0.5			<0.5	<0.5
2,4-Dinitrotoluene	mg/kg	0.5	120	**1200**	<0.5	<0.5
2,6-dinitrotoluene	mg/kg	0.5	61	**620**	<0.5	<0.5
2-Picoline	mg/kg	0.5			<0.5	<0.5
4-(dimethylamino) azobenze	mg/kg	0.5			<0.5	<0.5
4-aminobiphenyl	mg/kg	0.5			<0.5	<0.5
4-Nitroquinoline-N-oxide	mg/kg	0.5			<0.5	<0.5
2-methyl-5-nitroaniline	mg/kg	0.5	15	**52**	<0.5	<0.5

Table T10
Declaration Area
Proposed Southern Cove
Soil Analytical Results
SVOCs, VOCs

				Field_ID	BH40_16.5-16.7	BH40_17.8-18.0
				LocCode	AECOM_BH40	AECOM_BH40
				Sample_Depth	16.5-16.7	17.8-18
				Sampled_Date	18/02/2010	18/02/2010
				Area	Proposed Southern Cove	Proposed Southern Cove
Chem Name	**Units**	**EQL**	**BAC - Residential**	**BAC-Commercial**		
Acetophenone	mg/kg	0.5	7800	**100000**	<0.5	<0.5
Azobenzene	mg/kg	1	4.9	**22**	<1	<1
Chlorobenzilate	mg/kg	0.5	4.4	**16**	<0.5	<0.5
Isophorone	mg/kg	0.5	510	**1800**	<0.5	<0.5
Pentachloronitrobenzene	mg/kg	0.5	1.9	**6.6**	<0.5	<0.5
Phenacetin	mg/kg	0.5			<0.5	<0.5
Pronamide	mg/kg	0.5	4600	**46000**	<0.5	<0.5
4-bromophenyl phenyl ether	mg/kg	0.5			<0.5	<0.5
4-chlorophenyl phenyl ether	mg/kg	0.5			<0.5	<0.5
Bis(2-chloroethoxy) methan	mg/kg	0.5	180	**1800**	<0.5	<0.5
Bis(2-chloroisopropyl) ether	mg/kg	0.5	3.5	**17**	<0.5	<0.5
1,2,4-trichlorobenzene	mg/kg	0.5	2000	**400**	<0.5	<0.5
1,2-dichlorobenzene	mg/kg	0.5		**10000**	<0.5	<0.5
1,3-dichlorobenzene	mg/kg	0.5	2.6		<0.5	<0.5
1,4-dichlorobenzene	mg/kg	0.5	1600	**13**	<0.5	<0.5
Hexachlorobenzene	mg/kg	0.5	49	**1.1**	<0.5	<0.5
Hexachlorobutadiene	mg/kg	0.5	6.2	**22**	<0.5	<0.5
Hexachlorocyclopentadiene	mg/kg	0.5	370	**3700**	<0.5	<0.5
Hexachloroethane	mg/kg	0.5	35	**120**	<0.5	<0.5
Hexachloropropene	mg/kg	0.5			<0.5	<0.5
Pentachlorobenzene	mg/kg	0.5		**490**	<0.5	<0.5
2-nitroaniline	mg/kg	0.5			<0.5	<0.5
3,3-Dichlorobenzidine	mg/kg	0.5	1.1	**3.8**	<0.5	<0.5
3-nitroaniline	mg/kg	0.5	18	**82**	<0.5	<0.5
4-chloroaniline	mg/kg	0.5	9	**32**	<0.5	<0.5
4-nitroaniline	mg/kg	0.5	23	**82**	<0.5	<0.5
Aniline	mg/kg	0.5	85	**300**	<0.5	<0.5
Carbazole	mg/kg	0.5			5.3	<0.5
Dibenzofuran	mg/kg	0.5			8.9	<0.5

Notes
mg/kg = milligrams per kilogram
Adopted Residential Criteria= US EPA, 2009. Regional Screening Levels (Residential)
LOR = Limit of Reporting
# denotes sum of concentrations not calculable as all <LOR
< denotes result less than LOR
- denotes not analysed

Table T11
Declaration Area
Proposed Southern Cove
Soil Analytical Results
Pesticides

	Organochlorine Pesticides																						
	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Laboratory LOR	0.05	0.05	0.05		0.05	0.05	0.05	0.05	0.05	0.2		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2
Adopted Assessment Criteria - Public Domain	1.4	0.077	0.029	20	0.27				2	1.7	400	0.03				18			0.52	0.11	0.053	
Adopted Residential Criteria	1.4	0.077	0.029	20	0.27				2	1.7	400	0.03				18			0.52	0.11	0.053	
Adopted Commercial Criteria	***5.1***	***0.27***	***0.1***	***50***	***0.96***				***7.2***	***7***	***1000***	***0.11***				***180***			***2.1***	***50***	***0.19***	***3100***

Consultant	LocCode	Depth	Date	Area																					
ERM	BH156	0.9-1	14/08/2006	Proposed Southern Cove	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.2
AECOM	BH40	16.5-16.7	18/02/2010	Proposed Southern Cove	<0.5	<0.5	<0.5	<1	<0.5	-	-	<0.5	<0.5	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-
AECOM	BH40	17.8-18	18/02/2010	Proposed Southern Cove	<0.5	<0.5	<0.5	<1	<0.5	-	-	<0.5	<0.5	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-

Notes
mg/kg = milligrams per kilogram
Adopted Public Domain Criteria= *NSW DEC SIL_3 (2006), US EPA, 2009. Regional Screening Levels (Residential)

Adopted Residential Criteria= *NSW DEC SIL_2 (2006), US EPA, 2009. Regional Screening Levels (Residential)

Adopted Commercial Criteria= *NSW DEC SIL_4 (2006), US EPA, 2009. Regional Screening Levels (Industrial)

LOR = Limit of Reporting
# denotes sum of concentrations not calculable as all <LOR
< denotes result less than LOR
- denotes not analysed

Table T11
Declaration Area
Proposed Southern Cove
Soil Analytical Results
Pesticides

					Organophosphorous Pesticides													Pesticides					
					Azinophos methyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Methyl parathion	Monocrotophos	Prothiofos	Bromophos	Chlorobenzilate	Demeton-S-methyl	Fenamiphos	Parathion	Pirimphos-ethyl
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Laboratory LOR					0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.2	0.05	0.05	0.5	0.05	0.05	0.2	0.05
Adopted Assessment Criteria - Public Domain								180	610	55	1.7	12	31		1200					4.4				
Adopted Residential Criteria								130	510	45	1.7	12	24		1200					4.4				
Adopted Commercial Criteria								***1800***	***6200***	***550***	***5.9***	***120***	***310***		***12000***	***150***			***3100***	***16***		***150***	***3700***	
Consultant	**LocCode**	**Depth**	**Date**	**Area**																				
ERM	BH156	0.9-1	14/08/2006	Proposed Southern Cove	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.05	-	<0.05	<0.05	<0.2	<0.05
AECOM	BH40	16.5-16.7	18/02/2010	Proposed Southern Cove	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	-	-	-	<0.5
AECOM	BH40	17.8-18	18/02/2010	Proposed Southern Cove	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	-	-	-	<0.5

Notes
mg/kg = milligrams per kilogram
Adopted Public Domain Criteria= *NSW DEC SIL_3 (2006), US EPA, 2009. Regional Screening Levels (Residential)

Adopted Residential Criteria= *NSW DEC SIL_2 (2006), US EPA, 2009. Regional Screening Levels (Residential)

Adopted Commercial Criteria= *NSW DEC SIL_4 (2006), US EPA, 2009. Regional Screening Levels (Industrial)

LOR = Limit of Reporting
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< denotes result less than LOR
- denotes not analysed

Table T12
Declaration Area
Proposed Southern Cove
Soil Analytical Results
Inorganics

					Inorganics							
					Cyanide (Free)	Cyanide Total	Moisture	Moisture Content (dried @ 103°C)	pH (Lab)	Sulphate	TOC	Weak Acid Dissociable Cyanide
					mg/kg	mg/kg	%	%	pH_Units	mg/kg	%	mg/kg
Laboratory LOR					1	1	1	1	0.1	100	0.5	1
Adopted Assessment Criteria - Public Domain					500	1000*				2000**		
Adopted Residential Criteria					1000	2000*				2000**		
Adopted Commercial Criteria					***1250***	***2500***				***2000****		
Consultant	**LocCode**	**Depth**	**Date**	**Area**								
ERM	BH071	1.5-1.95	02/05/2006	Proposed Southern Cove	-	<1	-	12.2	-	190	-	-
ERM	BH071	3-3.45	02/05/2006	Proposed Southern Cove	-	<1	-	10.6	-	320	-	-
ERM	BH072	0.3-0.5	02/05/2006	Proposed Southern Cove	-	<1	-	4.1	-	<100	-	-
ERM	BH072	3-3.45	02/05/2006	Proposed Southern Cove	-	<1	-	9	-	220	-	-
ERM	BH072	9.5-10	02/05/2006	Proposed Southern Cove	-	<1	-	16.5	-	390	-	-
ERM	BH132	1.5-1.95	06/07/2006	Proposed Southern Cove	-	20.5	-	8.4	-	1150	-	-
ERM	BH132	8-8.5	06/07/2006	Proposed Southern Cove	-	-	-	19.8	-	-	-	-
ERM	BH156	0.4-0.5	14/08/2006	Proposed Southern Cove	-	<1	-	10	-	<100	-	-
ERM	BH156	0.9-1	14/08/2006	Proposed Southern Cove	-	-	-	10	-	-	-	-
ERM	BH207	12	03/04/2008	Proposed Southern Cove	-	<1	38	-	-	2600	-	-
ERM	BH207	13.1	03/04/2008	Proposed Southern Cove	-	<1	11.3	-	-	200	-	-
ERM	BH207	15	03/04/2008	Proposed Southern Cove	-	<1	7.3	-	-	<100	-	-
ERM	BH207	7.45	03/04/2008	Proposed Southern Cove	-	<1	13.8	-	-	290	-	-
ERM	BH210	1.5	18/03/2008	Proposed Southern Cove	-	<1	11.1	-	-	270	-	-
ERM	BH210	15.9	27/03/2008	Proposed Southern Cove	-	<1	16.4	-	-	210	-	-
AECOM	BH40	1-1.2	18/02/2010	Proposed Southern Cove	-	-	9.2	-	8.4	-	-	-
AECOM	BH40	13-13.2	18/02/2010	Proposed Southern Cove	-	-	6.6	-	-	-	-	-
AECOM	BH40	16.5-16.7	18/02/2010	Proposed Southern Cove	<1	-	17.3	-	7.4	-	<0.5	<1
AECOM	BH40	17.8-18	18/02/2010	Proposed Southern Cove	<1	<1	16.3	-	6.4	-	<0.5	-
AECOM	BH40	19-19.4	18/02/2010	Proposed Southern Cove	-	-	19.5	-	6.3	-	-	-
AECOM	BH40	7-7.2	18/02/2010	Proposed Southern Cove	-	-	16	-	7.9	-	-	-
AECOM	BH40	8.5-8.7	18/02/2010	Proposed Southern Cove	-	-	-	-	8.6	-	-	-
AECOM	BH45	0.8-1	23/02/2010	Proposed Southern Cove	-	-	8.7	-	-	-	-	-
AECOM	BH45	13.2-13.4	23/02/2010	Proposed Southern Cove	-	-	18.1	-	-	-	-	-
AECOM	BH45	3.2-3.4	23/02/2010	Proposed Southern Cove	-	-	12.1	-	-	-	-	-
AECOM	BH45	7.2-7.4	23/02/2010	Proposed Southern Cove	<1	-	14.7	-	7.4	-	<0.5	<1

Notes

mg/kg = milligrams per kilogram

Adopted Residential Criteria= *NSW DEC SIL_2 (2006), US EPA, 2009. Regional Screening Levels (Residential)

Adopted Commercial Criteria= *NSW DEC SIL_4 (2006), US EPA, 2009. Regional Screening Levels (Industrial)

**NEPM (1999), Schedule B1 - Ecological Investigation Levels Interim urban criterion.

LOR = Limit of Reporting

< denotes result less than LOR

- denotes not analysed

WAD = Weak Acid Dissociable Cyanide

# denotes sum of concentrations not calculable as all <LOR

Table T13
Declaration Area
Hickson Road
Soil Analytical Results
Metals, TPH and BTEX

| | | |

Table T14
Declaration Area
Hickson Road
Soil Analytical Results
PAH and Phenols

AECOM

					PAH/Phenols																															PAH
					2,4-dimethylphenol	2,4-dinitrophenol	2-chloronaphthalene	2-Fluorobiphenyl	2-methylnaphthalene	2-methylphenol	2-nitrophenol	3-&4-methylphenol	3-methylcholanthrene	4-chloro-3-methylphenol	4-nitrophenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)&(k)fluoranthene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Phenol	P-Terphenyl	Pyrene	7,12-dimethylbenz(a)anthracene
					mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg
Laboratory LOR					0.5		0.5		0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5
Adopted Commercial Criteria					**12000***					**31000***										**5**											**100**		**42500**				
Consultant	**LocCode**	**Sample Depth**	**Sampled Date**	**Area**																																
Coffey	BH4	0.4-0.5	21/02/2008	Hickson Road	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<7	<0.5	<0.5	-	<0.5	<0.5
Coffey	BH4	2.3-2.4	21/02/2008	Hickson Road	<1.2	-	<1.2	-	7.2	<1.2	<1.2	<2.4	<1.2	<1.2	-	<1.2	52.8	12.3	9.4	**11.4**	23	-	8.4	-	8.1	3.9	10.1	<1.2	8.6	4.6	**140.7**	5.3	<1.2	-	4.6	<1.2
Coffey	BH4	4.2-4.3	21/02/2008	Hickson Road	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<7	<0.5	<0.5	-	<0.5	<0.5
Coffey	BH5	0.4-0.5	23/02/2008	Hickson Road	0.8	-	<0.5	-	<0.5	0.5	<0.5	1.9	<0.5	<0.5	-	<0.5	6.4	4.4	11.8	**6.9**	20	-	2.2	-	4.9	<0.5	15.9	<0.5	3.4	0.7	83.65	11.6	0.7	-	14.7	<0.5
Coffey	BH5	1.2-1.3	23/02/2008	Hickson Road	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	0.6	<0.5	<1	-	<0.5	-	<0.5	<0.5	0.8	<0.5	<0.5	1.6	6.85	0.7	<0.5	-	0.9	<0.5
AECOM	BH51	0.4-0.5	06/03/2010	Hickson Road	<0.5	-	-	-	<0.5	<0.5	<0.5	<1	-	<0.5	-	<0.5	<0.5	<0.5	1.3	0.9	-	1.4	0.5	0.7	1.1	<0.5	1.9	<0.5	<0.5	<0.5	10.6	0.8	<0.5	-	2	-
AECOM	BH53	1.1-1.5	06/03/2010	Hickson Road	0.7	-	-	-	<0.5	0.8	<0.5	1.6	-	<0.5	-	5.4	13	25.7	52.3	**38.1**	-	50.4	16.8	13.8	36.1	4.4	142	15.6	14.7	20.8	**668**	91.2	1.2	-	128	-
AECOM	BH53	2-2.4	06/03/2010	Hickson Road	3.8	-	-	-	<0.5	3.2	<0.5	4.3	-	<0.5	-	11.4	28.3	84.8	92.8	**70.7**	-	77.8	23.9	27.5	63.4	7.1	316	56.1	23.2	48.3	**1510**	302	3.5	-	277	-
AECOM	BH53	4-4.4	06/03/2010	Hickson Road	664	-	<2.5	-	757	444	<2.5	872	<2.5	<2.5	-	108	657	343	275	**291**	305	-	53.5	-	257	12.1	747	344	49	4330	**6298.6**	1390	540	-	710	<2.5
AECOM	BH61	2-2.4	07/03/2010	Hickson Road	0.8	-	-	-	2	1.5	<0.5	2.2	-	<0.5	-	4.8	47.6	91.6	217	**162**	-	182	41.5	28	164	13.2	423	23.8	39.5	51.2	**2168.2**	267	<0.5	-	412	-
AECOM	BH61	3-3.4	07/03/2010	Hickson Road	<1.2	-	<1.2	-	81.2	<1.2	<1.2	<2.5	<1.2	<1.2	-	7.3	47.8	30.1	18.9	**14.3**	17	-	4.7	-	14.6	1.3	60.1	38.4	4.2	318	**728.4**	113	<1.2	-	55.7	<1.2
AECOM	BH67	0.4-0.43	06/03/2010	Hickson Road	<0.5	-	-	-	<0.5	<0.5	<0.5	<1	-	<0.5	-	<0.5	3.2	3.4	16.2	**5.5**	-	20.3	6.3	8.7	17.6	1.6	17.7	<0.5	5.3	0.9	**131**	7.9	<0.5	-	16.6	-
Coffey	BH8	0.26-0.4	19/02/2008	Hickson Road	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	-	<0.5	7.4	5.9	24	**16.1**	34	-	4.5	-	7.6	2.5	23	0.8	7.2	0.9	**136.95**	12.6	<0.5	-	24.2	<0.5
Coffey	BH8	0.6-0.7	19/02/2008	Hickson Road	<0.5	-	<0.5	-	1.4	<0.5	<0.5	1.7	<0.5	<0.5	-	<0.5	17.1	11.5	33.5	**31.3**	57	-	4.8	-	10.5	2	62	1.9	9.5	2.3	**274.75**	24.8	0.7	-	63.3	<0.5
Coffey	BH9	0.4-0.5	21/02/2008	Hickson Road	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	0.6	<0.5	<1	-	<0.5	-	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	4.45	<0.5	<0.5	-	0.6	<0.5
Coffey	BH9	0.9-1	21/02/2008	Hickson Road	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	0.6	0.5	2.6	1.2	2	-	0.6	-	1	<0.5	2.6	<0.5	0.7	<0.5	15.1	1.6	<0.5	-	2.7	<0.5
Coffey	MW10	1.9-2	21/02/2008	Hickson Road	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	1.6	2.4	21.1	**8.6**	14	-	1.2	-	7.1	1	16.8	<0.5	2.3	<0.5	87.95	7.6	<0.5	-	17.5	<0.5
Coffey	MW10	4.9-5	21/02/2008	Hickson Road	15.8	-	<1.2	-	102	17.3	<1.2	51.7	<1.2	<1.2	-	212	652	523	934	**278**	698	-	21.8	-	61	9.4	966	662	52	224	**7282.2**	1740	20.8	-	947	<1.2
Coffey	MW10	8.6-8.7	22/02/2008	Hickson Road	875	-	<1.2	-	**7650**	922	<1.2	1900	<1.2	<1.2	-	511	1700	2150	1470	**412**	968	-	26	-	771	20.3	2440	2100	32.5	10200	**29652.8**	5180	1400	-	2640	<1.2
Coffey	MW15	0.4-0.5	10/04/2008	Hickson Road	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<7	<0.5	<0.5	-	<0.5	<0.5
Coffey	MW15	1.4-1.5	10/04/2008	Hickson Road	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<7	<0.5	<0.5	-	<0.5	<0.5
Coffey	MW6	0.8-0.9	20/02/2008	Hickson Road	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<7	<0.5	<0.5	-	<0.5	<0.5
Coffey	MW6	2.5-2.6	20/02/2008	Hickson Road	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	1.9	1.2	3.8	1.7	3	-	0.6	-	1.5	<0.5	5	<0.5	0.8	<0.5	25.4	2.7	<0.5	-	5.2	<0.5
Coffey	MW6	4.4-4.5	20/02/2008	Hickson Road	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<1	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<7	<0.5	<0.5	-	<0.5	<0.5
Coffey	MW7	1.4-1.5	23/02/2008	Hickson Road	<0.5	-	<0.5	-	0.7	<0.5	<0.5	1.4	<0.5	<0.5	-	0.7	7.7	9.6	41.2	**32.1**	49	-	1.4	-	16.1	1.7	36.6	2	6.5	1.6	**267.7**	24.9	0.9	-	35.9	<0.5
Coffey	MW7	3.5-3.6	23/02/2008	Hickson Road	81.3	-	<0.5	-	92.7	17.5	<0.5	63.4	<0.5	<0.5	-	33.7	48.7	28.7	86.7	**59.7**	70	-	2.9	-	8.6	1.7	62.3	39.6	8.6	150	**858.7**	116	16.3	-	48.8	<0.5
Coffey	MW7	4.5-4.6	23/02/2008	Hickson Road	2080	-	<1.2	-	3680	1900	<1.2	4120	<1.2	<1.2	-	210	3060	800	863	**359**	608	-	59.8	-	341	22.9	1470	1160	144	7800	**25957.7**	3350	3680	-	2030	<1.2
Coffey	MW7	5.0-5.1	23/02/2008	Hickson Road	2250	-	<1.2	-	5130	2120	<1.2	4880	<1.2	<1.2	-	282	4140	1200	1240	**677**	1170	-	87.7	-	582	57.2	2160	1980	196	10200	**37081.9**	4870	4170	-	3110	<1.2

Notes
mg/kg = milligrams per kilogram
Adopted Residential Criteria= *NSW DEC SIL_2 (2006), US EPA, 2009. Regional Screening Levels (Residential)

Adopted Commercial Criteria= *NSW DEC SIL_4 (2006), * US EPA, 2009. Regional Screening Levels (Industrial)
LOR = Limit of Reporting
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Table T15
Declaration Area
Hickson Road
Soil Analytical Results
SVOCs

	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Methapyrilene	N-nitrosodiethylamine	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	N-Nitrosodiphenyl & Diphenylamine	N-Nitrosomethylethylamine	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	1,3,5-Trinitrobenzene	1-naphthylamine	2,4-Dinitrotoluene
	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
EQL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
BAC-Commercial	**120**	**910**	**490000**		**62000**			**0.011**	**0.43**	**0.25**		**0.078**			**0.82**	**27000**		**1200**

Field_ID	LocCode	Sample Depth	Sampled Date	Area															
BH53_4.0-4.4	AECOM_BH53	4-4.4	06/03/2010	Hickson Road	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
BH61_3-3.4	AECOM_BH61	3-3.4	07/03/2010	Hickson Road	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2

Notes
mg/kg = milligrams per kilogram
Adopted Commercial Criteria= US EPA, 2009. Regional Screening Levels (Industrial)

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Table T15
Declaration Area
Hickson Road
Soil Analytical Results
SVOCs

	2,6-dinitrotoluene	2-Picoline	4-(dimethylamino) azobenzene	4-aminobiphenyl	4-Nitroquinoline-N-oxide	2-methyl-5-nitroaniline	Acetophenone	Azobenzene	Chlorobenzilate	Isophorone	Pentachloronitrobenzene	Phenacetin	Pronamide	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	Bis(2-chloroethoxy) methane	Bis(2-chloroisopropyl) ether	2-nitroaniline	3,3-Dichlorobenzidine
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
BAC-Commercial	**620**					**52**	**100000**	**22**	**16**	**1800**	**6.6**		**46000**			**1800**	**17**		**3.8**
Field_ID	**LocCode**	**Sample Depth**	**Sampled Date**	**Area**															
BH53_4.0-4.4	AECOM_BH53	4-4.4	06/03/2010	Hickson Road	<2.5	33.9	<2.5	<2.5	<2.5	<2.5	<2.5	<2	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
BH61_3-3.4	AECOM_BH61	3-3.4	07/03/2010	Hickson Road	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2

Notes
mg/kg = milligrams per kilogram
Adopted Commercial Criteria= US EPA, 2009. Regional Screening Levels (Industrial)

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Table T15
Declaration Area
Hickson Road
Soil Analytical Results
SVOCs

	3-nitroaniline	4-chloroaniline	4-nitroaniline	Aniline	Carbazole	Dibenzofuran
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.5	0.5
BAC-Commercial	**82**	**32**	**82**	**300**		

Field_ID	LocCode	Sample Depth	Sampled Date	Area						
BH53_4.0-4.4	AECOM_BH53	4-4.4	06/03/2010	Hickson Road	<2.5	<2.5	<2.5	<2.5	175	274
BH61_3-3.4	AECOM_BH61	3-3.4	07/03/2010	Hickson Road	<1.2	<1.2	<1.2	<1.2	16.5	25.3

Notes
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Table T16
Declaration Area
Hickson Road
VOCs

					1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Vinyl acetate	Carbon disulfide
					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
EQL					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	5	5	5	0.5
BAC-Commercial					**280**	**200**	**11000**					**38000**		**190000**		**52000**	**4200**	**3000**
Field_ID	**LocCode**	**Sample_Depth_Range**	**Sampled_Date-Time**	**Area**														
BH53_4.0-4.4	AECOM_BH53	4-4.4	06/03/2010	Declaration Area - Hickson Road	197	77	<10	<10	<10	<10	<10	191	<10	<100	<100	<100	<100	<10
BH61_3-3.4	AECOM_BH61	3-3.4	07/03/2010	Declaration Area - Hickson Road	8.4	3.1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1

Notes
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Table T16
Declaration Area
Hickson Road
VOCs

					1,2-dichloropropane	2,2-dichloropropane	cis-1,3-dichloropropene	trans-1,3-dichloropropene	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,3-dichloropropane
					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
EQL					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
BAC-Commercial					**4.7**				**9.8**	**39000**	**2.9**	**5.5**	**17**	**1100**		**0.41**	**0.073**	**2.2**	**20000**
Field_ID	**LocCode**	**Sample_Depth_Range**	**Sampled_Date-Time**	**Area**															
BH53_4.0-4.4	AECOM_BH53	4-4.4	06/03/2010	Declaration Area - Hickson Road	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
BH61_3-3.4	AECOM_BH61	3-3.4	07/03/2010	Declaration Area - Hickson Road	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Notes
mg/kg = milligrams per kilogram
Adopted Commercial Criteria= US EPA, 2009. Regional Screening Levels (Industrial)
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Table T16
Declaration Area
Hickson Road
VOCs

					Bromomethane	Carbon tetrachloride	Chloroethane	Chloromethane	cis-1,2-dichloroethene	cis-1,4-Dichloro-2-butene	Dibromomethane	Dichlorodifluoromethane	Hexachlorobutadiene	Iodomethane	Pentachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,4-Dichloro-2-butene
					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
EQL					5	0.5	5	5	0.5	0.5	0.5	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
BAC-Commercial					**35**	**1.3**	**62000**	**8.4**	**10000**		**10000**	**780**	**22**		**19**	**14**	**2.7**	**500**	
Field_ID	**LocCode**	**Sample_Depth_Range**	**Sampled_Date-Time**	**Area**															
BH53_4.0-4.4	AECOM_BH53	4-4.4	06/03/2010	Declaration Area - Hickson Road	<100	<10	<100	<100	<10	<10	<10	<100	<10	<10	<10	<10	<10	<10	<10
BH61_3-3.4	AECOM_BH61	3-3.4	07/03/2010	Declaration Area - Hickson Road	<10	<1	<10	<10	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1

Notes
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Table T16
Declaration Area
Hickson Road
VOCs

					Trichlorofluoromethane	Vinyl chloride	1,2,3-trichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroform
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					5	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
BAC-Commercial					**3400**	**1.7**		**20000**	**72000**	**410**	**1500**	**46**	**220**	**21**	**1.5**
Field_ID	**LocCode**	**Sample_Depth_Range**	**Sampled_Date-Time**	**Area**											
BH53_4.0-4.4	AECOM_BH53	4-4.4	06/03/2010	Declaration Area - Hickson Road	<100	<100	<10	<10	<10	<10	<10	<10	<10	<10	<10
BH61_3-3.4	AECOM_BH61	3-3.4	07/03/2010	Declaration Area - Hickson Road	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1

Notes
mg/kg = milligrams per kilogram
Adopted Commercial Criteria= US EPA, 2009. Regional Screening Levels (Industrial)
LOR = Limit of Reporting
# denotes sum of concentrations not calculable as all <LOR
< denotes result less than LOR
- denotes not analysed

Table T17
Declaration Area
Hickson Road
Soil Analytical Results
Pesticides

	Organochlorine Pesticides																Organophosphorous Pesticides										Pesticides	
	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Prothiofos	Chlorobenzilate	Pirimphos-ethyl
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Laboratory LOR	0.5	0.5	0.5		0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Adopted Commercial Criteria	**5.1**	**0.27**	**0.1**	**50**	**0.96**		**7.2**	**7**	**1000**	**0.11**				**180**	**2.1**	**50**	**0.19**		**1800**	**6200**	**550**	**5.9**	**120**	**310**		**12000**		**16**	

Consultant	LocCode	Sample Depth	Sampled Date	Area																									
AECOM	BH53	4-4.4	06/03/2010	Declaration Area - Hickson Road	<2.5	<2.5	<2.5	<5	<2.5	<2.5	<2.5	<2.5	<7.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.8	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
AECOM	BH61	3-3.4	07/03/2010	Declaration Area - Hickson Road	<1.2	<1.2	<1.2	<2.4	<1.2	<1.2	<1.2	<1.2	<3.6	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.4	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2

Notes
mg/kg = milligrams per kilogram
Adopted Commercial Criteria= *NSW DEC SIL_4 (2006), US EPA, 2009. Regional Screening Levels (Industrial)
LOR = Limit of Reporting
# denotes sum of concentrations not calculable as all <LOR
< denotes result less than LOR
- denotes not analysed

	Cyanide Total	Moisture	pH (Lab)	TOC	Weak Acid Dissociable Cyanide
	mg/kg	%	pH Units	%	mg/kg
Laboratory LOR	1	1	0.1	0.5	1
Adopted Commercial Criteria	**2500**				

Consultant	LocCode	Sample Depth	Sampled Date	Area					
Coffey	BH4	0.4-0.5	21/02/2008	Declaration Area - Hickson Road	-	22.6	-	-	-
Coffey	BH4	2.3-2.4	21/02/2008	Declaration Area - Hickson Road	-	36.4	-	-	-
Coffey	BH4	4.2-4.3	21/02/2008	Declaration Area - Hickson Road	-	14.5	-	-	-
Coffey	BH5	0.4-0.5	23/02/2008	Declaration Area - Hickson Road	-	10.6	-	-	-
Coffey	BH5	1.2-1.3	23/02/2008	Declaration Area - Hickson Road	-	4.1	-	-	-
Coffey	BH8	0.26-0.4	19/02/2008	Declaration Area - Hickson Road	-	6.8	-	-	-
Coffey	BH8	0.6-0.7	19/02/2008	Declaration Area - Hickson Road	-	5.5	-	-	-
Coffey	BH9	0.4-0.5	21/02/2008	Declaration Area - Hickson Road	-	17.2	-	-	-
Coffey	BH9	0.9-1	21/02/2008	Declaration Area - Hickson Road	-	6.2	-	-	-
Coffey	MW10	1.9-2	21/02/2008	Declaration Area - Hickson Road	-	13.5	-	-	-
Coffey	MW10	4.9-5	21/02/2008	Declaration Area - Hickson Road	-	32.7	-	-	-
Coffey	MW10	8.6-8.7	22/02/2008	Declaration Area - Hickson Road	-	31.1	-	-	-
Coffey	MW15	0.4-0.5	10/04/2008	Declaration Area - Hickson Road	-	24.8	-	-	-
Coffey	MW15	1.4-1.5	10/04/2008	Declaration Area - Hickson Road	-	8	-	-	-
Coffey	MW6	0.8-0.9	20/02/2008	Declaration Area - Hickson Road	-	7.2	-	-	-
Coffey	MW6	2.5-2.6	20/02/2008	Declaration Area - Hickson Road	-	6.3	-	-	-
Coffey	MW6	4.4-4.5	20/02/2008	Declaration Area - Hickson Road	-	16.8	-	-	-
AECOM	BH43	0.4-0.5	06/03/2010	Declaration Area - Hickson Road	-	38.6	-	-	-
AECOM	BH51	0.4-0.5	06/03/2010	Declaration Area - Hickson Road	-	13.5	-	-	-
AECOM	BH53	1.1-1.5	06/03/2010	Declaration Area - Hickson Road	-	26.1	8.2	0.8	-
AECOM	BH53	2-2.4	06/03/2010	Declaration Area - Hickson Road	76	30	8.2	-	<1
AECOM	BH53	4-4.4	06/03/2010	Declaration Area - Hickson Road	56	23.5	8.5	1.9	<1
AECOM	BH61	0.3-0.4	06/03/2010	Declaration Area - Hickson Road	-	10.9	7.4	-	-
AECOM	BH61	2-2.4	07/03/2010	Declaration Area - Hickson Road	13	34.2	6.4	<0.5	<1
AECOM	BH61	3-3.4	07/03/2010	Declaration Area - Hickson Road	-	14.5	-	-	-
AECOM	BH67	0.4-0.43	06/03/2010	Declaration Area - Hickson Road	-	14.2	4.4	-	-

Notes
mg/kg = milligrams per kilogram
Adopted Commercial Criteria= *NSW DEC SIL_4 (2006), US EPA, 2009. Regional Screening Levels (Industrial)
LOR = Limit of Reporting
< denotes result less than LOR
- denotes not analysed
WAD = Weak Acid Dissociable Cyanide
# denotes sum of concentrations not calculable as all <LOR

Table T19
Declaration Area
Soil Waste Classification Results

Field_ID							BH36_1.0-1.2		BH40_17.8-18.0		BH42_3.2-3.3		BH48-14.5-14.7		BH52_2.2-2.6		BH53_4.0-4.4		BH54_1.0-1.4		BH55_2.2-2.4		BH56_7.0-7.2		BH60_20.5-20.9		BH62_5.4-5.6		BH64_2.5-2.7		BH69_1.0-1.15		BH119_7.5-8.0
LocCode							AECOM_BH36		AECOM_BH40		AECOM_BH42		AECOM_BH48		AECOM_BH52		AECOM_BH53		AECOM_BH54		AECOM_BH55		AECOM_BH56		AECOM_BH60		AECOM_BH62		AECOM_BH64		AECOM_BH69		BH119
Sample_Depth							1-1.2		17.8-18		3.2-3.3		14.5-14.7		2.2-2.6		4-4.4		1-1.4		2.2-2.4		7-7.2		20.5-20.9		5.4-5.6		2.5-2.7		1-1.15		7.5-8.0
Sampled_Date							03/03/2010		18/02/2010		23/02/2010		23/02/2010		22/02/2010		06/03/2010		23/02/2010		25/02/2010		04/03/2010		02/03/2010		26/02/2010		01/03/2010		26/02/2010		30/06/06
Area							Declaration Area - Block 3		Declaration Area - Proposed Southern Cove		Declaration Area - Block 4		Declaration Area - Block 4		Declaration Area - Block 4		Declaration Area - Hickson Road		Declaration Area - Block 4		Declaration Area - Block 4		Declaration Area - Public Domain		Declaration Area - Public Domain		Declaration Area - Block 5		Declaration Area - Block 5		Declaration Area - Block 5		
			NSW DECC (2008) Waste Classification				SOIL	TCLP	SOIL	TCLP	SOIL	TCLP	SOIL	TCLP	SOIL	TCLP	SOIL	TCLP	SOIL	TCLP	SOIL	TCLP	SOIL	TCLP	SOIL	TCLP	SOIL	TCLP	SOIL	TCLP	SOIL	
ChemName	Units	EQL	CT1/SCC1	CT1/TCLP1	CT2/SCC2	CT2/TCLP2	General Solid		General Solid		Restricted Solid		General Solid		General Solid		Hazardous Waste		Restricted Solid		Restricted Solid		General Solid		General Solid		General Solid		General Solid		General Solid		Restricted Solid
Metals																																
Mercury	mg/kg and mg/L	0.001	50	0.2	200	0.8	<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	0.3	<0.001	<0.1	<0.001	0.2	<0.001	<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	0.2	<0.001	0.1	<0.001	-
Arsenic	mg/kg and mg/L	0.1	500	5	2000	20	<5	<0.1	<5	<0.1	6	<0.1	<5	<0.1	<5	<0.1	<5	<0.1	<5	<0.1	<5	<0.1	<5	<0.1	<5	<0.1	6	<0.1	7	<0.1	<5	<0.1	-
Beryllium	mg/kg and mg/L	0.05	100	1	400	4	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	-
Cadmium	mg/kg and mg/L	0.05	100	1	400	4	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	-
Lead	mg/kg and mg/L	0.1	1500	5	6000	20	17	<0.1	6	<0.1	8	<0.1	12	<0.1	35	<0.1	589	0.1	206	0.1	9	<0.1	66	0.6	<5	<0.1	364	4.2	163	<0.1	104	0.8	-
Nickel	mg/kg and mg/L	0.1	1050	2	4200	8	<2	<0.1	<2	<0.1	<2	<0.1	<2	<0.1	8	<0.1	5	<0.1	3	<0.1	<2	<0.1	<2	<0.1	<2	<0.1	9	<0.1	19	<0.1	8	<0.1	-
PAH																																
Benzo(a) pyrene	mg/kg and µg/L		10	40	23	160	<0.5	<0.5	<0.5	<0.5	113	<3.8	31	<3.7	1.6	<0.5	291	<37.4	533	<3.8	84	<3.7	3.2	<0.5	<0.5	<0.5	2.9	<0.5	-	<0.5	3.4	<0.5	-
TPH																																
C_6-C_9	mg/kg		650	-	2600	-	<10	-	-	-	234	-	90	-	<10	-	3000	-	72	-	304	-	<10	-	<10	-	<10	-	<10	-	<10	-	1140
C_{10}-C_{36}	mg/kg		10000	-	40000	-	<50	-	-	-	22000	-	6400	-	<50	-	86200	-	19600	-	20760	-	1700	-	<50	-	720	-	1230	-	460	-	24440

Notes

mg/L - milligrams pre litre
µg/L - micrograms per litre
mg/kg - milligrams per kilogram
LOR - Laboratory Limit of Reporting
- denotes not analysed
< denotes result less than the LOR

Table T19
Declaration Area
Soil Waste Classification Results

Field_ID							BH119_9.5-10	BH 199/6.0		BH132_1.5-1.95		BH132_8.0-8.8	BH133 1.5_1.95		BH141 1.5_1.95		BH146-1.5-1.95		BH146-4.1-4.6		BH198/3.0		BH199/3.7		BH199/6.0		BH201/10.3		BH202/2.3		BH204/1.0	
LocCode							BH119	BH199		BH132		BH132	BH133		BH141		BH146		BH146		BH198		BH199		BH199		BH201		BH202		BH204	
Sample_Depth							9.5-10.0	6		1.5-1.95		8.0-8.8	1.5-1.95		1.5-1.95		1.5-1.95		4.1-4.6		3		3.7		6		10.3		2.3		1	
Sampled_Date							30/06/06	17/03/2008		06/07/2006		06/07/2006	06/07/2006		07/07/2006		11/07/2006		11/07/2006		12/03/2008		11/03/2008		27/03/2008		23/03/2008		10/03/2008		02/04/2008	
Area								Declaration Area - Block 5		Declaration Area - Proposed Southern Cove		Declaration Area - Proposed Southern Cove	Declaration Area - Block 4		Declaration Area - Block 4		Declaration Area - Block 4		Declaration Area - Block 4		Declaration Area - Block 5		Declaration Area - Block 5		Declaration Area - Block 5		Declaration Area - Block 5		Declaration Area - Block 4		Declaration Area - Block 4	
NSW DECC (2008) Waste Classification							Soil	Soil	TCLP	Soil	TCLP	Soil	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP
ChemName	Units	EQL	CT1/SCC1	CT1/TCLP1	CT2/SCC2	CT2/TCLP2	Restricted Solid	General Solid		Hazardous Waste		Restricted	General Solid		General Solid		General Solid		General Solid		General Solid		General Solid		General Solid		Restricted Solid		General Solid		Restricted Solid	
Metals																																
Mercury	mg/kg and mg/L	0.001	50	0.2	200	0.8	-	<0.1	<0.001	<0.1	<0.001	-	<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	4.6	<0.001	0.4	<0.001	<0.1	<0.001
Arsenic	mg/kg and mg/L	0.1	500	5	2000	20	-	<5	<0.1	33	0.1	-	11	<0.1	<5	<0.1	<5	<0.1	<5	<0.1	5	<0.1	<5	<0.1	<5	<0.1	19	<0.1	8	<0.1	<5	<0.1
Beryllium	mg/kg and mg/L	0.05	100	1	400	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg and mg/L	0.05	100	1	400	4	-	<1	<0.05	<1	<0.05	-	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	1	<0.05	<1	<0.05	<1	<0.05	2	<0.05	<1	<0.05	<1	<0.05
Lead	mg/kg and mg/L	0.1	1500	5	6000	20	-	9	<0.1	12100	197	-	40	<0.1	17	<0.1	5	<0.1	7	<0.1	47	<0.1	24	<0.1	9	<0.1	3190	8.7	579	0.5	44	<0.1
Nickel	mg/kg and mg/L	0.1	1050	2	4200	8	-	4	<0.1	11	0.1	-	<2	<0.1	16	<0.1	<2	<0.1	2	<0.1	28	<0.1	<2	<0.1	4	<0.1	14	<0.1	12	<0.1	<2	<0.1
PAH																																
Benzo(a) pyrene	mg/kg and µg/L		10	40	23	160	-	<0.5	<0.5	17.1	-	-	<0.5	-	24.6	-	<0.5	-	32.9	-	26.3	<0.5	27.4	<3.7	<0.5	<0.5	15.6	<0.5	6.5	<0.5	78.6	<3.9
TPH																																
C_6-C_9	mg/kg		650	-	2600	-	1060	<10	-	<2	-	1050	<2	-	<2	-	2	-	222	-	<10	-	96	-	<10	-	<10	-	<10	-	20	-
C_{10}-C_{36}	mg/kg		10000	-	40000	-	15370	<250	-	915	-	-	<250	-	2260	-	<250	-	7630	-	9490	-	4490	-	<250	-	3305	-	535	-	15580	-

Notes

mg/L - milligrams pre litre
µg/L - micrograms per litre
mg/kg - milligrams per kilogram
LOR - Laboratory Limit of Reporting
- denotes not analysed
< denotes result less than the LOR

Table T19
Declaration Area
Soil Waste Classification Results

			Field_ID	BH204D/1.5		BH204D/4.0	BH205/13.8		BH205/9.3		BH206/10.7		BH206/7.1		BH207/13.1		BH208/2.25		BH209/4.5		BH209/6.1		BH209/9.4		BH210/15.9		BH211/15.5		MW10 4.9-5.0
			LocCode	BH204D		BH204D	BH205		BH205		BH206		BH206		BH207		BH208		BH209		BH209		BH209		BH210		BH211		MW10
			Sample_Depth	1.5		4	13.8		9.3		10.7		7.1		13.1		2.25		4.5		6.1		9.4		15.9		15.5		4.9-5.0
			Sampled_Date	11/04/2008		11/04/2008	07/04/2008		01/04/2008		29/04/2008		17/04/2008		08/04/2008		09/04/2008		29/04/2008		29/04/2008		23/04/2008		01/04/2008		31/03/2008		22/02/08
			Area	Declaration Area - Block 4		Declaration Area - Block 4	Declaration Area - Block 4		Declaration Area - Block 4		Declaration Area - Block 4		Declaration Area - Block 4		Declaration Area - Proposed Southern Cove		Declaration Area - Block 4		Declaration Area - Block 4		Declaration Area - Block 4		Declaration Area - Block 4		Declaration Area - Proposed Southern Cove		Declaration Area - Block 4		Declaration Area - Hickson Road
			NSW DECC (2008) Waste Classification	Soil	TCLP		Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil	TCLP	Soil
ChemName	Units	EQL	CT1/SCC1	CT1/TCLP1	CT2/SCC2	CT2/TCLP2	Hazardous Waste		Hazardous Waste		General Solid		General Solid		General Solid		General Solid		General Solid		General Solid		Restricted Solid		General Solid		General Solid		General Solid		Hazardous Waste
Metals																														
Mercury	mg/kg and mg/L	0.001	50	0.2	200	0.8	4.6	<0.001	-		<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	0.6	<0.001	<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	<0.1	<0.001	-
Arsenic	mg/kg and mg/L	0.1	500	5	2000	20	<5	<0.1	-		<5	<0.1	<5	<0.1	<5	<0.1	<5	<0.1	<5	<0.1	7	<0.1	<5	<0.1	<5	<0.1	<5	<0.1	11	<0.1	-
Beryllium	mg/kg and mg/L	0.05	100	1	400	4	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg and mg/L	0.05	100	1	400	4	<1	<0.05	-		<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	-
Lead	mg/kg and mg/L	0.1	1500	5	6000	20	172	0.2	-		19	<0.1	<5	<0.1	33	<0.1	8	0.2	31	0.2	6	<0.1	18	<0.1	<5	<0.1	<5	<0.1	7	<0.1	5	<0.1	-
Nickel	mg/kg and mg/L	0.1	1050	2	4200	8	40	<0.1	-		<2	<0.1	<2	<0.1	<2	<0.1	<2	<0.1	<2	<0.1	12	<0.1	9	<0.1	<2	<0.1	<2	<0.1	2	<0.1	<2	<0.1	-
PAH																															-
Benzo(a) pyrene	mg/kg and µg/L		10	40	23	160	652	<3.9	-		<0.5	<0.5	15.5	<4	0.7	<0.5	2.1	<2	1.2	<0.5	<0.5	<0.5	11.2	<3.7	9.1	<3.7	<0.5	<2	<0.5	<0.5	<0.5	<0.5	-
TPH																															
C_6-C_9	mg/kg		650	-	2600	-	226	-	-		<10	-	138	-	<10	-	15	-	<10	-	<10	-	227	-	929	-	<10	-	<10	-	19	-	-
C_{10}-C_{36}	mg/kg		10000	-	40000	-	147200	-	42020		<250	-	4850	-	185	-	600	-	215	-	<250	-	3600	-	5060	-	<250	-	<250	-	<250	-	60200

Notes

mg/L - milligrams pre litre
µg/L - micrograms per litre
mg/kg - milligrams per kilogram
LOR - Laboratory Limit of Reporting
- denotes not analysed
< denotes result less than the LOR

			Field_ID	MW10_8.6-8.7			
			LocCode	MW10			
			Sample_Depth	8.6-8.7			
			Sampled_Date	22/02/08			
			Area	Declaration Area - Hickson Road			
			NSW DECC (2008) Waste Classification				Soil
ChemName	Units	EQL	CT1/SCC1	CT1/TCLP1	CT2/SCC2	CT2/TCLP2	Hazardous Waste
Metals							
Mercury	mg/kg and mg/L	0.001	50	0.2	200	0.8	-
Arsenic	mg/kg and mg/L	0.1	500	5	2000	20	-
Beryllium	mg/kg and mg/L	0.05	100	1	400	4	-
Cadmium	mg/kg and mg/L	0.05	100	1	400	4	-
Lead	mg/kg and mg/L	0.1	1500	5	6000	20	-
Nickel	mg/kg and mg/L	0.1	1050	2	4200	8	-
PAH							-
Benzo(a) pyrene	mg/kg and µg/L		10	40	23	160	-
TPH							
C_6-C_9	mg/kg		650	-	2600	-	7590
C_{10}-C_{36}	mg/kg		10000	-	40000	-	181800

Notes

mg/L - milligrams pre litre
µg/L - micrograms per litre
mg/kg - milligrams per kilogram
LOR - Laboratory Limit of Reporting
- denotes not analysed
< denotes result less than the LOR

Table 20
Declaration Area
Soil Analytical Results
Australian Soil Leaching Procedure

		Field_ID	BH36_2.5-2.9	BH42_3.2-3.3	BH48-14.5-14.7	BH52_2.2-2.6	BH54_1.0-1.4	BH59-3.4-3.5
		LocCode	AECOM_BH36	AECOM_BH42	AECOM_BH48	AECOM_BH52	AECOM_BH54	AECOM_BH59
		Sample_Depth	2.5-2.9	3.2-3.3	14.5-14.7	2.2-2.6	1-1.4	3.4-3.5
		Sampled_Date	03/03/2010	23/02/2010	23/02/2010	22/02/2010	23/02/2010	22/02/2010
		Area	Declaration Area - Block 3	Declaration Area - Block 4	Declaration Area - Block 4	Declaration Area - Block 4	Declaration Area - Block 4	Declaration Area - Block 4
ChemName	Units	LOR						
PAHs								
Acenaphthene	µg/L	1	<1	48.5	39.5	1.1	98	45.9
Acenaphthylene	µg/L	1	<1	265	266	4.5	184	258
Anthracene	µg/L	1	<1	28.9	28.5	1.8	32.5	32.2
Benz(a)anthracene	µg/L	1	<1	<3.8	<3.7	<1	<3.8	<3.7
Benzo(a) pyrene	µg/L	0.5	<0.5	<3.8	<3.7	<0.5	<3.8	<3.7
Benzo(b)fluoranthene	µg/L	1	<1	<3.8	<3.7	<1	<3.8	<3.7
Benzo(g,h,i)perylene	µg/L	1	<1	<3.8	<3.7	<1	<3.8	<3.7
Benzo(k)fluoranthene	µg/L	1	<1	<3.8	<3.7	<1	<3.8	<3.7
Chrysene	µg/L	1	<1	<3.8	<3.7	<1	<3.8	<3.7
Dibenz(a,h)anthracene	µg/L	1	<1	<3.8	<3.7	<1	<3.8	<3.7
Fluoranthene	µg/L	1	<1	14.9	9.7	2.5	20.7	15.4
Fluorene	µg/L	1	1.2	164	124	5.6	168	163
Indeno(1,2,3-c,d)pyrene	µg/L	1	<1	<3.8	<3.7	<1	<3.8	<3.7
Naphthalene	µg/L	1	3.7	5210	4040	32.4	8550	5220
Phenanthrene	µg/L	1	3.8	134	115	8	151	172
Pyrene	µg/L	1	<1	12.4	6.6	1.8	14.5	12
Metals								
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.001	0.002	0.002	<0.001	0.002	0.017	0.001
Barium	mg/L	0.001	1.08	0.753	0.143	1.12	1.95	0.596
Beryllium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001
Chromium (III+VI)	mg/L	0.001	0.005	0.006	<0.001	0.006	0.02	0.002
Cobalt	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001
Copper	mg/L	0.001	0.005	0.002	<0.001	0.004	0.016	<0.001
Lead	mg/L	0.001	0.022	0.006	<0.001	0.009	0.015	<0.001
Manganese	mg/L	0.001	0.02	0.004	<0.001	0.011	0.054	0.005
Nickel	mg/L	0.001	0.002	0.001	<0.001	0.002	0.008	<0.001
Vanadium	mg/L	0.01	<0.01	0.01	<0.01	0.03	0.12	<0.01
Zinc	mg/L	0.005	0.389	0.168	0.059	0.476	0.908	0.081

Notes

mg/L - milligrams pre litre
µg/L - micrograms per litre
LOR - Laboratory Limit of Reporting
- denotes not analysed
< denotes result less than the LOR

Table 20
Declaration Area
Soil Analytical Results
Australian Soil Leaching Procedure

		Field_ID	BH36_2.5-2.9
		LocCode	AECOM_BH36
		Sample_Depth	2.5-2.9
		Sampled_Date	03/03/2010
		Area	Declaration Area - Block 3
ChemName	Units	LOR	
PAHs			
Acenaphthene	µg/L	1	<1
Acenaphthylene	µg/L	1	<1
Anthracene	µg/L	1	<1
Benz(a)anthracene	µg/L	1	<1
Benzo(a) pyrene	µg/L	0.5	<0.5
Benzo(b)fluoranthene	µg/L	1	<1
Benzo(g,h,i)perylene	µg/L	1	<1
Benzo(k)fluoranthene	µg/L	1	<1
Chrysene	µg/L	1	<1
Dibenz(a,h)anthracene	µg/L	1	<1
Fluoranthene	µg/L	1	<1
Fluorene	µg/L	1	1.2
Indeno(1,2,3-c,d)pyrene	µg/L	1	<1
Naphthalene	µg/L	1	3.7
Phenanthrene	µg/L	1	3.8
Pyrene	µg/L	1	<1
Metals			
Mercury	mg/L	0.0001	<0.0001
Arsenic	mg/L	0.001	0.002
Barium	mg/L	0.001	1.08
Beryllium	mg/L	0.001	<0.001
Cadmium	mg/L	0.0001	<0.0001
Chromium (III+VI)	mg/L	0.001	0.005
Cobalt	mg/L	0.001	<0.001
Copper	mg/L	0.001	0.005
Lead	mg/L	0.001	0.022
Manganese	mg/L	0.001	0.02
Nickel	mg/L	0.001	0.002
Vanadium	mg/L	0.01	<0.01
Zinc	mg/L	0.005	0.389

Notes

mg/L - milligrams pre litre
µg/L - micrograms per litre
LOR - Laboratory Limit of Reporting
- denotes not analysed
< denotes result less than the LOR

Table T21
Declaration Area
Soil Analytical Results
Asbestos

		Consultant	ERM	ERM	ERM	ERM	ERM	ERM
		Field_ID	BH198/3.0	BH198/5.2	BH199/2.7	BH200/1.0	BH201/2.2	BH201/5.5
		Sampled_Date-Time	06/03/2010	06/03/2010	11/03/2008	07/04/2008	04/03/2008	18/03/2008
		Batch	-	-	-	-	-	-
		Area	Declaration Area - Block 5	Declaration Area - Block 5	Declaration Area - Block 5	Declaration Area - Block 4	Declaration Area - Block 5	Declaration Area - Block 4
Method_Type	ChemName	Detected						
Asbestos Identification in bulk solids	Asbestos fibres	Yes/No	No	No	No	No	No	No
Type			-	-	-	-	-	-

Notes
UMF - Unidentified Mineral Fibre

		Consultant	ERM	ERM	ERM	ERM	ERM	ERM
		Field_ID	BH202/4.7	BH203/1.5	BH204D/1.5	BH206/1.8	BH207/7.45	BH208/1.5
		Sampled_Date-Time	10/03/2008	10/03/2008	07/04/2008	17/04/2008	03/04/2008	04/04/2008
		Batch	-	-	-	-	-	-
		Area	Declaration Area - Block 4	Declaration Area - Block 4	Declaration Area - Block 4	Declaration Area - Block 4	Declaration Area- Proposed Southern Cove	Declaration Area - Block 4
Method_Type	ChemName	Detected						
Asbestos Identification in bulk solids	Asbestos fibres	Yes/No	No	Yes	No	No	No	No
Type			-	mosite and Chrysoti	-	-	-	-

Notes
UMF - Unidentified Mineral Fibre

Table T21
Declaration Area
Soil Analytical Results
Asbestos

		Consultant	AECOM	AECOM	AECOM	AECOM	AECOM
		Field_ID	BH42_2.0-2.1	BH48-11.5-11.7	BH66_1.9-2.0	BH68_1.0-1.3	BH69_4.0-4.2
		Sampled_Date-Time	23/02/2010	23/02/2010	24/02/2010	02/03/2010	26/02/2010
		Batch	ES1003672	ES1003671	ES1003672	ES1004018	ES1003971
		Area	Declaration Area - Block 4	Declaration Area - Block 4	Declaration Area - Block 5	Declaration Area - Block 5	Declaration Area Block 5
Method_Type	ChemName	Detected					
Asbestos Identification in bulk solids	Asbestos fibres	Yes/No	No	Yes	No	No	No
Type			-	UMF	-	-	-

Notes
UMF - Unidentified Mineral Fibre

Table 22
Declaration Area
Soil Analytical Results
Acid Sulfate Soils

		Consultant	AECOM	AECOM
		Field_ID	BH49-6.2-6.4	BH68_7.3-7.5
		Sampled_Date-Time	22/02/2010	02/03/2010
		Area	Declaration Area - Block 4	Declaration Area - Block 5
ChemName	Units	EQL		
Acid Reacted Calcium	% Ca	0.02	4.86	0.1
Acid Reacted Magnesium	% Mg	0.02	0.19	0.03
acidity - Acid Reacted Calcium	mole H+/t	10	2420	51
acidity - Acid Reacted Magnesium	mole H+/t	10	157	24
acidity - Excess Acid Neutralising Capacity	mole H+/t	10	1630	-
acidity - Peroxide Oxidisable Sulfur	mole H+/t	10	758	26
ANC Fineness Factor	-	0.5	1.5	1.5
Calcium in Peroxide	% Ca	0.02	5.12	0.22
Excess Acid Neutralising Capacity	%S	0.02	8.16	-
KCl Extractable Calcium	% Ca	0.02	0.26	0.12
KCl Extractable Magnesium	% Mg	0.02	0.13	0.02
KCl Extractable Sulfur	% S	0.02	0.13	<0.02
Liming Rate	kg CaCO3/t	1	<1	5
Magnesium in Peroxide	% Mg	0.02	0.32	0.05
Net Acidity (acidity units)	mole H+/t	10	<10	64
Net Acidity (sulfur units)	% S	0.02	<0.02	0.1
Peroxide Oxidisable Sulfur	% S	0.02	1.21	0.04
pH (KCl)	pH Unit	0.1	8.7	9.2
pH (Ox)	pH Unit	0.1	7.5	4.1
sulfidic - Acid Reacted Calcium	% S	0.02	3.89	0.08
sulfidic - Acid Reacted Magnesium	% S	0.02	0.25	0.04
sulfidic - Excess Acid Neutralising Capacity	%S	0.02	2.61	-
sulfidic - Titratable Actual Acidity	% pyrite S	0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity	% pyrite S	0.02	<0.02	0.13
sulfidic - Titratable Sulfidic Acidity	% pyrite S	0.02	<0.02	0.13
Sulfur in Peroxide	% S	0.02	1.34	0.04
Titratable Actual Acidity	mole H+/t	2	<2	<2
Titratable Peroxide Acidity	mole H+/t	2	<2	83
Titratable Sulfidic Acidity	mole H+/t	2	<2	83

Notes
mg/L - milligrams per litre
(µg/L) - micrograms per litre
- denotes not analysed
< denotes concentration less than LOR
LOR - Laboratory Limit of Reporting
Ca-Calcium
Mg - Magnesium
S - Sulfate
CaCO3 - Calcium Carbonate

Table T23
VMP and PDA Remediation Area
Soil Vapour Analytical Data Summary

B

				Field_ID	SV05/0.7	SV05/1.7	SV06	SV07/0.6	SV07/1.6	QC1	*RPD*	SV08	QC2	*RPD*	SV09	SV10	SV11/0.5	SV11/1.5
				LocCode														
				WellCode	SV05	SV05	SV06	SV07	SV07		*%*	SV08		*%*	SV09	SV10	SV11	SV11
				Sampled_Date-Time	03/18/2010	03/18/2010	03/18/2010	03/18/2010	03/18/2010	03/18/2010		03/18/2010	03/18/2010		03/18/2010	03/18/2010	03/18/2010	03/18/2010
ChemName	**Units**	**EQL**	**Ambient Air Screening Level**	**Soil Vapour Screening Level**														
1,2-Dichlorotetrafluoroethane-Freon 114	µg/m3	2.8	**23300**	233000	<14	<14	<14	<14	<14	<14	*nc*	<14	<14	*nc*	<14	<14	<14	<14
1,3-Butadiene	µg/m3	0.88	**0.03**	0.3	<4.42	<4.42	<4.42	<4.42	<4.42	<4.42	*nc*	<4.42	<4.42	*nc*	<4.42	<4.42	<4.42	<4.42
Freon 113	µg/m3	3.1	**25600**	256000	<15.3	<15.3	<15.3	<15.3	<15.3	<15.3	*nc*	<15.3	<15.3	*nc*	<15.3	<15.3	<15.3	<15.3
Benzene	µg/m3	1.3	**10**	100	<6.39	<6.39	<6.39	<6.39	<6.39	<6.39	*nc*	<6.39	<6.39	*nc*	<6.39	<6.39	<6.39	<6.39
Ethylbenzene	µg/m3	1.7	**22000**	220000	<8.68	<8.68	<8.68	<8.68	<8.68	<8.68	*nc*	<8.68	<8.68	*nc*	<8.68	<8.68	<8.68	<8.68
Toluene	µg/m3	1.5	**380**	3800	11.7	56.5	41.5	<7.54	23.4	36.9	*45*	10.6	9.42	*12*	<7.54	41.5	21.1	25.2
Xylene (o)	µg/m3	1.7			<8.68	<8.68	<8.68	<8.68	<8.68	<8.68	*nc*	<8.68	<8.68	*nc*	<8.68	<8.68	<8.68	<8.68
Xylene (m & p)	µg/m3	3.5			<17.4	<17.4	<17.4	<17.4	<17.4	<17.4	*nc*	<17.4	<17.4	*nc*	<17.4	<17.4	<17.4	<17.4
Total Xylene	µg/m3	5.2	**750**	7500	<26.1	<26.1	<26.1	<26.1	<26.1	<26.1	*nc*	<26.1	<26.1	*nc*	<26.1	<26.1	<26.1	<26.1
1,1,1-trichloroethane	µg/m3	2.2	**480**	4800	<10.9	<10.9	<10.9	<10.9	<10.9	<10.9	*nc*	<10.9	<10.9	*nc*	<10.9	<10.9	<10.9	<10.9
1,1,2,2-tetrachloroethane	µg/m3	2.7	**0.3**	3	<13.7	<13.7	<13.7	<13.7	<13.7	<13.7	*nc*	<13.7	<13.7	*nc*	<13.7	<13.7	<13.7	<13.7
1,1,2-trichloroethane	µg/m3	2.2	**183**	1830	<10.9	<10.9	<10.9	<10.9	<10.9	<10.9	*nc*	<10.9	<10.9	*nc*	<10.9	<10.9	<10.9	<10.9
1,1-dichloroethane	µg/m3	1.6	**1370**	13700	<8.09	<8.09	<8.09	<8.09	<8.09	<8.09	*nc*	<8.09	<8.09	*nc*	<8.09	<8.09	<8.09	<8.09
1,1-dichloroethene	µg/m3	1.6	**200**	2000	<7.93	<7.93	<7.93	<7.93	<7.93	<7.93	*nc*	<7.93	<7.93	*nc*	<7.93	<7.93	<7.93	<7.93
1,2-dichloroethane	µg/m3	1.6	**0.36**	3.6	<8.09	<8.09	<8.09	<8.09	<8.09	<8.09	*nc*	<8.09	<8.09	*nc*	<8.09	<8.09	<8.09	<8.09
1,2-dichloropropane	µg/m3	1.8	**4**	40	<9.24	<9.24	<9.24	<9.24	<9.24	<9.24	*nc*	<9.24	<9.24	*nc*	<9.24	<9.24	<9.24	<9.24
Carbon tetrachloride	µg/m3	2.5	**6.1**	61	<12.6	<12.6	<12.6	<12.6	<12.6	<12.6	*nc*	<12.6	<12.6	*nc*	<12.6	<12.6	<12.6	<12.6
Chloroethane	µg/m3	1.1	**40000**	400000	<5.28	<5.28	<5.28	<5.28	<5.28	<5.28	*nc*	<5.28	<5.28	*nc*	<5.28	<5.28	<5.28	<5.28
Chloroform	µg/m3	2	**53**	530	<9.77	<9.77	<9.77	<9.77	12.2	<9.77	*nc*	<9.77	<9.77	*nc*	13.2	<9.77	<9.77	<9.77
cis-1,2-dichloroethene	µg/m3	1.6	**81**	810	<7.93	<7.93	<7.93	<7.93	<7.93	<7.93	*nc*	<7.93	<7.93	*nc*	<7.93	<7.93	<7.93	<7.93
cis-1,3-dichloropropene	µg/m3	1.8	**15**	150	<9.08	<9.08	<9.08	<9.08	<9.08	<9.08	*nc*	<9.08	<9.08	*nc*	<9.08	<9.08	<9.08	<9.08
Dichloromethane	µg/m3	14	**3000**	30000	<69.5	<69.5	<69.5	<69.5	<69.5	<69.5	*nc*	<69.5	<69.5	*nc*	<69.5	<69.5	<69.5	<69.5
Hexachlorobutadiene	µg/m3	4.3	**0.7**	7	<21.3	<21.3	<21.3	<21.3	<21.3	<21.3	*nc*	<21.3	<21.3	*nc*	<21.3	<21.3	<21.3	<21.3
Trichloroethene	µg/m3	2.1	**2.3**	23	<10.7	<10.7	<10.7	<10.7	<10.7	<10.7	*nc*	<10.7	<10.7	*nc*	<10.7	<10.7	<10.7	<10.7
Tetrachloroethene	µg/m3	2.7	**680**	6800	<13.6	13.6	<13.6	<13.6	<13.6	<13.6	*nc*	<13.6	<13.6	*nc*	<13.6	<13.6	<13.6	<13.6
trans-1,3-dichloropropene	µg/m3	1.8	**15**	150	<9.08	<9.08	<9.08	<9.08	<9.08	<9.08	*nc*	<9.08	<9.08	*nc*	<9.08	<9.08	<9.08	<9.08
Vinyl chloride	µg/m3	1	**1**	10	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	*nc*	<5.11	<5.11	*nc*	<5.11	<5.11	<5.11	<5.11
1,2,4-trichlorobenzene	µg/m3	3	**50**	500	<14.8	<14.8	<14.8	<14.8	<14.8	<14.8	*nc*	<14.8	<14.8	*nc*	<14.8	<14.8	<14.8	<14.8
1,2-dichlorobenzene	µg/m3	2.4	**500**	5000	<12	<12	<12	<12	<12	<12	*nc*	<12	<12	*nc*	<12	<12	<12	<12
1,3-dichlorobenzene	µg/m3	2.4			<12	<12	<12	<12	<12	<12	*nc*	<12	<12	*nc*	<12	<12	<12	<12
1,4-dichlorobenzene	µg/m3	2.4	**1000**	10000	<12	<12	<12	<12	<12	<12	*nc*	<12	<12	*nc*	<12	<12	<12	<12
Chlorobenzene	µg/m3	1.8	**153**	1530	<9.21	<9.21	<9.21	<9.21	<9.21	<9.21	*nc*	<9.21	<9.21	*nc*	<9.21	<9.21	<9.21	<9.21
1,2-dibromoethane	µg/m3	3.1	**0.003**	0.03	<15.4	<15.4	<15.4	<15.4	<15.4	<15.4	*nc*	<15.4	<15.4	*nc*	<15.4	<15.4	<15.4	<15.4
Trichlorofluoromethane	µg/m3	2.2	**18700**	187000	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	*nc*	<11.2	<11.2	*nc*	<11.2	<11.2	<11.2	<11.2
1,2,4-trimethylbenzene	µg/m3	2			<9.83	<9.83	<9.83	<9.83	<9.83	<9.83	*nc*	<9.83	<9.83	*nc*	<9.83	<9.83	<9.83	<9.83
1,3,5-trimethylbenzene	µg/m3	2			<9.83	<9.83	<9.83	<9.83	<9.83	<9.83	*nc*	<9.83	<9.83	*nc*	<9.83	<9.83	<9.83	<9.83
Styrene	µg/m3	1.7	**260**	2600	<8.52	<8.52	<8.52	<8.52	<8.52	<8.52	*nc*	<8.52	<8.52	*nc*	<8.52	<8.52	<8.52	<8.52
Naphthalene	µg/m3	21	**3.7**	37	**173**	**383**	**36.7**	<21	<21	<21	*nc*	**47.2**	**36.7**	*25*	**21**	**31.5**	**152**	**157**
Acrylonitrile (2-Propenenitrile)	µg/m3	0.87	**14.3**	143	<4.34	<4.34	<4.34	<4.34	<4.34	<4.34	*nc*	<4.34	<4.34	*nc*	<4.34	<4.34	<4.34	<4.34
Bromomethane	µg/m3	1.5	**5**	50	<7.77	<7.77	<7.77	<7.77	<7.77	<7.77	*nc*	<7.77	<7.77	*nc*	<7.77	<7.77	<7.77	<7.77
Chloromethane	µg/m3	0.83	**100**	1000	<4.13	<4.13	<4.13	<4.13	<4.13	<4.13	*nc*	<4.13	<4.13	*nc*	<4.13	<4.13	<4.13	<4.13
Dichlorodifluoromethane	µg/m3	4	**16500**	165000	<19.8	<19.8	<19.8	<19.8	<19.8	<19.8	*nc*	<19.8	<19.8	*nc*	<19.8	<19.8	<19.8	<19.8

Notes
µg/m3 - micrograms per metre cubed
LOR - Limit of Reporting
< result less than laboratory LOR
Shading indicates result greater than Screening Levels

Table T24
Declaration Area
Field Groundwater Quality Parameters

Monitoring Well	Date	Purge	Volume Purged (L)	Dissolved Oxygen (mg/L)	Conductivity (µs/cm)	pH	Redox. (mV)	Temp. (^{0}C)
BH3 (Coffey)	20/3/10	Pre	0.5	1.35	6300	4.62	107.0	22.1
		Post	2.0	1.22	6540	4.56	97.0	22.1
BH6 (Coffey)	20/3/10	Pre	0.5	0.98	36700	6.42	84.0	23.4
		Post	3.5	0.76	37700	6.48	100.0	23.4
MW40 (AECOM)	20/3/10	Pre	0.5	1.11	26800	6.68	-95.0	27.5
		Post	3.0	0.43	34100	6.65	-97.0	26.5
MW45 (AECOM)	19/3/10	Pre	0.5	2.74	36500	6.01	-57.0	26.4
		Post	6.0	0.14	39100	5.55	-18.0	23.7
MW52 (AECOM)	19/3/10	Pre	0.5	1.83	46000	6.72	222.0	24.0
		Post	6.0	0.35	47700	7.27	91.0	25.5
MW54 (AECOM)	18/3/10	Pre	0.5	0.94	2095	6.74	-50.0	28.1
		Post	4.5	0.03	1591	6.06	-15.0	26.8
MW56 (AECOM)	17/3/10	Pre	0.5	1.64	43000	6.16	-41.0	21.2
		Post	3.0	1.00	43000	5.35	23.0	21.5
MW58 (AECOM)	17/3/10	Pre	0.5	1.41	34500	6.60	-55.0	29.4
		Post	3.5	0.96	37500	5.91	-17.0	29.6
MW60 (AECOM)	18/3/10	Pre	0.5	1.81	45900	6.30	-35.0	27.4
		Post	6.0	0.44	46900	4.23	120.0	23.8
MW61 (AECOM)	20/3/10	Pre	0.5	0.27	333	5.96	-33.0	25.5
		Post	WQM malfunction					
MW62 (AECOM)	18/3/10	Pre	0.5	1.81	45900	6.30	-35.0	27.4
		Post	6.0	0.44	46900	4.23	120.0	23.8
MW64 (AECOM)	17/3/10	Pre	0.5	0.18	37700	6.78	-198.0	27.2
		Post	3.0	0.03	34900	7.16	-246.0	27.4
MW68 (AECOM)	18/3/10	Pre	0.5	0.71	33900	7.06	-102.0	31.3
		Post	3.0	0.08	33900	6.85	-130.0	26.8
MW69 (AECOM)	19/3/10	Pre	2.0	0.27	25900	6.69	-110.0	26.4
		Post	54.0	0.15	24900	6.97	-135.0	22.9
MW74 (AECOM)	18/3/10	Pre	0.5	3.02	43200	6.11	53.0	24.2
		Post	3.5	0.14	44600	6.34	-149.0	23.9
MW15 (ERM)	15/03/10	Pre	0.5	0.72	2700	6.85	-135.0	24.1
		Post	3.5	0.01	2360	6.86	-177.0	24.6
MW198 (ERM)	16/3/10	Pre	0.5	1.02	7280	6.30	-31.0	22.6
		Post	3.0	0.20	6780	5.84	-5.0	22.6
MW200 (ERM)	16/3/10	Pre	0.5	1.28	8840	6.39	-71.0	24.5
		Post	3.5	0.06	11540	6.35	-106.0	24.4
MW204S (ERM)	15/3/10	Pre	0.5	1.02	863	6.54	-61.0	24.5
		Post	4.0	0.66	645	6.71	-86.0	24.6
MW210 (ERM)	16/3/10	Pre	0.5	1.82	13450	6.28	-100.0	28.8
		Post	5.0	0.10	38600	6.40	-108.0	24.8
MW209 (ERM)	16/3/10	Pre	0.5	0.48	41200	6.91	-227.0	26.1
		Post	3.5	0.15	43100	6.94	-268.0	24.4

Notes :
Pre: Pre-purge water quality parameter readings
Post: Post-purge water quality parameter readings
ERM: Monitoring wells installed by ERM
Coffey: Monitoring wells installed by Coffey
AECOM: Monitoring wells installed by AECOM
mg/L - milligrams per litre
mV -miilivolts
uS/cm - micro-siemens/cm
WQM - Water Quality Meter

			Consultant	Coffey	Coffey	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM
			Field_ID	BH3	BH6	MW15	MW198	MW200	MW204S	MW205	MW206	MW209	MW210	MW40	MW45	MW52	MW54	MW56	MW58	MW60	MW61
			Sampled_Date	20/03/10	20/03/10	15/03/10	16/03/10	16/03/10	15/03/10	17/03/10	19/03/10	16/03/10	16/03/10	20/03/10	19/03/10	19/03/10	19/03/10	17/03/10	17/03/10	18/03/10	20/03/10
ChemName	Units	EQL	ANZECC (2000) Ecosystems Marine Water (95%)	Declaration Area - Hickson Road	Declaration Area - Hickson Road	Declaration Area - Block 4	Declaration - Block 5	Declaration Area - Block 4	Declaration Area - Block 4	Declaration Area - Block 4 (NAPL Sample)	Declaration Area - Block 4 (NAPL Sample)	Declaration Area - Block 4	Declaration - Proposed Southern Cove	Down gradient of Declaration Area - Proposed Southern Cove	Declaration - Proposed Southern Cove	Declaration Area - Block 4	Declaration Area - Block 4	Down gradient of Declaration Area - Public Domain	Declaration Area - Block 4	Down gradient of Declaration Area - Public Domain	Declaration Area - Hickson Road
Metals																					
Arsenic (Filtered)	mg/L	0.0002		0.022	0.0008	0.0033	0.0035	0.0034	0.0023	-	-	0.0029	0.0014	0.0052	0.0011	0.0021	0.0054	0.0025	0.0024	0.0045	0.0004
Barium (Filtered)	mg/L	0.0005		0.0421	0.043	0.293	0.0714	0.0918	0.0866	-	-	0.083	0.081	0.468	0.062	0.074	0.136	0.464	1.85	0.094	0.0666
Beryllium (Filtered)	mg/L	0.0001		0.0003	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	0.0002	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0013	<0.0001	0.0021	<0.0001
Cadmium (Filtered)	mg/L	0.00005	0.0055	0.00395	0.0006	0.00008	0.00005	0.00027	0.00006	-	-	0.0004	<0.0002	0.0004	0.0115	<0.0002	<0.00005	0.0017	0.0034	0.0008	0.00006
Calcium (Filtered)	mg/L	1		47	348	95	163	130	11	-	-	383	474	540	588	487	92	-	309	-	19
Chromium (hexavalent)	µg/L	2	0.0044	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	0.005	<0.002	0.016	<0.002	0.003	0.019	<0.002	<0.002	0.011	<0.002
Chromium (III+VI) (Filtered)	mg/L	0.0002	0.0044	0.005	0.0014	0.0008	0.0025	0.0005	0.0013	-	-	0.0102	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.0005	<0.0005	0.0021	0.0004
Cobalt (Filtered)	mg/L	0.0001	0.001	0.0252	0.0035	0.0008	0.0029	0.0012	0.0008	-	-	0.0013	0.0004	0.0019	0.008	0.0013	0.006	0.0342	0.001	0.0566	0.001
Copper (Filtered)	mg/L	0.0005	0.0013	0.0086	<0.001	<0.0005	<0.0005	<0.0005	0.0052	-	-	<0.001	<0.001	0.004	<0.001	<0.001	<0.0005	0.017	<0.001	0.032	<0.0005
Iron (Filtered)	mg/L	0.05		62.9	1.69	0.97	15.9	8.99	0.62	-	-	10	61.9	14.1	187	<0.5	5.74	-	7.03	-	1.17
Lead (Filtered)	mg/L	0.0001	0.0044	0.0074	0.0147	0.0001	<0.0001	0.0001	0.0005	-	-	0.0176	<0.0002	0.0002	0.0002	0.0003	0.0002	0.02	0.0012	0.0362	0.0001
Magnesium (Filtered)	mg/L	1		8	1050	54	113	159	13	-	-	1110	1110	995	1120	1210	40	-	742	-	6
Manganese (Filtered)	mg/L	0.0005		0.418	0.0801	0.239	0.408	0.617	0.055	-	-	0.0492	1.62	0.437	4.89	0.679	0.509	0.714	0.226	0.984	0.0418
Mercury (Filtered)	mg/L	0.0001	0.0001**	<0.0001	<0.0001	0.0002	<0.0001	0.0002	<0.0001	-	-	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	<0.0001	<0.0001	<0.0001
Nickel (Filtered)	mg/L	0.0005	0.07	0.186	0.0134	0.0078	0.0814	0.0137	0.0156	-	-	0.0206	0.017	0.0195	0.036	0.0067	0.0726	0.0781	0.104	0.148	0.0054
Potassium (Filtered)	mg/L	1		12	351	25	50	65	16	-	-	353	260	195	259	429	23	-	306	-	3
Vanadium (Filtered)	mg/L	0.0002	0.1	0.0013	0.0026	0.0009	0.001	0.0018	0.0066	-	-	0.0228	0.0007	0.0017	<0.0005	0.0015	0.0019	0.0007	0.0024	0.0021	0.0012
Zinc (Filtered)	mg/L	0.001	0.015	0.2	0.125	0.006	0.113	0.006	0.075	-	-	0.613	0.014	0.021	0.014	0.016	0.065	0.191	0.089	0.591	0.009
BTEX																					
Benzene	µg/L	1	700	11	<1	13100	<1	16200	92	-	5450	772	12	52	<1	<1	621	378	<1	1380	16
Ethylbenzene	µg/L	2		5	<2	3010	<2	686	60	-	1250	149	8	2	<2	<2	206	20	<2	34	20
Toluene	mg/L	0.002		<0.005	<0.005	5.03	<0.005	1.82	0.18	-	0.101	0.048	<0.005	0.046	<0.005	<0.005	0.502	0.473	<0.005	0.969	0.102
Xylene (m & p)	µg/L	2		7	<2	3920	<2	1800	172	-	1230	76	3	26	<2	<2	626	189	<2	313	66
Xylene (o)	µg/L	2		5	<2	2180	<2	536	82	-	1540	104	3	12	<2	<2	328	66	<2	148	30
Xylene Total	µg/L			12	<4	6100	<4	2336	254	-	2770	180	6	38	<4	<4	954	255	<4	461	96
TPH																					
TPH C6 - C9	µg/L	20		40	<20	46200	<20	22400	890	-	13300	1380	30	-	<20	<20	3730	1460	<20	4360	520
TPH C10 - C14	µg/L	50		2900	<50	41000	120	100000	19600	1730000	68000	2230	210	-	<50	<50	28000	440	<50	18500	860
TPH C15 - C28	µg/L	100		2780	<100	14400	590	22500	7400	1520000	70600	1000	730	-	<100	<100	10900	920	<100	2630	1420
TPH C29-C36	µg/L	50		260	<50	470	<50	150	450	332000	14800	160	<50	-	<50	<50	400	<50	<50	120	370
TPH+C10 - C36 (Sum of total)	µg/L	50		5940	<50	41000	710	122650	7450	3582000	153400	3390	940	-	<50	<50	39300	1360	<50	21250	2650
PAH/Phenols																					
2,4-dimethylphenol	µg/L	0.5		<2	<2	898	<2	12200	231	11600	<47	10	<2	69	<2	<2	439	<0.9	<2	2260	2
2-chloronaphthalene	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
2-methylnaphthalene	µg/L	0.5		130	<2	541	<2	209	314	105000	4040	14	<2	36	<2	<2	294	<0.9	<2	71	57
2-methylphenol	µg/L	0.5		<2	<2	267	<2	4770	36	2840	<47	6	<2	15	<2	<2	83	<0.9	<2	390	<2
2-nitrophenol	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
3-&4-methylphenol	µg/L	0.5		<4	<4	68	<4	2270	<19	2830	<94	<4	<4	20	<4	<4	24	<2	<4	305	<4
3-methylcholanthrene	µg/L	0.5		<2	<2	<9	<2	<9	<9	131	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
4-chloro-3-methylphenol	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Acenaphthene	µg/L	0.5		12	<2	49	2	15	96	4480	274	7	7	4	<2	<2	72	<0.9	<2	5	6
Acenaphthylene	µg/L	0.5		40	<2	155	12	40	55	43200	1380	26	12	16	<2	<2	113	<0.9	<2	20	21
Anthracene	µg/L	0.5		25	<2	18	<2	<9	<9	15400	680	4	2	3	<2	<2	19	<0.9	<2	2	18
Benz(a)anthracene	µg/L	0.5		8	<2	<9	<2	<9	<9	12600	592	2	<2	<0.9	<2	<2	3	<0.9	<2	<0.9	16
Benzo(a) pyrene	µg/L	0.3		3	<2	<9	<2	<9	<9	9260	299	3	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	8
Benzo(b)&(k)fluoranthene	µg/L	1		5	<4	<19	<4	<19	<19	9860	362	<4	<4	<2	<4	<4	<4	<2	<4	<2	12
Benzo(g,h,i)perylene	µg/L	0.5		<2	<2	<9	<2	<9	<9	1910	89	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	3
Chrysene	µg/L	0.5		8	<2	<9	<2	<9	<9	9780	462	<2	<2	<0.9	<2	<2	2	<0.9	<2	<0.9	12
Dibenz(a,h)anthracene	µg/L	0.5		<2	<2	<9	<2	<9	<9	728	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Fluoranthene	µg/L	0.5		38	<2	18	<2	<9	<9	25200	1250	4	6	2	<2	4	19	<0.9	<2	3	48
Fluorene	µg/L	0.5		57	<2	83	<2	11	92	21100	1030	10	<2	12	<2	<2	92	<0.9	<2	14	26
Indeno(1,2,3-c,d)pyrene	µg/L	0.5		<2	<2	<9	<2	<9	<9	1910	81	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	3
Naphthalene	µg/L	0.5	70	699	<2	7800	<2	7950	6740	283000	10600	677	6	244	8	4	8640	<0.9	<2	1500	150
PAHs (Sum of total)	µg/L	0.5		1050	<2	8230	14	8030	7080	540000	21400	753	42	297	8	12	9070	<0.9	<2	1560	446
Phenanthrene	µg/L	0.5		125	<2	87	<2	12	97	74100	2840	14	5	14	<2	<2	98	<0.9	<2	12	79
Phenol	µg/L	0.5	400	<2	<2	24	<2	300	<9	503	<47	<2	<2	2	<2	<2	6	<0.9	<2	29	<2
Pyrene	µg/L	0.5		34	<2	16	<2	<9	<9	27900	1520	6	4	2	<2	4	14	<0.9	<2	2	44
Cyanide																					
Weak Acid Dissociable Cyanide	mg/L	0.004		0.02	<0.004	0.011	<0.004	0.004	<0.004	-	-	<0.004	-	-	<0.004	0.008	<0.004	<0.004	<0.004	<0.004	0.007
Cyanide (Free)	mg/L	0.004		0.013	<0.004	0.005	<0.004	0.007	<0.004	-	-	<0.004	-	-	<0.004	0.007	<0.004	<0.004	<0.004	<0.004	<0.004
Inorganics																					
Alkalinity (Hydroxide) as CaCO3	µg/L	1000		<1000	<1000	<1000	<1000	<1000	<1000	-	-	<1000	<1000	<1000	<1000	<1000	<1000	-	<1000	-	<1000
Alkalinity (total) as CaCO3	mg/L	1		<1	134	658	274	365	375	-	-	280	299	556	44	133	744	-	744	-	49
Bicarbonate as CaCO3	mg/L	1		<1	134	658	274	365	375	-	-	280	299	556	44	133	744	-	744	-	49
Ammonia as N	µg/L	10	910	1810	<100	37200	27400	<10	5360	-	-	7480	5240	9700	<100	<100	10800	-	13600	-	120
Anions Total	meq/L	0.01		9.56	531	21.9	67.4	70.5	9	-	-	567	522	434	524	560	18	-	441	-	2.12
Carbonate	mg/L	1		<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	-	<1	-	<1
Cations Total	meq/L	0.01		9.66	532	20.4	69	70	9.34	-	-	568	558	456	556	626	16.4	-	469	-	2.16
Chloride	mg/L	0.5		157	17100	274	2030	2090	37	-	-	18500	17500	14500	17000	17900	36.5	-	14900	-	25.2
Ferrous Iron	mg/L	0.05		-	-	0.84	15	9.58	0.55	-	-	9.52	62	-	-	-	-	-	7.84	-	-
Fluoride	mg/L	0.02		0.22	0.88	-	-	-	-	-	-	-	-	-	0.4	1.09	0.4	-	<0.02	-	0.83
Ionic Balance	%	0.01		0.52	0.03	3.62	1.2	0.36	1.82	-	-	0.12	3.25	2.4	3.03	5.56	4.93	-	3.06	-	-
Nitrate (as N)	mg/L	0.01		0.17	0.72	0.04	<0.01	3.4	0.03	-	-	0.1	0.09	<0.01	0.03	0.1	<0.01	-	0.06	-	<0.01
Nitrite (as N)	mg/L	0.01		<0.01	<0.01	0.02	<0.01	0.05	0.02	-	-	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	-	<0.01	-	<0.01
Nitrogen (Total Oxidised)	mg/L	0.01		0.17	0.72	0.07	<0.01	3.44	0.05	-	-	0.1	0.09	<0.01	0.03	0.12	<0.01	-	0.06	-	<0.01
pH (Lab)	pH Un	0.01		-	-	7.09	6.13	6.55	7.04	-	-	7.1	6.5	-	6.25	6.9	6.39	5.06	5.95	4.5	-
Reactive Phosphorus as P	mg/L	0.01		0.03	<0.01	-	-	-	-	-	-	-	-	-	<0.01	0.07	0.29	-	0.27	-	<0.01
Sodium (Filtered)	mg/L	1		68	9630	244	1160	1120	167	-	-	10300	10000	7860	9850	11300	180	-	8840	-	15
Sulphate	mg/L	0.5		246	2170	49.5	221	200	22.3	-	-	1900	1130	687	2100	2510	103	-	270	-	20.6
Sulphur as S	mg/L	1		79	684	18	124	123	11	-	-	645	-	-	588	863	33	-	169	-	10
TOC	mg/L	1		14	5	52	9	112	26	-	-	9	5	8	3	4	40	9	15	18	3
OCPs																					
4,4-DDE	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
a-BHC	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Aldrin	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2

			Field_ID	BH3	BH6	MW15	MW198	MW200	MW204S	MW205	MW206	MW209	MW210	MW40	MW45	MW52	MW54	MW56	MW58	MW60	MW61
			Sampled_Date	20/03/10	20/03/10	15/03/10	16/03/10	16/03/10	15/03/10	17/03/10	19/03/10	16/03/10	16/03/10	20/03/10	19/03/10	19/03/10	19/03/10	17/03/10	17/03/10	18/03/10	20/03/10
ChemName	Units	EQL	ANZECC (2000) Ecosystems Marine Water (95%)	Declaration Area - Hickson Road	Declaration Area - Hickson Road	Declaration Area - Block 4	Declaration - Block 5	Declaration Area - Block 4	Declaration Area - Block 4	Declaration Area - Block 4 (NAPL Sample)	Declaration Area - Block 4 (NAPL Sample)	Declaration Area - Block 4	Declaration - Proposed Southern Cove	Down gradient of Declaration Area - Proposed Southern Cove	Declaration - Proposed Southern Cove	Declaration Area - Block 4	Declaration Area - Block 4	Down gradient of Declaration Area - Public Domain	Declaration Area - Block 4	Down gradient of Declaration Area - Public Domain	Declaration Area - Hickson Road
Aldrin + Dieldrin	µg/L			<4	<4	<18	<4	<18	<18	<148	<94	<4	<4	<1.8	<4	<4	<4	<1.2	<4	<1.8	<4
b-BHC	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
d-BHC	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
DDD	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
DDT	µg/L	0.6		<4	<4	<9	<4	<9	<9	<74	<47	<4	<4	<0.9	<4	<4	<4	<0.9	<4	<0.9	<4
DDT+DDE+DDD	µg/L			<8	<8	<27	<8	<27	<27	<222	<141	<8	<8	<2.7	<8	<8	<8	<2.1	<8	<2.7	<8
Dieldrin	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Endosulfan I	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Endosulfan II	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Endosulfan sulphate	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Endrin	µg/L	0.3	0.008	<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
g-BHC (Lindane)	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Heptachlor	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Heptachlor epoxide	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
OPPs																					
Chlorfenvinphos	µg/L	0.3		<2	<2	<10	<2	<10	<10	<81	<52	<2	<2	<1	<2	<2	<2	<0.6	<2	<1	<2
Chlorpyrifos	µg/L	0.3	0.009	<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Chlorpyrifos-methyl	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Diazinon	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Dichlorvos	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Dimethoate	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Ethion	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Ethyl methanesulfonate	µg/L	0.3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.9	-
Fenthion	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Isosafrole (cis)	µg/L	0.3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.9	-
Isosafrole (trans)	µg/L	0.3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.9	-
Malathion	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Methyl methanesulfonate	µg/L	0.3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.9	-
Prothiofos	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Safrole	µg/L	0.3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.9	-
N-Nitrosodiphenyl & Diphenylan	µg/L	1		<4	<4	<19	<4	<19	<19	<147	<94	<4	<4	<2	<4	<4	<4	<2	<4	<2	<4
Pronamide	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
SVOCs																					
N-nitrosodiethylamine	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
N-nitrosodi-n-butylamine	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
N-nitrosodi-n-propylamine	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
N-Nitrosomethylethylamine	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
1-naphthylamine	µg/L	0.5		<2	<2	<9	<2	91	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
2-nitroaniline	µg/L	1		<4	<4	<9	<4	<9	<9	<74	<47	<4	<4	<1	<4	<4	<4	<1	<4	<1	<4
3-nitroaniline	µg/L	1		<4	<4	<9	<4	<9	<9	<74	<47	<4	<4	<1	<4	<4	<4	<1	<4	<1	<4
4-chloroaniline	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
4-nitroaniline	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
2-methyl-5-nitroaniline	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Aniline	µg/L	0.5		<2	<2	86	<2	212	28	<74	<47	<2	<2	<0.9	<2	<2	24	<0.9	<2	<0.9	<2
1,3,5-Trinitrobenzene	mg/L	0.0005		<0.002	<0.002	<0.009	<0.002	<0.009	<0.009	<0.074	<0.047	<0.002	<0.002	<0.0009	<0.002	<0.002	<0.002	<0.0009	<0.002	<0.0009	<0.002
2,4-Dinitrotoluene	µg/L	1		<4	<4	<9	<4	<9	<9	<74	<47	<4	<4	<1	<4	<4	<4	<1	<4	<1	<4
2,6-dinitrotoluene	µg/L	1		<4	<4	<9	<4	<9	<9	<74	<47	<4	<4	<1	<4	<4	<4	<1	<4	<1	<4
Nitrobenzene	ug/l	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
2,3,4,6-tetrachlorophenol	µg/L	0.3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.9	-
2,4,5-trichlorophenol	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
2,4,6-trichlorophenol	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
2,4-dichlorophenol	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
2,6-dichlorophenol	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
2-chlorophenol	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Pentachlorophenol	µg/L	0.6	22	<4	<4	<19	<4	<19	<19	<147	<94	<4	<4	<2	<4	<4	<4	<1	<4	<2	<4
1,2,3-trichlorobenzene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
1,2,4,5-tetrachlorobenzene	µg/L	0.3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-
1,2,4-trichlorobenzene	µg/L	0.5	80	<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
1,2-dichlorobenzene	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
1,3,5-Trichlorobenzene	µg/L	0.3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.9	-
1,3-dichlorobenzene	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
1,4-dichlorobenzene	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
2-chlorotoluene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
4-chlorotoluene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Bromobenzene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Chlorobenzene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Hexachlorobenzene	µg/L	0.5		<4	<4	<9	<4	<9	<9	<74	<47	<4	<4	<0.9	<4	<4	<4	<0.9	<4	<0.9	<4
Pentachlorobenzene	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
7,12-dimethylbenz(a)anthracene	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Chlorobenzilate	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Pirimphos-ethyl	µg/L	0.3		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.6	<2	<0.9	<2
Bis(2-ethylhexyl) phthalate	µg/L	20		<20	<20	<20	<20	20	<20	<70	<50	20	30	<20	<20	<20	<20	<20	<20	20	<20
Butyl benzyl phthalate	µg/L	2		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Diethylphthalate	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Dimethyl phthalate	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Di-n-butyl phthalate	µg/L	2		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<2	<2	<2	<2	<2	<2	<2	3
Di-n-octyl phthalate	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Diallate	µg/L	0.3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.9	-
2-(acetylamino) fluorene	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
2-Picoline	µg/L	0.5		<2	<2	129	<2	<9	69	<74	<47	<2	<2	<0.9	<2	<2	21	<0.9	<2	<0.9	<2
3,3-Dichlorobenzidine	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
4-(dimethylamino) azobenzene	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
4-aminobiphenyl	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
4-bromophenyl phenyl ether	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
4-chlorophenyl phenyl ether	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
4-Nitroquinoline-N-oxide	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Acetophenone	µg/L	0.5		<2	<2	13	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Azobenzene	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Bis(2-chloroethoxy) methane	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2

			Field_ID	BH3	BH6	MW15	MW198	MW200	MW204S	MW205	MW206	MW209	MW210	MW40	MW45	MW52	MW54	MW56	MW58	MW60	MW61
			Sampled_Date	20/03/10	20/03/10	15/03/10	16/03/10	16/03/10	15/03/10	17/03/10	19/03/10	16/03/10	16/03/10	20/03/10	19/03/10	19/03/10	19/03/10	17/03/10	17/03/10	18/03/10	20/03/10
ChemName	Units	EQL	ANZECC (2000) Ecosystems Marine Water (95%)	Declaration Area - Hickson Road	Declaration Area - Hickson Road	Declaration Area - Block 4	Declaration - Block 5	Declaration Area - Block 4	Declaration Area - Block 4	Declaration Area - Block 4 (NAPL Sample)	Declaration Area - Block 4 (NAPL Sample)	Declaration Area - Block 4	Declaration - Proposed Southern Cove	Down gradient of Declaration Area - Proposed Southern Cove	Declaration - Proposed Southern Cove	Declaration Area - Block 4	Declaration Area - Block 4	Down gradient of Declaration Area - Public Domain	Declaration Area - Block 4	Down gradient of Declaration Area - Public Domain	Declaration Area - Hickson Road
Bis(2-chloroisopropyl) ether	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Carbazole	µg/L	0.5		73	<2	285	<2	34	316	4600	68	4	2	17	<2	<2	326	<0.9	<2	63	14
Dibenzofuran	µg/L	0.5		50	<2	78	<2	25	113	10200	344	3	3	9	<2	<2	100	<0.9	<2	14	23
Hexachloropropene	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Methapyrilene	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
N-nitrosomorpholine	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
N-nitrosopiperidine	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
N-nitrosopyrrolidine	µg/L	1		<4	<4	<9	<4	<9	<9	<74	<47	<4	<4	<1	<4	<4	<4	<1	<4	<1	<4
Pentachloronitrobenzene	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Phenacetin	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
VOCs																					
1,1,1,2-tetrachloroethane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
1,1,1-trichloroethane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
1,1,2,2-tetrachloroethane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
1,1,2-trichloroethane	µg/L	5	1900	<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
1,1-dichloroethane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
1,1-dichloroethene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
1,1-dichloropropene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
1,2,3-trichloropropane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
1,2-dibromo-3-chloropropane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
1,2-dichloroethane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
1,2-dichloropropane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
1,3-dichloropropane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
2,2-dichloropropane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Bromodichloromethane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Bromoform	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Carbon tetrachloride	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Chlorodibromomethane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Chloroethane	µg/L	50		<50	<50	<2000	<50	<2000	<50	-	<200	<200	<50	<50	<50	<50	<100	<50	<50	<200	<50
Chloroform	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
cis-1,2-dichloroethene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
cis-1,3-dichloropropene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Dibromomethane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Hexachlorobutadiene	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Hexachlorocyclopentadiene	µg/L	0.5		<10	<10	<10	<10	<10	<10	<70	<50	<10	<10	<0.9	<10	<10	<10	<0.9	<10	<0.9	<10
Hexachloroethane	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Trichloroethene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Tetrachloroethene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
trans-1,2-dichloroethene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
trans-1,3-dichloropropene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Vinyl chloride	µg/L	50		<50	<50	<2000	<50	<2000	<50	-	<200	<200	<50	<50	<50	<50	<100	<50	<50	<200	<50
1,2-dibromoethane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Iodomethane	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Trichlorofluoromethane	µg/L	50		<50	<50	<2000	<50	<2000	<50	-	<200	<200	<50	<50	<50	<50	<100	<50	<50	<200	<50
1,2,4-trimethylbenzene	µg/L	5		9	<5	559	<5	201	39	-	920	36	<5	9	<5	<5	153	27	<5	37	26
1,3,5-trimethylbenzene	µg/L	5		<5	<5	<200	<5	<200	14	-	210	<20	<5	<5	<5	<5	59	11	<5	<20	10
Isopropylbenzene	µg/L	5		<5	<5	<200	<5	<200	<5	-	30	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
n-butylbenzene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
n-propylbenzene	µg/L	5		<5	<5	<200	<5	<200	<5	-	44	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
p-isopropyltoluene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
sec-butylbenzene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Styrene	µg/L	5		<5	<5	<200	<5	<200	8	-	167	<20	<5	8	<5	<5	72	54	<5	160	<5
tert-butylbenzene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Methyl Ethyl Ketone	µg/L	5		<50	<50	<2000	<50	<2000	<50	-	<200	<200	<50	<50	<50	<50	<100	<50	<50	<200	<50
2-hexanone (MBK)	µg/L	5		<50	<50	<2000	<50	<2000	<50	-	<200	<200	<50	<50	<50	<50	<100	<50	<50	<200	<50
4-Methyl-2-pentanone	µg/L	5		<50	<50	<2000	<50	<2000	<50	-	<200	<200	<50	<50	<50	<50	<100	<50	<50	<200	<50
Isophorone	µg/L	0.5		<2	<2	<9	<2	<9	<9	<74	<47	<2	<2	<0.9	<2	<2	<2	<0.9	<2	<0.9	<2
Vinyl acetate	µg/L	5		<50	<50	<2000	<50	<2000	<50	-	<200	<200	<50	<50	<50	<50	<100	<50	<50	<200	<50
Bromomethane	µg/L	50		<50	<50	<2000	<50	<2000	<50	-	<200	<200	<50	<50	<50	<50	<100	<50	<50	<200	<50
Carbon disulfide	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Chloromethane	µg/L	50		<50	<50	<2000	<50	<2000	<50	-	<200	<200	<50	<50	<50	<50	<100	<50	<50	<200	<50
cis-1,4-Dichloro-2-butene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
Dichlorodifluoromethane	µg/L	50		<50	<50	<2000	<50	<2000	<50	-	<200	<200	<50	<50	<50	<50	<100	<50	<50	<200	<50
Pentachloroethane	µg/L	2		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5
trans-1,4-Dichloro-2-butene	µg/L	5		<5	<5	<200	<5	<200	<5	-	<20	<20	<5	<5	<5	<5	<10	<5	<5	<20	<5

Notes
Shading indicates criteria exceedence
mg/L - milligrams pre litre
µg/L - micrograms per litre
LOR - Laboratory Limit of Reporting
- denotes not analysed
< denotes result less than the LOR
** ANZECC (2000) Marine Water (99%) trigger value

			Consultant	AECOM	AECOM	AECOM	AECOM	AECOM
			Field_ID	MW62	MW64	MW68	MW69	MW74
			Sampled_Date	17/03/10	20/03/10	18/03/10	19/03/10	18/03/10
ChemName	Units	EQL	ANZECC (2000) Ecosystems Marine Water (95%)	Declaration Area - Block 5	Declaration Area - Block 5	Declaration Area - Block 5	Down gradient of Declaration Area - Block 5	Down gradient of Declaration Area - Public Domain
Metals								
Arsenic (Filtered)	mg/L	0.0002		0.0006	0.0008	0.0006	0.0009	0.001
Barium (Filtered)	mg/L	0.0005		0.492	0.124	0.217	0.104	0.179
Beryllium (Filtered)	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium (Filtered)	mg/L	0.00005	0.0055	<0.0002	<0.0002	<0.0002	<0.0002	0.001
Calcium (Filtered)	mg/L	1		936	231	460	249	-
Chromium (hexavalent)	µg/L	2	0.0044	<0.002	<0.002	<0.002	<0.002	0.01
Chromium (III+VI) (Filtered)	mg/L	0.0002	0.0044	<0.0005	<0.0005	<0.0005	<0.0005	0.0006
Cobalt (Filtered)	mg/L	0.0001	0.001	0.0002	0.0074	0.0004	0.0063	0.0003
Copper (Filtered)	mg/L	0.0005	0.0013	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (Filtered)	mg/L	0.05		<0.5	2.75	5.21	10.3	-
Lead (Filtered)	mg/L	0.0001	0.0044	<0.0002	<0.0002	0.0007	<0.0002	<0.0002
Magnesium (Filtered)	mg/L	1		372	490	714	574	-
Manganese (Filtered)	mg/L	0.0005		0.0891	0.634	0.469	0.69	0.251
Mercury (Filtered)	mg/L	0.0001	0.0001**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (Filtered)	mg/L	0.0005	0.07	<0.0005	0.0069	0.0017	0.002	0.0171
Potassium (Filtered)	mg/L	1		324	193	260	216	-
Vanadium (Filtered)	mg/L	0.0002	0.1	0.0009	0.0006	0.0014	<0.0005	0.0018
Zinc (Filtered)	mg/L	0.001	0.015	0.012	0.012	0.014	<0.005	0.018
BTEX								
Benzene	µg/L	1	700	<1	4	<1	868	<1
Ethylbenzene	µg/L	2		<2	3	<2	77	<2
Toluene	mg/L	0.002		<0.005	0.006	<0.005	0.804	<0.005
Xylene (m & p)	µg/L	2		<2	6	<2	240	<2
Xylene (o)	µg/L	2		<2	4	<2	144	<2
Xylene Total	µg/L			<4	10	<4	384	<4
TPH								
TPH C6 - C9	µg/L	20		<20	<20	<20	3400	<20
TPH C10 - C14	µg/L	50		<50	270	<50	7200	<50
TPH C15 - C28	µg/L	100		1260	1850	<100	3900	280
TPH C29-C36	µg/L	50		200	540	<50	360	140
TPH+C10 - C36 (Sum of total)	µg/L	50		1460	2660	<50	11460	420
PAH/Phenols								
2,4-dimethylphenol	µg/L	0.5		<0.9	<2	<0.9	138	<0.9
2-chloronaphthalene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
2-methylnaphthalene	µg/L	0.5		2	5	<0.9	326	1
2-methylphenol	µg/L	0.5		<0.9	<2	<0.9	20	<0.9
2-nitrophenol	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
3-&4-methylphenol	µg/L	0.5		<2	<4	<2	20	<2
3-methylcholanthrene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
4-chloro-3-methylphenol	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Acenaphthene	µg/L	0.5		1	3	<0.9	35	1
Acenaphthylene	µg/L	0.5		<0.9	11	<0.9	158	<0.9
Anthracene	µg/L	0.5		1	2	<0.9	28	1
Benz(a)anthracene	µg/L	0.5		<0.9	<2	<0.9	14	1
Benzo(a) pyrene	µg/L	0.3		0.7	<2	<0.9	6	<0.9
Benzo(b)&(k)fluoranthene	µg/L	1		<2	<4	<2	6	<2
Benzo(g,h,i)perylene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Chrysene	µg/L	0.5		<0.9	<2	<0.9	12	<0.9
Dibenz(a,h)anthracene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Fluoranthene	µg/L	0.5		2	2	<0.9	34	3
Fluorene	µg/L	0.5		1	10	<0.9	64	1
Indeno(1,2,3-c,d)pyrene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Naphthalene	µg/L	0.5	70	7	11	3	1920	4
PAHs (Sum of total)	µg/L	0.5		19	57	4	2450	18
Phenanthrene	µg/L	0.5		4	15	1	126	4
Phenol	µg/L	0.5	400	<0.9	<2	<0.9	2	<0.9
Pyrene	µg/L	0.5		2	3	<0.9	47	3
Cyanide								
Weak Acid Dissociable Cyanide	mg/L	0.004		0.008	<0.004	<0.004	0.01	<0.004
Cyanide (Free)	mg/L	0.004		<0.004	<0.004	<0.004	0.004	<0.004
Inorganics								
Alkalinity (Hydroxide) as CaCO3	µg/L	1000		<1000	<1000	<1000	<1000	-
Alkalinity (total) as CaCO3	mg/L	1		96	244	375	761	-
Bicarbonate as CaCO3	mg/L	1		96	244	375	761	-
Ammonia as N	µg/L	10	910	8470	2660	5460	90400	-
Anions Total	meq/L	0.01		398	251	417	333	-
Carbonate	mg/L	1		<1	<1	<1	<1	-
Cations Total	meq/L	0.01		438	247	421	335	-
Chloride	mg/L	0.5		13700	7760	13400	9520	-
Ferrous Iron	mg/L	0.05		<0.05	-	-	-	-
Fluoride	mg/L	0.02		<0.02	0.74	0.65	0.35	-
Ionic Balance	%	0.01		4.74	0.72	0.44	0.21	-
Nitrate (as N)	mg/L	0.01		0.03	0.01	0.05	<0.01	-
Nitrite (as N)	mg/L	0.01		<0.01	<0.01	0.01	<0.01	-
Nitrogen (Total Oxidised)	mg/L	0.01		0.03	0.01	0.06	<0.01	-
pH (Lab)	pH_Un	0.01		8.16	-	6.88	-	6.37
Reactive Phosphorus as P	mg/L	0.01		0.28	<0.01	0.08	<0.01	-
Sodium (Filtered)	mg/L	1		8090	4380	7650	6200	-
Sulphate	mg/L	0.5		434	1300	1440	2090	-
Sulphur as S	mg/L	1		250	430	487	531	-
TOC	mg/L	1		15	24	6	40	6
OCPs								
4,4-DDE	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
a-BHC	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Aldrin	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9

			Field_ID	MW62	MW64	MW68	MW69	MW74
			Sampled_Date	17/03/10	20/03/10	18/03/10	19/03/10	18/03/10
ChemName	Units	EQL	ANZECC (2000) Ecosystems Marine Water (95%)	Declaration Area - Block 5	Declaration Area - Block 5	Declaration Area - Block 5	Down gradient of Declaration Area - Block 5	Down gradient of Declaration Area - Public Domain
Aldrin + Dieldrin	µg/L			<1.2	<4	<1.8	<4	<1.8
b-BHC	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
d-BHC	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
DDD	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
DDT	µg/L	0.6		<0.9	<4	<0.9	<4	<0.9
DDT+DDE+DDD	µg/L			<2.1	<8	<2.7	<8	<2.7
Dieldrin	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Endosulfan I	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Endosulfan II	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Endosulfan sulphate	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Endrin	µg/L	0.3	0.008	<0.6	<2	<0.9	<2	<0.9
g-BHC (Lindane)	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Heptachlor	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Heptachlor epoxide	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
OPPs								
Chlorfenvinphos	µg/L	0.3		<0.6	<2	<1	<2	<1
Chlorpyrifos	µg/L	0.3	0.009	<0.6	<2	<0.9	<2	<0.9
Chlorpyrifos-methyl	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Diazinon	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Dichlorvos	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Dimethoate	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Ethion	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Ethyl methanesulfonate	µg/L	0.3		-	-	<0.9	-	<0.9
Fenthion	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Isosafrole (cis)	µg/L	0.3		-	-	<0.9	-	<0.9
Isosafrole (trans)	µg/L	0.3		-	-	<0.9	-	<0.9
Malathion	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Methyl methanesulfonate	µg/L	0.3		-	-	<0.9	-	<0.9
Prothiofos	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Safrole	µg/L	0.3		-	-	<0.9	-	<0.9
N-Nitrosodiphenyl & Diphenylan	µg/L	1		<2	<4	<2	<4	<2
Pronamide	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
SVOCs								
N-nitrosodiethylamine	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
N-nitrosodi-n-butylamine	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
N-nitrosodi-n-propylamine	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
N-Nitrosomethylethylamine	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
1-naphthylamine	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
2-nitroaniline	µg/L	1		<1	<4	<1	<4	<1
3-nitroaniline	µg/L	1		<1	<4	<1	<4	<1
4-chloroaniline	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
4-nitroaniline	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
2-methyl-5-nitroaniline	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Aniline	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
1,3,5-Trinitrobenzene	mg/L	0.0005		<0.0009	<0.002	<0.0009	<0.002	<0.0009
2,4-Dinitrotoluene	µg/L	1		<1	<4	<1	<4	<1
2,6-dinitrotoluene	µg/L	1		<1	<4	<1	<4	<1
Nitrobenzene	ug/l	0.5		<0.9	<2	<0.9	<2	<0.9
2,3,4,6-tetrachlorophenol	µg/L	0.3		-	-	<0.9	-	<0.9
2,4,5-trichlorophenol	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
2,4,6-trichlorophenol	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
2,4-dichlorophenol	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
2,6-dichlorophenol	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
2-chlorophenol	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Pentachlorophenol	µg/L	0.6	22	<1	<4	<2	<4	<2
1,2,3-trichlorobenzene	µg/L	5		<5	<5	<5	<5	<5
1,2,4,5-tetrachlorobenzene	µg/L	0.3		-	-	<2	-	<2
1,2,4-trichlorobenzene	µg/L	0.5	80	<0.9	<2	<0.9	<2	<0.9
1,2-dichlorobenzene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
1,3,5-Trichlorobenzene	µg/L	0.3		-	-	<0.9	-	<0.9
1,3-dichlorobenzene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
1,4-dichlorobenzene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
2-chlorotoluene	µg/L	5		<5	<5	<5	<5	<5
4-chlorotoluene	µg/L	5		<5	<5	<5	<5	<5
Bromobenzene	µg/L	5		<5	<5	<5	<5	<5
Chlorobenzene	µg/L	5		<5	<5	<5	<5	<5
Hexachlorobenzene	µg/L	0.5		<0.9	<4	<0.9	<4	<0.9
Pentachlorobenzene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
7,12-dimethylbenz(a)anthracene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Chlorobenzilate	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Pirimphos-ethyl	µg/L	0.3		<0.6	<2	<0.9	<2	<0.9
Bis(2-ethylhexyl) phthalate	µg/L	20		<20	<20	<20	<20	<20
Butyl benzyl phthalate	µg/L	2		<2	<2	<2	<2	<2
Diethylphthalate	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Dimethyl phthalate	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Di-n-butyl phthalate	µg/L	2		<2	4	<2	3	<2
Di-n-octyl phthalate	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Diallate	µg/L	0.3		-	-	<0.9	-	<0.9
2-(acetylamino) fluorene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
2-Picoline	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
3,3-Dichlorobenzidine	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
4-(dimethylamino) azobenzene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
4-aminobiphenyl	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
4-bromophenyl phenyl ether	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
4-chlorophenyl phenyl ether	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
4-Nitroquinoline-N-oxide	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Acetophenone	µg/L	0.5		<0.9	<2	<0.9	5	<0.9
Azobenzene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Bis(2-chloroethoxy) methane	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9

			Field_ID	MW62	MW64	MW68	MW69	MW74
			Sampled_Date	17/03/10	20/03/10	18/03/10	19/03/10	18/03/10
ChemName	Units	EQL	ANZECC (2000) Ecosystems Marine Water (95%)	Declaration Area - Block 5	Declaration Area - Block 5	Declaration Area - Block 5	Down gradient of Declaration Area - Block 5	Down gradient of Declaration Area - Public Domain
Bis(2-chloroisopropyl) ether	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Carbazole	µg/L	0.5		4	<2	<0.9	9	1
Dibenzofuran	µg/L	0.5		1	<2	<0.9	11	<0.9
Hexachloropropene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Methapyrilene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
N-nitrosomorpholine	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
N-nitrosopiperidine	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
N-nitrosopyrrolidine	µg/L	1		<1	<4	<1	<4	<1
Pentachloronitrobenzene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Phenacetin	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
VOCs								
1,1,1,2-tetrachloroethane	µg/L	5		<5	<5	<5	<5	<5
1,1,1-trichloroethane	µg/L	5		<5	<5	<5	<5	<5
1,1,2,2-tetrachloroethane	µg/L	5		<5	<5	<5	<5	<5
1,1,2-trichloroethane	µg/L	5	1900	<5	<5	<5	<5	<5
1,1-dichloroethane	µg/L	5		<5	<5	<5	<5	<5
1,1-dichloroethene	µg/L	5		<5	<5	<5	<5	<5
1,1-dichloropropene	µg/L	5		<5	<5	<5	<5	<5
1,2,3-trichloropropane	µg/L	5		<5	<5	<5	<5	<5
1,2-dibromo-3-chloropropane	µg/L	5		<5	<5	<5	<5	<5
1,2-dichloroethane	µg/L	5		<5	<5	<5	<5	<5
1,2-dichloropropane	µg/L	5		<5	<5	<5	<5	<5
1,3-dichloropropane	µg/L	5		<5	<5	<5	<5	<5
2,2-dichloropropane	µg/L	5		<5	<5	<5	<5	<5
Bromodichloromethane	µg/L	5		<5	<5	<5	<5	<5
Bromoform	µg/L	5		<5	<5	<5	<5	<5
Carbon tetrachloride	µg/L	5		<5	<5	<5	<5	<5
Chlorodibromomethane	µg/L	5		<5	<5	<5	<5	<5
Chloroethane	µg/L	50		<50	<50	<50	<50	<50
Chloroform	µg/L	5		<5	<5	<5	<5	<5
cis-1,2-dichloroethene	µg/L	5		<5	<5	<5	<5	<5
cis-1,3-dichloropropene	µg/L	5		<5	<5	<5	<5	<5
Dibromomethane	µg/L	5		<5	<5	<5	<5	<5
Hexachlorobutadiene	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Hexachlorocyclopentadiene	µg/L	0.5		<0.9	<10	<0.9	<10	<0.9
Hexachloroethane	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Trichloroethene	µg/L	5		<5	<5	<5	<5	<5
Tetrachloroethene	µg/L	5		<5	<5	<5	<5	<5
trans-1,2-dichloroethene	µg/L	5		<5	<5	<5	<5	<5
trans-1,3-dichloropropene	µg/L	5		<5	<5	<5	<5	<5
Vinyl chloride	µg/L	50		<50	<50	<50	<50	<50
1,2-dibromoethane	µg/L	5		<5	<5	<5	<5	<5
Iodomethane	µg/L	5		<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	50		<50	<50	<50	<50	<50
1,2,4-trimethylbenzene	µg/L	5		<5	<5	<5	63	<5
1,3,5-trimethylbenzene	µg/L	5		<5	<5	<5	19	<5
Isopropylbenzene	µg/L	5		<5	<5	<5	<5	<5
n-butylbenzene	µg/L	5		<5	<5	<5	<5	<5
n-propylbenzene	µg/L	5		<5	<5	<5	6	<5
p-isopropyltoluene	µg/L	5		<5	<5	<5	<5	<5
sec-butylbenzene	µg/L	5		<5	<5	<5	<5	<5
Styrene	µg/L	5		<5	<5	<5	194	<5
tert-butylbenzene	µg/L	5		<5	<5	<5	<5	<5
Methyl Ethyl Ketone	µg/L	5		<50	<50	<50	<50	<50
2-hexanone (MBK)	µg/L	5		<50	<50	<50	<50	<50
4-Methyl-2-pentanone	µg/L	5		<50	<50	<50	<50	<50
Isophorone	µg/L	0.5		<0.9	<2	<0.9	<2	<0.9
Vinyl acetate	µg/L	5		<50	<50	<50	<50	<50
Bromomethane	µg/L	50		<50	<50	<50	<50	<50
Carbon disulfide	µg/L	5		<5	<5	<5	<5	<5
Chloromethane	µg/L	50		<50	<50	<50	<50	<50
cis-1,4-Dichloro-2-butene	µg/L	5		<5	<5	<5	<5	<5
Dichlorodifluoromethane	µg/L	50		<50	<50	<50	<50	<50
Pentachloroethane	µg/L	2		<5	<5	<5	<5	<5
trans-1,4-Dichloro-2-butene	µg/L	5		<5	<5	<5	<5	<5

Notes
Shading indicates criteria exceedence
mg/L - milligrams pre litre
µg/L - micrograms per litre
LOR - Laboratory Limit of Reporting
- denotes not analysed
< denotes result less than the LOR
** ANZECC (2000) Marine Water (99%) trigger value

Figures

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AECOM does not warrant the accuracy or completeness of information displayed in this map and any person using it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information

Approximate Barangaroo Development Area
PROJECT LOCATION
McMAHONS POINT 2060
MILSONS POINT 2061
DAWES POINT 2000
BALMAIN EAST 2041
MILLERS POINT 2000
THE ROCKS 2000
Circular Quay
PYRMONT 2009
SYDNEY 2000
ULTIMO 2007
HAYMARKET 2000
Darling Harbour
Goat Island
Sydney Harbour National Park
Balls Head Res.
Ballast Point Park
Simmons Point Res
Blues Point Res
Pyrmont Pt Park
Ewenton Park
Observatory Park
Wentworth Park
Greyhound Track
Fish Markets
Convention Centre
Exhibition Centre
Harbourside
Cockle Bay Wharf
Darling Harbour (King St) Wharf
Pyrmont Bay Wharf
Maritime Museum
Sydney Aquarium
Sydney Theatre Company
Ferry Wharves
Speed Cameras & Emergency Phones throughout tunnel
SYDNEY HARBOUR BRIDGE
SYDNEY HARBOUR TUNNEL
CAHILL EXPRESSWAY
BRADFIELD HIGHWAY
DISTRIBUTOR
WESTERN
Mort Bay
Pyrmont Bay
Blackwattle Bay
Johnstons Bay
Walsh Bay
Lavender Bay / Gooweebahree
Peacock Pt
Millers Pt
Blues Pt / Warungareeyah
McMahons Pt
Milsons Point
Yurulbin Pt
Ballast Pt
Balls Head
Jeffrey Street Wharf
Beulah Street Wharf
Balmain East (Darling St) Wharf
Pier One
Observatory
Wynyard
Martin Place
Parliament House
Town Hall
St James
Hyde Park
Museum Sensis
Sydney Conservatorium of Music
Royal Botanic Garden
The Domain
Art Gallery
Cathedral
Sydney Sec Coll
Glebe
Johnstons Bay
Elizabeth Macarthur Bay
Darling Harbour / Tumbalong
Harbour Tunnel
Cahill Expressway
Western Distributor
Sydney Harbour Bridge
Sydney Cove / Warrane
Port Jackson
Darling Harbour
Pyrmont Bridge
Anzac Bridge
Fig St
Wattle St
Harris St
Pyrmont St
Darling St
Sussex St
Kent St
George St
Clarence St
York St
Bond St
Hunter St
Pitt St
Castlereagh St
Elizabeth St
Macquarie St
Phillip St
Bligh St
O'Connell St
Spring St
Bent St
Margaret St
Barrack St
King St
Market St
Druitt St
Park St
Bathurst St
Liverpool St
Goulburn St
William St
Oxford St
Crown St
Broadway
Parramatta Road
Victoria Road
Western Harbour Tunnel
Iron Cove Bridge
Fish Market
Star City
John St Square
Town Hall
Museum
Park
Sch
Coll
Cathedral
Observatory
Ferry Wharves
Sydney Conservatorium of Music
Parliament House
Art Gallery
Museum Sensis
Powerhouse Museum
Entertainment Centre
Exhibition Centre
Convention Centre
Darling Harbour
Pyrmont Bay
Wentworth Park
Greyhound Track
Fish Markets

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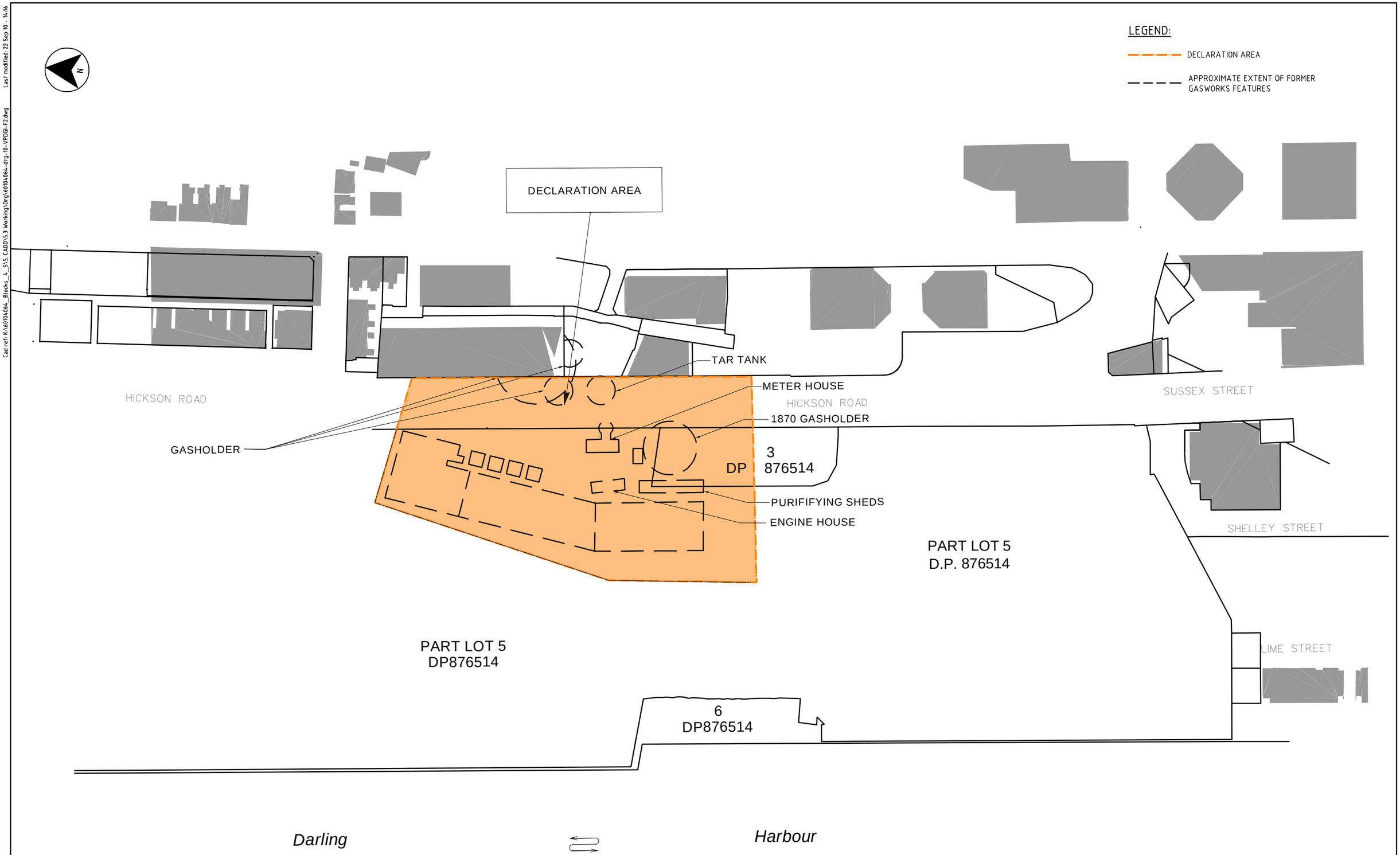

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS				
No.	BY	DATE	DESCRIPTION	APPD
01	SS	21.09.2010		DFM

SCALES:

10 0 10 20 30 40m

1 : 1000 FULL SIZE A1

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

DESIGNED	KP/DFM	CHECKED	KP/DFM
DRAWN	SS	CHECKED	JA
APPROVED	DFM	DATE	21.09.2010

DESIGNER:

AECOM

AECOM Australia Pty Ltd A.B.N. 20 093 846 925

DECLARATION AREA DGI

SITE LAYOUT AND SURROUNDING AREA
FIGURE F2

STATUS:	DRAWING NO:	REV:
FINAL	60104064-DRG-10-VPDGI-F2	01

Last modified: 22 Sep 10 - 15:33

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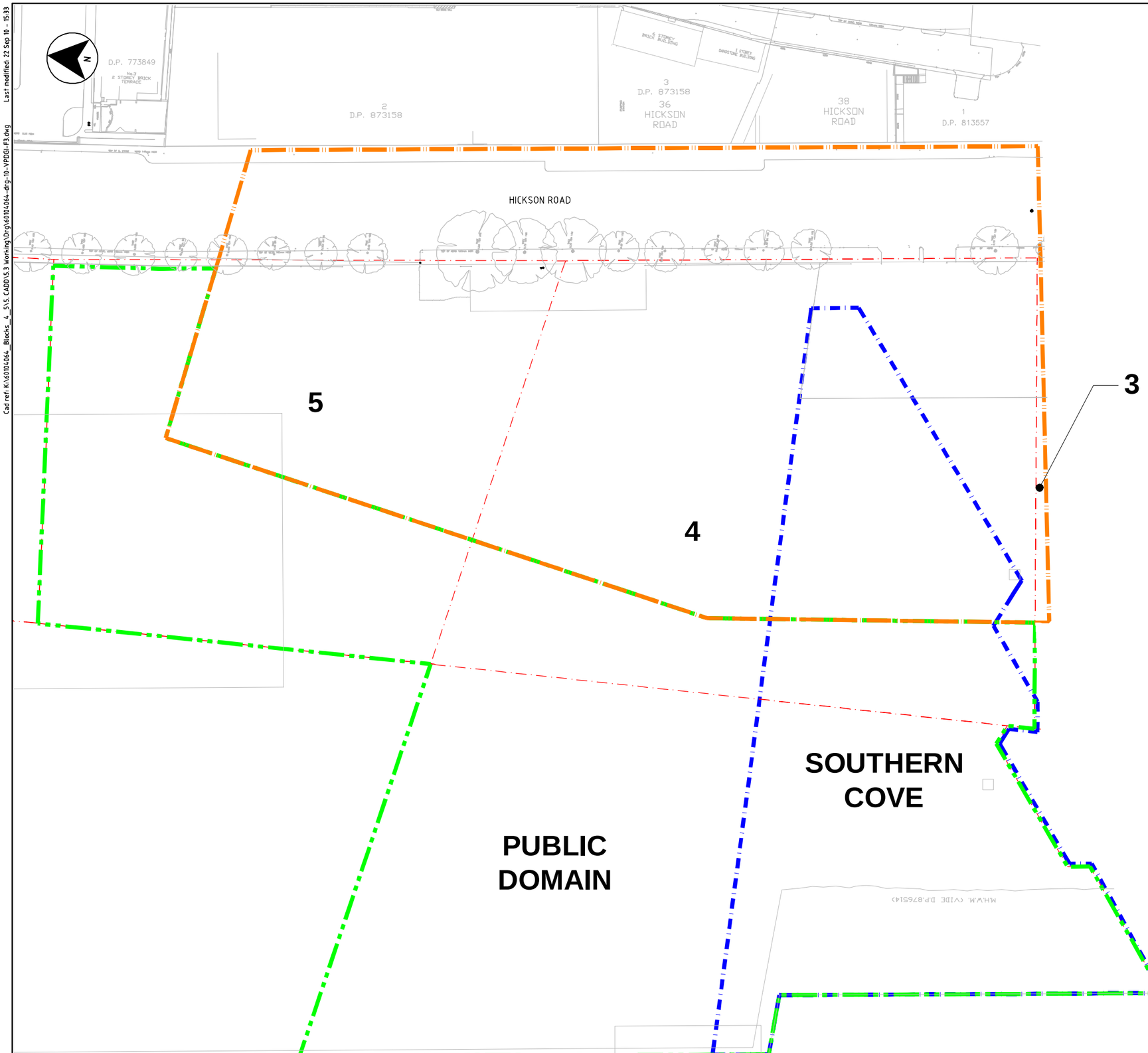


LEGEND:

- DECLARATION AREA
- OTHER REMEDIATION WORKS (NORTH) BOUNDARY
- PROPOSED DEVELOPMENT AREA BOUNDARIES
- PROPOSED SOUTHERN COVE BOUNDARY
- 4 PROPOSED DEVELOPMENT BLOCK AREA

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS

No.	BY	DATE	DESCRIPTION	APPD
01	SS	21.09.2010		DFM

SCALES:

5000 0 5000 10000 15000mm

1 : 500 FULL SIZE A1

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

DESIGNED	KP/DFM	CHECKED	KP/DFM
DRAWN	SS	CHECKED	JA
APPROVED	DFM	DATE	21.09.2010

DESIGNER:

AECOM

AECOM Australia Pty Ltd A.B.N. 20 093 846 925

DECLARATION AREA DGI

SITE DEVELOPMENT PLAN
FIGURE F3

STATUS:	DRAWING NO:	REV:
FINAL	60104064-DRG-10-VPDGI-F3	01

Last modified: 22 Sep 10 - 15:39

Cad ref: K:\60104064_Blocks_4_5\5. CADD\S3 Working\Drg\60104064-drg-10-VPDGI-F4.dwg

LEGEND

- COFFEY BOREHOLE LOCATION
- COFFEY GROUNDWATER WELL LOCATION
- ERM BORHOLE LOCATION
- ERM GROUNDWATER MONITORING WELL LOCATION
- AECOM BOREHOLE LOCATION
- AECOM GROUNDWATER MONITORING WELL LOCATION
- AECOM SOIL VAPOUR LOCATION
- AECOM INTERTIDAL WELL LOCATION
- AECOM STILLING WELL LOCATION
- TP AECOM TEST PIT

- DECLARATION AREA
- OTHER REMEDIATION WORKS (NORTH) BOUNDARY
- PROPOSED DEVELOPMENT AREA BOUNDARIES
- PROPOSED SOUTHERN COVE BOUNDARY
- 1 PROPOSED DEVELOPMENT BLOCK AREA

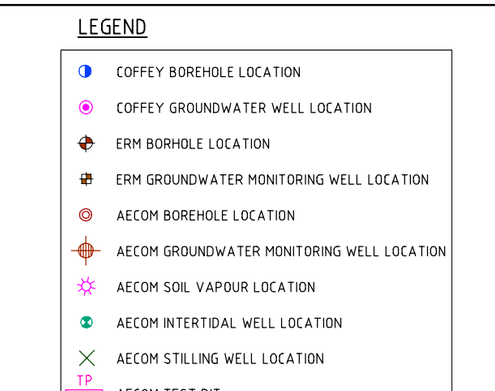
NOTE:
LOCATION OF COFFEY BOREHOLES AND MONITORING WELLS IS APPROXIMATE ONLY.

D.P. 773849 — No.2 2 STOREY BRICK TERRACE
2 D.P. 873158
3 D.P. 873158
36 HICKSON ROAD
38 HICKSON ROAD
1 D.P. 813557
6 STOREY BRICK BUILDING
1 STOREY SANDSTONE BUILDING
HICKSON ROAD

BH1 BH67 BH14 BH12 BH11 BH5 BH03 BH13 BH7 BH53/MW53 BH51 BH9 BH2 BH4 BH61/MW61 BH15/MW15 BH6 BH8 BH10 BH43 BH204S/MW204S BH160 BH133 BH50 BH54/MW54 BH073 BH042 BH044 BH058 BH198/MW198 BH66 BH025 TP2 BH040 BH001 SV09 BH59 BH200/MW200 BH69/MW69 BH059 BH64/MW64 TP4 TP5 BH55 BH141 BH019 BH204D/MW204D TP6 BH87/MW15 SV06 BH44 BH42 BH146 BH132 BH136 BH68/MW68 TP1 SV11 BH65 TP3 SV10 BH199 BH145 BH156 BH209/MW209 BH135 BH078 BH028 BH197 BH062 BH075 SV07 BH52/MW52 BH202 BH206/MW206 SV05 BH161 BH114 BH201 BH205/MW205 BH208 BH35 BH113 BH074 BH065 TP7 BH49 BH58/MW58 BH207 BH45/MW45 BH159 BH203 BH070 BH77 BH067 BH62/MW62 BH020 BH115 BH33 BH079 BH090 BH210/MW210 BH34 BH089 BH109 BH036 BH119 BH211 BH027 BH045 BH066 BH068 BH137 BH071 BH072 BH055 BH041 BH046/MW08 BH63 BH057 BH048 BH142 BH071 BH063 BH143 BH040/MW40 BH026 BH073 BH054 BH74/MW74 BH021 BH190 BH052 BH046 BH56/MW56 BH047 BH038 IT02 BH017 BH39 BH53/MW11 BH116/MW22 BH191 BH064 BH75 BH60/MW60 BH72 SV08 BH76/MW14 BH129/MW24 BH128 IT01 BH213/MW213 BH212/MW212

PUBLIC DOMAIN

SW01
REFER TO INSET



INSET
SCALE 1:500

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS				
01	SS	21.09.2010		DFM
No.	BY	DATE	DESCRIPTION	APPD

SCALES:
5000 0 5000 10000 15000mm
1 : 500 FULL SIZE A1

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

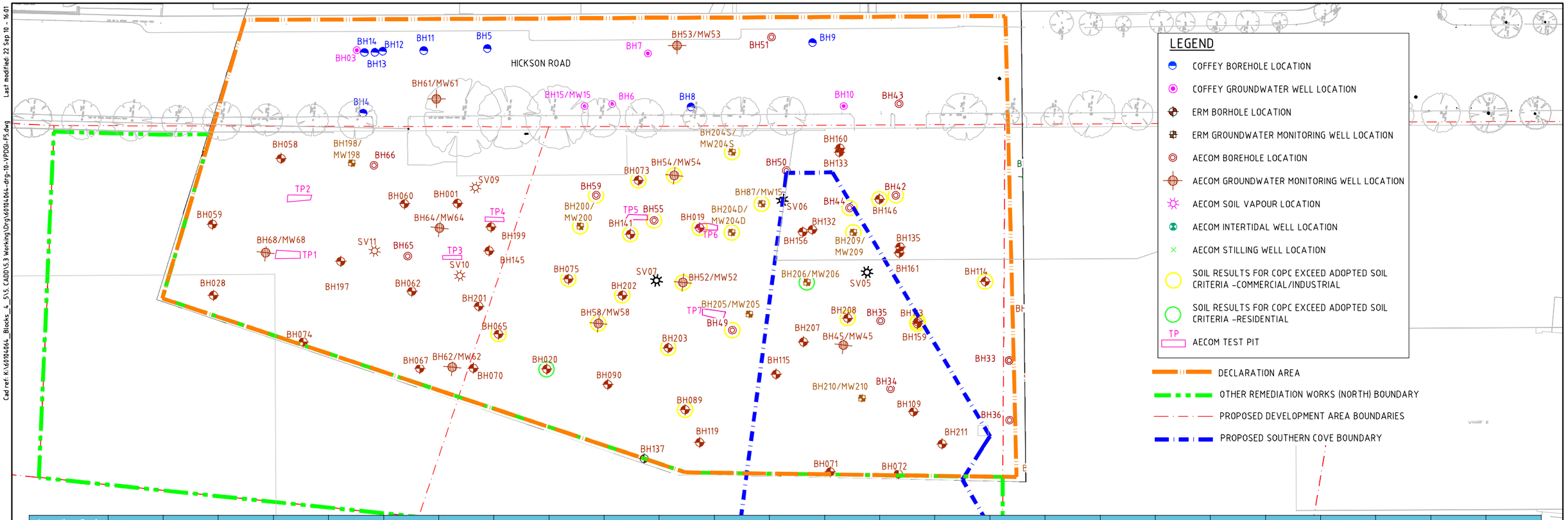
DESIGNED	KP/DFM	CHECKED	KP/DFM
DRAWN	SS	CHECKED	JA
APPROVED	DFM	DATE	21.09.2010

DESIGNER:
AECOM
AECOM Australia Pty Ltd A.B.N. 20 093 846 925

DECLARATION AREA DGI

SITE PLAN AND SAMPLING LOCATIONS
FIGURE F4

STATUS:	DRAWING NO:	REV:
FINAL	60104064-DRG-10-VPDGI-F4	01



Location Code	BH019	BH019	BH020	BH020	BH065	BH073	BH073	BH075	BH087	BH087	BH089	BH113	BH114	BH141	BH141	BH146	BH146	BH159	BH200	BH200	BH202	BH203	BH204	BH204D	BH204D	BH204D
Sample Depth	2.5-3.0	3.0-3.45	0.3-0.5	1.5-2.1	3.0-3.45	1.5-1.95	2.0-2.4	0.3-0.5	1.5-1.95	3.0-3.45	3.0-3.45	3.0-3.45	3.0-3.45	1.5-1.95	3.3-3.45	3.0-3.33	4.1-4.6	-	1	2.5	2.3	1.9	1	1.5	3	4
Consultant	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM
Sampled Date	5/08/2006	5/08/2006	5/09/2006	5/09/2006	6/01/2006	5/02/2006	5/02/2006	6/06/2006	6/08/2006	6/08/2006	6/09/2006	27/06/2006	28/06/2006	7/07/2006	7/07/2006	7/11/2006	7/11/2006	14/08/2006	4/07/2008	4/07/2008	3/10/2008	3/10/2008	18/03/2008	4/07/2008	4/07/2008	4/07/2008
Analyte	**Result**																									
Benzene										15					41.8		15.2		1.6					61	36.8	44.3
Ethylbenzene																										
Xylene Total										118.5					146.8		87							94.1	151.9	99.5
TPH (C6-C9)	354	210								271					325		222							226	289	215
TPH (C10-C36)	7080	10480			1850		1860	1035	9570	13540		1080	1040	2260	7720		7630	1255	15450	1670			15580	147200	37340	42020
Benzo(a)pyrene	58.2	86.3	6.8	4.4	7.7	100	15.3	19	78.5	79.6	5.6			24.6	344	67.3	32.9		113	12.4	6.5	5.1	78.6	652	195	224
PAHS Sum of Total	1994.2	2733.9	80.3		176.3	1451.6	383.1	242.1	2982.2	2895.7				350.5	13659.4	951.4	1274.6		1781.5	220.1			3702.1	20934.4	6223.3	7972.5

Location Code	BH206	BH208	BH209	BH209	BH42	BH44	BH49	BH49	BH52	BH52	BH54	BH54	BH55	BH55	BH55	BH58	BH59	BH59	BH59
Sample Depth	0.5	2.25	2.3	4.5	3.2-3.3	4.9-5.0	1.5-1.7	4.2-4.4	1.0-1.2	4.2-4.4	1.0-1.4	2.8-3.0	1.0-1.2	2.2-2.4	2.7-2.9	1.0-1.2	1.9-2.0	3.4-3.5	4.2-4.3
Consultant	ERM	ERM	ERM	ERM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM
Sampled Date	3/07/2008	4/04/2008	22/04/2008	22/04/2008	23/02/2010	23/02/2010	22/02/2010	22/02/2010	22/02/2010	22/02/2010	23/02/2010	23/02/2010	25/02/2010	25/02/2010	25/02/2010	22/02/2010	22/02/2010	22/02/2010	22/02/2010
Analyte	**Result**																		
Benzene				15.5	1	2.1				1.7	2.5		7.8	22.2	9.4			82.4	3.4
Ethylbenzene																		88.3	
Xylene Total				86	123.5	46.6			28.9		35.5		34.9	100.4	40.9			154.2	
TPH (C6-C9)				227	234	147			78		72		109	304	104			459	
TPH (C10-C36)			1485	3600	22000	4340	2330	2940		8970	19600	4880	36200	20760	28700	1010	4130	34460	
Benzo(a)pyrene	7.8		16.5	11.2	113	15.6	22.7	19.2		82.2	533	21.7	252	84	160	12.7	26.5	189	
PAHS Sum of Total	98.45		168	497	4064.6	963.3	428.1	374.2		1994.9	20626.5	678.1	12100	3886.4	10400	205.8	1264.5		147.85

NOTE:
LOCATION OF COFFEY BOREHOLES AND MONITORING WELLS IS APPROXIMATE ONLY.

All results are expressed in mg/kg concentration unless otherwise specified
- = No data available
Result = Data exceeding adopted site assessment criteria only
LOR's, Adopted Criteria's and Results are expressed in mg/kg unless stated otherwise
Result Shaded Green = Result > Adopted Residential Criteria
Result Shaded Yellow = Result > Adopted Residential Criteria and > Adopted Commercial/Industrial Criteria

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS

No.	BY	DATE	DESCRIPTION	APPD
01	SS	21.09.2010		DFM

SCALES:
5000 0 5000 10000 15000mm
1 : 500 FULL SIZE A1

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

DESIGNED	KP/DFM	CHECKED	KP/DFM
DRAWN	SS	CHECKED	JA
APPROVED	DFM	DATE	21.09.2010

DESIGNER:
AECOM
AECOM Australia Pty Ltd A.B.N. 20 093 846 925

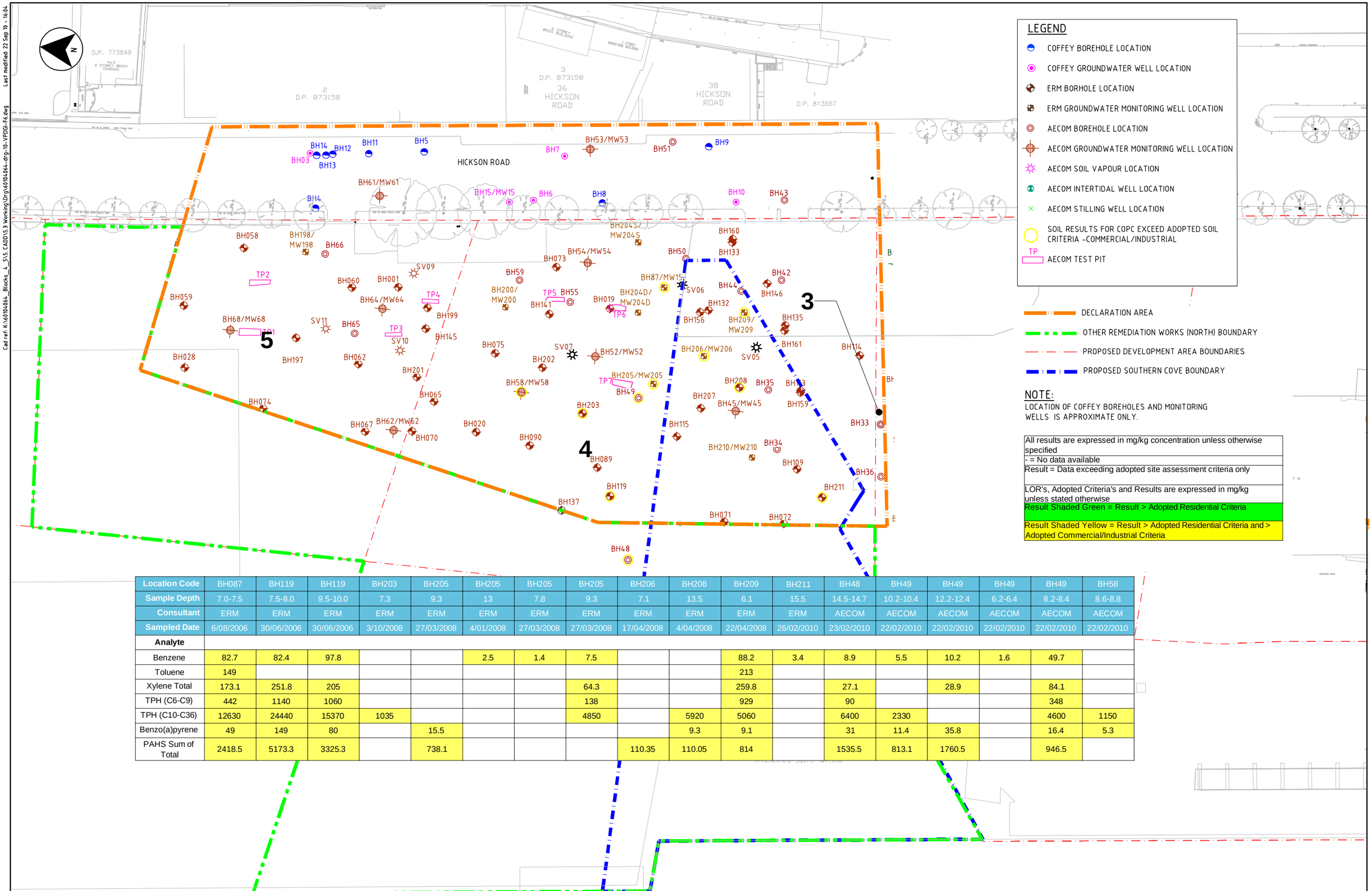
DECLARATION AREA DGI

SOIL EXCEEDENCES - BLOCK 3 AND 4
(0.0 - 5.0 m)
FIGURE F5

STATUS: FINAL
DRAWING NO: 60104064-DRG-10-VPDGI-F5
REV: 01

Last modified: 22 Sep 10 - 16:04

Cad ref: K:\60104064_Blocks_4_5\5. CAD\5.3 Working\Drg\60104064-drg-10-VPDGI-F6.dwg



LEGEND

- COFFEY BOREHOLE LOCATION
- COFFEY GROUNDWATER WELL LOCATION
- ERM BORHOLE LOCATION
- ERM GROUNDWATER MONITORING WELL LOCATION
- AECOM BOREHOLE LOCATION
- AECOM GROUNDWATER MONITORING WELL LOCATION
- AECOM SOIL VAPOUR LOCATION
- AECOM INTERTIDAL WELL LOCATION
- AECOM STILLING WELL LOCATION
- SOIL RESULTS FOR COPC EXCEED ADOPTED SOIL CRITERIA -COMMERCIAL/INDUSTRIAL
- TP AECOM TEST PIT

- DECLARATION AREA
- OTHER REMEDIATION WORKS (NORTH) BOUNDARY
- PROPOSED DEVELOPMENT AREA BOUNDARIES
- PROPOSED SOUTHERN COVE BOUNDARY

NOTE:
LOCATION OF COFFEY BOREHOLES AND MONITORING WELLS IS APPROXIMATE ONLY.

All results are expressed in mg/kg concentration unless otherwise specified
- = No data available
Result = Data exceeding adopted site assessment criteria only
LOR's, Adopted Criteria's and Results are expressed in mg/kg unless stated otherwise
Result Shaded Green = Result > Adopted Residential Criteria
Result Shaded Yellow = Result > Adopted Residential Criteria and > Adopted Commercial/Industrial Criteria

Location Code	BH087	BH119	BH119	BH203	BH205	BH205	BH205	BH205	BH206	BH208	BH209	BH211	BH48	BH49	BH49	BH49	BH49	BH58
Sample Depth	7.0-7.5	7.5-8.0	9.5-10.0	7.3	9.3	13	7.8	9.3	7.1	13.5	6.1	15.5	14.5-14.7	10.2-10.4	12.2-12.4	6.2-6.4	8.2-8.4	8.6-8.8
Consultant	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM
Sampled Date	6/08/2006	30/06/2006	30/06/2006	3/10/2008	27/03/2008	4/01/2008	27/03/2008	27/03/2008	17/04/2008	4/04/2008	22/04/2008	26/02/2010	23/02/2010	22/02/2010	22/02/2010	22/02/2010	22/02/2010	22/02/2010
Analyte																		
Benzene	82.7	82.4	97.8			2.5	1.4	7.5			88.2	3.4	8.9	5.5	10.2	1.6	49.7	
Toluene	149										213							
Xylene Total	173.1	251.8	205					64.3			259.8		27.1		28.9		84.1	
TPH (C6-C9)	442	1140	1060					138			929		90				348	
TPH (C10-C36)	12630	24440	15370	1035				4850		5920	5060		6400	2330			4600	1150
Benzo(a)pyrene	49	149	80		15.5					9.3	9.1		31	11.4	35.8		16.4	5.3
PAHS Sum of Total	2418.5	5173.3	3325.3		738.1				110.35	110.05	814		1535.5	813.1	1760.5		946.5	

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS

No.	BY	DATE	DESCRIPTION	APPD
01	SS	21.09.2010		DFM

SCALES:
5000 0 5000 10000 15000mm
1 : 500 FULL SIZE A1

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

DESIGNED	KP/DFM	CHECKED	KP/DFM
DRAWN	SS	CHECKED	JA
APPROVED	DFM	DATE	21.09.2010

DESIGNER:
AECOM
AECOM Australia Pty Ltd A.B.N. 20 093 846 925

DECLARATION AREA DGI

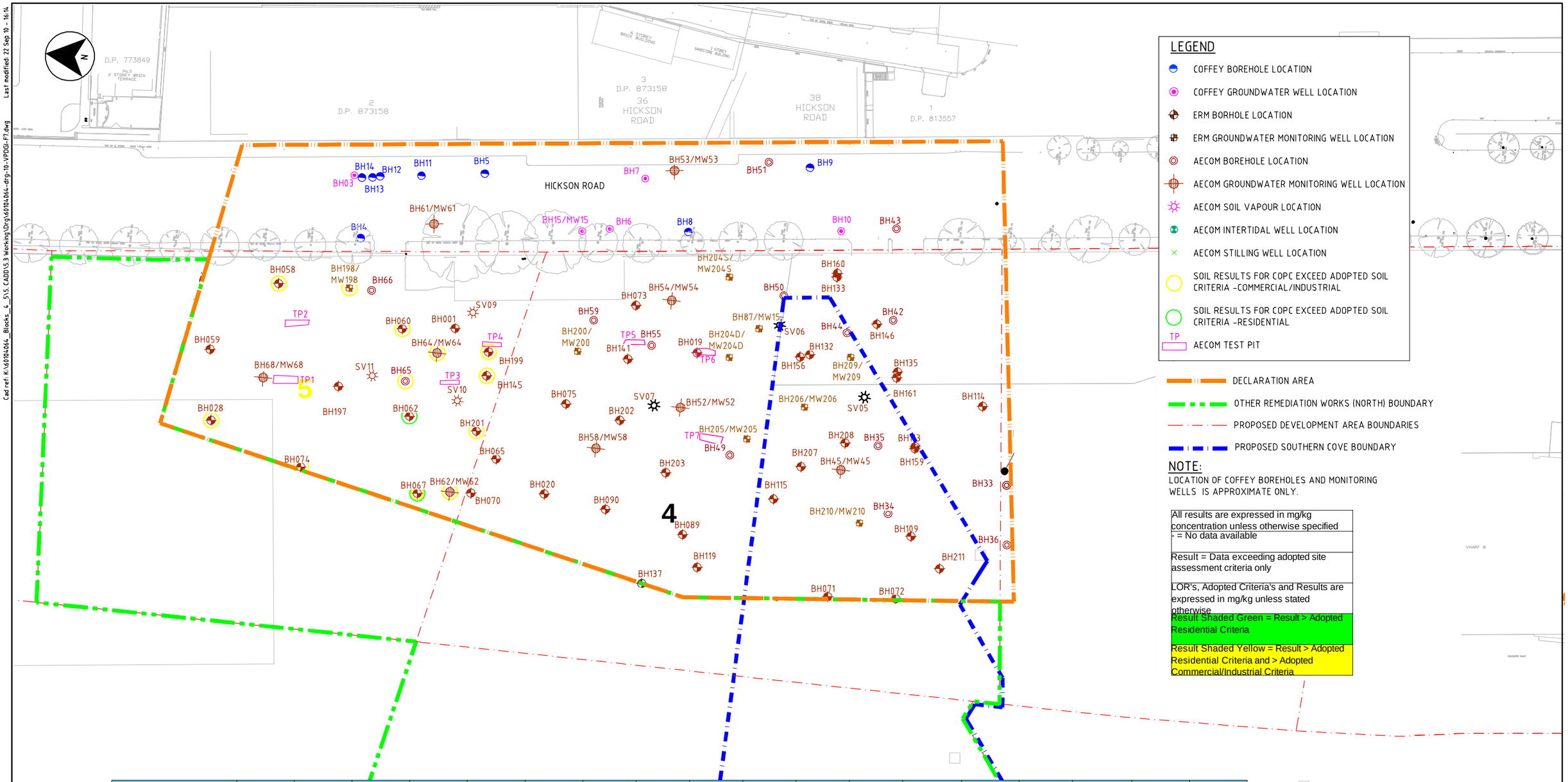
SOIL EXCEEDENCES - BLOCK 3 AND 4
(5.0 - 15.0m)
FIGURE F6

STATUS: FINAL

DRAWING NO: 60104064-DRG-10-VPDGI-F6

REV: 01

Last modified: 22 Sep 10 - 16:14
Cad ref: K:\60104064_Blocks_4_5\5. CAD\5.3 Working\Drg\60104064-drg-10-VPDGI-F7.dwg



LEGEND

- COFFEY BOREHOLE LOCATION
- COFFEY GROUNDWATER WELL LOCATION
- ERM BORHOLE LOCATION
- ERM GROUNDWATER MONITORING WELL LOCATION
- AECOM BOREHOLE LOCATION
- AECOM GROUNDWATER MONITORING WELL LOCATION
- AECOM SOIL VAPOUR LOCATION
- AECOM INTERTIDAL WELL LOCATION
- AECOM STILLING WELL LOCATION
- SOIL RESULTS FOR COPC EXCEED ADOPTED SOIL CRITERIA -COMMERCIAL/INDUSTRIAL
- SOIL RESULTS FOR COPC EXCEED ADOPTED SOIL CRITERIA -RESIDENTIAL
- TP — AECOM TEST PIT

- DECLARATION AREA
- OTHER REMEDIATION WORKS (NORTH) BOUNDARY
- PROPOSED DEVELOPMENT AREA BOUNDARIES
- PROPOSED SOUTHERN COVE BOUNDARY

NOTE:
LOCATION OF COFFEY BOREHOLES AND MONITORING WELLS IS APPROXIMATE ONLY.

All results are expressed in mg/kg concentration unless otherwise specified

- = No data available

Result = Data exceeding adopted site assessment criteria only

LOR's, Adopted Criteria's and Results are expressed in mg/kg unless stated otherwise

Result Shaded Green = Result > Adopted Residential Criteria

Result Shaded Yellow = Result > Adopted Residential Criteria and > Adopted Commercial/Industrial Criteria

Location Code	BH028	BH058	BH062	BH062	BH067	BH067	BH074	BH074	BH145	BH198	BH199	BH199	BH62	BH64	BH64	BH65	BH65	SV09
Sample Depth	3.0-3.45	1.5-1.95	1.5-1.95	3.0-3.45	1.5-1.95	3.0-3.45	1.5-1.95	3.0-3.45	0.3-0.5	3	2.7	3.7	3.4-3.8	1.0-1.2	2.5-2.7	3.4-3.6	2.3-2.4	0.2-0.4
Consultant	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM
Sampled Date	5/12/2006	31/05/2006	31/05/2006	31/05/2006	6/01/2006	6/01/2006	5/02/2006	5/02/2006	7/11/2006	3/06/2006	3/11/2008	3/11/2008	26/02/2010	3/01/2010	3/01/2010	24/02/2010	24/02/2010	26/02/2010
Analyte	**Result**																	
Benzene												6.4						
Xylene Total												45.3						
Lead	1500		2870		13600		1930	1420					1300			2110		
TPH (C6-C9)												96						
TPH (C10-C36) Sum of Total		3150	1220		1125	4535			3470	9490	1145	4490		3230	1230	13970		3280
Benzo(a)pyrene		25.3	19.9	4.2		4.5			72.4	26.3	14.4	27.4		69.8		27	10.9	25.4
PAHS Sum of Total		368.6	228.55						849.7	274.8	217.2	1158.9		1460		532.8	105	495

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS

No.	BY	DATE	DESCRIPTION	APPD
01	SS	21.09.2010		DFM

SCALES:
5000 0 5000 10000 15000mm
1:500 FULL SIZE A1

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001:2000

DESIGNED	KP/DFM	CHECKED	KP/DFM
DRAWN	SS	CHECKED	JA
APPROVED	DFM	DATE	21.09.2010

DESIGNER:
AECOM
AECOM Australia Pty Ltd A.B.N. 20 093 846 925

DECLARATION AREA DGI

SOIL EXCEEDENCES - BLOCK 5
(0.0 - 5.0 m)
FIGURE F7

STATUS: FINAL
DRAWING NO: 60104064-DRG-10-VPDGI-F7
REV: 01

Last modified: 22 Sep 10 - 16:31

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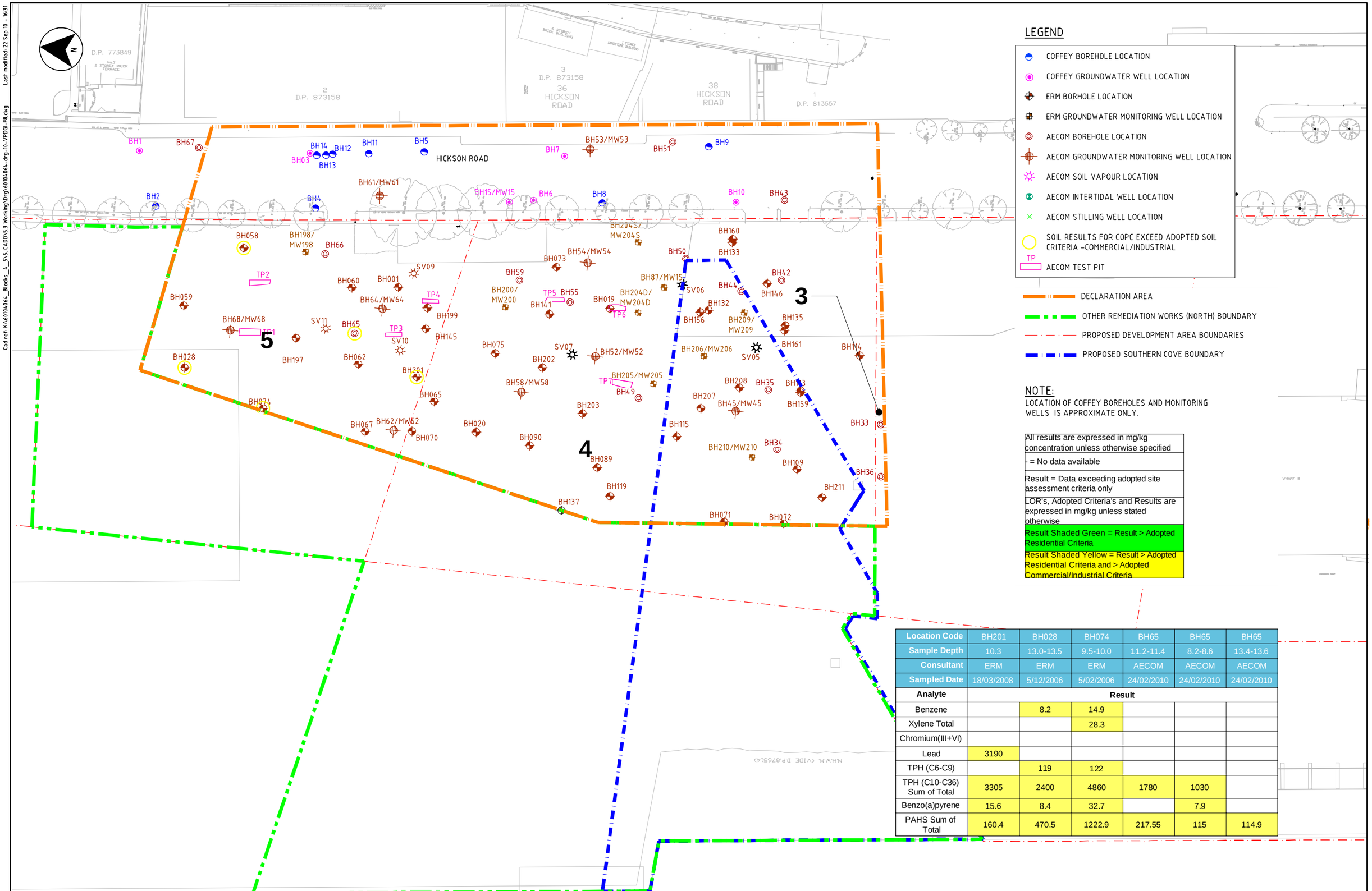

LEGEND

- COFFEY BOREHOLE LOCATION
- COFFEY GROUNDWATER WELL LOCATION
- ERM BORHOLE LOCATION
- ERM GROUNDWATER MONITORING WELL LOCATION
- AECOM BOREHOLE LOCATION
- AECOM GROUNDWATER MONITORING WELL LOCATION
- AECOM SOIL VAPOUR LOCATION
- AECOM INTERTIDAL WELL LOCATION
- AECOM STILLING WELL LOCATION
- SOIL RESULTS FOR COPC EXCEED ADOPTED SOIL CRITERIA -COMMERCIAL/INDUSTRIAL
- TP AECOM TEST PIT

- DECLARATION AREA
- OTHER REMEDIATION WORKS (NORTH) BOUNDARY
- PROPOSED DEVELOPMENT AREA BOUNDARIES
- PROPOSED SOUTHERN COVE BOUNDARY

NOTE:
LOCATION OF COFFEY BOREHOLES AND MONITORING WELLS IS APPROXIMATE ONLY.

All results are expressed in mg/kg concentration unless otherwise specified
- = No data available
Result = Data exceeding adopted site assessment criteria only
LOR's, Adopted Criteria's and Results are expressed in mg/kg unless stated otherwise
Result Shaded Green = Result > Adopted Residential Criteria
Result Shaded Yellow = Result > Adopted Residential Criteria and > Adopted Commercial/Industrial Criteria

Location Code	BH201	BH028	BH074	BH65	BH65	BH65
Sample Depth	10.3	13.0-13.5	9.5-10.0	11.2-11.4	8.2-8.6	13.4-13.6
Consultant	ERM	ERM	ERM	AECOM	AECOM	AECOM
Sampled Date	18/03/2008	5/12/2006	5/02/2006	24/02/2010	24/02/2010	24/02/2010
Analyte	Result					
Benzene		8.2	14.9			
Xylene Total			28.3			
Chromium(III+VI)						
Lead	3190					
TPH (C6-C9)		119	122			
TPH (C10-C36) Sum of Total	3305	2400	4860	1780	1030	
Benzo(a)pyrene	15.6	8.4	32.7		7.9	
PAHS Sum of Total	160.4	470.5	1222.9	217.55	115	114.9

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS

No.	BY	DATE	DESCRIPTION	APPD
01	SS	21.09.2010		DFM

SCALES:
5000 0 5000 10000 15000mm
1 : 500 FULL SIZE A1

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

DESIGNED	KP/DFM	CHECKED	KP/DFM
DRAWN	SS	CHECKED	JA
APPROVED	DFM	DATE	21.09.2010

DESIGNER:
AECOM
AECOM Australia Pty Ltd A.B.N. 20 093 846 925

DECLARATION AREA DGI

SOIL EXCEEDENCES - BLOCK 5
(5.0 - 15.0m)
FIGURE F8

STATUS: FINAL
DRAWING NO: 60104064-DRG-10-VPDGI-F8
REV: 01

Last modified: 22 Sep 10 - 16:38
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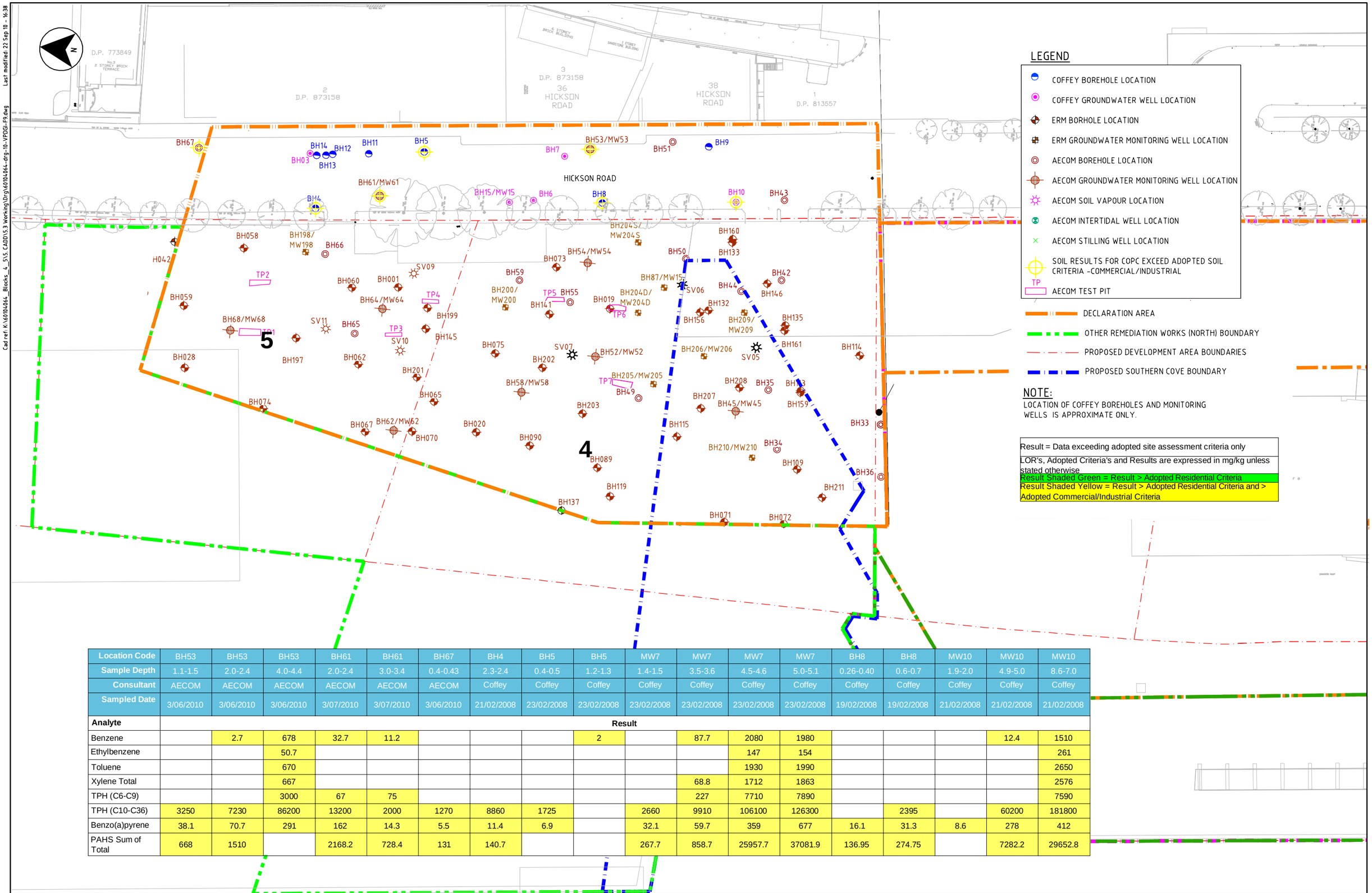


Location Code	BH53	BH53	BH53	BH61	BH61	BH67	BH4	BH5	BH5	MW7	MW7	MW7	MW7	BH8	BH8	MW10	MW10	MW10
Sample Depth	1.1-1.5	2.0-2.4	4.0-4.4	2.0-2.4	3.0-3.4	0.4-0.43	2.3-2.4	0.4-0.5	1.2-1.3	1.4-1.5	3.5-3.6	4.5-4.6	5.0-5.1	0.26-0.40	0.6-0.7	1.9-2.0	4.9-5.0	8.6-7.0
Consultant	AECOM	AECOM	AECOM	AECOM	AECOM	AECOM	Coffey	Coffey	Coffey	Coffey	Coffey	Coffey	Coffey	Coffey	Coffey	Coffey	Coffey	Coffey
Sampled Date	3/06/2010	3/06/2010	3/06/2010	3/07/2010	3/07/2010	3/06/2010	21/02/2008	23/02/2008	23/02/2008	23/02/2008	23/02/2008	23/02/2008	23/02/2008	19/02/2008	19/02/2008	21/02/2008	21/02/2008	21/02/2008
Analyte	**Result**																	
Benzene		2.7	678	32.7	11.2				2		87.7	2080	1980				12.4	1510
Ethylbenzene			50.7									147	154					261
Toluene			670									1930	1990					2650
Xylene Total			667								68.8	1712	1863					2576
TPH (C6-C9)			3000	67	75						227	7710	7890					7590
TPH (C10-C36)	3250	7230	86200	13200	2000	1270	8860	1725		2660	9910	106100	126300		2395		60200	181800
Benzo(a)pyrene	38.1	70.7	291	162	14.3	5.5	11.4	6.9		32.1	59.7	359	677	16.1	31.3	8.6	278	412
PAHS Sum of Total	668	1510		2168.2	728.4	131	140.7			267.7	858.7	25957.7	37081.9	136.95	274.75		7282.2	29652.8

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS

No.	BY	DATE	DESCRIPTION	APPD
01	SS	21.09.2010		DFM

SCALES:
5000 0 5000 10000 15000mm
1 : 500 FULL SIZE A1

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

DESIGNED	KP/DFM	CHECKED	KP/DFM
DRAWN	SS	CHECKED	JA
APPROVED	DFM	DATE	21.09.2010

DESIGNER:
AECOM
AECOM Australia Pty Ltd A.B.N. 20 093 846 925

DECLARATION AREA DGI

SOIL EXCEEDENCES - HICKSON ROAD
FIGURE F9

STATUS: FINAL
DRAWING NO: 60104064-DRG-10-VPDGI-F9
REV: 01

Last modified: 22 Sep 10 - 16:43

Cad ref: K:\60104064_Blocks_4_5\5. CADD\5.3 Working\Drg\60104064-drg-10-VPDGI-F10.dwg

D.P. 773849
No.3
2 STOREY BRICK TERRACE
2
D.P. 873158
3
D.P. 873158
6 STOREY BRICK BUILDING
1 STOREY SANDSTONE BUILDING
36
HICKSON
ROAD
38
HICKSON
ROAD
1
D.P. 813557
HICKSON ROAD
WHARF B

BH14 BH12 BH03 BH13 BH11 BH5 BH53/MW53 BH7 BH51 BH9
BH61/MW61 BH4 BH15/MW15 BH6 BH8 BH10 BH43
BH204S/MW204S BH160 BH133 BH50
BH058 BH198/MW198 BH66 BH073 BH54/MW54
TP2 SV09 BH59 BH87/MW15 BH42
BH060 BH001 BH200/MW200 SV06 BH44 BH146
BH059 BH64/MW64 TP4 TP5 BH55 BH141 BH019 BH204D/MW204D BH132
BH68/MW68 TP1 SV11 BH65 TP3 BH199 TP6 BH156 BH209/MW209 BH135
5 SV10 BH145 BH075 SV07 BH52/MW52 BH206/MW206 SV05 BH161 BH114
BH028 BH197 BH062 BH202 BH205/MW205
BH201 TP7 BH208 BH35 BH163
BH074 BH065 BH58/MW58 BH49 BH207 BH45/MW45 BH159
BH203
BH067 BH62/MW62 BH020 BH115 BH33
BH070 BH090 BH210/MW210 BH34
4 BH089 BH109
BH119 BH36
BH211
BH137 BH071 BH072
3

LEGEND

- COFFEY BOREHOLE LOCATION
- COFFEY GROUNDWATER WELL LOCATION
- ERM BORHOLE LOCATION
- ERM GROUNDWATER MONITORING WELL LOCATION
- AECOM BOREHOLE LOCATION
- AECOM GROUNDWATER MONITORING WELL LOCATION
- AECOM SOIL VAPOUR LOCATION
- AECOM INTERTIDAL WELL LOCATION
- AECOM STILLING WELL LOCATION
- SOIL RESULTS FOR COPC EXCEED ADOPTED SOIL CRITERIA -COMMERCIAL/INDUSTRIAL, RESIDENTIAL AND PUBLIC AREAS
- TP AECOM TEST PIT

- DECLARATION AREA
- OTHER REMEDIATION WORKS (NORTH) BOUNDARY
- PROPOSED DEVELOPMENT AREA BOUNDARIES
- PROPOSED SOUTHERN COVE BOUNDARY

NOTE:
LOCATION OF COFFEY BOREHOLES AND MONITORING WELLS IS APPROXIMATE ONLY.

Result = Data exceeding adopted site assessment criteria only
LOR's, Adopted Criteria's and Results are expressed in mg/kg unless stated otherwise
Result Shaded Brown = Result > Adopted Residential Criteria, > Adopted Commercial/Industrial Criteria and > Adopted Criteria - Public Domain

Location Code	BH132	BH132	BH207
Sample Depth	1.5-1.95	8.0-8.5	12
Consultant	ERM	ERM	ERM
Sampled Date	7/06/2006	7/06/2006	4/03/2008
Analyte	**Result**		
Lead	12100		
Benzene		140	
Toluene		232	
Xylene Total		345	
TPH (C6-C9)		1050	
TPH (C10-C36)		6100	
Benzo(a)pyrene	17.1	28	4.8
PAHS Sum of Total	189.2	1700.3	53.85

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS

No.	BY	DATE	DESCRIPTION	APPD
01	SS	21.09.2010		DFM

SCALES:
5000 0 5000 10000 15000mm
1 : 500 FULL SIZE A1

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

DESIGNED	KP/DFM	CHECKED	KP/DFM
DRAWN	SS	CHECKED	JA
APPROVED	DFM	DATE	21.09.2010

DESIGNER:
AECOM
AECOM Australia Pty Ltd A.B.N. 20 093 846 925

DECLARATION AREA DGI

SOIL EXCEEDENCES
PROPOSED SOUTHERN COVE AREA
FIGURE F10

STATUS: FINAL
DRAWING NO: 60104064-DRG-10-VPDGI-F10
REV: 01

Cad ref: K:\60104064_Blocks_4_5\5.CADD\5.3 Working\Drg\60104064-drg-10-VPDGI-F11.dwg Last modified: 22 Sep 10 - 16:59

Location Code	BH58
Monitoring Well ID	MW58
Consultant	AECOM
Sampled Date	17/03/2010
Area	Declaration Area - Block 4

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	13600
Cobalt (Filtered)	mg/L	0.0001	0.001	0.001
Nickel (Filtered)	mg/L	0.0005	0.07	0.104
Zinc (Filtered)	mg/L	0.001	0.015	0.089

Field ID	QC237
Location Code	AECOM_BH58
Monitoring Well ID	MW58
Consultant	AECOM
Sampled Date	17/03/2010
Area	Declaration Area - Block 4

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	13800
Cobalt (Filtered)	mg/L	0.0001	0.001	0.001
Nickel (Filtered)	mg/L	0.0005	0.07	0.097
Zinc (Filtered)	mg/L	0.001	0.015	0.086

Location Code	BH198
Monitoring Well ID	MW198
Consultant	ERM
Sampled Date	16/03/2010
Area	Declaration Area - Block 5

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	27400
Cobalt (Filtered)	mg/L	0.0001	0.001	0.0029
Nickel (Filtered)	mg/L	0.0005	0.07	0.0814
Zinc (Filtered)	mg/L	0.001	0.015	0.113
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**710**

Location Code	BH200
Monitoring Well ID	MW200
Consultant	ERM
Sampled Date	16/03/2010
Area	Declaration Area - Block 4

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Benzene	µg/L	1	700	16200
Cobalt (Filtered)	mg/L	0.0001	0.001	0.0012
Mercury (Filtered)	mg/L	0.0001	0.0001**	0.0002
Naphthalene	µg/L	0.5	70	7950
TPH C6 - C9	µg/L	20	-	**22400**
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**122650**

Location Code	BH54
Monitoring Well ID	MW54
Consultant	AECOM
Sampled Date	19/03/2010
Area	Declaration Area - Block 4

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	10800
Cobalt (Filtered)	mg/L	0.0001	0.001	0.006
Mercury (Filtered)	mg/L	0.0001	0.0001**	0.0001
Nickel (Filtered)	mg/L	0.0005	0.07	0.0726
Zinc (Filtered)	mg/L	0.001	0.015	0.065
Naphthalene	µg/L	0.5	70	8640
TPH C6 - C9	µg/L	20	-	**3730**
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**39300**

Location Code	BH64
Monitoring Well ID	MW64
Consultant	AECOM
Sampled Date	20/03/2010
Area	Declaration Area - Block 5

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	2660
Cobalt (Filtered)	mg/L	0.0001	0.001	0.0074
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**2660**

Location Code	BH204
Monitoring Well ID	MW204S
Consultant	ERM
Sampled Date	15/03/2010
Area	Declaration Area - Block 4

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	5360
Copper (Filtered)	mg/L	0.0005	0.0013	0.0052
Zinc (Filtered)	mg/L	0.001	0.015	0.075
Naphthalene	µg/L	0.5	70	6740
TPH C6 - C9	µg/L	20	-	**890**
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**27400**

Location Code	BH69
Monitoring Well ID	MW69
Consultant	AECOM
Sampled Date	19/03/2010
Area	Declaration Area - Block 5

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	90400
Benzene	µg/L	1	700	868
Cobalt (Filtered)	mg/L	0.0001	0.001	0.0063
Naphthalene	µg/L	0.5	70	1920
TPH C6 - C9	µg/L	20	-	**3400**
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**11460**

Location Code	BH209
Monitoring Well ID	MW209
Consultant	ERM
Sampled Date	16/03/2010
Area	Declaration Area - Block 4

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	7480
Benzene	µg/L	1	700	772
Chromium (III+VI) (Filtered)	mg/L	0.0002	0.0044	0.0102
Cobalt (Filtered)	mg/L	0.0001	0.001	0.0013
Lead (Filtered)	mg/L	0.0001	0.0044	0.0176
Zinc (Filtered)	mg/L	0.001	0.015	0.613
Naphthalene	µg/L	0.5	70	677
TPH C6 - C9	µg/L	20	-	1380
TPH+C10 - C36 (Sum of total)	µg/L	50	-	3390

Location Code	BH68
Monitoring Well ID	MW68
Consultant	AECOM
Sampled Date	18/03/2010
Area	Declaration Area - Block 5

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	5460

Location Code	BH087
Monitoring Well ID	MW15
Consultant	ERM
Sampled Date	15/03/2010
Area	Declaration Area - Block 4

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	37200
Benzene	µg/L	1	700	13100
Mercury (Filtered)	mg/L	0.0001	0.0001**	0.0002
Naphthalene	µg/L	0.5	70	7800
TPH C6 - C9	µg/L	20	-	**46200**
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**55870**

Location Code	BH62
Monitoring Well ID	MW62
Consultant	AECOM
Sampled Date	17/03/2010
Area	Declaration Area - Block 5

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	8470
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**1460**

Location Code	BH52
Monitoring Well ID	MW52
Consultant	AECOM
Sampled Date	19/03/2010
Area	Declaration Area - Block 4

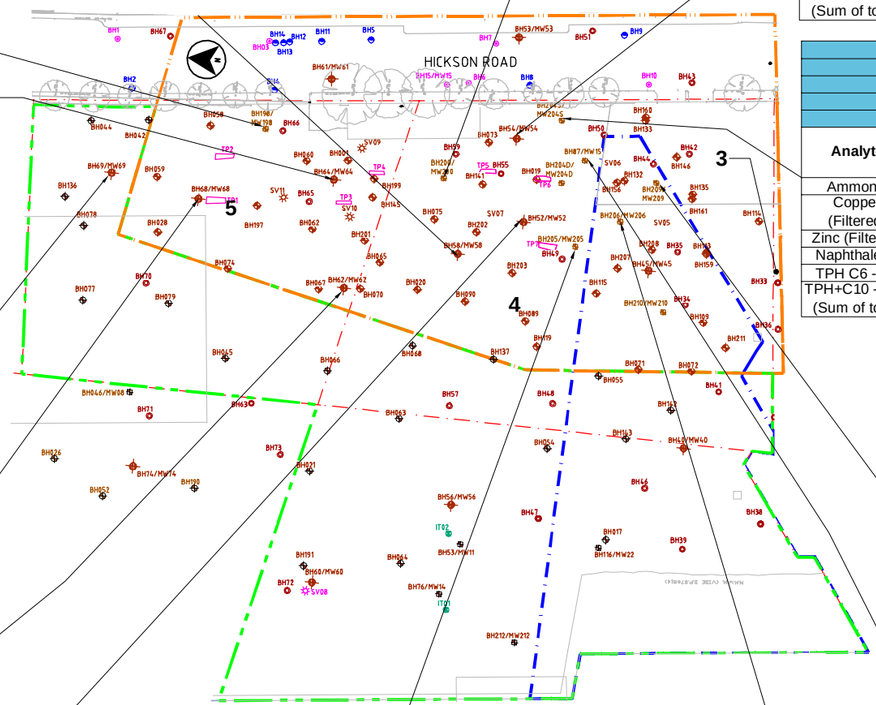
Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Cobalt (Filtered)	mg/L	0.0001	0.001	0.0013
Zinc (Filtered)	mg/L	0.001	0.015	0.016

Location Code	BH205
Monitoring Well ID	MW205
Consultant	ERM
Sampled Date	17/03/2010
Area	Declaration Area - Block 4

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Naphthalene	µg/L	0.5	70	283000
Phenol	µg/L	0.5	400	503
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**3580000**

Location Code	BH206
Monitoring Well ID	MW206
Consultant	ERM
Sampled Date	19/03/2010
Area	Declaration Area - Block 4

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Benzene	µg/L	1	700	5450
Naphthalene	µg/L	0.5	70	10600
TPH C6 - C9	µg/L	20	-	**13300**
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**153000**



DECLARATION AREA

OTHER REMEDIATION WORKS (NORTH) BOUNDARY

PROPOSED DEVELOPMENT AREA BOUNDARIES

PROPOSED SOUTHERN COVE BOUNDARY

1 PROPOSED DEVELOPMENT BLOCK AREA

AECOM_BH01 = Denotes AECOM Borehole location
BH101 = Denotes ERM Borehole location
mg/L - milligrams pre litre
µg/L - micrograms per litre
LOR - Laboratory Limit of Reporting
- = No data available
** ANZECC (2000) Marine Water (99%) trigger value
Result = Data exceeding adopted site assessment criteria only
Result Shaded = Result > Adopted Groundwater Criteria
Result Bold = Result > Adopted Groundwater Screening Criteria - LOR

LEGEND

- COFFEY BOREHOLE LOCATION
- COFFEY GROUNDWATER WELL LOCATION
- ERM BORHOLE LOCATION
- ERM GROUNDWATER MONITORING WELL LOCATION
- AECOM BOREHOLE LOCATION
- AECOM GROUNDWATER MONITORING WELL LOCATION
- AECOM SOIL VAPOUR LOCATION
- AECOM INTERTIDAL WELL LOCATION
- AECOM STILLING WELL LOCATION
- TP AECOM TEST PIT

NOTE:

LOCATION OF COFFEY BOREHOLES AND MONITORING WELLS IS APPROXIMATE ONLY.

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS				
No.	BY	DATE	DESCRIPTION	APPD
01	SS	21.09.2010		DFM

SCALES:

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

DESIGNED	KP/DFM	CHECKED	KP/DFM
DRAWN	SS	CHECKED	JA
APPROVED	DFM	DATE	21.09.2010

DESIGNER:

AECOM

AECOM Australia Pty Ltd A.B.N. 20 093 846 925

DECLARATION AREA DGI

GROUNDWATER EXCEEDENCES
BLOCKS 4 AND 5
FIGURE F11

STATUS:	DRAWING NO:	REV:
FINAL	60104064-DRG-10-VPDGI-F11	01

Last modified: 22 Sep 10 - 16:57

Cad ref: K:\60104064_Blacks_4_SIS_CADD\S3 Working\Drg\60104064-drg-10-VPDGI-F12.dwg

Location Code	BH61
Monitoring Well ID	MW61
Consultant	AECOM
Sampled Date	20/03/2010
Area	Declaration Area - Hickson Road

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Cobalt (Filtered)	mg/L	0.0001	0.001	0.001
Naphthalene	µg/L	0.5	70	150
TPH C6 - C9	µg/L	20	-	**520**
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**2650**

Location Code	BH3
Monitoring Well ID	MW3
Consultant	Coffey
Sampled Date	20/03/2010
Area	Declaration Area - Hickson Rd

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	1810
Chromium (III+VI) (Filtered)	mg/L	0.0002	0.0044	0.005
Cobalt (Filtered)	mg/L	0.0001	0.001	0.0252
Copper (Filtered)	mg/L	0.0005	0.0013	0.0086
Lead (Filtered)	mg/L	0.0001	0.0044	0.0074
Nickel (Filtered)	mg/L	0.0005	0.07	0.186
Zinc (Filtered)	mg/L	0.001	0.015	0.2
Naphthalene	µg/L	0.5	70	699
TPH C6 - C9	µg/L	20	-	**40**
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**5940**

Location Code	BH6
Monitoring Well ID	MW6
Consultant	Coffey
Sampled Date	20/03/2010
Area	Declaration Area - Hickson Rd

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Cobalt (Filtered)	mg/L	0.0001	0.001	0.0035
Lead (Filtered)	mg/L	0.0001	0.0044	0.0147
Zinc (Filtered)	mg/L	0.001	0.015	0.125

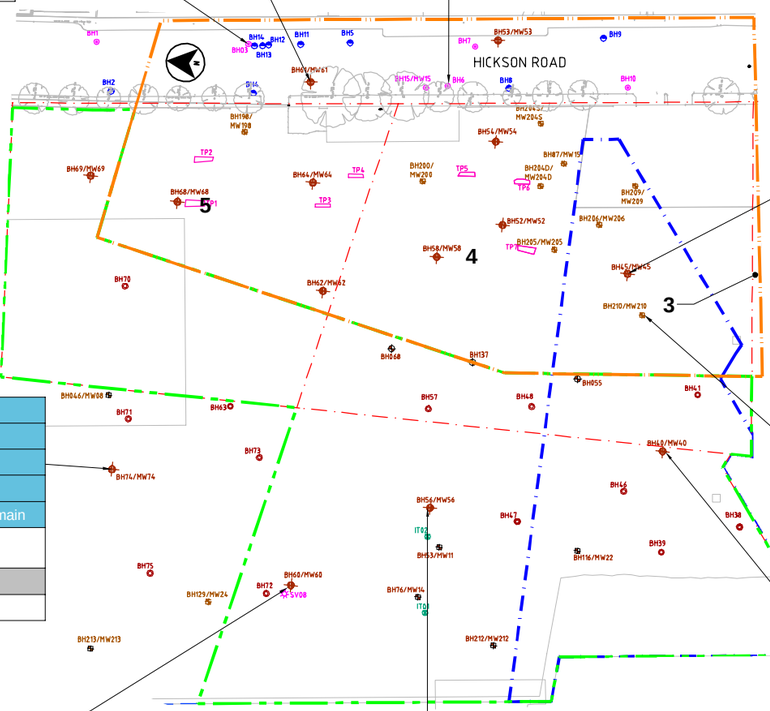
LEGEND

- COFFEY BOREHOLE LOCATION
- COFFEY GROUNDWATER WELL LOCATION
- ERM BORHOLE LOCATION
- ERM GROUNDWATER MONITORING WELL LOCATION
- AECOM BOREHOLE LOCATION
- AECOM GROUNDWATER MONITORING WELL LOCATION
- AECOM SOIL VAPOUR LOCATION
- AECOM INTERTIDAL WELL LOCATION
- AECOM STILLING WELL LOCATION
- TP — AECOM TEST PIT

AECOM_BH01 = Denotes AECOM Borehole location
BH101 = Denotes ERM Borehole location
mg/L - milligrams pre litre
µg/L - micrograms per litre
LOR - Laboratory Limit of Reporting
- = No data available
** ANZECC (2000) Marine Water (99%) trigger value
Result = Data exceeding adopted site assessment criteria only
Result Shaded = Result > Adopted Groundwater Criteria
Result Bold = Result > Adopted Groundwater Screening Criteria - LOR

- DECLARATION AREA
- OTHER REMEDIATION WORKS (NORTH) BOUNDARY
- PROPOSED DEVELOPMENT AREA BOUNDARIES
- PROPOSED SOUTHERN COVE BOUNDARY
- 1 PROPOSED DEVELOPMENT BLOCK AREA

NOTE:
LOCATION OF COFFEY BOREHOLES AND MONITORING WELLS IS APPROXIMATE ONLY.



Location Code	BH45
Monitoring Well ID	MW45
Consultant	AECOM
Sampled Date	19/03/2010
Area	Declaration Area - Proposed Southern Cove

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Cadmium (Filtered)	mg/L	0.00005	0.0055	0.0115
Cobalt (Filtered)	mg/L	0.0001	0.001	0.008

Location Code	BH74
Monitoring Well ID	MW74
Consultant	AECOM
Sampled Date	18/03/2010
Area	Declaration Area - Public Domain

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Zinc (Filtered)	mg/L	0.001	0.015	0.018
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**420**

Location Code	BH210
Monitoring Well ID	MW210
Consultant	ERM
Sampled Date	16/03/2010
Area	Declaration Area - Proposed Southern Cove

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	5240
Mercury (Filtered)	mg/L	0.0001	0.0001**	0.0001
TPH C6 - C9	µg/L	20	-	**30**
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**940**

Location Code	BH60
Monitoring Well ID	MW60
Consultant	AECOM
Sampled Date	18/03/2010
Area	Declaration Area - Public Domain

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Benzene	µg/L	1	700	1380
Cobalt (Filtered)	mg/L	0.0001	0.001	0.0566
Copper (Filtered)	mg/L	0.0005	0.0013	0.032
Lead (Filtered)	mg/L	0.0001	0.0044	0.0362
Nickel (Filtered)	mg/L	0.0005	0.07	0.148
Zinc (Filtered)	mg/L	0.001	0.015	0.591
Naphthalene	µg/L	0.5	70	1500
TPH C6 - C9	µg/L	20	-	**4360**
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**21200**

Location Code	BH56
Monitoring Well ID	MW56
Consultant	AECOM
Sampled Date	17/03/2010
Area	Declaration Area - Public Domain

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Cobalt (Filtered)	mg/L	0.0001	0.001	0.0342
Copper (Filtered)	mg/L	0.0005	0.0013	0.017
Lead (Filtered)	mg/L	0.0001	0.0044	0.02
Mercury (Filtered)	mg/L	0.0001	0.0001**	0.0001
Nickel (Filtered)	mg/L	0.0005	0.07	0.0781
Zinc (Filtered)	mg/L	0.001	0.015	0.191
TPH C6 - C9	µg/L	20	-	**1460**
TPH+C10 - C36 (Sum of total)	µg/L	50	-	**1360**

Location Code	BH40
Monitoring Well ID	MW40
Consultant	AECOM
Sampled Date	20/03/2010
Area	Declaration Area - Proposed Southern Cove

Analyte	Units	LOR	Adopted Groundwater Criteria	Result
Ammonia	µg/L	10	910	9700
Cobalt (Filtered)	mg/L	0.0001	0.001	0.0019
Copper (Filtered)	mg/L	0.0005	0.0013	0.004
Zinc (Filtered)	mg/L	0.001	0.015	0.021
Naphthalene	µg/L	0.5	70	244

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS

No.	BY	DATE	DESCRIPTION	APPD
01	SS	21.09.2010		DFM

SCALES:

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

DESIGNED	KP/DFM	CHECKED	KP/DFM
DRAWN	SS	CHECKED	JA
APPROVED	DFM	DATE	21.09.2010

DESIGNER:

AECOM

AECOM Australia Pty Ltd A.B.N. 20 093 846 925

DECLARATION AREA DGI

GROUNDWATER EXCEEDENCES HICKSON RD, PUBLIC DOMAIN AND PROPOSED SOUTHERN COVE
FIGURE F12

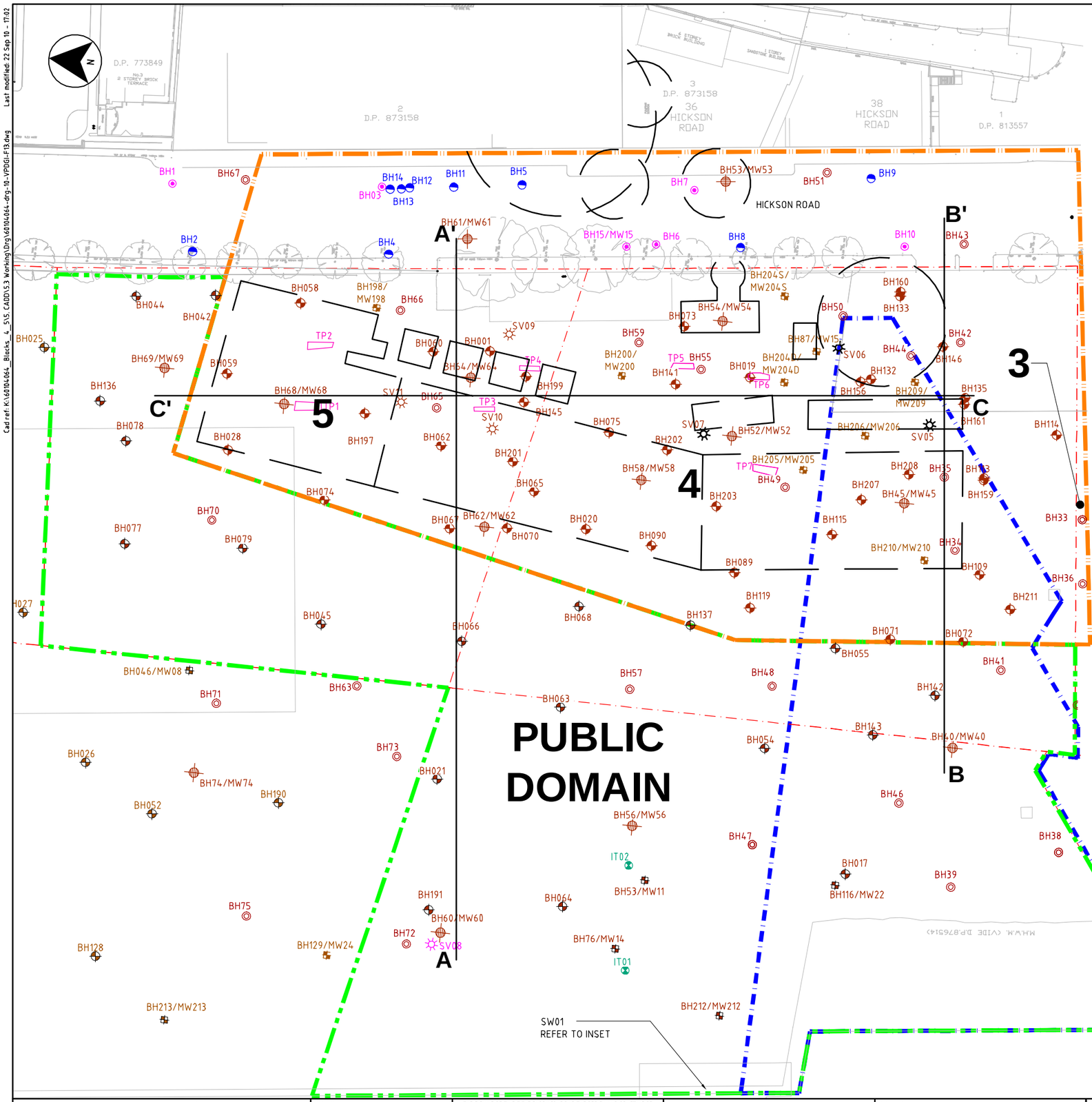
STATUS: FINAL

DRAWING NO: 60104064-DRG-10-VPDGI-F12

REV: 01

Last modified: 22 Sep 10 - 17:02

Cad ref: K:\60104064_Blacks_4_5\5. CADD\5.3 Working\Drg\60104064-drg-10-VPDGI-F13.dwg



LEGEND

- COFFEY BOREHOLE LOCATION
- COFFEY GROUNDWATER WELL LOCATION
- ERM BORHOLE LOCATION
- ERM GROUNDWATER MONITORING WELL LOCATION
- AECOM BOREHOLE LOCATION
- AECOM GROUNDWATER MONITORING WELL LOCATION
- AECOM SOIL VAPOUR LOCATION
- AECOM INTERTIDAL WELL LOCATION
- AECOM STILLING WELL LOCATION
- TP AECOM TEST PIT

DECLARATION AREA

OTHER REMEDIATION WORKS (NORTH) BOUNDARY

PROPOSED DEVELOPMENT AREA BOUNDARIES

PROPOSED SOUTHERN COVE BOUNDARY

A' A LINE OF CROSSECTION

1 PROPOSED DEVELOPMENT BLOCK AREA

NOTES:

1. LOCATION OF COFFEY BOREHOLES AND MONITORING WELLS IS APPROXIMATE ONLY.
2. REFER TO FIGURES F14 ONWARDS FOR RESPECTIVE CROSS SECTIONS.

INSET
SCALE 1:500

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS				
No.	BY	DATE	DESCRIPTION	APPD
01	SS	21.09.2010		DFM

SCALES:

5000 0 5000 10000 15000mm

1 : 500 FULL SIZE A1

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

DESIGNED	KP/DFM	CHECKED	KP/DFM
DRAWN	SS	CHECKED	JA
APPROVED	DFM	DATE	21.09.2010

DESIGNER:

AECOM

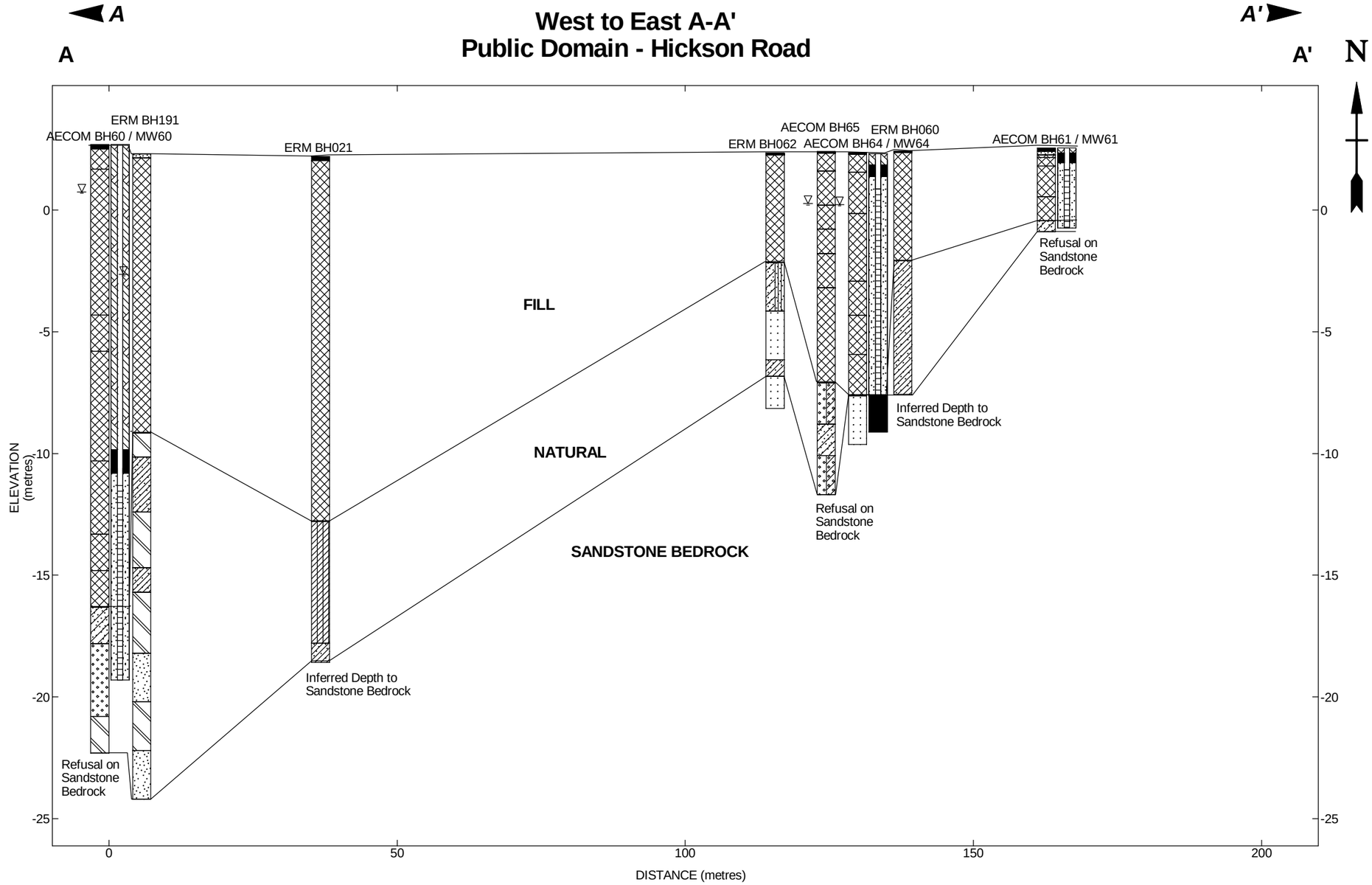
AECOM Australia Pty Ltd A.B.N. 20 093 846 925

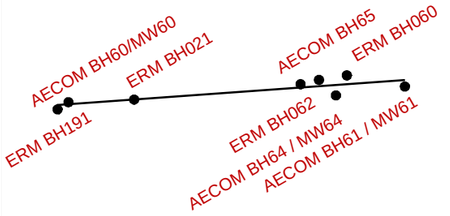
DECLARATION AREA DGI

SITE PLAN AND CROSS SECTION LOCATIONS
FIGURE F13

STATUS:	DRAWING NO:	REV:
FINAL	60104064-DRG-10-VPDGI-F13	01

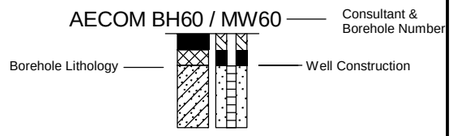
West to East A-A'
Public Domain - Hickson Road





Site Map Scale 1:2,900

Explanation:



Encountered Water Level

Stabilised Water Level

Horizontal Scale (metres)

Vertical Exaggeration: 4x

Lithology Graphics

- Asphalt
- Fill (made ground)
- USCS Clayey Sand
- USCS Well-graded Sand
- USCS Low to High Plasticity Clay
- Concrete
- Sandstone
- USCS Well-graded Sand with Clay
- USCS Low Plasticity Silty Clay
- USCS Low Plasticity Sandy Clay
- USCS Clayey Sand
- USCS Poorly-graded Sand

Well Graphics

- Casing
- Cement Grout
- Bentonite Seal
- Filter Pack
- Screen
- Bentonite: Bottom of hole

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
2072

FIGURE NUMBER

F14

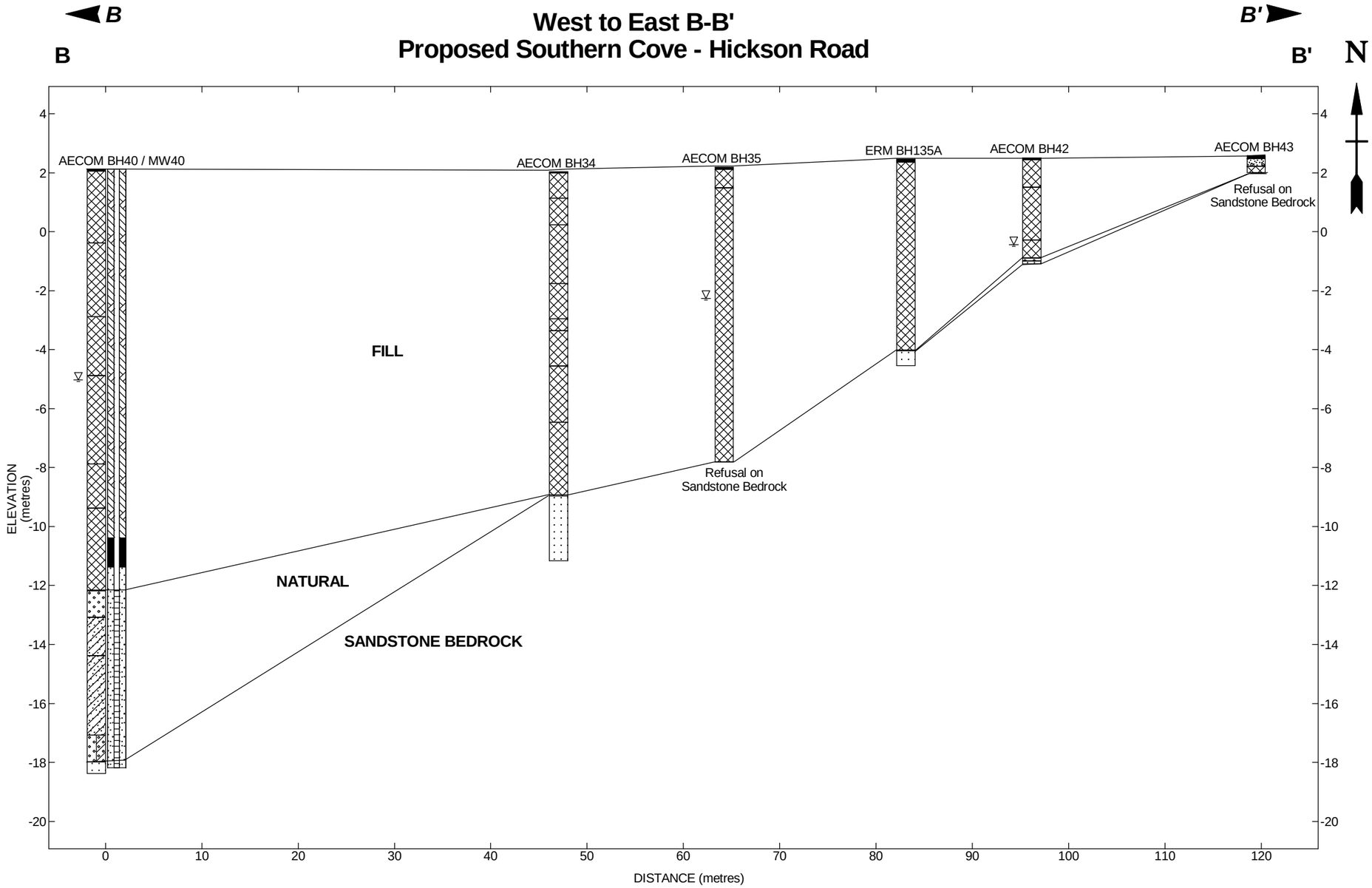
Barangaroo
Hickson Road, Millers Point NSW 2000

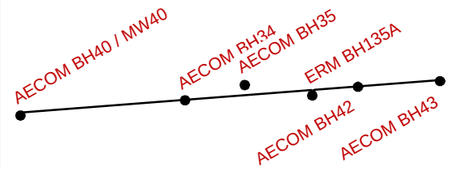
JOB NUMBER

S41500

S4128501_AECOM+ERM BORELOGS_26MAR10.GPJ 28/06/10

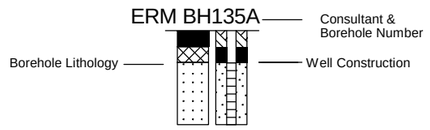
West to East B-B'
Proposed Southern Cove - Hickson Road





Site Map Scale 1:1,725

Explanation:



Encountered Water Level

Stabilised Water Level

Horizontal Scale (metres)

Vertical Exaggeration: 3x

Lithology Graphics

- Asphalt
- Fill (made ground)
- Sandstone
- USCS Well-graded Sand
- USCS Clayey Sand
- USCS Well-graded Sand with Clay
- Concrete

Well Graphics

- Casing
- Cement Grout
- Bentonite Seal
- Filter Pack
- Screen

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
2072

FIGURE NUMBER

F15

Barangaroo
Hickson Road, Millers Point NSW 2000

JOB NUMBER

S41500

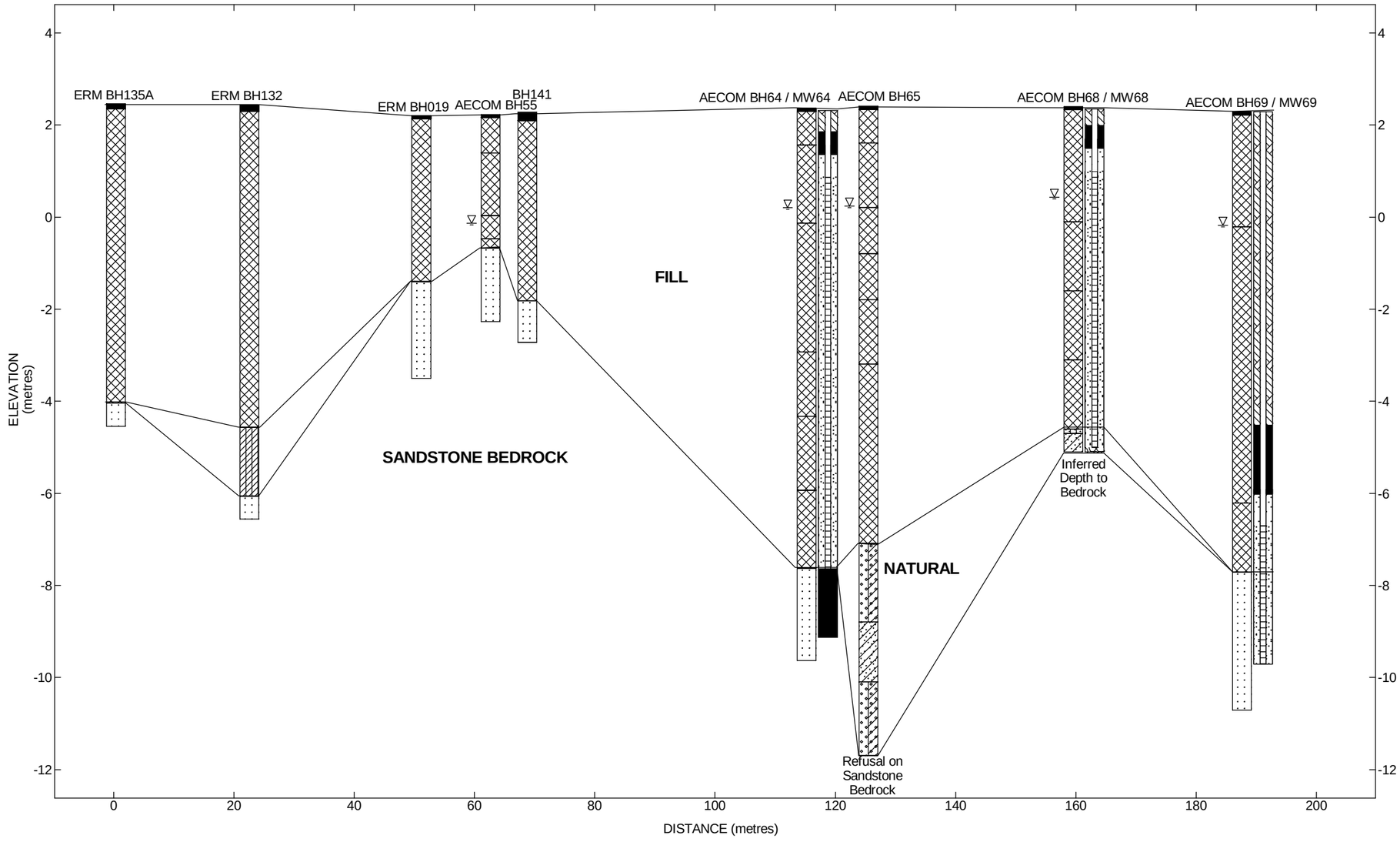
S4128501_AECOM+ERM BORELOGS_26MAR10.GPJ 28/06/10

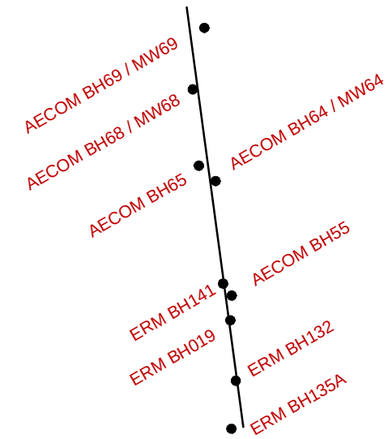
South to North C-C'
Block 4 - Block 5

C

C'

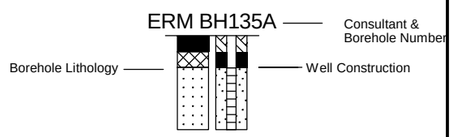
N





Site Map Scale 1:2,900

Explanation:



Encountered Water Level

Stabilised Water Level

Horizontal Scale (metres)

Vertical Exaggeration: 7.5x

Lithology Graphics

- Asphalt
- Fill (made ground)
- Sandstone
- USCS Well-graded Sand with Clay
- USCS Clayey Sand
- USCS Silty Sand
- USCS Low Plasticity Silty Clay

Well Graphics

- Cement Grout
- Slough at bottom of hole
- Casing
- Bentonite Seal
- Filter Pack
- Screen
- Bentonite: Bottom of hole

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
2072

FIGURE NUMBER

F16

Barangaroo
Hickson Road, Millers Point NSW 2000

JOB NUMBER

S41500

S4128501_AECOM+ERM BORELOGS_26MAR10.GPJ 28/06/10

Appendix A

Data Quality Objectives

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1.0 Data Quality Objectives

In determining the type, quantity and quality of data needed to support decisions relating to the environmental condition of the Site, AECOM has undertaken the seven-step process to develop the DQOs in accordance with NSW DEC (2006). In developing the DQOs for the investigation an initial phase of review was necessary to appraise relevant and available background information and to develop a preliminary conceptual site contamination model identifying the areas of the Site that required investigation for the purpose of assessing the requirements for either the management and/or remediation during the re-development of the Site. These matters are addressed in the DQOs presented below.

1.1 Step 1 - State the Problem

The Site (refer Figure F2) was used to manufacture gas from approximately 1840 to 1921. It is understood that some of the former gas works infrastructure remains in place underlying the current slab and adjacent roadway (Hickson Road). Contamination has been reported in fill material, soil and groundwater underlying the Site, the remainder of Barangaroo and adjacent portions of Hickson Road, and sediment in the adjacent Darling Harbour. The Site has been the subject of reclamation activities over the years, which appears to have consisted of placement of greater than 20 metres of fill material.

The Site is proposed to be redeveloped for mixed open space, residential and commercial use.

AECOM has been provided with a number of reports on sub-surface investigations previously conducted at Barangaroo, including the following:

- ARUP. 2008. Barangaroo Development, East Darling Harbour Geotechnical Desk Top Study. 28 October.
- ERM. 2008c. Draft Stage 2 Remedial Action Plan for Barangaroo, Hickson Road, Sydney. September.
- ERM. 2008b. Preliminary Sediment Screening Works at East Darling Harbour, Adjacent to Barangaroo, NSW, Draft, Rev 03. August.
- ERM. 2008a. Additional Investigation Works at Barangaroo, Hickson Road, Millers Point, NSW. July.
- ERM. 2007. Environmental Site Assessment, East Darling Harbour, Sydney, NSW, Final Report. 21 June.
- Coffey Environments. 2008. Preliminary Environmental Investigation, 30-38 Hickson Road, Millers Point, NSW 2000. 12 May.
- Jeffery & Katauskas. 2006. Geotechnical Investigation for Proposed Redevelopment of Wharves 3-8 at Hickson Rd, Darling Harbour East NSW.
- AECOM Australia Pty Ltd, 2009. Revised Draft Remediation Work Plan, Stage 1 Development, Barangaroo, 30 November 2009;
- AECOM 2010. Barangaroo Data Gap Investigation, proposed Blocks 1 to 3, Hickson Road, Millers Point, NSW. DGI in progress;
- ARUP Geotechnics, 1986. Upgrading Wharf 7/8 Darling Harbour, Geotechnical Site Investigation. January 1986.
- ARUP (2008). Barangaroo Development, East Darling Harbour Geotechnical Desk Top Study. 27 October.
- LLD supplied CD, 2010. BDA Supplied Historical Work As Executed Drawings for the Former Wharf Structures at Berths 3 to 8, Barangaroo. CD dated 21 January.
- LLD supplied CD, 2010. Geotechnical Information - Barangaroo Area (including CBD Metro Geotechnical and Environmental Investigations, completed by Coffey). CD dated 21 January.
- Coffey Environments, 2008. Preliminary Environmental Investigation, 30-38 Hickson Road, Millers Point, NSW 2000. 12 May;
- ERM, 2008. Draft Stage 2 Remedial Action Plan for Barangaroo, Hickson Road, Sydney. September 2008;
- ERM, 2008. Preliminary Sediment Screening Works at East Darling Harbour, Adjacent to Barangaroo, NSW, Draft, Revision 03. August;
- ERM, 2008. Additional Investigation Works at Barangaroo, Hickson Road, Millers Point, NSW. July;

- ERM, 2007. Environmental Site Assessment, East Darling Harbour, Sydney, NSW, Final Report. 21 June;
- Headland Park Concept Plan http://majorprojects.planning.nsw.gov.au/page/project-sectors/residential--commercial---retail/?action=view_job&job_id=2636
- Jeffery and Katauskas, 2006. Geotechnical Report development of Wharves 3-8 at East Darling Harbour. August 2006.
- Lend Lease Scheme CAD files provided to AECOM in December 2008.
- Lend Lease concept plans relating to material / retention and reuse at Barangaroo.

The documents and reports listed above indicate that numerous environmental investigation and geotechnical assessment works have been undertaken at Barangaroo since 2007, which have identified contamination in soil and groundwater associated with the historical presence of a gas works, land reclamation activities and historical ship berthing activities. A number of subsurface features such as caisson walls have also been documented.

The ERM (2007) report included an investigation into the historical use of the Site. The report identified that the Barangaroo area has a long history of commercial and industrial land uses dating back to the early 19th century as summarised below.

Table 1: Barangaroo Site History Summary

Year	Site Ownership / Usage
1840-1921	A gas works operated by the Australian Gas Light (AGL) Company was present at Barangaroo. The identified gas works infrastructure is located in Blocks 4,5 and Hickson (refer Figure F2). The remainder of the Site was privately owned and understood to be in use for ship berthing and associated commercial activities.
1922 to 1925	Gas holders and purifier beds associated with the AGL gas works were demolished to ground level and gas holding tanks backfilled. Tarry residues were reportedly present in the gas holder pit. Following demolition, the former gas works area (which may have encompassed the northern portion of the Site) was reportedly used by the Maritime Services Board for workshops and stores.
1925-1936	The Site continued to be used for ship berthing and associated commercial activities.
1936 to 1988	Barangaroo continued to be used for a variety of commercial purposes. Finger wharves which were historically present on the Site were reclaimed with fill of unknown origin between 1951 and 1972.
1998 to 2009	The Site continued to be used by Sydney Ports Corporation for use as a Passenger Terminal. Since 1999 the Site has been used to host events including conventions, exhibitions and public entertainment when the facility is not in use as a passenger terminal.

The ERM (2007, 2008a) reports identified the following soil and groundwater conditions:

- Soil contamination: Concentrations of contaminants of potential concern (CoPC) above the adopted Site Assessment Criteria (SAC)[1] were identified for lead, total petroleum hydrocarbons (TPH), toluene, ethylbenzene and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs) and sulfate in soil and fill material. The highest concentrations of reported contamination were identified in the vicinity of the former AGL gas works.

[1] Adopted Site Assessment Criteria were generally generic guidelines made or approved by NSW EPA.

- Groundwater contamination: Concentrations of CoPC above the adopted SAC were generally identified for dissolved TPH (C_6-C_{36}), BTEX, PAH and Metals. The highest reported concentrations were generally detected within the former gas works area.
- Given the above and the proposed redevelopment of the Site, the purpose of the DGI is complete a data gap investigation for Block 4, Block 5 and Hickson Road (including the declaration of remediation area) that sufficiently characterises the Site to allow preparation of a quantitive HHERA, development of a revised RAP which describes the remediation strategy to be implemented by LLD as part of its proposed Stage 1 Development of the Barangaroo precinct and Hickson Road (including the potential re-use of material in Headland Park, the Southern Cove and Stage 1 and the Stage 2 Public Domain areas).

The objectives of the VMP and PDA Remediation Works DGI are as follows.

- Complete a DGI considering the area declared by DECCW as a Remediation Site, which, for the purpose of this proposal has been taken to be:
  - Eastern portion of Block 4, including the adjacent areas of the Public Domain and Southern Cove;
  - Eastern portion of Block 5; and
  - Hickson Road, specifically with the DECCW declared remediation area adjacent to Blocks 4 to 5.

  The extent of the VMP and PDA Remediation Works DGI works is detailed on **Figure F1**.
- Complete a DGI with a scope, extent and test frequency that will result in a data set (including both current and new data) suitable for:
  - Developing an appreciation of soil and groundwater contamination (including assessment of acid sulfate soils - ASS) to assist planning of the proposed remediation strategies and commencement of remediation treatability trials;
  - Development of contaminant fate and transport modelling;
  - Development of a HHERA demonstrating what soil and groundwater contamination will represent an acceptable risk if reused as part of the development (including placement in Headland Park); and
  - Supporting the further development, refinement, costing and design of the remediation strategies and associated environmental management measures contemplated in the revised draft RWP, including preparation of a detailed RAP and final RWP.

The investigation needs to address the following issues:

- Historical use of the Site with respect to the presence of potentially contaminating activities;
- Identification of the potential areas of concern and potential chemicals of concern at the Site;
- Characterisation of the fill, soils, soil vapour, surface water and groundwater present at the Site with respect to contamination;
- Leachability of the different soil/fill types identified on the Site; and
- The presence, nature and extent of acid sulfate soils at the Site.

In summary, contaminated media at the site includes:

- Fill material;
- Natural Soil;
- Bedrock;
- Groundwater; and
- Soil vapour (likely but not confirmed in the current data set).

Potential receptors at the site and surrounding area include:

- Darling Harbour;
- Site workers;
- Site visitors;
- Surrounding/adjacent workers and residents; and
- Future residents and site occupants.

Data gaps include:

- Limited sampling in areas of the site on a development block by block basis;

- Vertical and lateral delineation of contamination requiring remediation/management; and
- Lack of soil vapour data.

The roles of the stakeholders involved in the overall project will be as follows:

- Barangaroo Delivery Authority – Authority responsible for delivering the overall Barangaroo site redevelopment project;
- Sydney Harbour Foreshore Authority – Land owner of the Barangaroo site;
- NSW Department of Environment, Climate Change and Water – Regulator for the declared Remediation Site and licensing authority for remedial action technology;
- The Council of the City of Sydney – Land owner of Hickson Road;
- Site Auditor (Graeme Nyland) – responsible for signing off on site remediation and site suitability;
- Jemena – Legacy owner of the former gas works;
- Other neighbouring properties;
- Lend Lease – For the purposes of this SAQP, the Developer of Stage 1; and
- AECOM – Environmental/remediation consultant/contractor for the Developer.

1.2 Step 2 - Identify the Decisions

The decisions to be made based on the results of the investigation program are as follows:

- Is there sufficient information on the distribution and characteristics of soil and fill requiring remediation and/or management to allow detailed remedial planning to progress?
- Do the findings of the investigation provide a data set that will be able to be used to assess the risk of material that will remain in-situ and the potential future liability of this material?
- Are there sufficient data to determine if an acid sulfate soil management plan is required and to develop such a plan if it is required?
- Do the findings of the investigation provide a higher level of understanding and certainty on the source of identified contamination (if any)?
- Do the findings of the investigation provide sufficient data that will enable an assessment of remedial screening options for contaminated soils and fills requiring management?
- Are there sufficient and definitive Site data to enable remedial cost estimates to be refined?
- What additional data are required to determine and support a preferred remedial solution?
- Are there sufficient and definitive Site data to enable the development of an excavation plan, including waste classification of the material to be excavated, for the redevelopment of the Site?
- Are there sufficient data to enable the subsequent development of a quantitive human health and ecological risk assessment?

1.3 Step 3 - Identify Inputs to the Decisions

The inputs required to make the above decisions are as follows:

- Geological data and information relevant to subsurface structures;
- Hydrogeological data;
- Concentrations of chemicals of concern in different fill/soil types;
- Concentrations of chemicals of concern in soil vapour near the former gas works;
- Concentrations of chemicals of concern in groundwater;
- Observation data for presence of building materials or other waste materials including materials potentially containing asbestos, separate phase liquids, staining, odours and discolouration of the soil media;
- Observation data for presence of separate phase liquids, odours and discolouration of the groundwater and surface water media;
- Distribution of identified contamination both laterally and vertically; and
- Identification of potential contamination below permanent structures.

1.4 Step 4 - Define the Study Boundaries

The boundaries of the investigation have been identified as follows:

- Spatial boundaries – The investigation boundary is limited to the proposed areas of Blocks 4,5 and Hickson Road (including associated Public Domain and Southern Cove areas) located within the study area (refer Figure F2) of the Barangaroo redevelopment Site in Hickson Road, Millers Point, NSW. For the purposes of re-development LLD has divided the Site into five sub-sites[2] detailed below:
  - Block 4 (approximately 6 500 m^2) – Mixed commercial/residential
  - Block 5 (approximately 4 100 m^2) – Mixed commercial/residential
  - The portion of Hickson Road located within the declaration of remediation area (approximately 3 584m^2) – Mixed commercial/residential
  - Public Domain (approximately 9 100 m^2) – Open space
  - Southern Cove (approximately 8 200 m^2) – Open space
- For the purposes of the investigation AECOM has adopted the same boundaries as listed above and as presented on Figure F2.
- Temporal boundaries – The temporal boundaries of the investigation have been determined based on an assessment of the reliability of the data from the previous investigations. As the data from the previous investigations will be relied upon for the purposes of the investigation then the temporal boundary of the investigation will be from 2007 to the date of the current investigation. Consideration has also been given to groundwater fluctuations associated with tidal variations resulting from the proximity of the Site to the adjacent harbour.
- Constraints within the study boundaries – The following issues present limitations upon the sampling strategy for the Site:
  - Access restrictions due to presence and operation of the Passenger Terminal;
  - Access restrictions associated with on-site buildings; and
  - Location of underground services and sub-surface structures (e.g. caissons, sea walls, blocky fill etc.).

1.5 Step 5 - Develop a Decision Rule

The decision rules for this investigation are as follows:

1 If a review of the data obtained from this and previous investigations indicate a degree of uncertainty on contamination delineation and distribution, then the proposed remedial strategies will be refined to provide remediation and/or management of those uncertainties and limitations with respect to the proposed redevelopment.

2 If it is determined that additional information is required to further reduce the uncertainties associated with the distribution and characteristics of soil and fill requiring remediation and/or management, with respect to the proposed redevelopment, then appropriate recommendations for further technical assessment or investigation will be provided.

1.6 Step 6 - Specify Limits on Decision Errors

The acceptable limits on decision errors to be applied in the investigation and the manner of addressing possible decision errors have been developed based on the Data Quality Indicators (DQIs) of precision, accuracy, representativeness, comparability and completeness (PARCC) and are presented in Section 2.8.3 of this SAQP.

The tolerable limits on decision errors are as follows:

- Probability that 95% of data will satisfy the DQIs, therefore a limit on the decision error will be 5% that a conclusive statement may be incorrect.
- In applying statistical analysis of a data set:
  - No individual sample result should have a concentration that exceeds 250% of Site assessment criteria;
  - A normal distribution will only be used if the coefficient of variance is not greater than 1.2; and

[2] Areas are based on supplied Lend Lease CAD plans.

- The standard deviation of a sample population should not exceed 50% of the Site assessment criteria.

- The potential for significant decision errors are to be minimised by completing a robust Quality Assurance/Quality Control (QA/QC) program and by completing an investigation that has an appropriate sampling and analytical density for the purposes of the investigation and that the representative sampling is undertaken.

1.7 Step 7 - Optimise the Design for Obtaining Data

The historical use of the Site for various industrial and commercial activities, including the presence of a former gas works facility in the Site and extensive filling and land reclamation works, present the potential for contamination to be present on the Site. Given the history of the Site, and based on information from previous environmental investigations and the general contamination history the chemicals of potential concern include, but may not be limited to, heavy metals, PAHs, TPH, BTEX, Polychlorinated biphenyls (PCBs), organochlorine pesticides (OCPs), Organophosphorus Pesticide (OPPs), Semi-Volatile Organic Compounds (SVOCs), cyanide and asbestos. Many of these chemicals may be mobile within the unconsolidated fill materials and able to migrate vertically to the bedrock and laterally to the waters of Darling Harbour. AECOM notes that the presence of contaminated sediment identified in the harbour adjacent to the Site (ERM, 2008b) supports this assertion. The overall design of the investigation on the Site requires considerations of these factors.

Information provided in the previous steps has been considered during the design of the investigation program and are further detailed in the scope of work section of the report and documented in the Sampling Analysis and Quality Plan (SAQP) (AECOM, 2009).

Appendix B

Ownership Plan

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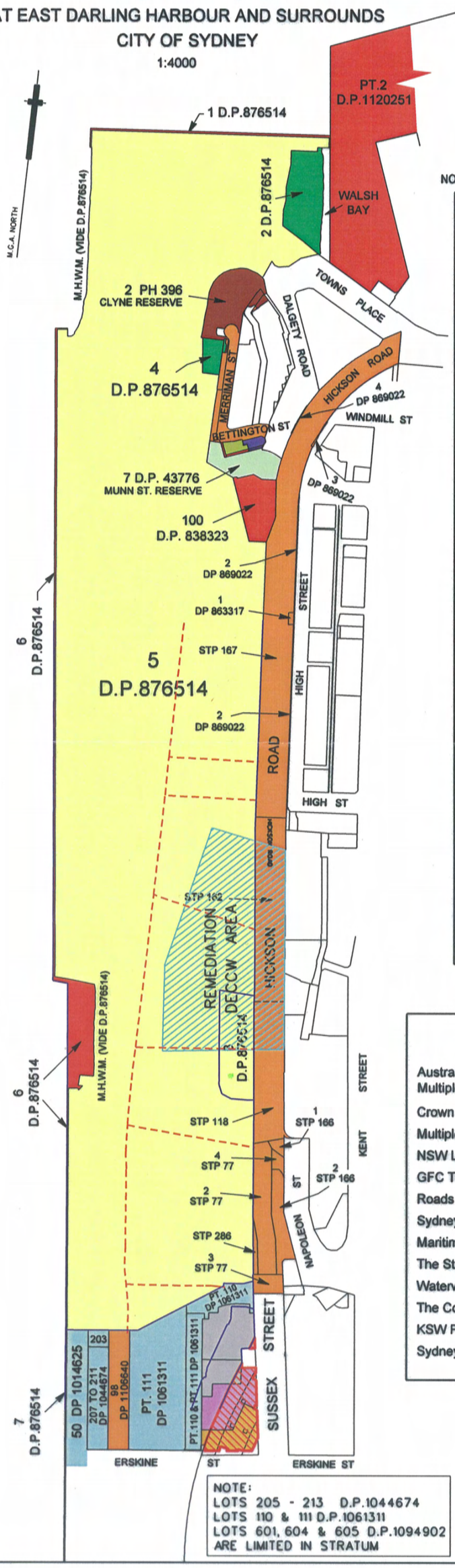
PLAN

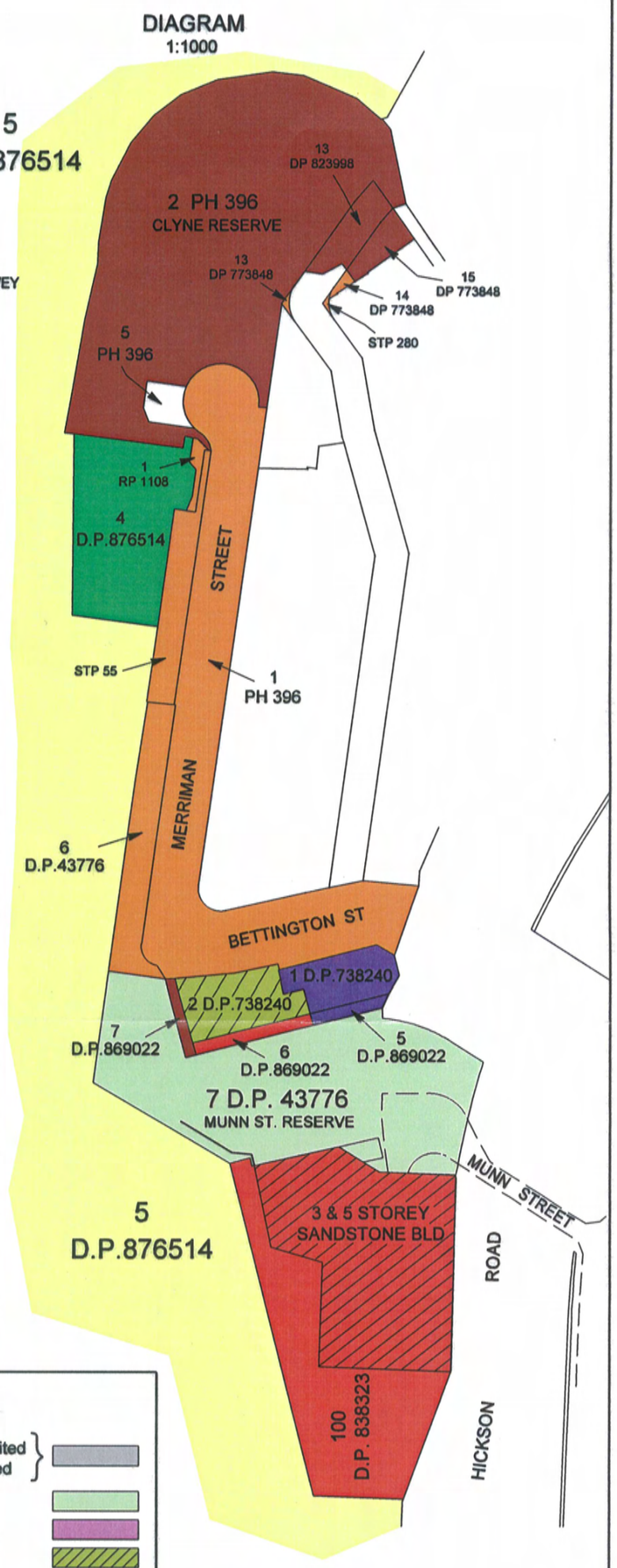
OWNERSHIP OF LAND
AT EAST DARLING HARBOUR AND SURROUNDS
CITY OF SYDNEY
1:4000



NOTE:- ALL AREAS SUBJECT TO SURVEY

LOT	PLAN	AREA (m²)
1	DP 876514	424.1
2	DP 876514	3035
3	DP 876514	3402
4	DP 876514	637.3
5	DP 876514	200300
6	DP 876514	3885
2	DP 869022	175.8
3	DP 869022	32.2
4	DP 869022	21.0
5	DP 869022	32.0
6	DP 869022	50.4
7	DP 869022	26.7
100	DP 838323	1968
6	DP 43776	284.6
7	DP 43776	1631
13	DP 773848	3.5
14	DP 773848	9.2
15	DP 773848	67.8
1	DP 738240	173.1
2	DP 738240	225.7
1	DP 863317	57.7
13	DP 823998	107.8
	STP 280	2.5
1	PH 396	1570
2	PH 396	2474
5	PH 396	56.0
1	RP 1108	21.3
	STP 55	199.0
	STP 162	5240
	STP 118	3968
	STP 286	181.0
2	STP 77	2250
3	STP 77	532.9
4	STP 77	204.2
1	STP 166	173.1
2	STP 166	1233
	STP 167	13320
50	DP 1014625	2812
203	DP 1044674	328.9
207-211	DP 1044674	2000
98	DP 1106640	2329
Pt.110	DP 1061311	1206
Pt.110 & Pt. 111	DP 1061311	2054
Pt. 111	DP 1061311	6947
TOTAL AREA 26.57 ha		

DIAGRAM
1:1000



LEGEND

- Australand W9 & 10 Stage 3A Pty Limited / Multiplex W9 & 10 Stage 3A Pty Limited
- Crown
- Multiplex Funds Management Limited
- NSW Land and Housing Corporation
- GFC Trading Pty Limited
- Roads & Traffic Authority of NSW
- Sydney Ports Corporation
- Maritime Authority of NSW
- The State of New South Wales
- Waterways Authority
- The Council Of The City Of Sydney
- KSW Properties Pty Limited
- Sydney Harbour Foreshore Authority

- SITE BOUNDARIES
- PLANNING BOUNDARIES
- REMEDIATION - DECCW

NOTE:
LOTS 205 - 213 D.P.1044674
LOTS 110 & 111 D.P.1061311
LOTS 601, 604 & 605 D.P.1094902
ARE LIMITED IN STRATUM

RYGATE & COMPANY PTY. LIMITED
SURVEYORS, TOWN PLANNERS
ROAD & DRAINAGE ENGINEERS
81 YORK STREET, SYDNEY 2000
PHONE 9262 6800 ACN 001 204897 ABN 61 001 204897 FAX 9262 6843

REF: 72085-Ownership-G DATE: 3/3/2010
DECCW ZONE ADDED BASED ON PLAN LLD_ASK_0109-B

Appendix C

Record of EPA Notices

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Search results

Your search for: Suburb: Millers Point

Matched 3 notices relating to 3 sites.

Search Again | Refine Search

Suburb	Address	Site Name	Notices related to this site
Millers Point	36 Hickson Road	Millers Point Gasworks	2 former
Millers Point	Wharves 5 and 7, Hickson Road	Millers Point Gasworks	1 current and 2 former
Millers Point	Hickson Road	Millers Point Gasworks	1 current and 2 former

Page 1 of 1

1 April 2010

Site and notice details

Your search for: Suburb: Millers Point 3 notices on 3 sites were matched.

Return to list of search results Search Again Refine Search

Area No: 3265

The information below was correct at the time the notices were issued.

Site: Millers Point Gasworks
Address: 36 Hickson Road, Millers Point, 2000
LGA: Sydney City Council

Occupier: Various Commercial
Owner: Delmo No. 2
Lot 12 DP 1065410

Notices relating to this site (0 current and 2 former)

(Map) where available, maps show the part of the site affected by the notice
*notice matched search criteria

Notice recipient	Notice type & number	Status	Date
Not Applicable	Notice to End Remediation Declaration * 20094407 Map	Former	Issued 24 Aug 2009
Not Applicable	Declaration of Investigation Area * 15036	Former	Issued 28 May 2007 Repealed 24 Aug 2009

1 April 2010

Environment Protection Authority

Notice to end significantly contaminated land declaration and management order

(Section 44 of the Contaminated Land Management Act 1997)

Notice Number 20094407; Area Number 3221 and 3265

Background

The land to which this notice applies was declared as "significantly contaminated land" (declaration no.15036) by the Environment Protection Authority ("the EPA")*. Investigation works were undertaken by the Sydney Harbour Foreshore Authority and the results have been made available to the EPA.

Repeal

Having reviewed the results of the investigation works, the EPA is satisfied that it no longer has reason to believe that the land to which this notice applies is contaminated and that the contamination is significant enough to warrant regulation under the Act.

Pursuant to section 44 of the Contaminated Land Management Act 1997, Declaration of significantly contaminated land number 15036, dated 28 May 2007, gazetted on 1 June 2007 ceases to be in force on the date of this notice in so far as the Declaration applies to the land to which this notice applies.

Land to which this notice applies (see attached map)

Description	Address
• Part Lot 5 and Lot 3 in Deposited Plan (DP) 876514, Hickson Rd, Millers Point (known as Wharves 5 and 7); • Lot 12 in DP 1065410 – 36 Hickson Rd, Millers Point; and • the part of Hickson Rd adjacent to the above	Hickson Road, Millers Point NSW 2000

Note (if necessary for partial revocation)
Declaration of significantly contaminated land no.21122 is still in force in so far as they apply to land other than to which this notice applies.

[Signed]

NIALL JOHNSTON
Manager Contaminated Sites
Department of Environment, Climate Change and Water

Date: 24 August 2009

NOTE:

Information recorded by the EPA

Section 58 of the Contaminated Land Management Act 1997 requires the EPA to maintain a public record. A copy of this notice will be included in the public record.

Information recorded by councils

Section 59 of the Act requires the EPA to give a copy of this notice to the relevant local council. The council may then make appropriate consequential modifications to the planning certificate issued in relation to the land to which this notice applies pursuant to s.149 of the *Environmental Planning and Assessment Act 1979*.

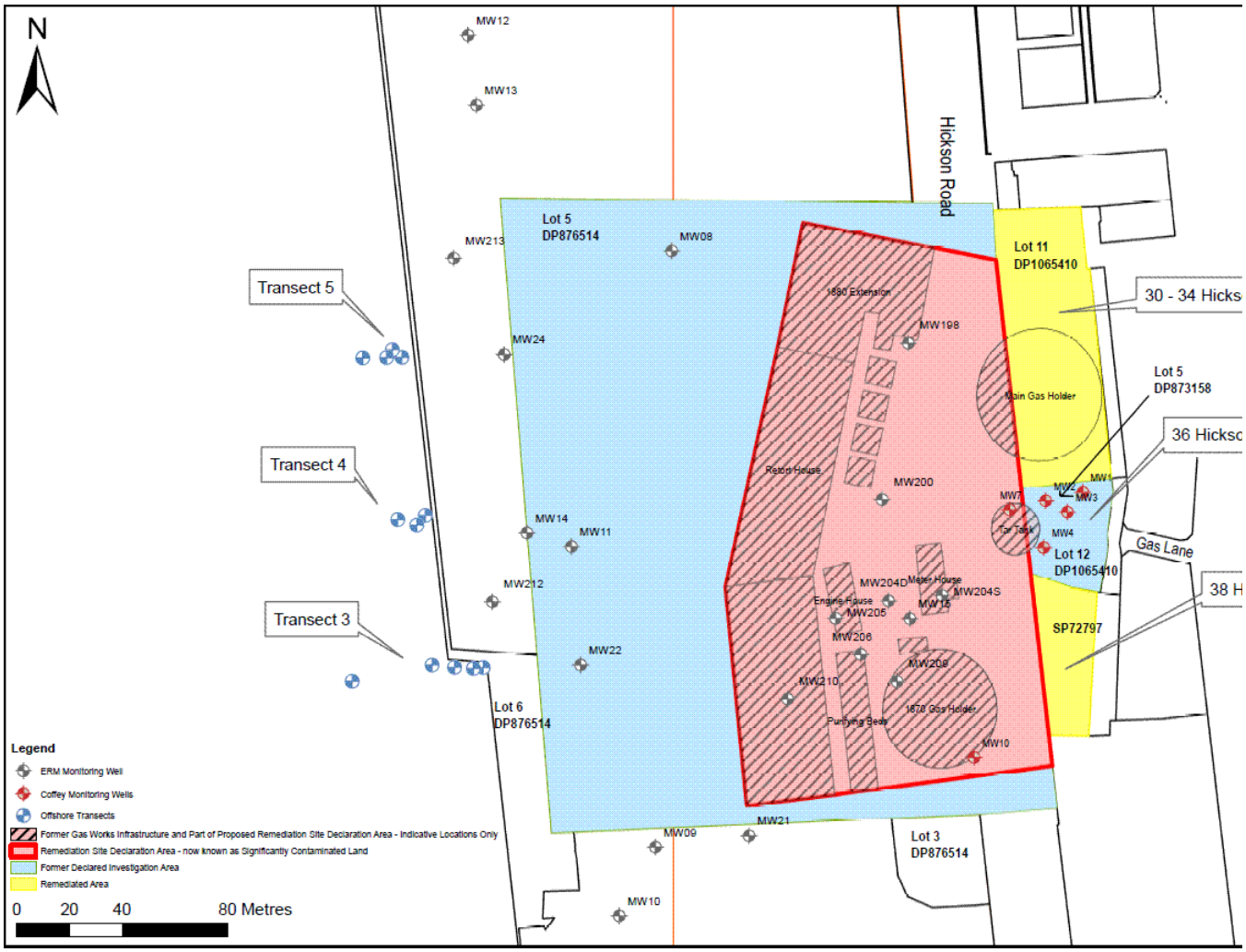
Relationship to other regulatory instrument

This repeal notice does not affect the provisions of any relevant environmental planning instruments which apply to the land or provisions of any other environmental protection legislation administered by the EPA.

Previous regulatory instrument

As of 1 July 2009, all current declarations for investigation area or declarations for remediation sites are taken to be declarations for significantly contaminated land, all current orders for investigation area and orders for remediation site are taken to be management orders and all current voluntary investigation and remediation agreements are taken to be voluntary management proposals.

*The DECCW exercises certain statutory powers in the name of the EPA.


N
MW12
MW13
Hickson Road
Lot 5
DP876514
MW213
MW08
Lot 11
DP1065410
30 - 34 Hicks
Transect 5
MW24
1880 Extension
MW198
Lot 5
DP873158
Main Gas Holder
36 Hicksc
Transect 4
Retort House
MW200
MW7
MW2
MW1
MW3
MW4
Tar Tank
MW14
MW11
Gas Lane
Lot 12
DP1065410
MW212
MW204D
Meter House
MW204S
Engine House
MW205
MW15
38 H
Transect 3
SP72797
MW206
MW22
MW209
MW210
Lot 6
DP876514
Purifying Beds
1878 Gas Holder
MW10
MW21
MW09
Lot 3
DP876514
MW10
Legend
ERM Monitoring Well
Coffey Monitoring Wells
Offshore Transects
Former Gas Works Infrastructure and Part of Proposed Remediation Site Declaration Area - Indicative Locations Only
Remediation Site Declaration Area - now known as Significantly Contaminated Land
Former Declared Investigation Area
Remediated Area
0
20
40
80 Metres

Environment Protection Authority

Declaration of investigation area

(Section 15 of the Contaminated Land Management Act 1997)

Declaration Number 15036; Area Numbers 3221 and 3265

The Environment Protection Authority (EPA) declares the following land to be an investigation area under the Contaminated Land Management Act 1997 ("the Act"):

1. Land to which this declaration applies ("the site")

The site to which this declaration relates is part of the former Millers Point gasworks and is described as:

- Part Lot 5 and Lot 3 in Deposited Plan (DP) 876514, Hickson Rd, Millers Point (known as Wharves 5 and 7);
- Lot 12 in DP 1065410 - 36 Hickson Rd, Millers Point; and
- the part of Hickson Rd adjacent to the above area

in the City of Sydney local government area. A map of the site is available for inspection at the offices of the Department of the Environment and Climate Change, Level 14, 59-61 Goulburn Street, Sydney, NSW.

2. Nature of contamination affecting the site:

The EPA believes that the site is contaminated with the following substances ("the contaminants"): polycyclic aromatic hydrocarbons (PAHs); benzene, toluene, ethylene and xylene (BTEX); copper; cyanide; lead; and phenol.

3. Nature of harm that the contaminants may cause:

The EPA has considered the matters in s.9 of the Act and for the following reasons has determined that it has reasonable grounds to believe that the site is contaminated in such a way as to present a significant risk of harm to human health and the environment:

- Groundwater in the area has been found to be contaminated by PAHs, BTEX, copper, cyanide, lead and phenol at concentrations significantly exceeding the relevant trigger values for the protection of aquatic ecosystems in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC and ARMCANZ, 2000).
- The groundwater contaminants include human carcinogens and substances toxic to aquatic ecosystems.
- Contaminated groundwater is likely to be migrating from the site to Darling Harbour and could ultimately affect aquatic ecosystems.
- Contaminated groundwater is migrating from the site into the basement of a residential building adjacent to the site and potentially could expose humans in that building to vapours; however it is currently being effectively controlled.
- Contaminated groundwater from the site may enter service trenches potentially exposing maintenance workers to vapours.

4. Further action under the Act

The making of this declaration does not prevent the carrying out of a voluntary investigation of the site and any person may submit a voluntary investigation proposal for the site to the EPA. If the proposal satisfies the requirements of s.19 of the Act, the EPA may agree not to issue an investigation order to the person or persons bringing the proposal.

5. Submissions invited

The public may make written submissions to the EPA on:

- Whether the EPA should issue an investigation order in relation to the site; or
- Any other matter concerning the site.

Submissions should be made in writing to:

Acting Manager Contaminated Sites
Department of Environment and Climate Change
PO Box A290
SYDNEY SOUTH NSW 1232

or faxed to 02 9995 5930

by not later than 2 July 2007

NIALL JOHNSTON
Acting Manager Contaminated Sites
Department of Environment and Climate Change

Date: 28 May 2007

NOTE:

Investigation order may follow

If investigation of the site or part of the site is required, the EPA may issue an investigation order under s.17 of the Act.

Variation/Revocation

This declaration may be varied by subsequent declarations. It remains in force until it is otherwise revoked. A declaration may only be revoked when the EPA does not have reasonable grounds to believe that land is contaminated in such as way as to present a significant risk of harm (s.44 of the Act).

Information recorded by the EPA

Section 58 of the Contaminated Land Management Act 1997 requires the EPA to maintain a public record. A copy of this investigation declaration will be included in the public record.

Information recorded by councils

Section 59 of the Act requires the EPA to give a copy of this declaration to the relevant local council. The council is then required to note on its planning certificate issued pursuant to s.149 (2) of the Environmental Planning and Assessment Act that the land is currently within an investigation area. The EPA is required to notify council as soon as practicable when the declaration is no longer in force and the notation on the s.149 (2) certificate is no longer required.

Relationship to other regulatory instrument

This declaration does not affect the provisions of any relevant environmental planning instruments which apply to the land or provisions of any other environmental protection legislation administered by the EPA.

Site and notice details

Your search for: Notice No. or Area No.: notice on site were matched.

Return to list of search results Search Again Refine Search

Area No: 3221

The information below was correct at the time the notices were issued.

Site: Millers Point Gasworks
Address: Wharves 5 and 7, Hickson Road, Millers Point, 2000
LGA: Sydney City Council

Occupier: Patricks Corporation
Owner: Sydney Ports Corporation

Lot 3 DP 876514 Lot 5 DP 876514

Notices relating to this site (1 current and 2 former)

(Map) where available, maps show the part of the site affected by the notice

Notice recipient	Notice type & number	Status	Date
Not Applicable	Declaration of Remediation Site 21122 Map	Current	Issued 06 May 2009
Not Applicable	Amendment or Repeal of Order or Notice 20094407 Map	Former	Issued 24 Aug 2009
Not Applicable	Declaration of Investigation Area 15036	Former	Issued 28 May 2007 Repealed 24 Aug 2009

1 April 2010

Environment Protection Authority

Declaration of Remediation Site

(Section 21 of the Contaminated Land Management Act 1997)

Declaration Number 21122; Area Number 3221

The Environment Protection Authority (EPA) declares the following land to be a remediation site under the Contaminated Land Management Act 1997 ("the Act"):

1. Land to which this declaration applies ("the site")

The site to which this declaration relates is part of the former Millers Point gasworks and is described as:

- Part Lot 5 and Part Lot 3 in Deposited Plan (DP) 876514, Hickson Rd, Millers Point
- The part of Hickson Road adjacent to:
    - 30 – 34 Hickson Road being Lot 11 DP1065410;
    - 36 Hickson Road being Lot 5 DP873158 and Lot 12 DP1065410; and
    - 38 Hickson Road being SP72797, Millers Point

in the City of Sydney local government area. The site coincides with the known foot print of the former gasworks facilities. A map of the site is available for inspection at the offices of the Department of the Environment and Climate Change, Level 14, 59-61 Goulburn Street, Sydney, NSW.

2. Nature of contamination affecting the site:

The EPA believes that the site is contaminated with gasworks waste and particularly waste tar as a result of the previous use of the site as a gasworks plant. The chemical composition of gasworks waste includes the following substances ("the contaminants"): polycyclic aromatic hydrocarbons (PAHs); benzene, toluene, ethylbenzene and xylenes (BTEX); total petroleum hydrocarbons (TPHs); ammonia; phenol and cyanide.

3. Nature of harm that the contaminants may cause:

The EPA has considered the matters in s.9 of the Act and for the following reasons has determined that the site is contaminated in such a way as to present a significant risk of harm to human health and the environment:

- Groundwater on the site has been found to be contaminated by TPHs, PAHs, BTEX, ammonia, phenol and cyanide at concentrations significantly exceeding the relevant trigger values for the protection of human health and aquatic ecosystems in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC and ARMCANZ, 2000).
- These groundwater contaminants include human carcinogens and substances toxic to aquatic ecosystems.
- The contaminated groundwater is impacting on the surrounding areas including the basement of a residential building adjacent to the site, potentially exposing humans in that building to harmful vapours; however it is currently being effectively controlled.
- Contaminated groundwater is likely to be migrating from the site to Darling Harbour and could ultimately affect aquatic ecosystems.

4. Further action under the Act

The making of this declaration does not prevent the carrying out of a voluntary remediation of the site and any person may submit a voluntary remediation proposal for the site to the EPA. If the proposal satisfies the requirements of s.26 of the Act, the EPA may agree not to issue a remediation order to the person or persons bringing the proposal.

5. Submissions invited

The public may make written submissions to the EPA on:

- Whether the EPA should issue a remediation order in relation to the site; or
- Any other matter concerning the site.

Submissions should be made in writing to:

Manager Contaminated Sites
Department of Environment and Climate Change
PO Box A290
SYDNEY SOUTH NSW 1232

or faxed to 02 9995 5930

by no later than 3 June 2009

[Signed]

NIALL JOHNSTON
Manager Contaminated Sites
Department of Environment and Climate Change

Date: 6 May 2009

NOTE:
Remediation order may follow
If remediation of the site or part of the site is required, the EPA may issue a remediation order under s.23 of the Act.

Variation/Revocation
This declaration may be varied by a subsequent declaration. It remains in force until it is otherwise varied or revoked. A declaration may only be revoked when the EPA does not have reasonable grounds to believe that land is contaminated in such as way as to present a significant risk of harm (s.44 of the Act).

Information recorded by the EPA
Section 58 of the Contaminated Land Management Act 1997 requires the EPA to maintain a public record. A copy of this remediation declaration will be included in the public record.

Information recorded by councils
Section 59 of the Act requires the EPA to inform the relevant local council that this declaration has been made, as soon as practicable. The council is then required to note on its planning certificate issued pursuant to s.149 (2) of the Environmental Planning and Assessment Act that the land is currently within a remediation area. The EPA is required to notify council as soon as practicable when the declaration is no longer in force and the notation on the s.149 (2) certificate can be removed.

Relationship to other regulatory instrument
This declaration does not affect the provisions of any relevant environmental planning instruments which apply to the land or provisions of any other environmental protection legislation administered by the EPA.

Environment Protection Authority

Notice to end significantly contaminated land declaration and management order

(Section 44 of the Contaminated Land Management Act 1997)

Notice Number 20094407; Area Number 3221 and 3265

Background

The land to which this notice applies was declared as "significantly contaminated land" (declaration no.15036) by the Environment Protection Authority ("the EPA")*. Investigation works were undertaken by the Sydney Harbour Foreshore Authority and the results have been made available to the EPA.

Repeal

Having reviewed the results of the investigation works, the EPA is satisfied that it no longer has reason to believe that the land to which this notice applies is contaminated and that the contamination is significant enough to warrant regulation under the Act.

Pursuant to section 44 of the Contaminated Land Management Act 1997, Declaration of significantly contaminated land number 15036, dated 28 May 2007, gazetted on 1 June 2007 ceases to be in force on the date of this notice in so far as the Declaration applies to the land to which this notice applies.

Land to which this notice applies (see attached map)

Description	Address
• Part Lot 5 and Lot 3 in Deposited Plan (DP) 876514, Hickson Rd, Millers Point (known as Wharves 5 and 7); • Lot 12 in DP 1065410 – 36 Hickson Rd, Millers Point; and • the part of Hickson Rd adjacent to the above	Hickson Road, Millers Point NSW 2000

Note (if necessary for partial revocation)
Declaration of significantly contaminated land no.21122 is still in force in so far as they apply to land other than to which this notice applies.

[Signed]

NIALL JOHNSTON
Manager Contaminated Sites
Department of Environment, Climate Change and Water

Date: 24 August 2009

NOTE:

Information recorded by the EPA

Section 58 of the Contaminated Land Management Act 1997 requires the EPA to maintain a public record. A copy of this notice will be included in the public record.

Information recorded by councils

Section 59 of the Act requires the EPA to give a copy of this notice to the relevant local council. The council may then make appropriate consequential modifications to the planning certificate issued in relation to the land to which this notice applies pursuant to s.149 of the *Environmental Planning and Assessment Act 1979*.

Relationship to other regulatory instrument

This repeal notice does not affect the provisions of any relevant environmental planning instruments which apply to the land or provisions of any other environmental protection legislation administered by the EPA.

Previous regulatory instrument

As of 1 July 2009, all current declarations for investigation area or declarations for remediation sites are taken to be declarations for significantly contaminated land, all current orders for investigation area and orders for remediation site are taken to be management orders and all current voluntary investigation and remediation agreements are taken to be voluntary management proposals.

*The DECCW exercises certain statutory powers in the name of the EPA.

Environment Protection Authority

Declaration of investigation area

(Section 15 of the Contaminated Land Management Act 1997)

Declaration Number 15036; Area Numbers 3221 and 3265

The Environment Protection Authority (EPA) declares the following land to be an investigation area under the Contaminated Land Management Act 1997 ("the Act"):

1. Land to which this declaration applies ("the site")

The site to which this declaration relates is part of the former Millers Point gasworks and is described as:

- Part Lot 5 and Lot 3 in Deposited Plan (DP) 876514, Hickson Rd, Millers Point (known as Wharves 5 and 7);
- Lot 12 in DP 1065410 - 36 Hickson Rd, Millers Point; and
- the part of Hickson Rd adjacent to the above area

in the City of Sydney local government area. A map of the site is available for inspection at the offices of the Department of the Environment and Climate Change, Level 14, 59-61 Goulburn Street, Sydney, NSW.

2. Nature of contamination affecting the site:

The EPA believes that the site is contaminated with the following substances ("the contaminants"): polycyclic aromatic hydrocarbons (PAHs); benzene, toluene, ethylene and xylene (BTEX); copper; cyanide; lead; and phenol.

3. Nature of harm that the contaminants may cause:

The EPA has considered the matters in s.9 of the Act and for the following reasons has determined that it has reasonable grounds to believe that the site is contaminated in such a way as to present a significant risk of harm to human health and the environment:

- Groundwater in the area has been found to be contaminated by PAHs, BTEX, copper, cyanide, lead and phenol at concentrations significantly exceeding the relevant trigger values for the protection of aquatic ecosystems in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC and ARMCANZ, 2000).
- The groundwater contaminants include human carcinogens and substances toxic to aquatic ecosystems.
- Contaminated groundwater is likely to be migrating from the site to Darling Harbour and could ultimately affect aquatic ecosystems.
- Contaminated groundwater is migrating from the site into the basement of a residential building adjacent to the site and potentially could expose humans in that building to vapours; however it is currently being effectively controlled.
- Contaminated groundwater from the site may enter service trenches potentially exposing maintenance workers to vapours.

4. Further action under the Act

The making of this declaration does not prevent the carrying out of a voluntary investigation of the site and any person may submit a voluntary investigation proposal for the site to the EPA. If the proposal satisfies the requirements of s.19 of the Act, the EPA may agree not to issue an investigation order to the person or persons bringing the proposal.

5. Submissions invited

The public may make written submissions to the EPA on:

- Whether the EPA should issue an investigation order in relation to the site; or
- Any other matter concerning the site.

Submissions should be made in writing to:

Acting Manager Contaminated Sites
Department of Environment and Climate Change
PO Box A290
SYDNEY SOUTH NSW 1232

or faxed to 02 9995 5930

by not later than 2 July 2007

NIALL JOHNSTON
Acting Manager Contaminated Sites
Department of Environment and Climate Change

Date: 28 May 2007

NOTE:

Investigation order may follow

If investigation of the site or part of the site is required, the EPA may issue an investigation order under s.17 of the Act.

Variation/Revocation

This declaration may be varied by subsequent declarations. It remains in force until it is otherwise revoked. A declaration may only be revoked when the EPA does not have reasonable grounds to believe that land is contaminated in such as way as to present a significant risk of harm (s.44 of the Act).

Information recorded by the EPA

Section 58 of the Contaminated Land Management Act 1997 requires the EPA to maintain a public record. A copy of this investigation declaration will be included in the public record.

Information recorded by councils

Section 59 of the Act requires the EPA to give a copy of this declaration to the relevant local council. The council is then required to note on its planning certificate issued pursuant to s.149 (2) of the Environmental Planning and Assessment Act that the land is currently within an investigation area. The EPA is required to notify council as soon as practicable when the declaration is no longer in force and the notation on the s.149 (2) certificate is no longer required.

Relationship to other regulatory instrument

This declaration does not affect the provisions of any relevant environmental planning instruments which apply to the land or provisions of any other environmental protection legislation administered by the EPA.

Site and notice details

Your search for: Suburb: Millers Point 3 notices on 3 sites were matched.

Return to list of search results Search Again Refine Search

Area No: 3221

The information below was correct at the time the notices were issued.

Site: Millers Point Gasworks
Address: Hickson Road, Millers Point, 2000
LGA: Sydney City Council

Owner: City of Sydney Council

Notices relating to this site (1 current and 2 former)

(Map) where available, maps show the part of the site affected by the notice
*notice matched search criteria

Notice recipient	Notice type & number	Status	Date
Not Applicable	Declaration of Remediation Site * 21122 Map	Current	Issued 06 May 2009
Not Applicable	Amendment or Repeal of Order or Notice * 20094407 Map	Former	Issued 24 Aug 2009
Not Applicable	Declaration of Investigation Area * 15036	Former	Issued 28 May 2007 Repealed 24 Aug 2009

1 April 2010

Environment Protection Authority

Declaration of Remediation Site

(Section 21 of the Contaminated Land Management Act 1997)

Declaration Number 21122; Area Number 3221

The Environment Protection Authority (EPA) declares the following land to be a remediation site under the Contaminated Land Management Act 1997 ("the Act"):

1. Land to which this declaration applies ("the site")

The site to which this declaration relates is part of the former Millers Point gasworks and is described as:

- Part Lot 5 and Part Lot 3 in Deposited Plan (DP) 876514, Hickson Rd, Millers Point
- The part of Hickson Road adjacent to:
    - 30 – 34 Hickson Road being Lot 11 DP1065410;
    - 36 Hickson Road being Lot 5 DP873158 and Lot 12 DP1065410; and
    - 38 Hickson Road being SP72797, Millers Point

in the City of Sydney local government area. The site coincides with the known foot print of the former gasworks facilities. A map of the site is available for inspection at the offices of the Department of the Environment and Climate Change, Level 14, 59-61 Goulburn Street, Sydney, NSW.

2. Nature of contamination affecting the site:

The EPA believes that the site is contaminated with gasworks waste and particularly waste tar as a result of the previous use of the site as a gasworks plant. The chemical composition of gasworks waste includes the following substances ("the contaminants"): polycyclic aromatic hydrocarbons (PAHs); benzene, toluene, ethylbenzene and xylenes (BTEX); total petroleum hydrocarbons (TPHs); ammonia; phenol and cyanide.

3. Nature of harm that the contaminants may cause:

The EPA has considered the matters in s.9 of the Act and for the following reasons has determined that the site is contaminated in such a way as to present a significant risk of harm to human health and the environment:

- Groundwater on the site has been found to be contaminated by TPHs, PAHs, BTEX, ammonia, phenol and cyanide at concentrations significantly exceeding the relevant trigger values for the protection of human health and aquatic ecosystems in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC and ARMCANZ, 2000).
- These groundwater contaminants include human carcinogens and substances toxic to aquatic ecosystems.
- The contaminated groundwater is impacting on the surrounding areas including the basement of a residential building adjacent to the site, potentially exposing humans in that building to harmful vapours; however it is currently being effectively controlled.
- Contaminated groundwater is likely to be migrating from the site to Darling Harbour and could ultimately affect aquatic ecosystems.

4. Further action under the Act

The making of this declaration does not prevent the carrying out of a voluntary remediation of the site and any person may submit a voluntary remediation proposal for the site to the EPA. If the proposal satisfies the requirements of s.26 of the Act, the EPA may agree not to issue a remediation order to the person or persons bringing the proposal.

5. Submissions invited

The public may make written submissions to the EPA on:

- Whether the EPA should issue a remediation order in relation to the site; or
- Any other matter concerning the site.

Submissions should be made in writing to:

Manager Contaminated Sites
Department of Environment and Climate Change
PO Box A290
SYDNEY SOUTH NSW 1232

or faxed to 02 9995 5930

by no later than 3 June 2009

[Signed]

NIALL JOHNSTON
Manager Contaminated Sites
Department of Environment and Climate Change

Date: 6 May 2009

NOTE:
Remediation order may follow
If remediation of the site or part of the site is required, the EPA may issue a remediation order under s.23 of the Act.

Variation/Revocation
This declaration may be varied by a subsequent declaration. It remains in force until it is otherwise varied or revoked. A declaration may only be revoked when the EPA does not have reasonable grounds to believe that land is contaminated in such as way as to present a significant risk of harm (s.44 of the Act).

Information recorded by the EPA
Section 58 of the Contaminated Land Management Act 1997 requires the EPA to maintain a public record. A copy of this remediation declaration will be included in the public record.

Information recorded by councils
Section 59 of the Act requires the EPA to inform the relevant local council that this declaration has been made, as soon as practicable. The council is then required to note on its planning certificate issued pursuant to s.149 (2) of the Environmental Planning and Assessment Act that the land is currently within a remediation area. The EPA is required to notify council as soon as practicable when the declaration is no longer in force and the notation on the s.149 (2) certificate can be removed.

Relationship to other regulatory instrument
This declaration does not affect the provisions of any relevant environmental planning instruments which apply to the land or provisions of any other environmental protection legislation administered by the EPA.

Environment Protection Authority

Notice to end significantly contaminated land declaration and management order

(Section 44 of the Contaminated Land Management Act 1997)

Notice Number 20094407; Area Number 3221 and 3265

Background

The land to which this notice applies was declared as "significantly contaminated land" (declaration no.15036) by the Environment Protection Authority ("the EPA")*. Investigation works were undertaken by the Sydney Harbour Foreshore Authority and the results have been made available to the EPA.

Repeal

Having reviewed the results of the investigation works, the EPA is satisfied that it no longer has reason to believe that the land to which this notice applies is contaminated and that the contamination is significant enough to warrant regulation under the Act.

Pursuant to section 44 of the Contaminated Land Management Act 1997, Declaration of significantly contaminated land number 15036, dated 28 May 2007, gazetted on 1 June 2007 ceases to be in force on the date of this notice in so far as the Declaration applies to the land to which this notice applies.

Land to which this notice applies (see attached map)

Description	Address
• Part Lot 5 and Lot 3 in Deposited Plan (DP) 876514, Hickson Rd, Millers Point (known as Wharves 5 and 7); • Lot 12 in DP 1065410 – 36 Hickson Rd, Millers Point; and • the part of Hickson Rd adjacent to the above	Hickson Road, Millers Point NSW 2000

Note (if necessary for partial revocation)
Declaration of significantly contaminated land no.21122 is still in force in so far as they apply to land other than to which this notice applies.

[Signed]

NIALL JOHNSTON
Manager Contaminated Sites
Department of Environment, Climate Change and Water

Date: 24 August 2009

NOTE:

Information recorded by the EPA

Section 58 of the Contaminated Land Management Act 1997 requires the EPA to maintain a public record. A copy of this notice will be included in the public record.

Information recorded by councils

Section 59 of the Act requires the EPA to give a copy of this notice to the relevant local council. The council may then make appropriate consequential modifications to the planning certificate issued in relation to the land to which this notice applies pursuant to s.149 of the *Environmental Planning and Assessment Act 1979*.

Relationship to other regulatory instrument

This repeal notice does not affect the provisions of any relevant environmental planning instruments which apply to the land or provisions of any other environmental protection legislation administered by the EPA.

Previous regulatory instrument

As of 1 July 2009, all current declarations for investigation area or declarations for remediation sites are taken to be declarations for significantly contaminated land, all current orders for investigation area and orders for remediation site are taken to be management orders and all current voluntary investigation and remediation agreements are taken to be voluntary management proposals.

*The DECCW exercises certain statutory powers in the name of the EPA.

Environment Protection Authority

Declaration of investigation area

(Section 15 of the Contaminated Land Management Act 1997)

Declaration Number 15036; Area Numbers 3221 and 3265

The Environment Protection Authority (EPA) declares the following land to be an investigation area under the Contaminated Land Management Act 1997 ("the Act"):

1. Land to which this declaration applies ("the site")

The site to which this declaration relates is part of the former Millers Point gasworks and is described as:

- Part Lot 5 and Lot 3 in Deposited Plan (DP) 876514, Hickson Rd, Millers Point (known as Wharves 5 and 7);
- Lot 12 in DP 1065410 - 36 Hickson Rd, Millers Point; and
- the part of Hickson Rd adjacent to the above area

in the City of Sydney local government area. A map of the site is available for inspection at the offices of the Department of the Environment and Climate Change, Level 14, 59-61 Goulburn Street, Sydney, NSW.

2. Nature of contamination affecting the site:

The EPA believes that the site is contaminated with the following substances ("the contaminants"): polycyclic aromatic hydrocarbons (PAHs); benzene, toluene, ethylene and xylene (BTEX); copper; cyanide; lead; and phenol.

3. Nature of harm that the contaminants may cause:

The EPA has considered the matters in s.9 of the Act and for the following reasons has determined that it has reasonable grounds to believe that the site is contaminated in such a way as to present a significant risk of harm to human health and the environment:

- Groundwater in the area has been found to be contaminated by PAHs, BTEX, copper, cyanide, lead and phenol at concentrations significantly exceeding the relevant trigger values for the protection of aquatic ecosystems in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC and ARMCANZ, 2000).
- The groundwater contaminants include human carcinogens and substances toxic to aquatic ecosystems.
- Contaminated groundwater is likely to be migrating from the site to Darling Harbour and could ultimately affect aquatic ecosystems.
- Contaminated groundwater is migrating from the site into the basement of a residential building adjacent to the site and potentially could expose humans in that building to vapours; however it is currently being effectively controlled.
- Contaminated groundwater from the site may enter service trenches potentially exposing maintenance workers to vapours.

4. Further action under the Act

The making of this declaration does not prevent the carrying out of a voluntary investigation of the site and any person may submit a voluntary investigation proposal for the site to the EPA. If the proposal satisfies the requirements of s.19 of the Act, the EPA may agree not to issue an investigation order to the person or persons bringing the proposal.

5. Submissions invited

The public may make written submissions to the EPA on:

- Whether the EPA should issue an investigation order in relation to the site; or
- Any other matter concerning the site.

Submissions should be made in writing to:

Acting Manager Contaminated Sites
Department of Environment and Climate Change
PO Box A290
SYDNEY SOUTH NSW 1232

or faxed to 02 9995 5930

by not later than 2 July 2007

NIALL JOHNSTON
Acting Manager Contaminated Sites
Department of Environment and Climate Change

Date: 28 May 2007

NOTE:

Investigation order may follow

If investigation of the site or part of the site is required, the EPA may issue an investigation order under s.17 of the Act.

Variation/Revocation

This declaration may be varied by subsequent declarations. It remains in force until it is otherwise revoked. A declaration may only be revoked when the EPA does not have reasonable grounds to believe that land is contaminated in such as way as to present a significant risk of harm (s.44 of the Act).

Information recorded by the EPA

Section 58 of the Contaminated Land Management Act 1997 requires the EPA to maintain a public record. A copy of this investigation declaration will be included in the public record.

Information recorded by councils

Section 59 of the Act requires the EPA to give a copy of this declaration to the relevant local council. The council is then required to note on its planning certificate issued pursuant to s.149 (2) of the Environmental Planning and Assessment Act that the land is currently within an investigation area. The EPA is required to notify council as soon as practicable when the declaration is no longer in force and the notation on the s.149 (2) certificate is no longer required.

Relationship to other regulatory instrument

This declaration does not affect the provisions of any relevant environmental planning instruments which apply to the land or provisions of any other environmental protection legislation administered by the EPA.

Appendix D

Borelogs

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AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

TEST PIT LOG TP01

PROJECT NUMBER	S41500	**DATE**	27 Feb 10
PROJECT NAME	Barangaroo		
LOCATION	Hickson Road, Millers Point, Sydney NSW		
DRILLING METHOD	Excavator		
SAMPLING METHOD	Grab		
SURFACE ELEVATION	2.420 m AHD		
LOGGED BY	K. Pigram	**NORTHING**	6251730.99
COMMENTS		**EASTING**	333706.51

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	BITUMEN	0.07
				0.2		FILL	Silty Sandy Gravel (FILL). Grey/brown with green staining, loose, dry. Contains roadbase gravels (40%)(10-30 mm), fine to medium grained sand (30 %), silt (20 %) and trace (<10 %) ash. No odour, staining or fibre cement material noted.	
				0.3				
				0.4			Becoming red/grey/brown from 0.4 m bgs.	
				0.5			Contains bricks (10 %), ironstone gravels (20 %) (10-40 mm) and pieces of concrete (10 %) (20-70 mm) from 0.6 m bgs.	
				0.6				
				0.7				
				0.8				
				0.9				
				1.0			Contains pieces of sandstone (10 %) (10-50 mm) from 1.0 m bgs. Slight gaseous odour noted. No staining or fibre cement material noted.	
				1.1				
				1.2				
				1.3			Pieces of reinforced steel noted from 1.3 m bgs.	
				1.4				
				1.5				
				1.6				
				1.7				
				1.8				
				1.9				
				2.0				
				2.1				
				2.2				
				2.3				
				2.4				
				2.5 ▽			Becoming saturated/groundwater encountered from 2.5 m bgs. Sheen noted on surface of groundwater.	
				2.6		FILL		2.60
				2.7			Sandy Gravel (FILL). Dark grey/brown, loose to medium dense, saturated. Contains gravels (40 %) and medium to coarse grained sand (30 %). Contains slag (30 %) (10-30 mm), pieces of wood (20-80 mm) and pieces of sheet metal. No odour, staining or fibre cement material noted.	
				2.8				
				2.9				
				3.0			Concrete rubble encountered from 2.8 m bgs; refusal with excavator. Dark brown groundwater noted in southern end of test pit.	
				3.1				
				3.2				
				3.3			Switch to hammer at 2.9 m bgs. Unconsolidated Fill material, minimal soil, contains building rubble.	
				3.4				
				3.5				
				3.6				
				3.7				
				3.8				
				3.9				
				4.0				
				4.1				
				4.2				
				4.3				
				4.4				
				4.5				
		TP01_4.5-4.8	✳	4.6				
				4.7				
				4.8				
				4.9				
				5.0			Test pit terminated at 5.0 m bgs; target depth reached. Total Depth: 5.00 m	5.00

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

TEST PIT LOG TP02

PROJECT NUMBER S41500
PROJECT NAME Barangaroo
LOCATION Hickson Road, Millers Point, Sydney NSW
DRILLING METHOD Excavator
SAMPLING METHOD Grab
SURFACE ELEVATION 2.290 m AHD

DATE 27 Feb 10

LOGGED BY K. Pigram
COMMENTS

NORTHING 6251729.37
EASTING 333721.15

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	BITUMEN	0.07
				0.2		FILL	Silty Sandy Gravel (FILL). Dark grey/brown with green staining, loose, dry. Contains roadbase gravels (40 %) (10-30 mm), silt (30 %) and fine to medium grained sand (30 %). No odour, staining or fibre cement material noted.	
				0.3				
				0.4				
				0.5			Contains red/brown ironstone gravels (20 %) (10-30 mm) from 0.5 m bgs.	
				0.6				
				0.7				
				0.8			Slight gaseous odour noted from 0.8 m bgs.	
				0.9				
				1.0			Becoming dark brown and moist from 1.0 m bgs.	
				1.1				
				1.2				
				1.3				
				1.4				
				1.5				
				1.6				
				1.7				
				1.8			Contains pieces of brick (20-70 mm) from 1.8 m bgs.	
				1.9				
				2.0			Large boulders of sandstone (100-200 mm) encountered from 2.0 m bgs.	
				2.1				
				2.2				
				2.3				
				2.4				
				2.5				
				2.6				
				2.7			Glass bottle noted at 2.7 m bgs.	
				2.8			Contains minor soft - medium stiff, low plasticity clay (10 %). Becoming saturated/groundwater encountered from 2.8 m bgs.	
				2.9				
				3.0				
5		TP02_3.1-3.2	✳	3.1		FILL		3.10
5.2				3.2			Sandy Gravel (FILL). Dark grey/brown with slight black staining, loose to medium dense, saturated. Contains slag (40 %) and gravels (<10 mm) (30 %). Slight hydrocarbon odour noted. No fibre cement material noted.	
				3.3				
				3.4				
				3.5				
				3.6				
				3.7				
				3.8				
				3.9				3.90
				4.0		FILL	Clayey Sandy Gravel (FILL). Dark grey/brown with black staining, dense to very dense, saturated. Contains medium to coarse grained sand (40 %), soft, low plasticity clay (30 %) and large pieces of slag (30 %) (10-40 mm). Moderate hydrocarbon odour and moderate sheen with orange product noted floating on groundwater within test pit. No fibre cement material noted.	
42.2	✋			4.1				
		TP02_3.9-4.3	✳	4.2				
22.8				4.3				
				4.4				
				4.5			Clay content increasing with depth. Moderate to strong hydrocarbon/gaseous odour noted from 4.3 m bgs.	
				4.6				
				4.7				
				4.8				4.80
							Test pit terminated at 4.8 m bgs; target depth reached. Total Depth: 4.80 m	

S41500_TEST PIT LOGS(VMP&PDA)_24JUN10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

TEST PIT LOG TP03

PROJECT NUMBER S41500
PROJECT NAME Barangaroo
LOCATION Hickson Road, Millers Point, Sydney NSW
DRILLING METHOD Excavator
SAMPLING METHOD Grab
SURFACE ELEVATION 2.330 m AHD

DATE 27 Feb 10

LOGGED BY K. Pigram
COMMENTS

NORTHING 6251689.95
EASTING 333710.1

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	BITUMEN	0.07
				0.2		FILL	Silty Sandy Gravel (FILL). Grey/brown, loose, dry. Contains roadbase gravels (30 %) (10-30 mm), silt (20 %), fine to medium grained (30 %) and marine gravels (20 %) (10-20 mm). Slight gaseous odour noted. No staining or fibre cement material noted.	
				0.3				
				0.4				
				0.5			Contains bricks (60 %) and intact brick wall observed on eastern wall of test pit from 0.5 m bgs.	
				0.6				
				0.7				
				0.8				
				0.9				
				1.0				
				1.1			Becoming saturated/groundwater encountered from 1.05 m bgs.	
				1.2				
				1.3				
				1.4				
				1.5				
				1.6				
				1.7				
				1.8 ▽				
				1.9				
				2.0				
				2.1			Contains boulders of sandstone (100-500 mm) from 2.1 m bgs.	
				2.2				
				2.3			Minor medium stiff, low plasticity clay (10 %) from 2.3 m bgs. Contains planks of wood (500-700 mm), steel pipes (500-700 mm) and boulders of sandstone.	
				2.4				
				2.5				
				2.6				
				2.7				
				2.8				
				2.9				
				3.0				
				3.1				
				3.2				
				3.3				
				3.4				
				3.5				
				3.6				
				3.7				
				3.8				
				3.9				
				4.0			Minor black staining noted on clay (20 %) from 4.0 m bgs.	
				4.1				
				4.2				
				4.3				
				4.4				
				4.5				
		TP03_4.5-4.8	✳	4.6				
				4.7				
				4.8				
				4.9				
				5.0				5.00
							Test pit terminated at 5.0 m bgs; target depth reached. Total Depth: 5.00 m	

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

TEST PIT LOG TP04

PROJECT NUMBER S41500
PROJECT NAME Barangaroo
LOCATION Hickson Road, Millers Point, Sydney NSW
DRILLING METHOD Excavator
SAMPLING METHOD Grab
SURFACE ELEVATION 2.250 m AHD

DATE 27 Feb 10

LOGGED BY K. Pigram
COMMENTS

NORTHING 6251679.94
EASTING 333720.87

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	BITUMEN	0.06
				0.2		FILL	Silty Sandy Gravel (FILL). Dark grey/brown, loose, dry. Contains roadbase gravels (40 %) (10-40 mm), silt and medium grained sand. No odour, staining or fibre cement material noted.	
				0.3				
				0.4				
				0.5				
		TP04_0.5-0.7	✳	0.6			Contains bricks (20 %) and minor yellow with grey mottling stiff, low plasticity clay (10 %) from 0.5 m bgs. Slight gaseous odour, no staining or fibre cement material noted.	
				0.7				
				0.8				
				0.9				
				1.0			Contains yellow/brown, medium stiff, low plasticity clay (20-30 %) and pieces of weathered sandstone (20 %) (40-80 mm) from 1.0 m bgs. No odour, staining or fibre cement material noted.	
				1.1				
				1.2				
				1.3				
				1.4			Becoming saturated/groundwater encountered from 1.05 m bgs.	
				1.5			Contains large pieces of concrete rubble (200-300 mm) from 1.2 m bgs.	
				1.6			Slight sheen noted on Fill materials from 1.5 m bgs.	
				1.7				
				1.8 ▽				
				1.9				
				2.0				
				2.1				
				2.2				
				2.3				
				2.4				
				2.5				
				2.6				
				2.7				
				2.8				
				2.9				
				3.0				
				3.1				
				3.2				
				3.3				
				3.4				
				3.5				
				3.6				
				3.7				
				3.8				
				3.9				
				4.0				
				4.1				
				4.2				
6.6				4.3			Slight to moderate gaseous/chemical odour noted from 4.3 m bgs.	
				4.4				
				4.5				4.50
				4.6		FILL	Gravelly Sandy Clay (FILL). Dark grey/brown, stiff, saturated, low to medium plasticity. Contains clay (30 %), shells (20 %), marine gravels (20 %) (<10 mm), fine to medium grained sand (30 %) and minor silt (10 %). Moderate hydrocarbon/napthalene odour noted. No staining or fibre cement material noted.	
		TP04_4.5-4.8	✳	4.7				
				4.8				
				4.9				
				5.0				5.00
							Test pit terminated at 5.0 m bgs; target depth reached. Total Depth: 5.00 m	

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

TEST PIT LOG TP05

PROJECT NUMBER S41500
PROJECT NAME Barangaroo
LOCATION Hickson Road, Millers Point, Sydney NSW
DRILLING METHOD Excavator
SAMPLING METHOD Grab
SURFACE ELEVATION 2.250 m AHD

DATE 27 Feb 10

LOGGED BY K. Pigram
COMMENTS

NORTHING 6251644.07
EASTING 333725.24

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	BITUMEN	0.07
				0.2		FILL	Silty Sandy Gravel (FILL). Dark grey/brown, loose, dry. Contains roadbase gravels (30 %) (10-30 mm), medium grained sand, silt. Very slight tar/gaseous odour. No staining or fibre cement material noted.	
				0.3				
				0.4				
				0.5				
				0.6				
				0.7				
				0.8				
				0.9				
				1.0				
				1.1				
				1.2				
				1.3				
				1.4				
46.7				1.5		FILL		1.50
				1.6			Sandy Clay (FILL). Black staining, medium stiff, slightly moist to moist, low plasticity. Contains clay (50 %), fine to medium grained sand (40 %) and liquid tar (10 %). Slight to moderate tar odour. No fibre cement material noted.	
				1.7				
				1.8				
		TP05_1.8-2.0	✳	1.9				
				2.0				
				2.1				
				2.2				
				2.3				
				2.4				
				2.5				
				2.6				
				2.7				
44.8				2.8		FILL		2.80
				2.9			Sandy Clayey Gravel (FILL). Black staining, dense, moist to saturated. Contains marine gravels (40 %) (10-40 mm), bricks and sandstone boulders 100-200 mm), medium stiff, low plasticity clay (15 %) and medium grained sand (15 %). Moderate to strong tar odour. No fibre cement material noted.	
				3.0				
				3.1				
		TP05_3.1-3.3	✳	3.2				
				3.3				
				3.4				
				3.5				
				3.6				
				3.7				
				3.8				
				3.9				
				4.0				4.00
							Test pit terminated at 4.0 m bgs; refusal on Sandstone Bedrock. Total Depth: 4.00 m	

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

TEST PIT LOG TP06

PROJECT NUMBER	S41500	**DATE**	27 Feb 10
PROJECT NAME	Barangaroo		
LOCATION	Hickson Road, Millers Point, Sydney NSW		
DRILLING METHOD	Excavator		
SAMPLING METHOD	Grab		
SURFACE ELEVATION	2.200 m AHD		
LOGGED BY	K. Pigram	**NORTHING**	6251625.99
COMMENTS		**EASTING**	333724.41

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	BITUMEN	0.09
				0.2		FILL	Silty Sandy Gravel (FILL). Dark grey/brown, medium dense, dry. Contains roadbase gravels (40 %) (10-30 mm), silt (30 %) and fine to medium grained sand (30 %). No odour, staining or fibre cement material noted.	
				0.3				
				0.4				
				0.5			Steel pipe noted at 0.5 m bgs from west to east across test pit.	
				0.6				
				0.7				
				0.8				
				0.9				
				1.0			Steel pipe noted at 1.0 m bgs from west to east across test pit.	
				1.1				
				1.2				
				1.3				
				1.4				
				1.5			Black staining noted at 1.5 m bgs. Contains bricks (10-100 mm) and sandstone blocks (100-400 mm).	
				1.6				
				1.7				
				1.8				
				1.9				
				2.0				
				2.1				
				2.2 ▽			Becoming saturated/groundwater encountered from 2.2 m bgs.	
				2.3				
				2.4				
87.3				2.5				2.50
				2.6		FILL	Silty Sandy Clay (FILL). Orange with black staining, medium stiff, saturated, low plasticity. Contains clay (60 %), silt (20 %), medium grained sand (20 %). Contains pieces of decayed wood, pieces of plastic and metal. Strong hydrocarbon/gaseous odour. Slight to moderate sheen noted. No fibre cement material noted.	
				2.7				
				2.8				
		TP06_2.8-3.0	✳	2.9				
				3.0				
				3.1				3.10
							Test pit terminated at 3.1 m bgs; refusal on Sandstone Bedrock. Total Depth: 3.10 m	

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

TEST PIT LOG TP07

PROJECT NUMBER S41500 **DATE** 27 Feb 10
PROJECT NAME Barangaroo
LOCATION Hickson Road, Millers Point, Sydney NSW
DRILLING METHOD Excavator
SAMPLING METHOD Grab
SURFACE ELEVATION 2.550 m AHD

LOGGED BY K. Pigram **NORTHING** 6251622.67
COMMENTS **EASTING** 333702.8

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		CONCRETE	CONCRETE with steel reinforcement and plastic sheeting at base.	
0.6				0.2		FILL	Silty Sandy Gravel (FILL). Grey/brown, medium dense, dry. Contains medium grained sand (30 %), silt (20 %), minor stiff, low plasticity clay (10 %) and roadbase gravels (40 %). No odour, staining or fibre cement material noted.	0.20
				0.3			Steel pipe noted in excavation running south to north in test pit at 0.3 m bgs.	
				0.4				
				0.5				
				0.6				
				0.7				
				0.8				
				0.9				
				1.0				
				1.1				
				1.2				
				1.3			Contains bricks and sandstone boulders (20 %) (100-200 mm) from 1.3 m bgs.	
				1.4				
				1.5			Slight black staining noted from 1.5 m bgs.	
				1.6			Becoming moist from 1.6 m bgs. Contains soft to medium stiff, low plasticity clay (20 %). Slight hydrogen sulphide/gaseous odour noted. No staining or fibre cement material noted.	
				1.7				
				1.8				
				1.9				
				2.0			Slight to moderate gaseous/sewerage odour noted from 1.8 m bgs. Contains moderate black staining and tar (10-20 %). No fibre cement material noted.	
				2.1				
				2.2				
				2.3				
				2.4				
				2.5				
				2.6				
				2.7				
				2.8				
				2.9				
				3.0				
				3.1				
21.5				3.2 ▽			Becoming saturated/groundwater encountered at 3.2 m bgs.	
				3.3				
				3.4				
				3.5				
				3.6				
				3.7				
				3.8				
				3.9				
				4.0				
				4.1				
		TP07_4.1-4.3	✳	4.2				
				4.3				4.30
							Test pit terminated at 4.3 m bgs; target depth reached. Total Depth: 4.30 m	

S41500_TEST PIT LOGS(VMP&PDA)_24JUN10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH33

PROJECT NUMBER	S41500	**DATE**	12 Feb 10
PROJECT NAME	Barangaroo - Declaration Area		
LOCATION	Hickson Road, Millers Point NSW 2000		
DRILLING METHOD	Core, Air-knife & Push-tube		
SAMPLING METHOD	Grab & Push-tube		
SURFACE ELEVATION	2.300 m AHD		
LOGGED BY	S. Patel	**NORTHING**	333698.89
COMMENTS	Block 3 - Declaration Area	**EASTING**	6251546.31

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.08
				0.2		FILL	Gravelly Sandy Clay (FILL). Grey/brown, soft to medium stiff, slightly moist. Contains minor silt (10 %), clay (40 %), fine to medium grained sand (30 %) and road base gravels (<10 mm) (20 %). No odour, staining or fibre cement material noted.	
				0.3				
				0.4				
				0.5				
				0.6				
				0.7				
1.1		BH33_0.75-0.85	✳	0.8				0.85
				0.9		FILL	Silty Sandy Gravelly Clay (FILL). Grey/brown, slightly moist, fine to medium sized gravels. Contains roadbase gravels. No odour, staining or fibre cement material noted.	
11.7		BH33_1.0-1.2		1.0				
				1.1				
				1.2				
				1.3				
				1.4				
				1.5				
				1.6				
				1.7				
				1.8				
				1.9				
				2.0				2.00
3.2		BH33_2.0-2.2		2.1		FILL	Clayey Sand (FILL). Brown/grey, fine grained, dense to very dense, slightly moist. Contains sand (80 %) and soft, low plasticity clay (20 %). No odour, staining or fibre cement material noted.	
				2.2				
				2.3				
				2.4				
				2.5				
				2.6				
				2.7				
				2.8				
				2.9				
				3.0				
7.4		BH33_3.0-3.2		3.1				
				3.2				
				3.3				
				3.4				
				3.5				
				3.6				
				3.7				
				3.8				
				3.9				
				4.0				
6.4		BH33_4.0-4.2		4.1			Becoming grey to light brown and saturated from 4.0 m bgs. Contains highly weathered sandstone (75 %) and clay (20 %). No odour, staining or fibre cement material noted.	
				4.2				
				4.3				
				4.4				
				4.5				
				4.6				
				4.7				
				4.8				
				4.9				
				5.0				
12.7		BH33_5.0-5.2	✳	5.1				
				5.2				
				5.3				
				5.4				
				5.5				
				5.6				
				5.7				
				5.8				
				5.9				
				6.0				6.00
9.6		BH33_6.0-6.2		6.1		SANDSTONE	SANDSTONE. Grey, slightly moist. High strength. No odour, staining or fibre cement material noted.	
				6.2				
				6.3				
				6.4				
				6.5				
				6.6				
				6.7				
				6.8				
				6.9				
				7.0				
8.5		BH33_7.0-7.2		7.1				
				7.2				
				7.3				
				7.4				
				7.5				
				7.6				
				7.7				
				7.8				
				7.9				
				8.0				
10.3		BH33_8.0-8.2	✳	8.1				
				8.2				8.20
							Borehole terminated at 8.2 m bgs; refusal on Sandstone Bedrock. Total Depth: 8.20 m	

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH34

PROJECT NUMBER	S41500	**DATE**	25 Feb 10
PROJECT NAME	Barangaroo - Declaration Area		
LOCATION	Hickson Road, Millers Point NSW 2000		
DRILLING METHOD	Core, Air-knife & Push-tube		
SAMPLING METHOD	Grab & Push-tube		
SURFACE ELEVATION	2.040 m AHD		
LOGGED BY	K. Pigram	**NORTHING**	333688.6
COMMENTS	Block 4 - Declaration Area	**EASTING**	6251575.52

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.05
				0.2		FILL	Gravelly Sandy Clay (FILL). Grey/brown, soft to medium stiff, slightly moist. Contains minor silt (10 %), clay (40 %), fine to medium grained sand (30 %) and road base gravels (<10 mm) (20 %). No odour, staining or fibre cement material noted.	
0		BH34_0.6-0.8		0.6				
0		BH34_1.0-1.2		1.0		FILL		0.90
				1.1			Gravelly Sand (FILL). White, yellow, brown, medium to coarse grained, dense, dry. Contains sand (50 %), weathered fragments of sandstone (10-30 mm)(30 %), trace silt (<10 %) and trace road base gravels (<10 mm). No odour, staining or fibre cement material noted.	
0.8		BH34_1.8-2.2 QC240 QC241	✳ ✳ ✳	1.8		FILL		1.80
				2.0			Sandy Clay (FILL). Light grey, brown with white, medium stiff, moist to saturated, low to medium plasticity. Contains medium to coarse grained sand and quartz fragments (40 %), clay (50 %) and minor silt. No odour, staining or fibre cement material noted.	
1		BH34_3.8-4.0	✳	3.8		FILL		3.80
				4.0			Clayey Sand (FILL). Light grey/brown and white, medium dense, saturated. Contains crushed weathered sandstone (50 %), medium stiff, low to medium plasticity clay (30 %), fragments of sandstone (<10 mm)(10 %) and minor quartz fragments. No odour, staining or fibre cement material noted.	
0.6		BH34_5.0-5.2		5.0		FILL		5.00
				5.1			Sand (FILL). White, yellow, dense, saturated. Contains weathered sandstone fragments (10-20 mm) (60 %), medium grained sand (20 %) and minor (10 %) clay and (10 %) silt. No odour, staining or fibre cement material noted.	
				5.4		FILL		5.40
				5.5			Clayey Gravelly Sand (FILL). Light grey/brown, medium to coarse grained, medium dense, saturated. Contains pieces of quartz and sandstone fragments (<10 mm)(40 %), soft low plasticity clay (20 %) and sand (40 %).No odour, staining or fibre cement material noted.	
1.3		BH34_6.0-6.2	✳	6.0				
				6.6		FILL		6.60
				6.7			Sandy Clay (FILL). Light grey/brown with white mottling, medium stiff, saturated, low to medium plasticity. Contains clay (60 %), medium to coarse grained sand (20 %) and weathered sandstone and quartz fragments (<10 mm) (10 %) and minor silt (10 %). No odour, staining or fibre cement material noted.	
0.8		BH34_7.5-7.7		7.5				
				8.5		FILL		8.50
				8.6			Clayey Sandy Gravel (FILL). Light grey/brown, fine to medium grained, medium dense, saturated. Contains soft, low plasticity clay (20 %), sand and quartz fragments (30 %) and weathered sandstone fragments (10-30 mm)(50 %). No odour, staining or fibre cement material noted.	
0.8		BH34_9.0-9.2		9.0				
				11.0				11.00
0.6		BH34_11.0-11.2	✳	11.1		SANDSTONE	SANDSTONE. Light grey/brown, dense - increasing density with depth, saturated. Contains weathered sandstone fragments (10-30 mm) (60 %), medium grained sand (30 %) and minor soft, low plasticity clay (10 %). No odour, staining or fibre cement material noted.	
				13.2			Borehole terminated at 13.2 m bgs; target depth reached. Total Depth: 13.20 m	13.20

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH35

PROJECT NUMBER S41500
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000
DRILLING METHOD Core, Air-knife & SPT
SAMPLING METHOD SPT
SURFACE ELEVATION 2.190 m AHD

DATE 23 Feb 10

LOGGED BY D. Fox
COMMENTS Block 4 - Declaration Area

NORTHING 333705.5
EASTING 6251579.83

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.08
				0.2		FILL	Gravelly Sandy Clay (FILL). Grey/brown, soft, stiff, slightly moist. Contains minor silt (10 %), fine to medium grained sand(30 %) and road base gravels (<10 mm)(20 %). No odour, staining or fibre cement material noted.	0.70
				0.3				
				0.4				
				0.5				
				0.6				
				0.7				
				0.8		FILL		
0.2		BH35_0.9-1.0	✳	0.9			Clayey Sand (FILL). Brown, loose, fine grained, medium dense. Contains grey, crushed sandstone fragments. No odour, staining or fibre cement material noted.	
				1.0			Becoming grey, dense, slightly moist from 1.0 m bgs. Contains weathered sandstone fragments. No odour, staining or fibre cement material noted.	
				1.1				
				1.2				
				1.3				
				1.4				
				1.5				
				1.6			Becoming light brown with orange mottling, medium grained, loose, moist from 1.6 m bgs. Contains semi-cohesive sandstone fragments (50-80 mm)(15 %). No odour, staining or fibre cement material noted.	
				1.7				
				1.8				
0.5		BH35_1.9-2.0		1.9				
				2.0				
				2.1				
				2.2				
				2.3				
				2.4				
				2.5				
				2.6				
				2.7				
				2.8				
				2.9				
				3.0				
				3.1				
				3.2				
				3.3				
0.9		BH35_3.4-3.5		3.4				
				3.5				
				3.6				
				3.7				
				3.8				
				3.9				
				4.0				
				4.1				
				4.2				
				4.3				
				4.4				
				4.5				
				4.6				
				4.7				
				4.8				
1		BH35_4.9-5.0	✳	4.9				
				5.0				
				5.1				
				5.2				
				5.3				
				5.4				
				5.5				
				5.6				
				5.7				
				5.8				
				5.9				
				6.0				
				6.1				
				6.2				
				6.3				
				6.4				
0.2		BH35_6.4-6.5	✳	6.5				
				6.6				
				6.7				
				6.8				
				6.9				
				7.0				
				7.1				
				7.2				
				7.3				
				7.4				
				7.5				
				7.6				
				7.7				
				7.8				
				7.9				
0.8		BH35_7.9-8.0		8.0				
				8.1				
				8.2				
				8.3				
				8.4				
				8.5				
				8.6				
				8.7				
				8.8				
				8.9				
				9.0				
				9.1				
				9.2				
				9.3				
				9.4				
				9.5				
				9.6				
				9.7				
				9.8				
				9.9				
0.5		BH35_9.9-10.0	✳	10.0				10.00
							Borehole terminated at 10.0 m bgs; refusal on Sandstone Bedrock. Total Depth: 10.00 m	

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH36

PROJECT NUMBER S41500
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000
DRILLING METHOD Core, Air-knife & Hollow Augers
SAMPLING METHOD SPT
SURFACE ELEVATION 2.250 m AHD

DATE 03 Mar 10

LOGGED BY K. O'Brien
COMMENTS Block 3 - Declaration Area

NORTHING 333683.79
EASTING 6251544.61

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.3		BH36_0.07-0.1	✳	0.1		ASPHALT	ASPHALT	0.05
						FILL	Silty Sandy Gravel (FILL). Light red/brown/grey and black, loose, dry. Medium to coarse grained sand (30 %) and roadbase gravels (10-20 mm) (30 %) containing ash (20 %) and silt (20 %). No odour or fibre cement material noted.	1.00
0.4		BH36_1.0-1.2	✳	1.0		FILL	Sandstone (FILL). Light orange and white, dense, dry to slightly moist. Highly weathered sandstone boulders. No odour, staining or fibre cement material noted.	2.50
0.3		BH36_2.5-2.9	✳	2.5		FILL	Gravelly Sand (FILL). Light yellow and brown, fine grained, loose, very moist. Contains crushed sandstone and sandstone gravel and cobbles. No odour, staining or fibre cement material noted.	
0.5		BH36_4.0-4.4	✳	4.0			Becoming medium dense and saturated from 4.0 m bgs. Groundwater encountered at 4.0 m bgs.	5.50
0.5		BH36_5.5-5.9		5.5		FILL	Sandstone (FILL). Light yellow, dense, saturated. Highly weathered sandstone boulders - low strength. No odour, staining or fibre cement material noted. U50 sample taken at 6.0 m bgs; - refusal on Sandstone Fill.	
		BH36_7.0-7.4		7.0			Becoming light grey and very dense from 7.0 m bgs.	
		BH36_8.5-8.9	✳	8.5				10.00
		BH36_10.0-10.4		10.0		FILL	Gravelly Sand (FILL). Light grey and yellow, medium dense, saturated. Contains crushed sandstone and sandstone fragments. No odour, staining or fibre cement material noted. U50 sample taken from 10.5 to 10.95 m bgs.	11.50
				11.5		FILL	Sandstone (FILL). Grey and yellow, very dense, saturated. Highly weathered sandstone boulders. No odour, staining or fibre cement material noted.	13.00
0.3		BH36_13.0-13.4	✳	13.0		FILL	Sandy Gravel (FILL). Light grey, medium dense, saturated. Contains sandstone gravels and cobbles. No odour, staining or fibre cement material noted.	14.50
				14.5		SW-SC	Sandy CLAY. Dark orange/red, saturated. Tarry odour noted. No staining or fibre cement material noted.	15.00
16.9		BH36_15.0-15.05	✳	15.0		SANDSTONE	SANDSTONE. Orange. High strength. Tarry odour noted. No staining or fibre cement material noted.	15.05
							Bore hole terminated at 15.05 m bgs; refusal on Sandstone Bedrock. Total Depth: 15.05 m	

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH40 / MW40

PROJECT NUMBER	S41500	**DATE**	18 and 19 February 2010
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 14.3 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	14.3 to 20.3 m bgs
DRILLING METHOD	Core, Air-knife & Mud-Rotary	**GRAVEL PACK**	13.5 to 20.3 m bgs
SAMPLING METHOD	SPT	**SANITARY SEAL/BENTONITE**	12.5 to 13.5 m bgs
SURFACE ELEVATION	2.120 m AHD		
WELL HEAD/TOC	2.05 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	S. Patel and K. O'Brien	**NORTHING**	333642
COMMENTS	Proposed Southern Cove - Down gradient Declaration Area	**EASTING**	6251571.18

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
				0.1		ASPHALT	ASPHALT	0.06	
				0.2		FILL	Clayey Sand (FILL). Light brown, dry to slightly moist. Contains trace sandstone fragments (<5 %). No odour, staining or fibre cement material noted.		
0.5		BH40_1.0-1.2 QC53	✳	1.0					
0.4		BH40_2.5-2.7		2.5		FILL	Sandstone (FILL). Grey, slightly moist. No odour, staining or fibre cement material noted.	2.50	
0.3		BH40_5.0-5.2		5.0		FILL	Sandy Gravel (FILL). Light brown to grey, coarse grained, moist. No odour, staining or fibre cement material noted.	5.00	
3.6		BH40_7.0-7.2	✳	7.0		FILL	Sand (FILL). Grey/brown, medium to coarse grained, medium dense, saturated. Contains minor medium sized weathered sandstone fragments (<5 %). No odour, staining or fibre cement material noted.	7.00	
2.3		BH40_8.5-8.7 QC54	✳ ✳	8.5					
1.2		BH40_10.0-10.2		10.0		FILL	Sandy Gravel (FILL). Grey/brown, medium to coarse grained, medium dense, saturated. Contains coarse sized weathered sandstone fragments (90 %). No odour, staining or fibre cement material noted.	10.00	
1.6		BH40_11.5-11.7		11.5		FILL	Clayey Sand (FILL). Grey, fine to medium grained, loose to medium dense, very moist to saturated. Contains sand (80 %) and soft, low plasticity clay (20 %). No odour, staining or fibre cement material noted.	11.50	
1.8		BH40_13.0-13.2	✳	13.0					
				14.3		SW		14.30	

Cement
Blank Casing
Bentonite

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH40 / MW40

PROJECT NUMBER S41500 **DATE** 18 and 19 February 2010
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000 **GROUND WATER ELEVATION**

- Continued from Previous Page -

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.7		BH40_15.2-15.5		15.1–15.5		SW (Continued) / SC	SAND. White, fine to medium grained, loose, saturated. Contains minor coarse grained sand and crushed shells. No odour, staining or fibre cement material noted. *(Continued)*	15.20	
53.3		BH40_16.5-16.7	✳	16.5–17.0		SC	Gravelly Clayey SAND. Dark grey, fine to medium grained, medium dense, saturated. Contains minor angular fine grained gravels and pockets of white sand. No odour, staining or fibre cement material noted. Chemical odour noted from 16.0 m bgs. U50 Sample taken between 16.0 to 16.45 m bgs.	16.50	Graded Sand Filter Pack; 38 mm Slotted Screen
205		BH40_17.8-18.0	✳	17.8–18.0			Sandy CLAY. Grey with red/orange mottling, medium stiff, very moist, medium plasticity. Contains fine grained sand (20 %). Black stained veins of tar with sheen noted. Strong chemical odour noted. No fibre cement material noted.		
41.3		BH40_19.0-19.4	✳	19.0–19.4		SW-SC	Becoming very stiff to hard with low to medium plasticity and saturated from 19.0 m bgs. Contains fine grained sand (40 %) and weathered fine grained, hard sandstone fragments. Chemical odour noted. No staining or fibre cement material noted.	19.20	
				20.1–20.5		SANDSTONE	Clayey SAND. Very Light grey/white, fine to medium grained, dense, saturated. Contains sand (90 %) and minor clay (10 %). Chemical odour noted. No staining or fibre cement material noted.	20.10	
							SANDSTONE. Orange/cream, medium grained, hard, saturated. Slightly weathered, moderate strength. No odour, staining or fibre cement material noted.	20.50	
							Borehole terminated at 20.5 m bgs; refusal on Sandstone Bedrock. Total Depth: 20.50 m		

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH42

PROJECT NUMBER S41500
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000
DRILLING METHOD Core, Air-knife & Push-tube
SAMPLING METHOD Push-tube
SURFACE ELEVATION 2.510 m AHD

DATE 23 Feb 10

LOGGED BY D. Fox
COMMENTS Block 4 - Declaration Area

NORTHING 333737.58
EASTING 6251579.33

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
						ASPHALT	ASPHALT	0.07
				0.1		FILL	Sandy Gravelly Silt (FILL). Grey/brown, fine to medium grained, loose, slightly moist. Contains roadbase gravels. No odour, staining or fibre cement material noted.	
				0.2				
				0.3				
				0.4				
				0.5				
				0.6				
				0.7				
				0.8				
				0.9				
				1.0				1.00
		BH42_1.0-1.1	✳	1.1		FILL	Sandstone (FILL). Yellow/brown, dense, dry. Contains crushed sandstone fragments. No odour, staining or fibre cement material noted.	
				1.2				
				1.3				
				1.4				
				1.5			Becoming brown from 1.5 m bgs. Contains minor red and grey weathered sandstone fragments (<50 mm). No odour, staining or fibre cement material noted.	
				1.6			Becoming orange/brown, medium dense, moist from 1.6 m bgs.	
				1.7			Becoming white/orange from 1.7 m bgs.	
				1.8			Becoming yellow/orange from 1.8 m bgs.	
				1.9				
0.5		BH42_2.0-2.1	✳	2.0				
				2.1				
				2.2				
				2.3				
				2.4				
0.9		BH42_2.4-2.5		2.5				
				2.6				
				2.7				
				2.8				2.80
				2.9		FILL	Clayey Sand (FILL). Green/brown and black, fine grained, medium dense, moist. Moderate tar odour and black staining noted. No fibre cement material noted.	
				3.0 ▽				
3.1		BH42_3.0-3.1		3.1				
		BH42_3.2-3.3	✳	3.2			Contains minor weathered sandstone fragments (<50 mm) from 3.2 m bgs. Strong tar and hydrogen sulphide odour and sheen noted. No fibre cement material noted.	
		QC204		3.3				
		QC205		3.4		SW	SAND. Black, loose, very moist. Highly weathered sandstone, low strength. Contains crushed shells. Black staining, strong tar odour and sheen noted. No fibre cement material noted.	3.40
		BH42_3.5-3.6	✳	3.5		SANDSTONE		3.50
				3.6			SANDSTONE. Light grey, very dense, moist. Strong tar odour. No staining or fibre cement material noted.	3.60
							Borehole terminated at 3.6 m bgs; refusal on Sandstone Bedrock. Total Depth: 3.60 m	

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH43

PROJECT NUMBER S41500
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000
DRILLING METHOD Core, Air-knife & Hollow Augers
SAMPLING METHOD Grab & SPT
SURFACE ELEVATION 2.580 m AHD

DATE 06 Mar 10

LOGGED BY K. O'Brien
COMMENTS Hickson Road - Declaration Area

NORTHING 333760.81
EASTING 6251580.94

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.10
				0.2		CONCRETE	Concrete slab	
				0.3				0.36
0		BH43_0.4-0.5		0.4		FILL	Gravelly Sand (FILL). Grey and white, fine to medium grained, loose, saturated. Contains crushed shells and weathered sandstone fragments (20 %). No odour, staining or fibre cement material noted.	
				0.5				0.57
							Borehole terminated at 0.57 m bgs; refusal on Sandstone Bedrock. Total Depth: 0.57 m	

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH44

PROJECT NUMBER S41500
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000
DRILLING METHOD Core, Air-knife & SPT
SAMPLING METHOD SPT
SURFACE ELEVATION 2.350 m AHD

DATE 23 Feb 10

LOGGED BY D. Fox
COMMENTS Block 4 - Declaration Area

NORTHING 333733.18
EASTING 6251590.67

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.07
				0.2		FILL	Gravelly Sandy Clay (FILL). Brown, soft, loose to very loose, slightly moist, low plasticity. No odour, staining or fibre cement material noted.	
				0.3				
				0.4				
				0.5				
				0.6				
				0.7				
				0.8				
				0.9				
				1.0		FILL	Gravelly Sand (FILL). Brown, fine to medium grained, medium dense, dry. Contains concrete fragments, sand (80 %) and loose gravels (5-25mm) (20 %). No odour, staining or fibre cement material noted.	1.00
				1.1				
				1.2				
				1.3				
0.4	■	BH44_1.4-1.5	✳	1.4				
				1.5				
				1.6		SC	Clayey SAND. Light brown, fine grained, very hard, moist. Contains very soft, low plasticity clay. No odour, staining or fibre cement material noted.	1.60
				1.7				
				1.8				
0.2	■	BH44_1.9-2.0	✳	1.9				
				2.0				
				2.1				
				2.2				
				2.3				
				2.4				
				2.5				
				2.6			Becoming yellow/brown from 2.6 m bgs.	
				2.7				
				2.8				
1.1	■	BH44_2.9-3.0		2.9				
				3.0				
				3.1				
				3.2				
				3.3				
				3.4				
				3.5				
				3.6				
				3.7				
				3.8				
				3.9				
				4.0				
				4.1				
				4.2				
				4.3				
				4.4				
				4.5		SANDSTONE	SANDSTONE. Yellow/brown, very dense, moist. Highly weathered, low strength. Moderate tar odour and black staining noted. No fibre cement material noted.	4.50
				4.6				
				4.7				
				4.8				
407	■	BH44_4.9-5.0	✳	4.9				
				5.0				
				5.1				
				5.2				
				5.3				
73.4	■	BH44_5.4-5.5 QC202 QC203		5.4				
				5.5			Borehole terminated at 5.5 m bgs; refusal on Sandstone Bedrock. Total Depth: 5.50 m	5.50

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH45 / MW45

PROJECT NUMBER	S41500	**DATE**	23 Feb 10
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 1.5 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	1.5 to 12.8 m bgs
DRILLING METHOD	Core, Air-knife & Push-tube	**GRAVEL PACK**	1.0 to 12.8 m bgs
SAMPLING METHOD	Grab & Push-tube	**SANITARY SEAL/BENTONITE**	0.5 to 1.0 m bgs
SURFACE ELEVATION	2.160 m AHD		
WELL HEAD/TOC	2.06 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	K. Pigram	**NORTHING**	333698.38
COMMENTS	Proposed Southern Cove - Declaration Area	**EASTING**	6251588.6

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
1.3		BH45_0.08-0.1		0.1		ASPHALT	ASPHALT	0.07	
				0.2		FILL	Gravelly Silty Sand (FILL). White, grey/brown and yellow, fine grained,medium dense, dry. Contains roadbase gravels (10-20 mm) (30 %), silt (30 %) and sand (30 %). Contains two pieces of metal (20 mm) and trace ash (<10 %). No odour or fibre cement material noted.		Cement
				0.3					
				0.4					
				0.5					
				0.6					
				0.7					
				0.8					Bentonite
0.9		BH45_0.8-1.0	✳	0.9					Blank Casing
				1.0				1.00	
				1.1		FILL	Gravelly Sand (FILL). Grey/brown, dense, medium to coarse grained, slightly moist. Contains weathered sandstone fragments (10-30 mm)(20 %), sand (50 %), minor silt (10 %), minor roadbase gravels (10-20 mm)(10 %) and minor soft, low plasticity clay (10 %). Slight tar odour. No staining or fibre cement material noted.		
				1.2					
				1.3					
				1.4					
				1.5					
				1.6					
				1.7					
				1.8					
				1.9					
				2.0					
				2.1					
				2.2			Becoming saturated at 2.2 m bgs.		
4.3		BH45_2.2-2.4		2.3					
				2.4					
				2.5					
				2.6					
				2.7					
				2.8					
				2.9					
				3.0					
				3.1					
				3.2				3.20	
1.3		BH45_3.2-3.4 QC230	✳ ✳	3.3		FILL	Silty Gravelly Sand (FILL). Light grey/brown, fine to medium grained, dense, saturated. Contains silt (20 %), sand (35 %), minor soft to medium stiff, low plasticity clay (10 %) and weathered sandstone fragments (10-20 mm)(30 %). Slight tar odour. Trace (<5 %) black staining. No fibre cement material noted.		
				3.4					
				3.5					
				3.6					
				3.7					
				3.8					
				3.9					
				4.0					
				4.1					
				4.2					
				4.3					
				4.4				4.40	
0.6		BH45_4.4-4.6		4.5		FILL	Silty Sandy Clayey Gravel (FILL). Light grey/brown, medium dense, saturated. Contains silt (20 %), red/brown, soft, low plasticity clay (30 %), medium to coarse grained sand (20 %) and weathered sandstone fragments (10-30 mm)(30 %). Slight tar odour. No staining or fibre cement material noted.		
				4.6					
				4.7					
				4.8					
				4.9					
				5.0					
				5.1					
				5.2					
				5.3					
				5.4					
				5.5					
				5.6					
0.8		BH45_5.6-5.8		5.7			Black staining (<10 %) and moderate tar/hydrocarbon odour noted from 5.6 to 5.8 m bgs.		
				5.8				5.80	
				5.9		FILL	Gravelly Sandy Clay (FILL). Grey/brown, soft to medium stiff, saturated, low plasticity. Contains fine to medium grained sand (30 %), clay (50 %) and weathered sandstone fragments (10-20 mm)(20 %). Trace black staining and slight tar odour noted. No fibre cement material noted.		
				6.0					
				6.1					
				6.2					
				6.3					
0.7		BH45_6.3-6.5		6.4					
				6.5					
				6.6					
				6.7					
				6.8					
				6.9					Graded Sand Filter Pack
				7.0					
				7.1					
				7.2				7.20	38 mm Slotted Screen
0.5		BH45_7.2-7.4 QC231 QC232	✳ ✳ ✳	7.3		FILL	Clayey Sandy Gravel (FILL). Grey/brown, dense, saturated. Contains soft, low plasticity clay (20 %), medium grained sand (20 %) and gravels (10-20 mm)(60 %). Very slight tar odour. No staining or fibre cement material noted.		
				7.4					
				7.5					
				7.6					
				7.7					
				7.8					
				7.9					
				8.0			Refusal at 8.2 m bgs; using push tube. Switch to solid flight augers.		
				8.1				8.20	

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH45 / MW45

PROJECT NUMBER S41500 **DATE** 23 Feb 10
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000 **GROUND WATER ELEVATION**

- Continued from Previous Page -

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
				8.3 – 10.5		SW	SAND. White/light grey, medium grained, very dense. Contains quartz granules (10 %) and crushed sandstone (80 %) and minor weathered sandstone fragments (10-30 mm)(10 %). No odour, staining or fibre cement material noted. Cave-in using solid flight augers and push-tube to sample at 9.2 m bgs. Sample not indicative of depth and therefore not taken at 9.2 m bgs.	10.50	
0.6		BH45_10.5-10.7		10.5 – 11.2		SANDSTONE	SANDSTONE. White/light grey, very dense, saturated. Contains weathered sandstone fragments (10-20 mm)(70 %) and quartz fragments (30 %). Very slight gaseous odour. No staining or fibre cement material noted.		
1.1		BH45_11.2-11.4		11.2 – 12.4			Becoming hard from 11.2 m bgs. Contains weathered sandstone gravels (10-30 mm)(90 %) and medium grained sand and quartz (10 %). Very slight tar odour. No staining or fibre cement material noted.		
1.3		BH45_12.2-12.4		12.4 – 13.2			Trace (<2%) vein of tar with black staining from 12.15 to 12.2 m bgs. Very slight tar odour noted from 12.2 m bgs. No staining or fibre cement material noted.		
1.1		BH45_13.2-13.4	✳	13.2 – 13.4				13.40	
							Borehole terminated at 13.4 m bgs; refusal on Sandstone Bedrock. Re-drilled with hollow augers on 24/02/2010 for monitoring well installation. Refusal at 12.8 m bgs. Total Depth: 13.40 m		

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH49

PROJECT NUMBER	S41500	**DATE**	22 Feb 10
PROJECT NAME	Barangaroo - Declaration Area		
LOCATION	Hickson Road, Millers Point NSW 2000		
DRILLING METHOD	Core, Air-knife & Push-tube		
SAMPLING METHOD	Grab & Push-tube		
SURFACE ELEVATION	2.540 m AHD		
LOGGED BY	K. Pigram	**NORTHING**	333699.19
COMMENTS	Block 4 - Declaration Area	**EASTING**	6251617.04

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.07
0.6		BH49_0.15-0.16		0.2		FILL	Gravelly Sandy Clay (FILL). Brown, soft, saturated, low plasticity. No odour, staining or fibre cement material noted.	0.80
2.5		BH49_0.8-1.0		0.9		FILL	Silty Gravelly Sand (FILL). Grey/brown with orange/brown and black, medium to coarse grained, medium dense to dense, dry. Contains trace ash (<10 %), roadbase gravels (10-20 mm)(20 %), silt (20 %) and sand (50 %). Slight gaseous/chemical odour. No staining or fibre cement material noted.	1.50
0.9		BH49_1.5-1.7	✳	1.6		FILL	Clayey Silty Sand (FILL). Grey/brown, fine to medium grained, dense, moist to saturated. Contains minor roadbase gravels (40 mm)(10 %), trace ash (<10 %), medium stiff, low plasticity clay (20 %), silt (30 %) and sand (60 %). No odour, staining or fibre cement material noted.	2.50
2.2		BH49_2.5-2.7		2.6		FILL	Gravelly Clayey Silty Sand (FILL). dense to very dense, saturated. Slight gaseous/chemical odour. No staining or fibre cement material noted.	3.20
2		BH49_3.2-3.4		3.3		FILL	Silty Sand (FILL). Grey/brown, dense, saturated. Black staining. No odour or fibre cement material noted.	4.20
2.2		BH49_4.2-4.4	✳	4.5		FILL	Clayey Silty Sand (FILL). Light grey, fine to medium grained, medium dense to dense, saturated. Contains sand (60 %), silt (25 %) and soft, low plasticity clay (15 %). Black staining. No odour or fibre cement material noted.	
8		BH49_4.8-5.0		5.0			Moderate gaseous/chemical odour noted from 4.8 m bgs.	6.20
8		BH49_6.2-6.4 QC223 QC224	✳ ✳ ✳	6.2 6.5 6.6		FILL	Sandy Gravelly Clay (FILL). Grey/brown, stiff, slightly moist, low plasticity. Contains clay (40 %). medium to coarse grained sand (20 %), gravels (<10 mm)(40 %), crushed shells and organic matter. Moderate gaseous/chemical odour. No staining or fibre cement material noted.	7.20
31.5		BH49_7.2-7.4		7.3		FILL	Sandy Gravel (FILL). Grey/brown, coarse grained, dense, saturated. Contains gravels (<10 mm). Black staining and moderate gaseous odour noted. No fibre cement material noted.	8.20
125.4		BH49_8.2-8.4	✳	8.3		FILL	Sandy Clay (FILL). Light brown, medium stiff, saturated, low to medium plasticity. Contains fine to medium grained sand (20 %), clay (60 %) and trace silt (<10 %). Vein of tar with black staining and moderate strong tar odour. No fibre cement material noted.	
114.3		BH49_9.2-9.4		9.3			Moderate to strong tar odour and slight sheen noted on tar rivulets (20 %) from 9.2 m bgs.	
				9.9			Increasing density with depth noted from 9.8 m bgs.	
282.9		BH49_10.2-10.4	✳	10.3			Becoming light grey with red mottling from 10.2 m bgs. Contains clay (70 %) and fine to medium grained sand (20 %). Rivulets of tar (10 %) with black staining and sheen noted. No fibre cement material noted.	11.20
292.7		BH49_11.2-11.4		11.3		SW-SC	Sandy CLAY. Light grey with red mottling, very stiff, saturated, low to medium plasticity. Contains clay (60 %) and fine to medium grained sand (30 %). Veins/rivulets of tar (10 %) with moderate to strong tar odour and black staining noted. No fibre cement material noted.	12.20
327.5		BH49_12.2-12.4	✳	12.3		SC	Clayey SAND. Light grey with red mottling, fine to medium grained, very dense, saturated. Contains sand (50 %), very stiff, low to medium plasticity clay (40 %) and weathered sandstone fragments. Veins/rivulets of tar (10 %) with black staining and moderate to strong tar odour. No fibre cement material noted.	12.70
				12.7			Borehole terminated at 12.7 m bgs; refusal on Sandstone Bedrock. Total Depth: 12.70 m	

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH50

PROJECT NUMBER S41500
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000
DRILLING METHOD Core, Air-knife & Push-tube
SAMPLING METHOD Grab & Push-tube
SURFACE ELEVATION 2.510 m AHD

DATE 24 Feb 10

LOGGED BY K. Pigram
COMMENTS Block 4 - Declaration Area

NORTHING 333740.93
EASTING 6251607.64

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.07
				0.2		FILL		
1.6		BH50_0.15-0.25	✳	0.3			Sandy Clayey Gravel (FILL). Dark brown, medium to coarse grained, very loose to loose dry. Contains medium stiff, low plasticity clay and some organic matter. No odour, staining or fibre cement material noted.	
				0.4				
				0.5				
				0.6				
				0.7				
				0.8				
				0.9				
				1.0				1.00
				1.1		FILL	Silty Sandy Gravel (FILL). Dark grey/brown, medium dense. Contains silt (35 %), medium grained sand (35 %) and road base gravels (40 mm)(40 %). Very slight gaseous odour. No staining or fibre cement material noted.	
0.6		BH50_1.1-1.3		1.2				
		QC238		1.3				1.30
0.5		BH50_1.3-1.5	✳	1.4		SANDSTONE	SANDSTONE. Orange, red/brown and white, very dense, slightly moist. Contains fine to medium grained sand (crushed sandstone) (40 %) and weathered sandstone fragments (10-30 mm)(60 %). Highly weathered, low to medium strength. No odour or staining observed.	
				1.5				
				1.6				
				1.7				
				1.8				
				1.9				
				2.0				
				2.1				
				2.2				
				2.3			Resistance at 2.3 m bgs; using push-tube, switch to solid augers.	
				2.4				
				2.5			Resistance at 2.5 m bgs; using solid augers.	
				2.6				
				2.7				
				2.8				
				2.9				
				3.0				3.00
							Refusal at 3.0 m bgs; using solid augers. No monitoring well installed due to refusal at shallow depth - groundwater not encountered. Total Depth: 3.00 m	

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH51

PROJECT NUMBER S41500
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000
DRILLING METHOD Core, Air-knife & Hollow Augers
SAMPLING METHOD Grab & SPT
SURFACE ELEVATION 2.500 m AHD

DATE 06 Mar 10

LOGGED BY K. O'Brien
COMMENTS Hickson Road - Declaration Area

NORTHING 333774.23
EASTING 6251614.94

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	
				0.2		CONCRETE	CONCRETE Slab	0.18
				0.3				
				0.4		FILL	Sandy Gravel (FILL). Orange/white, loose to medium dense, slightly moist. Contains fine grained sand (20 %) and gravel to cobble sized weathered sandstone fragments (80 %). No odour, staining or fibre cement material noted.	0.35
0		BH51_0.4-0.5	✳	0.5				
				0.6				
				0.7			Bore hole terminated at 0.7 m bgs; refusal on Sandstone Bedrock. Total Depth: 0.70 m	0.70

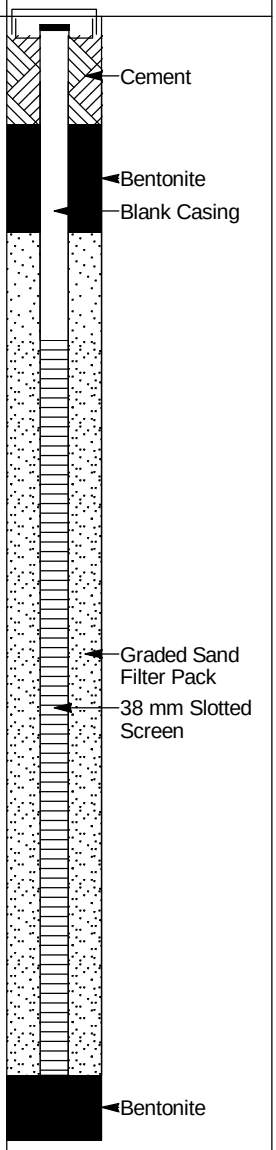
S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH52 / MW52

PROJECT NUMBER	S41500	**DATE**	22 Feb 10
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 1.5 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	1.5 to 4.9 m bgs
DRILLING METHOD	Core, Air-knife & Push-tube	**GRAVEL PACK**	1.0 to 4.9 m bgs
SAMPLING METHOD	Grab & Push-tube	**SANITARY SEAL/BENTONITE**	0.5 to 1.0 m bgs and 4.9 to 5.2 m bgs
SURFACE ELEVATION	2.470 m AHD		
WELL HEAD/TOC	2.38 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	K. Pigram	**NORTHING**	333709.91
COMMENTS	Block 4 - Declaration Area	**EASTING**	6251630.79

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.07
1.6		BH52_0.15-0.16	✳	0.2		FILL	Gravelly Sandy Clay (FILL). Brown, soft, slightly moist, low plasticity. Contains fine to medium sized, very loose to loose gravels. No odour, staining or fibre cement material noted.	
				0.3				
				0.4				
				0.5				
				0.6				
				0.7				
				0.8				
				0.9				0.95
				1.0		FILL	Silty Gravelly Sand (FILL). Red/brown, grey and black, medium to coarse grained, medium dense, slightly moist. Contains sand (50 %), roadbase gravels (10-30 mm)(20 %), weathered sandstone fragments (10-20 mm)(10 %), minor silt (10 %) and minor ash (10 %). Slight gaseous odour noted. No staining or fibre cement material noted.	
0.9		BH52_1.0-1.2	✳	1.1				
				1.2				
				1.3				
				1.4				
				1.5				
				1.6				
				1.7				
				1.8				
				1.9				
				2.0				
				2.1				
				2.2				2.20
1		BH52_2.2-2.6	✳	2.3		FILL	Clayey Sand (FILL). White/red/brown, medium to coarse grained, dense, moist to saturated. Contains sand (80 %) and soft, low plasticity clay (20 %). Slight gaseous odour. No staining or fibre cement material noted.	
		QC220	✳	2.4				
		QC221	✳	2.5				
				2.6				
				2.7 ▽			Groundwater encountered at 2.7 m bgs.	
				2.8				
				2.9				
				3.0				
				3.1				
				3.2				3.20
1.5		BH52_3.2-3.4		3.3		FILL	Sand (FILL). Light grey, medium grained, medium dense, saturated. Contains minor soft, low plasticity clay (10 %). Slight to moderate gaseous/tar odour and black staining noted. No fibre cement material noted.	
				3.4				
				3.5				
				3.6				
				3.7				
				3.8				
				3.9				
				4.0				
				4.1				
				4.2				4.20
1.9		BH52_4.2-4.4	✳	4.3		FILL	Clayey Gravelly Sand (FILL). Light grey, medium to coarse grained, medium dense, saturated. Contains marine gravels (<10 mm)(30 %), sand (50 %) and medium stiff, low plasticity clay (20 %). Slight gaseous/tar odour and black staining. No fibre cement material noted.	
				4.4				
				4.5				
				4.6				
				4.7				
				4.8				
				4.9			Resistance using push-tube at 4.5 m bgs - switch to solid auger.	4.90
				5.0		FILL	Silty Gravel (FILL). Grey/brown with orange/brown/yellow mottling, dense to very dense, saturated. Contains coarse grained marine gravels (<10 mm)(30 %), silt (20 %) and weathered sandstone fragments (10-30 mm)(50 %). Slight gaseous/tar odour. No staining or fibre cement material noted.	
				5.1				
				5.2			Borehole terminated at 5.2 m bgs; refusal on Sandstone Bedrock. Total Depth: 5.20 m	5.20



S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH53 / MW53

PROJECT NUMBER	S41500	**DATE**	06 Mar 10
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 1.0 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	1.0 to 5.4 m bgs
DRILLING METHOD	Core, Air-knife & Hollow Augers	**GRAVEL PACK**	0.5 to 5.4 m bgs
SAMPLING METHOD	Grab & SPT	**SANITARY SEAL/BENTONITE**	0.1 to 0.5 m bgs
SURFACE ELEVATION	2.620 m AHD		
WELL HEAD/TOC	2.53 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	K. O'Brien	**NORTHING**	333769.62
COMMENTS	Hickson Road - Declaration Area	**EASTING**	6251638.56

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
				0.1		ASPHALT	ASPHALT	0.09	Cement
				0.2		CONCRETE	CONCRETE slab		Bentonite
				0.3					Blank Casing
				0.4					
				0.5					
				0.6					
				0.7					
				0.8		FILL	Sandstone (FILL). Orange, saturated. Contains sandstone cobbles and minor fine grained sand (<5 %). No odour, staining or fibre cement material noted.	0.77	
				1.0					
				1.1		FILL		1.10	
0		BH53_1.1-1.5 QC208	✳	1.3			Sandy Gravel (FILL). Dark grey to black, loose to medium dense, saturated. Contains fine grained sub-angular gravels (70 %) and fine to medium grained sand (30 %). No odour, staining or fibre cement material noted.		
			✳	1.4					
				1.5					
				1.6					
				1.7					
				1.8					
				1.9					
				2.0					
0		BH53_2.0-2.4	✳	2.2			Contains angular gravels and sub angular shiny slag from 2.0 m bgs. Slight tar odour and sheen on soil noted. Sheen and odour increasing with depth. No fibre cement material noted.		
				2.3					
				2.4					
				2.5					
				2.6					
				2.7					
				2.8					
				2.9					
				3.0					Graded Sand Filter Pack
32.7		BH53_3.0-3.4		3.2					38 mm Slotted Screen
				3.3					
				3.4					
				3.5					
				3.6					
				3.7					
				3.8					
				3.9					
				4.0					
1530		BH53_4.0-4.4	✳	4.2					
				4.3					
				4.4					
				4.5					
				4.6					
				4.7					
				4.8					
				4.9					
				5.0					
920		BH53_5.0-5.4		5.2			Contains tar from 5.0 m bgs. Very strong tar odour and black staining noted. No fibre cement material noted.		
				5.3					
				5.4				5.40	
						SANDSTONE	SANDSTONE. Moderately weathered. No odour, staining or fibre cement material noted.	5.45	
							Borehole terminated at 5.45 m bgs; refusal on Sandstone Bedrock. Total Depth: 5.45 m		

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH54 / MW54

PROJECT NUMBER	S41500	**DATE**	23 Feb 10
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 1.9 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	1.9 to 2.8 m bgs
DRILLING METHOD	Core, Air-knife, Push-tube & Hollow Augers	**GRAVEL PACK**	1.9 to 2.8 m bgs
SAMPLING METHOD	Grab & Push-tube	**SANITARY SEAL/BENTONITE**	1.3 to 1.9 m bgs and 2.8 to 3.0 m bgs
SURFACE ELEVATION	2.130 m AHD		
WELL HEAD/TOC	2.05 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	K. Pigram	**NORTHING**	333736.72
COMMENTS	Block 4 - Declaration Area	**EASTING**	6251635.83

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
				0.1		ASPHALT	ASPHALT	0.06	
				0.2		FILL	Clayey Sandy Gravel (FILL). Dark brown, medium to coarse grained, slightly moist. Contains fine grained sand, low plasticity clay and roadbase gravels. Slight hydrocarbon odour. No staining or fibre cement material noted.		
				0.3					
				0.4					
				0.5					
1.7		BH54_0.6-0.7 QC55	✳	0.6					Cement
				0.7					
				0.8					
				0.9					
				1.0				1.00	
		BH54_1.0-1.4	✳	1.1		FILL	Clayey Silty Sand (FILL). White, yellow, brown and dark grey, fine to medium grained, medium dense, moist. Contains sand (50 %), silt (20 %) and soft to medium stiff, low plasticity clay (20 %). Moderate to strong tar odour. No fibre cement material noted.		Blank Casing
137.9		QC228	✳	1.2					
		QC229		1.3					
				1.4			Contains pieces of decaying wood (10 cm) from 1.2 to 1.3 m bgs. Black staining and sheen noted on wood and push tube from 1.2 to 1.3 m bgs. No fibre cement material noted.		Bentonite
				1.5					
				1.6					
				1.7					
				1.8					
				1.9		SW	Resistance at 1.9 m bgs with push-tube - switch to solid flight augers.	1.90	
				2.0			SAND. White/light grey, fine to medium grained, dense, moist. Contains sand (80 %) and clay (20 %). Black staining noted. No odour or fibre cement material noted.		Graded Sand Filter Pack
				2.1					
				2.2					
				2.3					38 mm Slotted Screen
				2.4					
				2.5					
				2.6					
				2.7					
				2.8					
32.1		BH54_2.8-3.0	✳	2.9			Becoming yellow/brown, dense to very dense, saturated from 2.8 m bgs. Contains fine to medium grained sand (90 %) and minor silt from overlying material (10 %). Slight to moderate tar odour. Minor black staining residual from above layer. No fibre cement material noted.		Bentonite
				3.0				3.00	
							Borehole terminated at 3.0 m bgs; refusal on Sandstone Bedrock. Unable to install monitoring well due to cave-in. Install with hollows on 24/02/2010. Total Depth: 3.00 m		

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH55

PROJECT NUMBER	S41500	**DATE**	25 Feb 10
PROJECT NAME	Barangaroo - Declaration Area		
LOCATION	Hickson Road, Millers Point NSW 2000		
DRILLING METHOD	Core, Air-knife, Push-tube and Solid Augers		
SAMPLING METHOD	Grab & Push-tube		
SURFACE ELEVATION	2.230 m AHD		
LOGGED BY	K. Pigram	**NORTHING**	333724.82
COMMENTS	Block 4 - Declaration Area	**EASTING**	6251639.73

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.06
0.9		BH55_0.15-0.25		0.2		FILL	Sandy Gravelly Clay (FILL). Dark brown, medium stiff, very loose, low plasticity. Contains medium to coarse size gravels and fine grained sand. No odour, staining or fibre cement noted.	
				0.3				
				0.4				
				0.5				
				0.6				
				0.7				
				0.8				0.83
				0.9		FILL	Silty Sand (FILL). Light yellow/grey/brown, medium dense, moist. Contains fine to medium grained sand (60 %), silt (20 %) and minor soft, low plasticity clay (10 %). Contains minor tar (10 %) with black staining. No odour or fibre cement noted. Refusal at 2.2 m bgs; using push tube, switch to solid augers. Refusal with solid augers, switch to push tube.	
				1.0				
104.3		BH55_1.0-1.2	✳	1.1				
				1.2				
				1.3				
				1.4				
				1.5				
				1.6				
				1.7				
				1.8				
				1.9				
				2.0				
				2.1				
				2.2				2.20
345.4		BH55_2.2-2.4	✳	2.3		FILL	Clayey Sand (FILL). Red/brown, medium grained, medium dense, moist. Contains stiff clay (20 %), minor silt (10 %) and sand(70 %). Slight sheen and black staining. Moderate to strong tar odour. No fibre cement noted.	
				2.4 ▽				
				2.5				
				2.6				
				2.7				2.70
104.2		BH55_2.7-2.9	✳	2.8		FILL	Silty Sandy Clay (FILL). Black, soft, saturated. Contains clay (60 %), fine to medium grained sand (20 %) and silt (20 %). Possible cave-in from overlying layer. Moderate to strong tar odour. Slight to moderate sheen. No fibre cement material noted.	
				2.9		SANDSTONE		2.90
				3.0			Resistance at 2.9 m bgs; with solid augers.	
				3.1				
				3.2			SANDSTONE. Orange/white/yellow, dense to very dense, slightly moist. Contains fine to medium grained sand (20 %), weathered sandstone fragments (10-30 mm) (80 %). No odour or staining or fibre cement material noted.	
				3.3				
				3.4				
				3.5				
				3.6				
				3.7				
				3.8				
				3.9				
				4.0				
				4.1				
				4.2				
				4.3				
				4.4				
				4.5				4.50
							Borehole terminated at 4.5 m bgs; on Sandstone Bedrock. Total Depth: 4.50 m	

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH56 / MW56

PROJECT NUMBER	S41500	**DATE**	04 Mar 10
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 18.0 m bgs and 21.0 to 21.4 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	18.0 to 21.0 m bgs
DRILLING METHOD	Core, Air-knife & Hollow Augers	**GRAVEL PACK**	17.5 to 21.0 m bgs
SAMPLING METHOD	Grab & SPT	**SANITARY SEAL/BENTONITE**	16.75 to 17.5 m bgs and 21.0 to 21.4 m bgs
SURFACE ELEVATION	2.610 m AHD		
WELL HEAD/TOC	2.50 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	L. Kontus	**NORTHING**	333615.76
COMMENTS	Public Domain - Down gradient Declaration Area	**EASTING**	6251644.66

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
4.4		BH56_0.06-0.16		0.1		ASPHALT	ASPHALT	0.06	
				0.2		FILL	Gravelly Silty Sand (FILL). Brown, medium grained, loose, slightly moist. Contains roadbase gravels (20 %). No odour, staining or fibre cement material noted.		
				0.3					
				0.4					
				0.5					
				0.6					
				0.7					
				0.8					
				0.9					
				1.0				1.00	
				1.1		FILL	Gravelly Clayey Sand (FILL). Brown, orange and white, loose to medium dense, saturated. Contains weathered sandstone fragments. No odour, staining or fibre cement material noted.		
				1.2					
				1.3					
				1.4					
				1.5					
				1.6					
				1.7					
				1.8					
				1.9					
				2.0					
				2.1					
				2.2					
				2.3					
				2.4					
				2.5				2.50	
0.7		BH56_2.5-2.7	✳	2.6		FILL	Clayey Sandy Gravel (FILL). Brown, low dense, saturated. Contains road base gravels, sandstone fragments and a piece of a terracotta tile. No odour, staining or fibre cement material noted.		
				2.7					
				2.8					
				2.9					
				3.0					
				3.1					
				3.2					
				3.3					
				3.4					
				3.5					
				3.6					
				3.7					
				3.8					
				3.9					
				4.0					
				4.1					
				4.2					
				4.3				4.25	
0.7		BH56_4.25-4.6 QC123	✳	4.4		FILL	Silty Gravelly Sand (FILL). Red brown and dark brown, medium to coarse grained, medium dense, saturated. Contains glass and steel fragments, weathered sandstone fragments, crushed brick and sand. No odour, staining or fibre cement material noted.		
				4.5					
				4.6					
				4.7					
				4.8					
				4.9					
				5.0					
				5.1					
				5.2					
				5.3					
				5.4					
				5.5				5.50	
0.5		BH56_5.5-5.9 QC124		5.6		FILL	Silty Clayey Sand (FILL). Dark and light grey, loose, saturated. Contains silt (30 %), clay (50 %), weathered sandstone fragments and steel fragments. No odour, staining or fibre cement material noted.		
				5.7					
				5.8					
				5.9					
				6.0					
				6.1					
				6.2					
				6.3					
				6.4					
				6.5					
				6.6					
				6.7					
				6.8					
				6.9					
				7.0					
1.2		BH56_7.0-7.2	✳	7.1			Becoming grey and loose to medium dense from 7.0 m bgs. Contains weathered sandstone and shale fragments and roadbase gravels (10 %). Tar odour noted. No staining or fibre cement material noted.		
				7.2					
				7.3					
				7.4					
				7.5					
				7.6					
				7.7					
				7.8					
				7.9					
				8.0					
				8.1					
				8.2					
				8.3					
				8.4					
				8.5				8.50	Cement
0.5		BH56_8.5-8.9		8.6		FILL	Clayey Gravelly Sand (FILL). Grey, loose, saturated. Contains weathered sandstone and shale fragments, roadbase gravels (20 %) and sand (70 %). No odour, staining or fibre cement material noted.		Blank Casing
				8.7					
				8.8					
				8.9					
				9.0					
				9.1					
				9.2					
				9.3					
				9.4					
				9.5					
				9.6					
				9.7					
				9.8					
				9.9					
				10.0				10.00	
0.7		BH56_10.0-10.2		10.1		FILL	Silty Gravelly Clayey Sand (FILL). Grey, loose, saturated. Contains terracotta tile, roadbase gravels and weathered sandstone fragments. No odour, staining or fibre cement material noted.		
				10.2					
				10.3					
				10.4					
				10.5					
				10.6					
				10.7					
				10.8					
				10.9					
				11.0					
				11.1					
				11.2					
				11.3					
				11.4					
				11.5				11.50	
0.4		BH56_11.5-11.7	✳	11.6		FILL	Silty Sand (FILL). Light brown, dense, saturated. Contains minor clay (<15 %), weathered sandstone fragments and crushed brick. No odour, staining or fibre cement material noted.		
				11.7					
				11.8					
				11.9					
				12.0					
				12.1					
				12.2					
				12.3					
				12.4					
				12.5					
				12.6					
				12.7					
				12.8					
				12.9				13.00	

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH56 / MW56

PROJECT NUMBER S41500 **DATE** 04 Mar 10
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000 **GROUND WATER ELEVATION**

- Continued from Previous Page -

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
1.5		BH56_13.0-13.2	✳	13.1–13.9		FILL	Clayey Sand (FILL). Brown, red and yellow, loose, very moist. Contains sand (80 %), trace weathered sandstone fragments and organic matter (twigs) (<10 %). No odour, staining or fibre cement material noted.		
0.4		BH56_14.5-15.0 QC125 QC126	✳ ✳ ✳	14.0–15.9			Becoming grey and light brown and saturated from 14.5 m bgs. Contains sand (80 %), trace crushed brick and weathered sandstone gravels (<10 %). No odour, staining or fibre cement material noted.		
				16.0–16.9		FILL	Sandstone (FILL). Grey, very dense, saturated. No odour, staining or fibre cement material noted.	16.00	
0.5		BH56_17.5-17.8	✳	17.0–17.9		SW	SAND. Grey with red mottling, medium grained, loose, saturated. Contains highly weathered sandstone with minor interspersed stiff, low plasticity clay bands (10 %). No odour, staining or fibre cement material noted.	17.50	Bentonite
16.4		BH56_19.0-19.40 QC127 QC128		19.0–19.9			Becoming light grey with orange mottling from 19.0 m bgs. Becoming increasingly denser and consolidated with depth. Moderate tar odour noted. No staining or fibre cement material noted.		Graded Sand Filter Pack 38 mm Slotted Screen
8.3		BH56_20.5-20.9	✳	20.0–20.9					
				21.0–21.4				21.40	Bentonite Sump
1		BH56_21.4-21.6	✳				Borehole terminated at 21.4 m bgs; refusal on Sandstone Bedrock. Total Depth: 21.40 m		

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH58 / MW58

PROJECT NUMBER	S41500	**DATE**	22 Feb 10
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 12.2 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	10.2 to 11.2 m bgs
DRILLING METHOD	Core, Air-knife, Push-tube & Solid Augers	**GRAVEL PACK**	10.2 to 11.2 m bgs
SAMPLING METHOD	Grab & Push-tube	**SANITARY SEAL/BENTONITE**	9.7 to 10.2 m bgs and 11.2 to 11.4 m bgs
SURFACE ELEVATION	2.450 m AHD		
WELL HEAD/TOC	2.39 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	K. Pigram	**NORTHING**	333697.34
COMMENTS	Block 4 - Declaration Area	**EASTING**	6251651.06

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
				0.0		ASPHALT	ASPHALT	0.07	
1.8		BH58_0.15-0.16	✳	0.1 – 1.0		FILL	Gravelly Sandy Clay (FILL). Dark brown, soft, slightly moist, low plasticity. Contains some medium to large sized, very loose to loose gravels. No odour, staining or fibre cement material noted.	1.00	
1.9		BH58_1.0-1.2	✳	1.1 – 2.2		FILL	Gravelly Silty Sand (FILL). Yellow, white, dark grey/brown and black, medium to coarse grained, medium dense, slightly moist. Contains sand (50 %), silt (20 %), ash (10 %) and roadbase gravels (10-20 mm)(20 %). Slight gaseous/tar odour. No staining or fibre cement material noted.	2.20	
0.6		BH58_2.4-2.6		2.3 – 2.6		FILL	Silty Sandy Gravel (FILL). Dark grey/brown, loose to medium dense, saturated. Contains roadbase gravels (10-20 mm)(10 %), marine gravels (<10 mm)(20 %), medium grained sand (30 %) and silt (30 %). Slight tar/chemical/gaseous odour and black staining noted. No fibre cement material noted.		
1		BH58_3.2-3.4 QC225 QC226	✳ ✳ ✳	3.3 – 5.2		FILL	Contains minor pieces of terracotta (20 mm) (10 %) from 3.2 m bgs. Slight to moderate tar/gaseous odour noted from 4.2 m bgs.	5.20	Cement Blank Casing
1.6		BH58_5.2-5.4	✳	5.3 – 6.2		FILL	Clayey Silty Sandy Gravel (FILL). Dark grey/brown, dense, saturated. Contains gravels (40 %)(10-20 mm), silt (20 %) medium grained sand (20 %) and pieces of ceramics (10-20 mm)(20 %). Moderate tar/gaseous odour and black staining noted. No fibre cement material noted.		
2.3		BH58_6.2-6.4		6.3 – 7.3			Contains marine gravels (<10 mm)(40 %) from 6.2 m bgs. Resistance on sandstone boulder at 7.2 m bgs.	7.40	

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH58 / MW58

PROJECT NUMBER S41500 **DATE** 22 Feb 10
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000 **GROUND WATER ELEVATION**

- Continued from Previous Page -

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
1.8		BH58_7.4-7.6		7.5–9.4		FILL	Silty Sandy Gravel (FILL). Dark grey/brown, dense, saturated. Contains silt (30 %), medium to coarse grained sand (30 %), gravels (10-20 mm)(40 %) and minor small fragments of metal. Slight to moderate gaseous/tar odour and black staining noted. No fibre cement material noted.		
2.3		BH58_8.6-8.8	✳	8.7			Contains minor soft, low plasticity clay (10 %) and pieces of ceramic (approx. 10 mm)(<10 %) from 8.6 m bgs.		
1.8		BH58_9.4-9.6		9.5–10.2		FILL	Silty Sandy Clay (FILL). Dark grey/brown, soft to medium stiff, saturated, low plasticity. Contains fine to medium grained sand (20 %), silt (20 %), clay (40 %) and minor shells and organic matter (<10 %). Slight gaseous/tar odour and black staining noted. No fibre cement material noted.	9.40	Bentonite
1.7		BH58_10.2-10.4	✳	10.3–10.8		FILL	Silty Gravelly Sand (FILL). Grey/brown, fine to medium grained, loose, saturated. Contains sand (40 %), silt (30 %), weathered sandstone fragments (30 %)(10-30 mm), trace marine gravels (<10 %)(<10 mm) and a metal bolt in base of push tube shoe (40 mm). Very slight gaseous odour. No staining or fibre cement material noted.	10.20	Graded Sand Filter Pack 38 mm Slotted Screen
1.9		BH58_10.8-11.2	✳	10.9–11.4		FILL	Silty Sandy Gravel (FILL). Grey/brown, medium dense, saturated. Contains marine gravels (<10 mm)(40 %), silt (20 %), fine to medium grained sand (30 %), crushed shells and pieces of metal (<10 mm)(10 %). Very slight gaseous odour noted. No staining or fibre cement material noted.	10.80	
							Borehole terminated at 11.2 m bgs; refusal on Sandstone Bedrock with push-tube.		
							Start drilling with solid flight augers for monitoring well installation.		
							Borehole terminated at 11.4 m bgs; refusal on FILL.	11.40	Bentonite
							Cannot install monitoring well due to cave-in. Install with hollow augers on 24/02/2010.		
							Total Depth: 11.40 m		

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH59

PROJECT NUMBER	S41500	**DATE**	22 Feb 10
PROJECT NAME	Barangaroo - Declaration Area		
LOCATION	Hickson Road, Millers Point NSW 2000		
DRILLING METHOD	Core, Air-knife & SPT		
SAMPLING METHOD	SPT		
SURFACE ELEVATION	2.370 m AHD		
LOGGED BY	D. Fox	**NORTHING**	333729.64
COMMENTS	Block 4 - Declaration Area	**EASTING**	6251655.02

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
						ASPHALT	ASPHALT	0.07
1.9		BH59_0.15-0.16	✳	0.1 – 0.9		FILL	Clayey Sandy Gravel (FILL). Brown, very loose, dry. Contains medium to large size gravel (65 %), sand (20 %) and soft, low plasticity clay (15 %). No odour, staining or fibre cement material noted.	
0.1		BH59_1.0-1.1	✳	1.0 – 1.2		FILL	Sand (FILL). Yellow/brown, medium grained, loose, slightly moist. Contains minor gravels (10 %)(<5mm), concrete and sandstone fragments (50-80 mm). No odour, staining or fibre cement material noted.	1.00
0.8		BH59_1.3-1.4		1.3 – 1.4		FILL	Gravelly Sand (FILL). Dark grey, medium grained, loose, slightly moist. Contains gravels (30 %)(<5mm) and sand (70 %). No odour, staining or fibre cement material noted.	1.30
				1.5		FILL	Clayey Sand (FILL). Light brown, moist. Contains weathered sandstone fragments (60-80 mm). No odour, staining or fibre cement material noted.	1.50
62		BH59_1.9-2.0	✳	1.9 – 2.0			Moderate tar odour noted from 1.9 m bgs.	
		BH59_2.8-2.9		2.1 – 3.3				
944		BH59_3.4-3.5	✳	3.4 – 3.9			Becoming black, loose and very moist from 3.9 m bgs. Contains crushed shells. Strong tar odour and sheen noted. No fibre cement material noted.	
				4.0 – 4.1			Grey with brown mottling from 3.9 m bgs. Tar odour and sheen noted. No fibre cement material noted.	
197		BH59_4.2-4.3	✳	4.2 – 4.3				
				4.4			Borehole terminated at 4.4 m bgs; refusal on Sandstone Bedrock. Total Depth: 4.40 m	4.40

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
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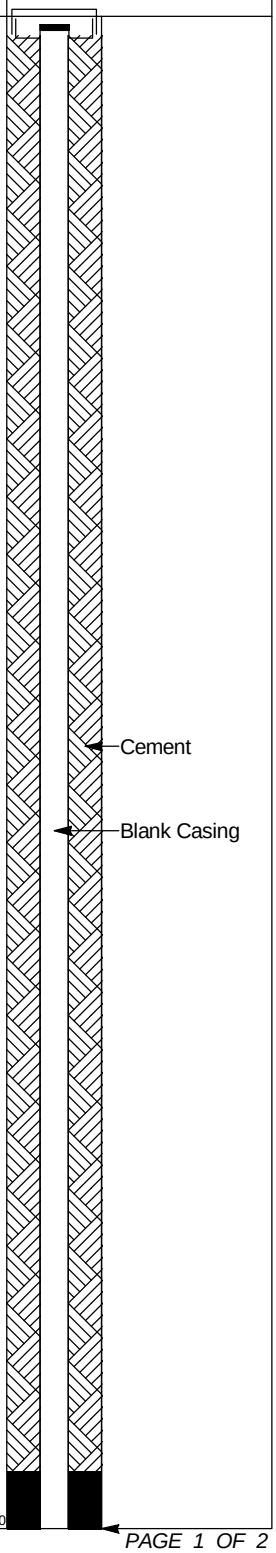
MONITORING WELL LOG BH60 / MW60

PROJECT NUMBER	S41500	**DATE**	02 Mar 10
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 14.0 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	14.0 to 22.0 m bgs
DRILLING METHOD	Core, Air-knife & Hollow Augers	**GRAVEL PACK**	13.5 to 22 m bgs
SAMPLING METHOD	Grab & SPT	**SANITARY SEAL/BENTONITE**	12.5 to 13.5 m bgs
SURFACE ELEVATION	2.690 m AHD		
WELL HEAD/TOC	2.61 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	K. O'Brien and L. Kontus	**NORTHING**	333585.88
COMMENTS	Public Domain - Down gradient Declaration Area	**EASTING**	6251687.15

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1	ASPHALT	ASPHALT	0.17
2.6		BH60_0.17-0.27	✳	0.2	FILL	Gravelly Silty Sand (FILL). Red/brown, medium to coarse grained, dense, dry to slightly moist. Contains large road base gravels (<20 %)(30 mm). No odour, staining or fibre cement material noted.	1.00
0.2		BH60_1.0-1.4		1.0	FILL	Gravelly Sand (FILL). Light brown and white, very dense, dry to slightly moist. Contains crushed sandstone and minor clay. No odour, staining or fibre cement material noted.	
0.2		BH60_2.5-2.9	✳	2.5		Becoming brown/black and saturated from 2.5 m bgs. Contains fine to coarse grained sand and sandstone fragments and pieces of asphalt. Very slight tar odour. No staining or fibre cement material noted.	
0.6		BH60_4.0-4.4		4.0		Becoming dark grey/brown from 4.0 m bgs.	
0.6		BH60_5.5-5.9		5.5		Becoming very dense from 5.5 m bgs, Contains crushed sandstone and sandstone cobbles. No odour, staining or fibre cement material noted.	
		BH60_7.0-7.2	✳	7.0	FILL	Sand (FILL). Grey, fine to medium grained, saturated. Contains minor silt (<5 %) and a 3 cm piece of concrete . No odour, staining or fibre cement material noted.	7.00
		QC110	✳	7.3		Contains coarse blue metal gravels from 7.45 to 8.3 m bgs	
1.1		BH60_8.5-8.9	✳	8.5	FILL	Gravelly Sand (FILL). Grey with minor purple, fine to coarse grained, saturated. Contains brick, concrete and blue metal gravel (10 %) and minor silt (<10 %). No odour, staining or fibre cement material noted.	8.50
				13.0			13.00



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH60 / MW60

PROJECT NUMBER S41500 **DATE** 02 Mar 10
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000 **GROUND WATER ELEVATION**

- Continued from Previous Page -

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.9		BH60_13.0-13.4	✳	13.1–16.0		FILL	Sand (FILL). Dark grey/light yellow/white, fine to medium grained, loose to medium dense, saturated. Contains minor gravel (<5 %) and sandstone fragments. No odour, staining or fibre cement material noted.		Bentonite
		BH60_14.5-14.95					U50 sample taken at 14.5 to 14.9 m bgs.		
300.1		BH60_16.0-16.4	✳	16.0–17.4		SW-SC	Sandy CLAY. Light orange/brown, saturated, medium plasticity. Contains fine grained sand (30 %), black lumps of tar (10 mm in length) and fabric from overlying Fill material. Strong tar odour and black staining noted. No fibre cement material noted.	16.00	
13.8		BH60_17.5-17.7 QC120 QC121	✳ ✳ ✳	17.5–19.0		CL-ML	Silty CLAY. Grey with red mottling, stiff to very stiff, moist, medium to high plasticity. Contains minor fine grained sand (10 %), fabric (clothing) from overlying Fill material and tar mottled through SPT sample. Strong tar odour. No staining or fibre cement material noted.	17.50	Graded Sand Filter Pack 38 mm Slotted Screen
2.1		BH60_19.0-19.4		19.0–20.5		SC	Clayey SAND. Grey with orange mottling, very loose, saturated. Contains weathered sandstone band and fabric from layers above. No odour, staining or fibre cement material noted. Becoming grey from 19.3 m bgs. Contains band of medium plasticity clay under weathered sandstone and minor fine grained sand (30 %). No odour, staining or fibre cement material noted.	19.00 20.50	
26.3		BH60_20.5-20.9	✳	20.6–23.5		SW	SAND. Grey with red mottling, medium dense, saturated. Contains minor silt (10 %) and clay (10 %). Strong tar odour noted. No staining and fibre cement material noted.		
0.7		BH60_22.0-22.3					Becoming grey with yellow mottling from 22.0 m bgs. Contains minor clay and weathered sandstone fragments. Slight tar odour noted. No staining or fibre cement material noted.		
0.8		BH60_23.5-23.7		23.5–25.0		CL-CH	CLAY. Grey with minor red mottling, moist, medium plasticity. Contains a band of weathered sandstone within clay (approx. 10cm) and trace sand (<10 %). No odour, staining or fibre cement material noted.	23.50 25.00	
							Borehole terminated at 25.0 m bgs; refusal on Sandstone Bedrock. Total Depth: 25.00 m		

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

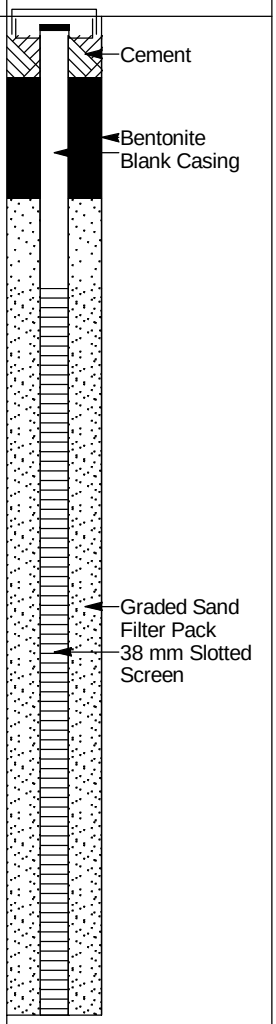
AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH61 / MW61

PROJECT NUMBER	S41500	**DATE**	07 Mar 10
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 0.9 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	0.9 to 3.3 m bgs
DRILLING METHOD	Core, Air-knife & Hollow Augers	**GRAVEL PACK**	0.6 to 3.3 m bgs
SAMPLING METHOD	Grab & SPT	**SANITARY SEAL/BENTONITE**	0.2 to 0.6 m bgs
SURFACE ELEVATION	2.560 m AHD		
WELL HEAD/TOC	2.51 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	K. O'Brien	**NORTHING**	333749.74
COMMENTS	Hickson Road - Declaration Area	**EASTING**	6251697.93

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.14
				0.2		CONCRETE	CONCRETE slab	0.29
0		BH61_0.3-0.4	✳	0.3		FILL	Sandy Gravel (FILL). Orange, medium dense, slightly moist to saturated. Contains fine grained sand (crushed sandstone)(20 %) and sub-angular coarse grained weathered sandstone fragments (80 %). No odour, staining or fibre cement material noted.	0.40
				0.4		FILL		
				0.5				
				0.6				
				0.7				0.75
				0.8		FILL	Sandstone (FILL). Cobble and boulder sized sandstone fragments. No odour, staining or fibre cement material noted.	
				0.9				
				1.0			Gravelly Sand (FILL). Dark brown, fine to medium grained, loose, dry to slightly moist. Contains fine grained sub-angular gravels. No odour, staining or fibre cement material noted.	
11.1		BH61_1.0-1.4 QC210		1.1				
				1.2			Contains brick and sandstone fragments from 1.0 m bgs. Slight tar odour noted. No staining or fibre cement material noted.	
				1.3				
				1.4				
				1.5				
				1.6				
				1.7				
				1.8				
				1.9				
				2.0		FILL	Sandy Gravel (FILL). Dark brown/black grading to yellow brown, fine grained, sub-angular, loose, saturated. Contains fine to medium grained sand and slag. Slight tar odour noted. No staining or fibre cement material noted.	2.00
				2.1				
0.9		BH61_2.0-2.4 QC211 QC212	✳ ✳ ✳	2.2				
				2.3				
				2.4				
				2.5				
				2.6				
				2.7				
				2.8				
				2.9				
				3.0		SC	Clayey SAND. Light yellow, white with black, medium dense to dense, saturated. Vein of tar with black staining noted. Slight tar odour noted. No fibre cement material noted.	3.00
				3.1				
105		BH61_3.0-3.4	✳	3.2				
				3.3				
				3.4				3.45
							Borehole terminated at 3.45 m bgs; refusal on Sandstone Bedrock. Total Depth: 3.45 m	

WELL DIAGRAM



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH62 / MW62

PROJECT NUMBER	S41500	**DATE**	26 Feb 10
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 1.5 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	1.5 to 5.5 m bgs
DRILLING METHOD	Core, Air-knife, Push-tube & Solid Augers	**GRAVEL PACK**	1.0 to 5.5 m bgs
SAMPLING METHOD	Grab & Push-tube	**SANITARY SEAL/BENTONITE**	0.5 to 1.0 m bgs
SURFACE ELEVATION	2.230 m AHD		
WELL HEAD/TOC	2.09 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	K. Pigram	**NORTHING**	333682.43
COMMENTS	Block 5 - Declaration Area	**EASTING**	6251686.8

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
				0.1		ASPHALT	ASPHALT	0.07	
1.6		BH62_0.15-0.25		0.2		FILL	Silty Sandy Gravel (FILL). Contains fine to medium grained sand (20 %), medium to coarse size roadbase gravel inclusions (30 %) and clay (50 %). No odour, staining or fibre cement material noted.		Cement
				0.3					
				0.4					
				0.5					
				0.6					
				0.7					
				0.8					Blank Casing
				0.9				0.90	Bentonite
				1.0		FILL	Silty Gravelly Sand (FILL). Red/brown, black and grey, medium grained, dense, dry. Contains sand (40 %), silt (20 %), ash (10 %) and roadbase gravels (<10 mm)(30 %). Very slight tar odour. No staining or fibre cement material noted.		
6.3		BH62_1.0-1.2	✳	1.1					
				1.2					
				1.3					
				1.4					
				1.5					
				1.6					
				1.7					
				1.8			Becoming slightly moist from 1.8 m bgs.		
				1.9					
				2.0 ▽		FILL	Sandy Gravel (FILL). Black, medium dense, saturated. Contains gravels (<10 mm)(70 %), medium to coarse grained sand (20 %) and silt (10 %). Black staining noted. Slight to moderate tar odour. No fibre cement material noted.	2.00	
2.7		BH62_2.0-2.2		2.1					
				2.2					
				2.3					
				2.4					
				2.5					
				2.6					
				2.7					
				2.8					
				2.9					
				3.0					
				3.1					
				3.2		FILL	Clayey Sandy Gravel (FILL). Dark grey/brown, medium dense, saturated. Contains gravels (10-20 mm) (40 %), soft, low plasticity clay (20 %), medium to coarse grained sand (30 %) and minor decayed wood (10 %). Slight gaseous odour and minor black staining noted. No fibre cement material noted.	3.20	Graded Sand Filter Pack
				3.3					
				3.4					
		BH62_3.4-3.8	✳	3.5					38 mm Slotted Screen
1.8		QC244		3.6					
		QC245		3.7					
				3.8					
				3.9					
				4.0					
				4.1					
				4.2					
				4.3					
				4.4					
				4.5					
				4.6					
				4.7		FILL	Gravelly Sand (FILL). Light grey/brown and orange, medium grained, medium dense, saturated. Contains marine gravels (<10 mm)(40 %), sand (50 %), minor silt (10 %). Slight gaseous odour. No staining or fibre cement material noted.	4.70	
1.7		BH62_4.7-4.9		4.8					
				4.9					
				5.0			Contains decayed wood from 5.0 to 5.2 m bgs - 80 % of push-tube sample. Moderate gaseous odour and black staining noted from 5.2 m bgs. No fibre cement material noted.		
				5.1					
				5.2					
				5.3					
				5.4					
1.9		BH62_5.4-5.6	✳	5.5					
				5.6					
				5.7					
				5.8					
				5.9					
				6.0			Contains orange marine gravels (10 to 30 mm)(50 %) and coarse grained sand (50 %) from 6.0 m bgs. No fibre cement material noted.		
				6.1					
				6.2					
				6.3					
				6.4				6.50	

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH62 / MW62

PROJECT NUMBER S41500 **DATE** 26 Feb 10
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000 **GROUND WATER ELEVATION**

- Continued from Previous Page -

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
1.3		BH62_6.5-6.7		6.6–8.8		FILL	Silty Gravelly Sand (FILL). Dark grey/brown, medium grained, dense, saturated. Contains marine gravels (<10 mm)(30 %), sand (40 %) and pieces of ceramic (10 to 30 mm)(10 %). Slight gaseous odour. No staining or fibre cement material noted.	8.80	
0.9		BH62_8.8-9.0 QC247	✳	8.8–9.9		FILL	Gravelly Sand (FILL). Red/brown, dark grey/brown and light grey, dense, saturated. Contains medium grained sand (30 %), marine gravels (<10 mm)(40 %), minor silt (10 %) and gravels of weathered sandstone (10 to 30 mm)(20 %). Slight gaseous odour. No staining or fibre cement material noted.	9.90	
0.8		BH62_9.9-10.1		9.9–11.0		FILL	Sandy Clay (FILL). Light grey, medium stiff, saturated. Contains fine grained sand (20 %), minor silt (10 %), minor marine gravels (<10 mm)(10 %) and clay (60 %). Slight gaseous odour and minor black staining noted. No fibre cement material noted.	11.00	
1		BH62_11.0-11.2		11.0–11.8		FILL	Gravelly Sandy Clay (FILL). Orange, light grey and brown, soft, saturated, low to medium plasticity. Contains ironstone gravels (<10 mm)(20 %), fine to medium grained sand (30 %), minor silt (10 %) and clay (40 %). Slight gaseous odour and black staining noted. No fibre cement material noted.	11.80	
1.3		BH62_11.8-12.0	✳	11.8–12.2		FILL	Sand (FILL). Light grey with red mottling/grey/brown, dense, saturated. Contains minor silt (10 %) and minor soft, low plasticity clay (10 %). Possibly reworked natural. Slight gaseous odour and minor black staining noted. No fibre cement material noted.	12.20	
							Refusal at 12.2 m bgs; with push-tube - switch to solid augers.		
							Cave in to 8.0 m bgs; refusal at 8.0 m bgs with solid augers. Monitoring well installed to 8.0 m bgs.		
							Total Depth: 12.20 m		

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH64 / MW64

PROJECT NUMBER	S41500	**DATE**	01 Mar 10
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 1.5 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	1.5 to 10.0 m bgs
DRILLING METHOD	Core, Air-knife & Hollow Augers	**GRAVEL PACK**	1.0 to 10.0 m bgs
SAMPLING METHOD	Grab & SPT	**SANITARY SEAL/BENTONITE**	0.5 to 1.0 m bgs and 10.0 to 11.5 m bgs
SURFACE ELEVATION	2.370 m AHD		
WELL HEAD/TOC	2.26 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	K. Pigram	**NORTHING**	333717.22
COMMENTS	Block 4 - Declaration Area	**EASTING**	6251693.72

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
				0.1		ASPHALT	ASPHALT	0.07	Cement
1.8		BH64_0.15-0.25	✳	0.2		FILL	Gravelly Sandy Clay (FILL). Dark brown, soft, dry to slightly moist. Contains medium to coarse grained, loose to very loose gravels and fine grained sand. No odour, staining or fibre cement material noted.	0.80	Bentonite
		BH64_1.0-1.2	✳	1.0		FILL	Clayey Silty Sandy Gravel (FILL). Grey/brown, black, white and dark yellow/brown, medium dense, slightly moist. Contains roadbase gravels (10 to 20 mm)(30 %), stiff, low to plasticity clay (20 %), ash and silt (20 %), fine to medium grained sand (20 %) and slag (10-30 mm). Slight naphthalene/chemical odour . No staining or fibre cement material noted.		Blank Casing
3.5		BH64_2.5-2.7	✳	2.5		FILL	Silty Sandy Gravel (FILL). Dark grey/brown and yellow, loose to medium dense, saturated. Contains marine gravels (<10 mm)(30 %), crushed shells, silt (30 %), medium to coarse grained sand (30 %), trace stiff, low plasticity clay (<10 %). Slight gaseous odour. No staining or fibre cement material noted. Contains orange marine gravels (10 to 30 mm)(50 %) and coarse grained sand (50 %) from 4.0 m bgs. No fibre cement material noted.	2.50	
2.1		BH64_5.5-5.7	✳	5.5		FILL	Clayey Sandy Gravel (FILL). Light grey/brown and white, loose to medium dense, saturated. Contains marine gravels (<10 mm)(40 %), medium to coarse grained sand (30 %), stiff, low plasticity clay (20 %) and minor silt (10 %). Very slight gaseous odour. No staining or fibre cement material noted.	5.30	Graded Sand Filter Pack
				6.7		FILL	Sandy Gravel (FILL). Light grey/white, dense, saturated. Contains medium grained sand (20 %), marine gravels and shells (<10 mm)(70 %) and minor silt (10 %). No fibre cement material noted. Refusal on sandstone boulder at 7.0 to 7.4 m bgs.	6.70	38 mm Slotted Screen
3.1		BH64_8.5-8.7		8.5		FILL	Clayey Sand (FILL). Light grey/white, dense, saturated. Contains fine to medium grained sand (70 %), minor shells (40 mm)(10 %), stiff, low plasticity clay (20 %) and reworked natural material. No odour, staining or fibre cement material noted. U50 Tube attempted, refusal.	8.30	
4.9		BH64_10.0-10.3	✳	10.0		SANDSTONE	SANDSTONE. Red/brown and yellow, dense to very dense, saturated. Contains fine to medium grained weathered crushed sandstone (100 %). No odour, staining or fibre cement material noted.	10.00	Bentonite
				12.0			Borehole terminated at 12.0 m bgs; refusal on Sandstone Bedrock. Total Depth: 12.00 m	12.00	

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH65

PROJECT NUMBER	S41500	**DATE**	24 Feb 10
PROJECT NAME	Barangaroo - Declaration Area		
LOCATION	Hickson Road, Millers Point NSW 2000		
DRILLING METHOD	Core, Air-knife & Push-tube		
SAMPLING METHOD	Grab & Push-tube		
SURFACE ELEVATION	2.410 m AHD		
LOGGED BY	K. Pigram	**NORTHING**	333709.25
COMMENTS	Block 4 - Declaration Area	**EASTING**	6251701.01

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
2.3		BH65_0.15-0.25	✳	0.1		ASPHALT	ASPHALT	0.07
				0.2		FILL	Gravelly Sandy Clay (FILL). Dark brown, soft to medium stiff, dry to slightly moist, low plasticity. Contains medium to coarse grained roadbase gravels and fine to medium grained sand. No odour, staining or fibre cement material noted.	0.80
0.4		BH65_0.8-1.0		0.8		FILL	Silty Sandy Gravel (FILL). Red/brown, dense, dry. Contains roadbase gravels (10-30 mm) (40 %), silt (20 %), medium grained sand (20 %) and weathered sandstone fragments (10-20 mm) (20 %). Slight tar odour. No staining or fibre cement material noted.	
				2.1 ▽				
				2.2		FILL	Silty Sand (FILL). Dark grey/brown, fine to medium grained, medium dense, saturated. Contains sand (40 %), silt (30 %). Gravels (10 mm) (10 %) and pieces of decayed wood (20 %). Slight to moderate tar odour and black staining noted. No fibre cement material noted.	2.20
				3.2		FILL	Gravel (FILL). Black, dense, saturated. Contains gravels (10-20 mm)(80 %), shells (<10 %) and minor fine to medium grained silty sand (10 %). Moderate tar odour. Black staining with moderate sheen on sample and push tube noted. No fibre cement material noted.	3.20
1.5		BH65_3.4-3.6 QC234	✳ ✳	3.4 3.5 3.6				
				4.1				4.20
1.7		BH65_4.2-4.4		4.2		FILL	Gravelly Silty Clay (FILL). Dark grey/brown, soft, saturated, low plasticity. Contains organic matter and decayed wood (10 %), gravels (possibly from overlying lithology (<10 mm) (20 %), silt (20 %) and clay (50 %). Moderate tar odour noted. Sheen and black staining noted. No fibre cement material noted.	
				5.6				5.60
0.9		BH65_5.6-5.8		5.7		FILL	Silty Sandy Gravel (FILL). Dark grey/brown, dense, saturated. Contains gravels (10-30 mm) (50 %), silt (20 %) and fine to medium grained sand (30 %). Moderate tar odour and black staining noted. No fibre cement material noted.	
2.6		BH65_6.2-6.3		6.2				
2.4		BH65_7.5-7.7		7.5			Becoming medium dense from 7.5 m bgs. Contains marine gravels (<10 mm) (50 %), organic matter (<10 %), silt (20 %) and fine to medium grained sand (20 %). Slight to moderate tar odour. Very slight sheen. No fibre cement material noted.	
2.2		BH65_8.2-8.6 QC235 QC236	✳	8.2			Contains large piece of wood (300 mm) from 8.6 to 8.9 m bgs. Moderate tar odour. Slight-moderate sheen. No fibre cement material noted.	
				9.5				9.50
3.9		BH65_9.5-9.7		9.6		SW-SC	Sandy CLAY. Orange/light grey with red/brown mottling, stiff, saturated, low to medium plasticity. Contains clay (60 %). fine to medium grained sand (40 %). Slight to moderate tar and naphthalene odour. Slight black staining (40 %) and veins of tar (10 %) noted. No fibre cement material noted.	
				10.2			No recovery due to wood in SPT from 10.2 to 11.2 m bgs - cave-in from overlying material, lithology as above.	
				11.2				11.20
176.7		BH65_11.2-11.4	✳	11.3		SC	Clayey SAND. Light grey with orange/brown mottling, fine to medium grained, very dense, saturated. Contains stiff, low to medium plasticity clay (20 %), weathered sandstone fragments (70 %). Red/orange staining (possible product) (10 %) noted. Moderate chemical/naphthalene odour noted. Moderate sheen noted. No fibre cement material noted.	
				12.5				12.50
10.7		BH65_12.5-12.7		12.6		SW-SC	Sandy CLAY. Orange/yellow with grey mottling, very stiff to hard, saturated, low to medium plasticity. Contains clay (80 %) and fine to medium grained sand (20 %). Moderate to strong chemical/naphthalene odour and slight sheen noted. No staining or fibre cement material noted.	
103		BH65_13.4-13.6	✳	13.4			Moderate naphthalene odour from 13.2 m bgs. No staining or fibre cement material noted.	
				14.1				14.10
							Borehole terminated at 14.1 m bgs; refusal on Sandstone Bedrock. Total Depth: 14.10 m	

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH66

PROJECT NUMBER	S41500	**DATE**	23 Feb 10
PROJECT NAME	Barangaroo - Declaration Area		
LOCATION	Hickson Road, Millers Point NSW 2000		
DRILLING METHOD	Core, Air-knife, SPT, Push-tube & Solid Augers		
SAMPLING METHOD	SPT & Push-tube		
SURFACE ELEVATION	2.280 m AHD		
LOGGED BY	D. Fox and K. Pigram	**NORTHING**	333731.3
COMMENTS	Block 4 - Declaration Area	**EASTING**	6251711.94

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.05
0.1		BH66_0.1-0.2		0.2		FILL	Sandstone (FILL). Brown, medium dense, slightly moist. Contains weathered sandstone fragments. No odour, staining or fibre cement material noted.	0.20
				0.3		FILL		
				0.4				
				0.5			Gravelly Sand (FILL). Dark brown, loose, slightly moist. Contains brick, concrete, glass and weathered sandstone fragments (30 %). Slight tar odour. No staining or fibre cement material noted.	
				0.6				
				0.7				
				0.8				
0.4		BH66_0.9-1.0		0.9			No recovery from 0.8 to 2.0 m bgs - lithology as above.	
				1.0				
				1.1				
				1.2				
				1.3				
				1.4				
				1.5				
				1.6				
				1.7				
				1.8				
0.4		BH66_1.9-2.0	✳	1.9				
				2.0			Contains brick, weathered sandstone fragments and slag inclusions (40-50 %) from 2.0 m bgs. Slight tar odour. No staining or fibre cement material noted.	
				2.1				
				2.2				
0.3		BH66_2.3-2.4	✳	2.3				
				2.4			Resistance at 2.4 m bgs.	2.40
				2.5		FILL		
				2.6				
				2.7			Silty Sandy Gravel (FILL). Orange/dark grey/brown/black, medium dense, saturated. Contains silt (20 %), medium to coarse grained sand (10 %), weathered sandstone fragments (10-30 mm)(10 %), ash, road base gravels (<10 mm) and slag (60 %). Slight tar/chemical odour noted. No staining or fibre cement material noted.	
1		BH66_2.7-2.9		2.8				
				2.9				
				3.0				
				3.1				
				3.2				3.20
				3.3		FILL	Refusal with solid augers at 3.2 m bgs; switch to push-tube.	
1.7		BH66_3.2-3.6	✳	3.4			Resistance at 2.9 m bgs; with push-tube - switch to solid flight augers.	
				3.5				
				3.6			Silty Sand (FILL). Dark grey/brown, fine to medium grained, medium dense, saturated. Contains silt (40 %), sand (40 %), shells and organic matter (10 %), minor soft to medium stiff, low plasticity clay (10 %). Slight tar odour. No staining or fibre cement material noted.	
				3.7				
				3.8				
				3.9				
				4.0				
				4.1				
				4.2				4.20
				4.3		FILL	Silty Sandy Gravel (FILL). Dark grey/brown, medium dense, saturated. Contains red gravels, weathered sandstone fragments (10-30 mm) (40 %). silt (20 %) and fine to medium grained sand (40 %). No odour, staining or fibre cement material noted.	
				4.4				
				4.5				
				4.6				
				4.7				
				4.8				
				4.9				
				5.0				
				5.1				
				5.2				5.20
1.3		BH66_5.2-5.4		5.3		SC	Sandy CLAY. Yellow with red/orange mottling, medium stiff to stiff, saturated, medium to high plasticity. Contains fine to medium grained sand (20 %)(crushed sandstone) and clay (80 %). Slight gaseous odour. No staining or fibre cement material noted.	
				5.4				
				5.5				
				5.6				
				5.7				
				5.8				
				5.9				
				6.0				
				6.1				
				6.2				
				6.3				
				6.4				
				6.5				
				6.6				
				6.7				
				6.8				
				6.9				
				7.0				7.00
0.4		BH66_7.0-7.2	✳	7.1		SANDSTONE	SANDSTONE. White with yellow and orange mottling, fine to medium grained, dense, saturated. Highly weathered, moderate strength. Very slight gaseous odour. No staining or fibre cement material noted.	7.20
				7.2			Borehole terminated at 7.2 m bgs; refusal on Sandstone Bedrock. Total Depth: 7.20 m	

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG BH67

PROJECT NUMBER S41500
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000
DRILLING METHOD Core, Air-knife & Hollow Augers
SAMPLING METHOD Grab
SURFACE ELEVATION 2.560 m AHD

DATE 06 Mar 10

LOGGED BY K. O'Brien
COMMENTS Hickson Road - Declaration Area

NORTHING 333758.16
EASTING 6251751.63

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	
				0.2				0.23
				0.3		CONCRETE	CONCRETE Slab	0.36
0		BH67_0.4-0.43 QC206 QC207		0.4		FILL	Gravelly Clayey Sand (FILL). Grey/orange, medium dense, slightly moist. Contains fine grained sand and minor clay (<30 %). Slight tar odour. No staining or fibre cement material noted.	0.43
							Borehole terminated at 0.43 m bgs; refusal on Sandstone Bedrock. Total Depth: 0.43 m	

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

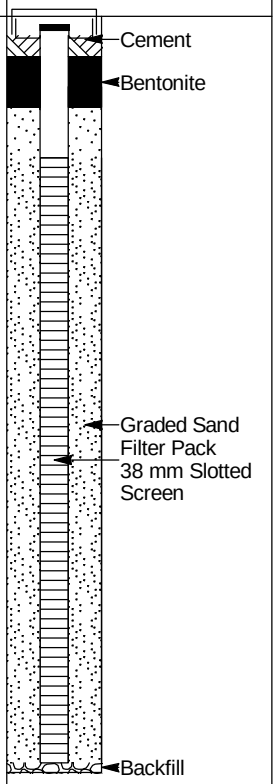
AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH68 / MW68

PROJECT NUMBER	S41500	**DATE**	02 Mar 10
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 1.4 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	1.4 to 7.4 m bgs
DRILLING METHOD	Core, Air-knife & Hollow Augers	**GRAVEL PACK**	1.0 to 7.4 m bgs
SAMPLING METHOD	Grab & SPT	**SANITARY SEAL/BENTONITE**	0.4 to 0.9 m bgs
SURFACE ELEVATION	2.400 m AHD		
WELL HEAD/TOC	2.31 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	K. O'Brien	**NORTHING**	333706.38
COMMENTS	Block 5 - Declaration Area	**EASTING**	6251737

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.07
				0.2		FILL	Gravelly Clayey Sand (FILL). Grey/brown, fine to medium grained, loose, moist. Contains minor fine to coarse grained weathered sandstone and brick fragments (10 %), fine to medium grained sand (60 %) and clay (30 %). Slight tar odour. No staining or fibre cement material noted.	
0.9		BH68_1.0-1.3	✳	1.0				
				2.0				
				2.4				2.50
1		BH68_2.5-2.9	✳	2.5		FILL	Sand (FILL). Grey/brown, fine to medium grained, medium dense to dense, saturated. Contains medium grained (80 %), fine grained (20 %) sand and trace coarse concrete and brick pieces. No odour, staining or fibre cement material noted.	
				4.0				4.00
0.8		BH68_4.0-4.3	✳	4.1		FILL	Sandy Gravel (FILL). Light grey and white, loose to medium dense, saturated. Contains crushed sandstone and minor blue metal gravel inclusions. No odour, staining or fibre cement material noted.	
				5.5				5.50
0.7		BH68_5.5-5.8		5.6		FILL	Sandstone (FILL). Light grey and white, dense, very moist to saturated. No odour, staining or fibre cement material noted.	
				7.0				7.00
0.8		BH68_7.0-7.1	✳	7.0		SM	Silty SAND. Dark grey, fine to medium grained, very loose, saturated. Contains crushed shells. No odour, staining or fibre cement material noted.	7.10
		BH68_7.1-7.3		7.2		SC		
		BH68_7.3-7.5	✳	7.4				7.50
				7.5			Clayey SAND. Orange, fine grained, dense, saturated. Contains fine grained sand (60 %), soft, low plasticity clay (30 %) and minor silt (10 %). No odour, staining or fibre cement material noted.	
							Borehole terminated at 7.5 m bgs; target depth reached. Total Depth: 7.50 m	

WELL DIAGRAM



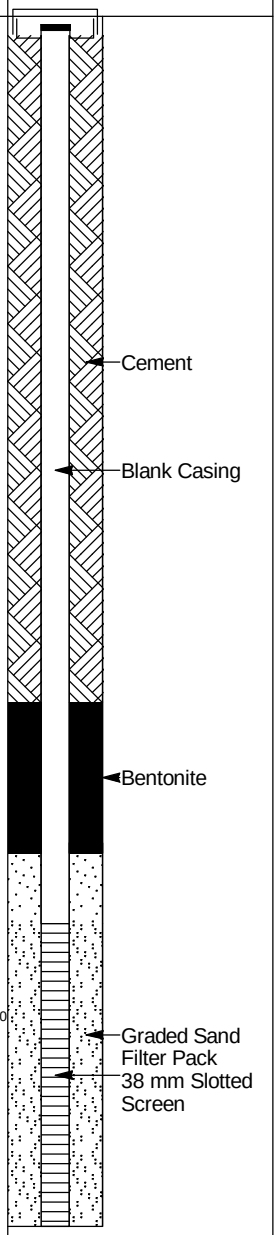
S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH69 / MW69

PROJECT NUMBER	S41500	**DATE**	26 Feb 10
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 9.0 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	9.0 to 12.0 m bgs
DRILLING METHOD	Core, Air-knife & Hollow Augers	**GRAVEL PACK**	8.3 to 12 m bgs
SAMPLING METHOD	Grab & SPT	**SANITARY SEAL/BENTONITE**	6.8 to 8.3 m bgs
SURFACE ELEVATION	2.290 m AHD		
WELL HEAD/TOC	2.23 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	L. Kontus	**NORTHING**	333711.9
COMMENTS	Block 5 - Down gradient Declaration Area	**EASTING**	6251766.02

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.07
				0.2		FILL	Sand (FILL). Dark brown, fine grained, medium dense to dense, dry to slightly moist. Contains roadbase gravels and weathered sandstone fragments. Slight naphthalene odour. No staining or fibre cement material noted.	
1.7		BH69_1.0-1.15	✳	1.0				
				2.4				
				2.5		FILL	Silty Sand (FILL). Brown, loose, saturated. Contains silt (20 %) and crushed brick and weathered sandstone fragments. Naphthalene odour noted. No staining or fibre cement material noted.	2.50
25		BH69_4.0-4.2	✳	4.0			Becoming brown/black and very loose from 4.0 m bgs. Contains silt (20 %), crushed brick and fragments of timber. Naphthalene odour. Slight sheen noted on water contained within sample. No fibre cement material noted.	
				5.0			Becoming dark grey from 5.5 m bgs. Contains silt (50 %) and timber. Hydrocarbon odour. Slight sheen noted on water contained within sample. No fibre cement material noted.	
				7.0			Contains timber fragments (50 %) (40 mm) from 7.0 m bgs. Very slight hydrocarbon odour noted. No staining or fibre cement material noted.	
				8.5		FILL	Sand (FILL). Grey, very loose, saturated. Less than 20 cm recovery, due to water perched on sandstone. Contains crushed seashells (20 %). No odour, staining or fibre cement material noted.	8.50
				9.55			Resistance of auger at 9.55 m bgs.	
16.8		BH69_10.0-10.2	✳	10.0		SANDSTONE	SANDSTONE. Grey and orange, moist. Contains highly weathered sandstone, low strength and organic matter. Hydrocarbon odour. Sheen noted on water contained within sample. No staining or fibre cement material noted.	10.00
				11.5			Becoming orange and dense to very dense at 11.5 m bgs. Moderate weathering, medium to high strength. Strong naphthalene odour noted. No staining or fibre cement material noted.	
				13.0			Borehole terminated at 13.0 m bgs; refusal on Sandstone Bedrock. Total Depth: 13.00 m	13.00



S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH74 / MW74

PROJECT NUMBER	S41500	**DATE**	03 Mar 10
PROJECT NAME	Barangaroo - Declaration Area	**BLANK**	0.0 to 1.5 m bgs
LOCATION	Hickson Road, Millers Point NSW 2000	**SCREEN**	1.5 to 13.5 m bgs
DRILLING METHOD	Core, Air-knife & Hollow Augers	**GRAVEL PACK**	1.0 to 13.5 m bgs
SAMPLING METHOD	Grab & SPT	**SANITARY SEAL/BENTONITE**	0.5 to 1.0 m bgs
SURFACE ELEVATION	2.340 m AHD		
WELL HEAD/TOC	2.28 m AHD	**GROUND WATER ELEVATION**	m AHD
LOGGED BY	L. Kontus	**NORTHING**	333617.43
COMMENTS	Public Domain - Down gradient Declaration Area	**EASTING**	6251749.11

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1	ASPHALT	ASPHALT	0.08
				0.2	FILL	Gravelly Sandy Clay (FILL). Light brown, medium stiff to stiff, dry, low plasticity. Contains medium to coarse grained, loose roadbase gravels. No odour, staining or fibre cement material noted.	
1.9		BH74_1.0-1.2	✳	1.0	FILL	Sand (FILL). Brown, red, white and black, dry. Contains roadbase gravels and crushed brick and weathered sandstone fragments. Tar noted throughout sample and moderate tar odour noted. Black staining noted. No fibre cement material noted.	1.00
				2.4 ▽			
				2.5	FILL	Sandy Clay (FILL). Brown and red, soft to medium stiff, low plasticity. Contains fine to medium grained sand, crushed brick and roadbase gravels. No odour, staining or fibre cement material.	2.50
				4.0		Becoming dark grey, very soft to soft, saturated, low plasticity from 4.0 m bgs. Contains fine to medium grained sand and crushed brick. Slight napthalene odour. No staining or fibre cement material noted.	
1.4		BH74_5.5-5.7	✳	5.5		Becoming dark grey, white and black, loose to very loose, saturated from 5.5 m bgs. Contains minor silt (10 %). organic matter, weathered sandstone fragments and road base gravels. No odour. Black staining noted. No fibre cement material noted.	
				7.0	FILL	Sandstone (FILL). Brown and grey with green staining, loose, saturated. Contains sandstone cobbles (80 %), road base gravels and minor silt. No odour or fibre cement material noted.	7.00
0.8		BH74_8.5-8.8	✳	8.5	FILL	Silty Sand (FILL). Dark grey and yellow, medium dense, saturated. Contains weathered sandstone fragments, crushed brick, timber and organic matter (twigs). Slight tar odour noted. No staining or fibre cement material noted.	8.50
1		BH74_10.0-10.5 QC122	✳ ✳	10.0		Becoming dark grey, very loose and saturated from 10.0 m bgs. Contains some crushed brick and minor silt (<15 %). Slight tar odour noted. No staining or fibre cement material noted.	
0.5		BH74_11.5-11.7		11.5			
				13.0			13.00

WELL DIAGRAM: Cement; Bentonite; Blank Casing; Graded Sand Filter Pack; 38 mm Slotted Screen

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

MONITORING WELL LOG BH74 / MW74

PROJECT NUMBER S41500 **DATE** 03 Mar 10
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000 **GROUND WATER ELEVATION**

- Continued from Previous Page -

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.7		BH74_13.0-13.5	✳	13.1–16.2		FILL	Sand (FILL). Dark grey, medium dense to dense, saturated. Contains weathered sandstone fragments (<5 %). Slight hydrocarbon odour noted. No staining or fibre cement material noted.		
							U50 sample taken at 14.5 to 14.9 m bgs.		
								16.00	
0.7		BH74_16.0-16.5	✳			SW	SAND. Dark and light grey, fine to medium grained, very loose, saturated. No odour, staining or fibre cement material noted.	16.20	
						SW-SC	Sandy CLAY. Light grey with red mottling, very soft, saturated, low plasticity. No odour, staining or fibre cement material noted.	16.25	
							Borehole terminated at 16.25 m bgs. Total Depth: 16.25 m		

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG SV05

PROJECT NUMBER	S41500	**DATE**	26 Feb 10
PROJECT NAME	Barangaroo - Declaration Area		
LOCATION	Hickson Road, Millers Point NSW 2000		
DRILLING METHOD	Core, Air-knife & Push-tube		
SAMPLING METHOD	Not Required		
SURFACE ELEVATION	2.380 m AHD		
LOGGED BY	K. Pigram	**NORTHING**	333717.38
COMMENTS	Block 4 - Declaration Area	**EASTING**	6251584.56

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
						ASPHALT	ASPHALT	0.07
				0.1		FILL	Silty Sandy Gravel (FILL). Grey/brown and black, medium dense, dry. Contains silt (20 %), medium grained sand (30 %), weathered sandstone fragments (10-30 mm)(30 %), ash (10 %) and roadbase gravels (10-20 mm)(10 %). No odour, staining or fibre cement material noted.	
				0.2				
				0.3				
				0.4				
				0.5				
				0.6				
				0.7				
				0.8				
				0.9				
0.4				1.0		FILL		1.00
0.2				1.1			Gravelly Sand (FILL). Red and orange/brown, medium to coarse grained, dense, slightly moist. Contains minor silt (20 %), ironstone gravels (10-20 mm) and roadbase gravels (20 %) and sand and weathered sandstone fragments (10-20 mm)(60 %). No odour, staining or fibre cement material noted.	
				1.2				
				1.3				
				1.4				
				1.5				
				1.6			Band of ash and slag in Gravelly Sand (FILL) matrix noted from 1.6 to 1.8 m bgs.	
				1.7				
				1.8				
				1.9				
0.6				2.0		FILL		2.00
				2.1			Gravelly Clay (FILL). Yellow/brown, medium stiff to stiff, saturated, low plasticity. Contains ironstone gravels (10-20 mm)(20 %). No odour, staining or fibre cement material noted.	2.20
				2.2			Borehole terminated at 2.2 m bgs; target depth reached. Total Depth: 2.20 m	

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG SV06

PROJECT NUMBER	S41500	**DATE**	24 Feb 10
PROJECT NAME	Barangaroo - Declaration Area		
LOCATION	Hickson Road, Millers Point NSW 2000		
DRILLING METHOD	Core, Air-knife & Push-tube		
SAMPLING METHOD	Not Required		
SURFACE ELEVATION	2.400 m AHD		
LOGGED BY	K. Pigram	**NORTHING**	333733.37
COMMENTS	Block 4 - Declaration Area	**EASTING**	6251607.89

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.07
				0.2		FILL	Silty Gravelly Sand (FILL). White and brown, fine to medium grained, dense, dry. Contains silt (20 %), roadbase gravels (10-20 mm) (20 %), sand (60 %). Slight gaseous odour noted. No staining or fibre cement material noted.	
				0.3				
				0.4				
				0.5				
				0.6				
				0.7				
				0.8				
				0.9				
				1.0				
				1.1				
				1.2				
				1.3				
				1.4				
				1.5			Becoming slightly moist from 1.45 m bgs. Contains ash and roadbase gravels (40 %). Slight gaseous odour and black staining noted. No fibre cement material noted.	
				1.6				
				1.7				
				1.8				
				1.9				
				2.0				
				2.1				
				2.2 ▽			Becoming saturated at 2.1 m bgs.	2.20
							Borehole terminated at 2.2 m bgs; target depth reached. Total Depth: 2.20 m	

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG SV07

PROJECT NUMBER S41500
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000
DRILLING METHOD Core, Air-knife & Push-tube
SAMPLING METHOD Not Required
SURFACE ELEVATION 2.440 m AHD

DATE 25 Feb 10

LOGGED BY K. Pigram
COMMENTS Block 4 - Declaration Area

NORTHING 333709.73
EASTING 6251637.53

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		CONCRETE	CONCRETE	
				0.2		FILL	Silty Sandy Gravel (FILL). Dark grey/brown and black, medium dense, dry. Contains fine to medium grained sand (30 %), silt (30 %), roadbase gravels (10-20 mm)(40 %) and ash (<10 %). No odour or fibre cement material noted.	0.22
				0.3				
				0.4				
				0.5				
				0.6				
1.6				0.7		FILL	Silty Sand (FILL). Dark grey/brown and red, fine to medium grained, medium dense, dry. Contains silt (40 %), sand (40 %) and minor roadbase gravels (<10 mm)(10 %) and minor medium stiff clay (10 %). No odour, staining or fibre cement material noted.	0.70
				0.8				
				0.9				
0.2				1.0		FILL	Gravelly Sand (FILL). White, yellow and orange, dense to very dense, slightly moist. Contains minor silt (10 %), fragments of weathered sandstone (10-40 mm)(30 %) and medium grained sand (60 %). No odour, staining or fibre cement material noted.	1.00
				1.1				
				1.2				
				1.3				
				1.4				
				1.5				
				1.6				
				1.7				
1.8				1.8		FILL	Clayey Silty Sand (FILL). Orange and grey/brown, medium to coarse grained, medium dense, very moist. Contains weathered sandstone fragments and quartz (<10 mm)(10 %), sand (40 %), silt (30 %) and clay (20 %). No odour, staining or fibre cement material noted.	1.80
				1.9				
				2.0 ▽			Groundwater encountered at 2.0 m bgs.	
				2.1				
				2.2			Borehole terminated at 2.2 m bgs; target depth reached. Total Depth: 2.20 m	2.20

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG SV09

PROJECT NUMBER S41500
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000
DRILLING METHOD Core, Air-knife & Push-tube
SAMPLING METHOD Push-tube
SURFACE ELEVATION 2.390 m AHD

DATE 26 Feb 10

LOGGED BY K. Pigram
COMMENTS Block 5 - Declaration Area

NORTHING 333728.39
EASTING 6251685.75

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
						ASPHALT	ASPHALT	0.09
0.4		SV09_0.2-0.4	✳	0.1 – 1.3		FILL	Silty Sandy Gravel (FILL). Red/brown and black, dense, slightly moist to moist. Contains ironstone gravels (10-30 mm) (10 %), silt (20 %), medium grained sand (20 %), ash, roadbase gravels and slag (50 %). Slight gaseous/chemical odour noted. No fibre cement material noted.	1.30
0.6		SV09_1.3-1.5	✳	1.3 – 2.2		FILL	Clayey Sand (FILL). Green, yellow, orange, red/brown and black, medium dense, saturated. Contains minor roadbase gravels (<10 mm)(10 %), ash (10 %), stiff, low plasticity clay (20 %) and sand (60 %). Slight gaseous/chemical odour noted. No staining or fibre cement material noted.	2.20
							Borehole terminated at 2.2 m bgs; target depth reached. Total Depth: 2.20 m	

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG SV10

PROJECT NUMBER S41500
PROJECT NAME Barangaroo - Declaration Area
LOCATION Hickson Road, Millers Point NSW 2000
DRILLING METHOD Core, Air-knife & Push-tube
SAMPLING METHOD Not Required
SURFACE ELEVATION 2.240 m AHD

DATE 25 Feb 10

LOGGED BY K. Pigram
COMMENTS Block 5 - Declaration Area

NORTHING 333705.71
EASTING 6251687.35

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
				0.1		ASPHALT	ASPHALT	0.08
				0.2		FILL	Gravelly Sand (FILL). White, red/brown, light grey/brown, black, dense, dry. Contains fine to medium grained sand (50 %), minor silt (10 %), weathered sandstone fragments (10-40 mm)(30 %) and trace ash (<10 %). No odour, staining or fibre cement material noted.	
				0.3				
				0.4				
				0.5				
				0.6				
				0.7				
				0.8				
1.6				0.9				
				1.0				
				1.1				
0.9				1.2		FILL	Sandy Silty Clay (FILL). Grey/brown, black and orange, medium stiff to stiff, slightly moist. Contains minor roadbase gravels (<10 mm) and ash (10 %), silt (30 %), fine to medium grained sand (20 %) and clay (40 %). No odour, staining or fibre cement material noted.	1.20
				1.3				
				1.4				
				1.5				
1.8				1.6		FILL	Silty Sand (FILL). Yellow, grey/brown, red and white, fine to medium grained, medium dense, moist. Contains silt (30 %), sand (30 %), trace ash and roadbase gravels (<10 mm) (<10 %), minor medium stiff, low plasticity clay (10 %) and fragments of sandstone (10 %). No odour, staining or fibre cement material noted.	1.60
				1.7				
				1.8				
				1.9				
				2.0 ▽				
				2.1				
				2.2				2.20
							Borehole terminated at 2.2 m bgs; target depth reached. Total Depth: 2.20 m	

S41500_BORELOGS(VMP&PDA + BLOCKS4&5)_12APR10.GPJ 25/06/10

AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG SV11

PROJECT NUMBER	S41500	**DATE**	25 Feb 10
PROJECT NAME	Barangaroo - Declaration Area		
LOCATION	Hickson Road, Millers Point NSW 2000		
DRILLING METHOD	Core, Air-knife & Push-tube		
SAMPLING METHOD	Not Required		
SURFACE ELEVATION	2.490 m AHD		
LOGGED BY	K. Pigram	**NORTHING**	333709.74
COMMENTS	Block 5 - Declaration Area	**EASTING**	6251709.5

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
1.8				0.1		ASPHALT	ASPHALT	0.07
				0.2		FILL	Sandy Silty Gravel (FILL). Grey/brown and black, medium dense, dry. Contains minor ash (10 %), roadbase gravels (10-20 mm)(40 %), silt (30 %) and medium grained sand (20 %). No odour, staining or fibre cement material noted.	
				0.3				
				0.4				
				0.5				
				0.6				
				0.7				
				0.8				
				0.9				
1.9				1.0		FILL	Sandy Gravel (FILL). Orange, red, brown and black, medium dense to dense, slightly moist. Contains minor stiff, low to medium plasticity clay (10 %), gravels (10-20 mm)(60 %) and medium grained sand (30 %). No odour, staining or fibre cement material noted.	1.00
				1.1				
				1.2				
				1.3				
				1.4				
				1.5				
				1.6				
				1.7				
				1.8				
				1.9				
				2.0				
				2.1				
				2.2				2.20
							Borehole terminated at 2.2 m bgs; target depth reached. Total Depth: 2.20 m	

Appendix E

Calibration Records

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ThermoFisher SCIENTIFIC

RENTALS

Equipment Report - MINIRAE 3000 PID

This PID has been performance checked / calibrated* as follows:

Calibration	Actual Value	Reading	Pass?		
Zero – fresh air	0.0 ppm	0.0 ppm	☑		
Span – Isobutylene	103 ppm	102.9 ppm	☑		
Set Alarm limits to	High	100 ppm	Low	50 ppm	
Operations Check					

☑	Performance Check (pump, lamp, sensor & battery voltage check)				
☑	Battery Charged	☑	Filters Check	☑	Spare battery Voltage (5.5v minimum) 6 V
☐	Electrical Safety Tag attached (AS/NZS 3760)	Tag No:.....		Valid to:.....	
☐	Bump test / Date:				

** Calibration gas traceability information is available upon request.*

Date: 29/01/2010 Checked by: MICENKO

Signed: _____

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Returned	Item
☑	☐	MiniRae 3000 PID / Operational Check, plus Battery Voltage @ 5.7 V
☑	☐	Lamp Voltage @ 10.6eV Compound Set to: ISOBUTYLENE C/factor: 1
☑	☐	Protective yellow rubber boot
☑	☐	Inlet probe (attached to PID)
☑	☐	Spare water trap filter(s) Qty 2
☑	☐	Charger 240V to 12V 500mA
☑	☐	Instruction Manual behind foam on the lid of case "
☑	☐	Quick Guide Sheet behind foam on the lid of case "
☑	☐	Spare Alkaline Battery Compartment with batteries
☐	☐	Inline Moisture trap Filter Guide Laminated
☐	☐	Calibration regulator & tubing (optional)
☑	☐	Carry Case
	☐	Check to confirm electrical safety (tag must be valid)
☐	☐	

Processors Signature/ Initials _____

EE Quote Reference	18278	Condition on return
Customer Ref	252789	
Equipment ID	PID 3000SP	
Equipment serial no.	592900887	
Return Date	02/03/10	
Return Time		

Phone: (Free Call) 1300 735 295 | **Environmental Assessment Technologies** | **Fax: (Free Call) 1800 657 123**

Melbourne Branch, 5 Caribbean Drive, Scoresby 3179, Email: RentalsEnviroVIC@thermofisher.com
Sydney Branch, Level 1, 4 Talavera Road, North Ryde 2113, Email: RentalsEnviroNSW@thermofisher.com
Adelaide Branch, 27 Beulah Road, Norwood, South Australia 5067, Email: RentalsEnviroSA@thermofisher.com
Brisbane Branch, Unit 2/5 Ross St Newstead 4006, Email: RentalsEnviroQLD@thermofisher.com
Perth Branch, 121 Beringarra Ave Malaga WA 6090, Email: RentalsEnviroWA@thermofisher.com

ThermoFisher SCIENTIFIC

RENTALS

Equipment Report - MINIRAE 3000 PID

This PID has been performance checked / calibrated* as follows:

Calibration	Actual Value	Reading	Pass?		
Zero – fresh air	0.0 ppm	0.0 ppm	☑		
Span – Isobutylene	103 ppm	102.9 ppm	☑		
Set Alarm limits to	High	100 ppm	Low	50 ppm	
Operations Check					

☑	Performance Check (pump, lamp, sensor & battery voltage check)				
☑	Battery Charged	☑	Filters Check	☑	Spare battery Voltage (5.5v minimum) 6 V
☐	Electrical Safety Tag attached (AS/NZS 3760)	Tag No:.....		Valid to:.....	
☐	Bump test / Date:				

** Calibration gas traceability information is available upon request.*

Date: 03/02/2010 Checked by: MILENKO

Signed: _____

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Returned	Item
☐	☐	MiniRae 3000 PID / Operational Check, plus Battery Voltage @ 5.8 V
☐	☐	Lamp Voltage @ 10.6e V Compound Set to: ISOBUTYLENE C/factor: 1
☐	☐	Protective yellow rubber boot
☐	☐	Inlet probe (attached to PID)
☐	☐	Spare water trap filter(s) Qty 2
☐	☐	Charger 240V to 12V 500mA
☐	☐	Instruction Manual behind foam on the lid of case "
☐	☐	Quick Guide Sheet behind foam on the lid of case "
☐	☐	Spare Alkaline Battery Compartment with batteries
☐	☐	Inline Moisture trap Filter Guide Laminated
☐	☐	Calibration regulator & tubing (optional)
☐	☐	Carry Case
	☐	Check to confirm electrical safety (tag must be valid)
☐	☐	

Processors Signature/ Initials _____

EE Quote Reference	18279	Condition on return
Customer Ref	282784	
Equipment ID	PID 3000 SE	
Equipment serial no.	592900869	
Return Date	09/05/10	
Return Time		

Phone: (Free Call) 1300 735 295 | Environmental Assessment Technologies | Fax: (Free Call) 1800 657 123

Melbourne Branch, 5 Caribbean Drive, Scoresby 3179, Email: RentalsEnviroVIC@thermofisher.com
Sydney Branch, Level 1, 4 Talavera Road, North Ryde 2113, Email: RentalsEnviroNSW@thermofisher.com
Adelaide Branch, 27 Beulah Road, Norwood, South Australia 5067, Email: RentalsEnviroSA@thermofisher.com
Brisbane Branch, Unit 2/5 Ross St, Newstead 4006, Email: RentalsEnviroQLD@thermofisher.com
Perth Branch, 121 Beringarra Ave, Malaga WA 6090, Email: RentalsEnviroWA@thermofisher.com

ThermoFisher SCIENTIFIC

RENTALS

Equipment Report - MINIRAE 3000 PID

This PID has been performance checked / calibrated* as follows:

Calibration	Actual Value	Reading	Pass?		
Zero – fresh air	0.0 ppm	0.0 ppm	☑		
Span – Isobutylene	103 ppm	102.7 ppm	☑		
Set Alarm limits to	High	100 ppm	Low	50 ppm	
Operations Check					

☑ Performance Check (pump, lamp, sensor & battery voltage check)

☐ Battery Charged ☑ Filters Check ☑ Spare battery Voltage (5.5v minimum) 6 V

☒ Electrical Safety Tag attached (AS/NZS 3760) Tag No:..... Valid to:.....

☑ Bump test / Date: 16/02/2010

** Calibration gas traceability information is available upon request.*

Date: 16/02/2010 Checked by: MILENKO

Signed: JM

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Returned	Item
☑	☐	MiniRae 3000 PID / Operational Check, plus Battery Voltage @ 95% / Lamp Voltage @ 10.6 V Compound Set to: ISOBUTYLENE C/factor: 1
☑	☐	Protective yellow rubber boot
☑	☐	Inlet probe (attached to PID)
☑	☐	Spare water trap filter(s) Qty 1
☑	☐	Charger 240V to 12V 500mA
☑	☐	Instruction Manual behind foam on the lid of case "
☑	☐	Quick Guide Sheet behind foam on the lid of case "
☑	☐	Spare Alkaline Battery Compartment with batteries
☑	☐	Inline Moisture trap Filter Guide Laminated
☒	☐	Calibration regulator & tubing (optional)
☑	☐	Carry Case
	☐	Check to confirm electrical safety (tag must be valid)
☐	☐	

Processors Signature/ Initials MS

EE Quote Reference	18278	Condition on return
Customer Ref		
Equipment ID	PID 3000SB	
Equipment serial no.	592000586	
Return Date	/ /	
Return Time		

Phone: (Free Call) 1300 735 295 — **Environmental Assessment Technologies** — **Fax: (Free Call) 1800 657 123**

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Perth Branch, 121 Beringarra Ave Malaga WA 6090, Email: RentalsEnviroWA@thermofisher.com

AECOM

Photoionization Detector (Hire Unit)

Job Number/Name:

Frequency: Daily on Use or Twice Daily

ISOBUTYLENE

PID Serial Number	Date/Time	Fresh Air Cal.	Span Gas concentration (e.g.101 ppm Isobutylene)	Span Gas Cal.	Name (print)	Signature
592 900887	03/02/10	0.0ppm	100ppm	103.2ppm	KATE PIGRAM	KPigram
592900887	04/02/10	0.0ppm	100 ppm	102.7ppm	KATE PIGRAM	KPigram
592900887	05/02/10	0.0 ppm	100ppm	102.5ppm	KATE PIGRAM	KPigram
592900887	09/02/10	0.0 ppm	100ppm	101.6ppm	KATE PIGRAM	KPigram
592900887	10/02/10	0.0 ppm	100ppm	103.1 ppm	KATE PIGRAM	KPigram
592900887	11/02/10	0.0ppm	100 ppm	102.4ppm	KATE PIGRAM	KPigram
592900887	12/02/10	0.0ppm	100 ppm	101.6ppm	KATE PIGRAM	KPigram
592900887	15/02/10	0.0ppm	100ppm	102.3 ppm	KATE PIGRAM	KPigram
NOT USED 16/02/10 → 592900887	16/02/10	NOT CALIBRATED DUE TO FAULTY WILL BE REPLACED				16/02/10 PM
592000586	17/02/10	0.0ppm	100ppm	101.6ppm	KATE P	KPigram
592000586	18/02/10	0.0	100 ppm	103 ppm	Geoff Tredinnick	Geoff Tredinnick
592900869	19/02/10	0.0	100 ppm	102.9 ppm	Geoff Tredinnick	Geoff Tredinnick

Photoionization Detector (Hire Unit)

AECOM

Job Number/Name: 54128501 / Barangaroo

Frequency: (Daily on Use) or Twice Daily

PID Serial Number	Date/Time	Fresh Air Cal.	Span Gas concentration (e.g.101 ppm Isobutylene)	Span Gas Cal.	Name (print)	Signature
592900869	9.2.10 6:00 AM	0.0 PPM	102.9 PPM	101 PPM	Sam Patel	Sdel
"	10.2.10 7:15AM	0.0 PPM	102.9 PPM	101 PPM	Sam Patel	Sdel
"	11.2.10 6:00PM	0.0 PPM	101.9 PPM	101 PPM	Sam Patel	Sdel
"	12.2.10 8:00 AM	0.0 PPM	101.8 PPM	101 PPM	Sam Patel	Sdel
"	15.2.10 8:15AM	0.0 PPM	102 PPM	101 PPM	Sam Patel	Sdel
"	16.2.10 7:35 AM	0.0 PPM	101 PPM	101 PPM	Sam Patel	Sdel
"	17.2.10 7:55 AM	0.0 PPM	101 PPM	101 PPM	Sam Patel	Sdel
"	18.2.10 8:30 AM	0.0 PPM	101.6 PPM	101 PPM	Sam Patel	Sdel
592900869	18.2.10 7:00am	0.0 ppm	100 ppm	102.9 ppm	Geoff Treadwell	Cal Check

Multi Parameter Water Meter

airmet

Air-Met Scientific Pty Ltd
1300 137 067

Instrument YSI Quatro Pro Plus
Serial No. 09K100887

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3.Specific conductance	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Diffusion mode Aspirated mode

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.00		HA1323	pH 7
2. pH 4.00		pH 4.00		HA2102	pH 4
3. mV		235 mV		HB1302/3	234 mV
4. EC		2.76 mS		HB1295	2.76 mV
5. D.O		0%		226	0%
6. Temp		22.7 °C		MultiTherm	22.5 °C

Calibrated by: CByrne **Carly Byrne**

Calibration date: **17-02-2010 0:00**

Next calibration due: **19-03-2010 0:00**

PID Calibration Certificate

Instrument MiniRae 3000
Serial No. 592-902051

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments			
Battery	Charge Condition	✓				
	Fuses	✓				
	Capacity	✓				
	Recharge OK?	✓				
Switch/keypad	Operation	✓				
Display	Intensity	✓				
	Operation (segments)	✓				
Grill Filter	Condition	✓				
	Seal	✓				
Pump	Operation	✓				
	Filter	✓				
	Flow	✓				
	Valves, Diaphragm	✓				
PCB	Condition	✓				
Connectors	Condition	✓				
Sensor	PID	✓	10.6 ev			
Alarms	Beeper	✓	Low	High	TWA	STEL
	Settings	✓	50ppm	100ppm	10ppm	25ppm
Software	Version	✓				
Data logger	Operation	✓				
Download	Operation	✓				
Other tests:						

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Diffusion mode Aspirated mode

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No		Instrument Reading
PID Lamp	592-902051	100ppm Isobutylene	NIST	604727		100ppm

Calibrated by: Carly Byrne

Calibration date: 17-02-2010 0:00

Next calibration due: 19-03-2010 0:00

ThermoFisher SCIENTIFIC

RENTALS

Equipment Report - MINIRAE 2000 PID

This PID has been performance checked / calibrated* as follows:

Calibration	Actual Value	Reading	Pass?		
Zero – fresh air	0.0 ppm	0 ppm	☑		
Span – Isobutylene	101 ppm	102 ppm	☑		
Set Alarm limits to	High	100 ppm	Low	50 ppm	
Operations Check					
☑ Performance Check (pump, lamp, sensor & battery voltage check)					
☑ Battery Charged	☑ Filters Check	☑ Spare battery Voltage (5.5v minimum) 6 V			
☒ Electrical Safety Tag attached (AS/NZS 3760)	Tag No:	Valid to:			
☑ Bump test / Date: 19/02/2010					

** Calibration gas traceability information is available upon request.*

Date: 19/02/2010 Checked by: MILENKO

Signed: _____

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Returned	Item
☑	☐	MiniRae 3000 PID / Operational Check, plus Battery Voltage @ 5.3 V
☑	☐	Lamp Voltage @ 10.6 V Compound Set to: ISOBUTYLENE C/factor: 1
☑	☐	Protective yellow rubber boot
☑	☐	Inlet probe (attached to PID)
☑	☐	Spare water trap filter(s) Qty 1
☑	☐	Charger 240V to 12V 500mA
☑	☐	Instruction Manual behind foam on the lid of case "
☑	☐	Quick Guide Sheet behind foam on the lid of case "
☑	☐	Spare Alkaline Battery Compartment with batteries
☑	☐	Inline Moisture trap Filter Guide Laminated
☒	☐	Calibration regulator & tubing (optional)
☑	☐	Carry Case
	☐	Check to confirm electrical safety (tag must be valid)
☐	☐	

Processors Signature/ Initials MS

EE Quote Reference	18278	Condition on return
Customer Ref		
Equipment ID	PID MINSR	
Equipment serial no.	110007362	

Phone: (Free Call) 1300 735 295 | **Environmental Assessment Technologies** | **Fax: (Free Call) 1800 657 123**

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Perth Branch, 121 Beringarra Ave Malaga WA 6090, Email: RentalsEnviroWA@thermofisher.com

AECOM

Photoionization Detector (Hire Unit)

Job Number/Name:

Frequency: Daily on Use or Twice Daily

PID Serial Number	Date/Time	Fresh Air Cal.	Span Gas concentration (e.g.101 ppm Isobutylene)	Span Gas Cal.	Name (print)	Signature
PIDMINI56 SN0003550	22/02/10 0800	0.0 ppm	100 ppm	98.7 ppm	KATE PIGRAM	K Pigram

AECOM

Water Quality Meter – Calibration Form

Serial Number: 09K100887

Frequency : Daily on use

Model No.	Date/Time	pH 4	pH 7	Conductivity (µS/cm) @ 21°C	Redox (mV) 240	Signature
YSI	25-2-10/7-30	4-01	7.00		-	
YSI	27-2-10/8am	4.00	7.03	2557	239.9	
"	27-2-10/3pm	4.00	7.00	2659	240.0	

AECOM

Photoionization Detector (Hire Unit)

Job Number/Name: BRANGA200 / 541500 14

Frequency: Daily on Use or Twice Daily

PID Serial Number	Date/Time	Fresh Air Cal.	Span Gas concentration (e.g.101 ppm Isobutylene)	Span Gas Cal.	Name (print)	Signature
592 000586	19/02/10 0700	0.0 ppm	100ppm	101.6 ppm	KATE PIGRAM	KPigram
592 000586	22/02/10 0800	0.0 ppm	100 ppm	99.7ppm	KATE PIGRAM	KPigram
592 000586	23/02/10 0730	0.0 ppm	100 ppm	100.6ppm	KATE PIGRAM	KPigram
592 000586	24/02/10 0700	0.0ppm	100 ppm	101.6ppm	KATE PIGRAM	KPigram
592 000586	25/02/10 0720	0.0ppm	100 ppm	100.3ppm	KATE PIGRAM	KPigram
592 000586	26/02/10 0715	0.0 ppm	100 ppm	99.8 ppm	KATE PIGRAM	KPigram
592 000586	27/02/10 0720	0.0 ppm	100 ppm	101.6 ppm	KATE PIGRAM	KPigram
592 000586	01/03/10 0710	0.0 ppm	100 ppm	100.8 ppm	KATE PIGRAM	KPigram
592 000586	02/03/10					
592 000586	03/03/10					
592 000586	04/03/10					
592 000586	05/03/10					

Photoionization Detector (Hire Unit)

AECOM

Job Number/Name: Barangaroo - S4150014

Frequency: Daily on Use or Twice Daily

PID Serial Number	Date/Time	Fresh Air Cal.	Span Gas concentration (e.g.101 ppm Isobutylene) Isobutene	Span Gas Cal.	Name (print)	Signature
592-902051	22-2-2010	0.0 ppm	100ppm Isobutene	100ppm	L-Kontus	
592-902051	23-2-2010	0.0ppm	100ppm Isobutene	100-1 ppm	L-Kontus	
592-902051	24-2-2010	0.0ppm	100ppm Isobutene	100 ppm	L-Kontus	
592-902051	26-2-2010	0.0ppm	100ppm	100 ppm	L-Kontus	
592-902057	2-3-2010	0.0ppm	100 ppm	100ppm	L-Kontus	
592-902057	3-3-2010	0.0ppm	100 ppm	100 ppm	L-Kontus	
592-902057	4-3-2010	0.0ppm	100ppm	100ppm	L-Kontus	
592-902057	5-3-2010	0.0ppm	100 ppm	100ppm	L-Kontus	

Photoionization Detector (Hire Unit)

AECOM

Job Number/Name: S4128501/ Barangaroo CS4150014)

Frequency: Daily on Use or Twice Daily

PID Serial Number	Date/Time	Fresh Air Cal.	Span Gas concentration (e.g.101 ppm Isobutylene)	Span Gas Cal.	Name (print)	Signature
110007362	22.2.10 / 7:30 PM	0.0 PPM	102 PPM	101 PPM	Sam Patel	
11	23.2.10 / 7:30 PM	0.0 PPM	102 PPM	103 PPM	Sam Patel	
11	24.2.10 / 7:30	0.0 PPM	102 PPM	102 PPM	Sam Patel	
11	25.2.10 /	0.0 PPM	102 PPM	101 PPM	Sam Patel	
11	26.2.10	0.0 PPM	102 PPM	102 PPM	Sam Patel	
11	2.3.10	0.0 PPM	102 PPM	101 PPM	Sam Patel	
11	3.3.10	0.0 PPM	102 PPM	102 PPM	Sam Patel	
11	4.3.10	0.0 PPM	102 PPM	102 PPM	Sam Patel	
11	5.3.10	0.0 PPM	102 PPM	102 PPM	Sam Patel	
11	8.3.10	0.0 PPM	102 PPM	101 PPM	Sam Patel	

Photoionization Detector (Hire Unit)

AECOM

Job Number/Name:

Frequency: Daily on Use or Twice Daily

PID Serial Number	Date/Time	Fresh Air Cal.	Span Gas concentration (e.g.101 ppm Isobutylene)	Span Gas Cal.	Name (print)	Signature
110007362	1·3·10 / 8am	0.0 ppm	100ppm	103ppm	Kate O'Brien	
"	2·3·10 / 8·30am	0·0 ppm	100 ppm	100 ppm	Kate O'Brien	
"	3·3·10 / 7·30 am	0·0 ppm	100 ppm	101 ppm	Kate O'Brien	
"	4·3·10 / 8am	0·0 ppm	100 ppm	102 ppm	Kate O'Brien	
"	6·3·10 / 7·45am	0·0 ppm	100 ppm	100 ppm	Kate O'Brien	
"	7·3·10 / 8·30am	0·0 ppm	100 ppm	101 ppm	Kate O'Brien	

Commercial in Confidence

ThermoFisher SCIENTIFIC

RENTALS

Equipment Report – Solinst Model 122 Interface Meter

This Meter has been performance checked / calibrated* as follows:

Cleaned/Tested	**Pass?**
Probe	☑
Tape/Reel	☑

☑ Performance Test & Battery Voltage Check (8.7v) 8.0v minimum

Date: 09.03.10 Checked by: PERE

Signed:

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
☑	☐	☐	Operations check OK
☑	☐	☐	Plastic Box / Bag
☐	☐	☐	Spare 9V Battery Qty _____
☐	☐	☐	Probe Cleaning Brush
☐	☐	☐	Decon
☑	☐	☐	Instruction leaflet
☑	☐	☐	Tape Guide
☐	☐	☐	

Processors Signature/ Initials

EE Quote Reference	189311	Condition on return
Customer Ref	282789	
Equipment ID	S/122305L	
Equipment serial no.	008843	
Return Date	15/03/10	
Return Time		

ThermoFisher SCIENTIFIC

RENTALS

Equipment Report - TPS 90FLMV Water Quality Meter

This Water Quality Meter has been performance checked / calibrated* as follows:

pH	☐ pH 6.88	☑ pH 7.00	☑ pH 4.00	☐ pH 10.00	☐ pH
Conductivity	☑ 0.0mS/cm	☑ 2.76mS/cm	☐ 12.88mS/cm	☐ 58.6mS/cm	☐ mS/cm
TDS	☑ 0.0 ppk	☑ 36 ppk	☐ ppk		
Dissolved Oxygen	☑ 0.00ppm in Sodium Sulphite			☑ 100% Saturation in Air	
Redox (ORP)**	☑ Electrode operability test 240mV +/- 10%. Actual: 229 mV				
Temperature	☑ 23.3°C				
☑ Electrodes cleaned/checked		☑ Charged 8.2 v (min 7.2V)			

* Calibration solution traceability information is available upon request.
** This meter uses an Ag/AgCl ORP electrode. To convert readings to SHE (Standard Hydrogen Electrode), add 199mV to the mV reading. For further information, refer to www.enviroequip.com/quipnotes/ORP.htm.

Date: 11/03/2010 Checked by: Jim

Signed: [signature]

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
☑	☐	☐	90FLMV Unit. Ops check / Battery Voltage @ 8.2V
☑	☐	☐	pH sensor 5m & wetting cap
☑	☐	☐	Conductivity / TDS / Temperature k=10 sensor 5m
☑	☐	☐	Dissolved Oxygen YSI5739 sensor 5m & storage cap
☑	☐	☐	Redox (ORP) sensor 5m & wetting cap
☑	☐	☐	Battery charger: 240V AC to 12V DC 200mA
☑	☐	☐	Instruction Manual
☑	☐	☐	Quick Guide
☑	☐	☐	Syringe with storage solution for pH & ORP sensors
☑	☐	☐	Carry Case
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials: YL

EE Quote Reference	18978	Condition on return
Customer Ref	282789	
Equipment ID	90FLMVS M	
Equipment serial no.	T3231	
Return Date	19/03/10	
Return Time		

Phone: (Free Call) 1300 735 295 | Environmental Assessment Technologies | Fax: (Free Call) 1800 657 123

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ThermoFisher SCIENTIFIC

RENTALS

Equipment Report – QED Micropurge MP15 Control & Power Pack

This pump has been performance checked as follows:

Operations Check	
☑ Components cleaned / checked	☑ Battery checked
☑ Operations Check	

Date: 11.03.10 Checked by: PETE

Signed: _____

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
☑	☐	☐	MP15 Control & Power Pack
☑	☐	☐	CO2 cylinder (installed in MP15 backpack)
☑	☐	☐	2 Stage gas regulator
☑	☐	☐	Spanner or shifter
☑	☐	☐	Quick Start Guide
☑	☐	☐	MP15 Users Guide
☑	☐	☐	Spare CO2 Cylinders, quantity: 1
☑	☐	☐	Sample Pro Pump ID: QSP6PSJ
☑	☐	☐	Flowcell ID: ~~EFC500SM~~
☑	☐	☐	Maintenance Kit (O-rings, fittings SS check ball, collett & metal filter)
☑	☐	☐	CO2 ID: CO2SE
☐	☐	☐	

Processors Signature/ Initials

EE Quote Reference	18978	Condition on return
Customer Ref	282789	
Equipment ID	MPKITSH	
Equipment serial no.		
Return Date	19/03/10	
Return Time		

ThermoFisher SCIENTIFIC

RENTALS

Equipment Report - TPS 90FLMV Water Quality Meter

This Water Quality Meter has been performance checked / calibrated* as follows:

pH	☐ pH 6.88	☑ pH 7.00	☑ pH 4.00	☐ pH 10.00	☐ pH
Conductivity	☑ 0.0mS/cm	☑ 2.76mS/cm	☐ 12.88mS/cm	☐ 58.6mS/cm	☐ mS/cm
TDS	☑ 0.0 ppk	☑ 36 ppk	☐ ppk		
Dissolved Oxygen	☑ 0.00ppm in Sodium Sulphite			☑ 100% Saturation in Air	
Redox (ORP)**	☑ Electrode operability test 240mV +/- 10%. Actual: 218 mV				
Temperature	☑ 23.1°C				
☑ Electrodes cleaned/checked		☑ Charged 8.0 v (min 7.2V)			

* Calibration solution traceability information is available upon request.
** This meter uses an Ag/AgCl ORP electrode. To convert readings to SHE (Standard Hydrogen Electrode), add 199mV to the mV reading. For further information, refer to www.enviroequip.com/quipnotes/ORP.htm.

Date: 12/03/2010 Checked by: Jire

Signed: [signature]

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
☑	☐	☐	90FLMV Unit. Ops check / Battery Voltage @ 8.0V
☑	☐	☐	pH sensor 5m & wetting cap
☑	☐	☐	Conductivity / TDS / Temperature k=10 sensor 5m
☑	☐	☐	Dissolved Oxygen YSI5739 sensor 5m & storage cap
☑	☐	☐	Redox (ORP) sensor 5m & wetting cap
☑	☐	☐	Battery charger: 240V AC to 12V DC 200mA
☑	☐	☐	Instruction Manual
☒	☐	☐	Quick Guide
☑	☐	☐	Syringe with storage solution for pH & ORP sensors
☑	☐	☐	Carry Case
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials [signature]

EE Quote Reference	18979	Condition on return
Customer Ref	282789	
Equipment ID	90FLMVS J	
Equipment serial no.	T6031	
Return Date	19/03/10	
Return Time		

Phone: (Free Call) 1300 735 295 | Environmental Assessment Technologies | Fax: (Free Call) 1800 657 123

Melbourne Branch, 3 Caribbean Drive, Scoresby 3179, Email: RentalsEnviroVIC@thermofisher.com
Sydney Branch, Level 1, 4 Talavera Road, North Ryde 2113, Email: RentalsEnviroNSW@thermofisher.com
Adelaide Branch, 27 Beulah Road, Norwood, South Australia 5067, Email: RentalsEnviroSA@thermofisher.com
Brisbane Branch, Unit 2/5 Ross St Newstead 4006, Email: RentalsEnviroQLD@thermofisher.com
Perth Branch, 121 Beringarra Ave Malaga WA 6090, Email: RentalsEnviroWA@thermofisher.com

ThermoFisher SCIENTIFIC

RENTALS

Equipment Report – QED Micropurge MP15 Control & Power Pack

This pump has been performance checked as follows:

Operations Check	
☑ Components cleaned / checked	☑ Battery checked
☑ Operations Check	

Date: 12.03.10 Checked by: PETE

Signed:

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
☑	☐	☐	MP15 Control & Power Pack
☑	☐	☐	CO2 cylinder (installed in MP15 backpack)
☑	☐	☐	2 Stage gas regulator
☑	☐	☐	Spanner or shifter
☑	☐	☐	Quick Start Guide
☑	☐	☐	MP15 Users Guide
☑	☐	☐	Spare CO2 Cylinders, quantity: 2
☑	☐	☐	Sample Pro Pump ID: QSP6PSG
☑	☐	☐	Flowcell ID: EFCS005Q
☑	☐	☐	Maintenance Kit (O-rings, fittings SS check ball, collett & metal filter)
☑	☐	☐	CO2 ID: CO2SP, CO2SQ
☐	☐	☐	

Processors Signature/ Initials

EE Quote Reference	189798	Condition on return
Customer Ref	282784	
Equipment ID	MPKITSE	
Equipment serial no.		
Return Date	19/03/10	
Return Time		

AECOM

Water Quality Meter – Calibration Form

Serial Number: T3231 (ENVIROEQUIP)

Frequency : Daily on use

Model No.	Date/Time	pH 4 22°C	pH 7 22°C	Conductivity (µS/cm) 2602 @ 22°C	Redox (mV) 240 @ 25°C	Signature
90FLMV	12/3/10 - 8.15am	4.00	7.03	2602	223	
"	15/3/10 - 8.15am	4.00	7.02	2600	220	
" 20°C	16/3/10 - 7.45am	4.00	7.02	2460	220	
" 23°C	18/3/10 - 7.50am	4.00	7.02	2655	219	
" 25°C	19/3/10 7.30	4.00	7.02	2760	220	

TPS 90 FLMV Water Quality Meter

Serial Number: .....

Frequency: After Each day in the field

Job Number	Date	pH 4	pH 7	Temp	Conductivity (8000µS/cm)	Redox Potential (Reading)	Dissolved Oxygen	Name (print)	Signature
S4150014	16/03	4.00	6.99	21.4°	3000µS	248mV	24.8ppm	KATE P	KPigram
S4150014	17/03	3.99	7.02	21.2°	2800µS	232mV	23.2ppm	KATE P	KPigram
S4150014	18/03	3.98	7.01	20.4°	2900µS	245mV	24.5ppm	KATE P	KPigram
S4150014	20/03	4.00	7.02	21.4°	2900µS	254mV	25.4ppm	KATE P	KPigram

ThermoFisher SCIENTIFIC

RENTALS

Equipment Report – Solinst Model 122 Interface Meter

This Meter has been performance checked / calibrated* as follows:

Cleaned/Tested	**Pass?**
Probe	☑
Tape/Reel	☑

☑ Performance Test & Battery Voltage Check (8.7v) 8.0v minimum

Date: 17.03.10 Checked by: PEPE

Signed: _____

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
☑	☐	☐	Operations check OK
☑	☐	☐	Plastic Box / Bag
☐	☐	☐	Spare 9V Battery Qty _____
☐	☐	☐	Probe Cleaning Brush
☐	☐	☐	Decon
☑	☐	☐	Instruction leaflet
☐	☐	☐	Tape Guide
☐	☐	☐	

Processors Signature/ Initials _____

EE Quote Reference	19161	Condition on return
Customer Ref	282789	
Equipment ID	S122305I	
Equipment serial no.	008660	
Return Date	25/03/10	
Return Time		

Phone: (Free Call) 1300 735 295 | **Environmental Assessment Technologies** | **Fax: (Free Call) 1800 657 123**

Melbourne Branch, 5 Caribbean Drive, Scoresby 3179, Email: RentalsEnviroVIC@thermofisher.com
Sydney Branch, Level 1, 4 Talavera Road, North Ryde 2113, Email: RentalsEnviroNSW@thermofisher.com
Adelaide Branch, 27 Beulah Road, Norwood, South Australia 5067, Email: RentalsEnviroSA@thermofisher.com
Brisbane Branch, Unit 2/5 Ross St, Newstead 4006, Email: RentalsEnviroQLD@thermofisher.com
Perth Branch, 121 Beringarra Ave, Malaga WA 6090, Email: RentalsEnviroWA@thermofisher.com

ThermoFisher SCIENTIFIC

RENTALS

Equipment Report - TPS 90FLMV Water Quality Meter

This Water Quality Meter has been performance checked / calibrated* as follows:

pH	☐ pH 6.88	☑ pH 7.00	☑ pH 4.00	☐ pH 10.00	☐ pH
Conductivity	☑ 0.0mS/cm	☑ 2.76mS/cm	☐ 12.88mS/cm	☐ 58.6mS/cm	☐ mS/cm
TDS	☑ 0.0 ppk	☑ 36 ppk	☐ ppk		
Dissolved Oxygen	☑ 0.00ppm in Sodium Sulphite			☑ 100% Saturation in Air	
Redox (ORP)**	☑ Electrode operability test 240mV +/- 10%. Actual: 225 mV				
Temperature	☑ 23.6°C				
☑ Electrodes cleaned/checked		☑ Charged 8.1 v (min 7.2V)			

* Calibration solution traceability information is available upon request.
** This meter uses an Ag/AgCl ORP electrode. To convert readings to SHE (Standard Hydrogen Electrode), add 199mV to the mV reading. For further information, refer to www.enviroequip.com/quipnotes/ORP.htm.

Date: 23/03/2010 Checked by: Jie

Signed: [signature]

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
☑	☐	☐	90FLMV Unit. Ops check / Battery Voltage @ 8.1V
☑	☐	☐	pH sensor 5m & wetting cap
☑	☐	☐	Conductivity / TDS / Temperature k=10 sensor 5m
☑	☐	☐	Dissolved Oxygen YSI5739 sensor 5m & storage cap
☑	☐	☐	Redox (ORP) sensor 5m & wetting cap
☑	☐	☐	Battery charger: 240V AC to 12V DC 200mA
☑	☐	☐	Instruction Manual
☑	☐	☐	Quick Guide
☑	☐	☐	Syringe with storage solution for pH & ORP sensors
☑	☐	☐	Carry Case
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials YL

EE Quote Reference	19161	Condition on return
Customer Ref	282789	
Equipment ID	90FLMVS W	
Equipment serial no.	02042	
Return Date	29/03/10	
Return Time		

Phone: (Free Call) 1300 735 295 | Environmental Assessment Technologies | Fax: (Free Call) 1800 657 123

Melbourne Branch, 5 Caribbean Drive, Scoresby 3179, Email: RentalsEnviroVIC@thermofisher.com
Sydney Branch, Level 1, 4 Talavera Road, North Ryde 2113, Email: RentalsEnviroNSW@thermofisher.com
Adelaide Branch, 27 Beulah Road, Norwood, South Australia 5067, Email: RentalsEnviroSA@thermofisher.com
Brisbane Branch, Unit 2/5 Ross St Newstead 4006, Email: RentalsEnviroQLD@thermofisher.com
Perth Branch, 121 Beringarra Ave Malaga WA 6090, Email: RentalsEnviroWA@thermofisher.com

Appendix F

Rising Head Test Plots

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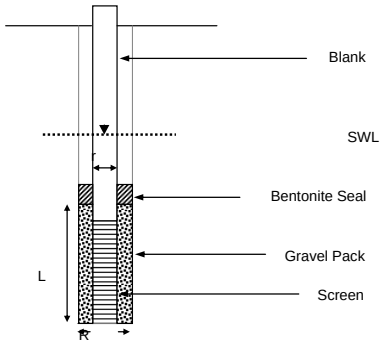
HYDRAULIC CONDUCTIVITY ANALYSIS

Monitoring Well ID; **MW45**
Test Date: **22/3/2010**
Site: **Barangaroo**

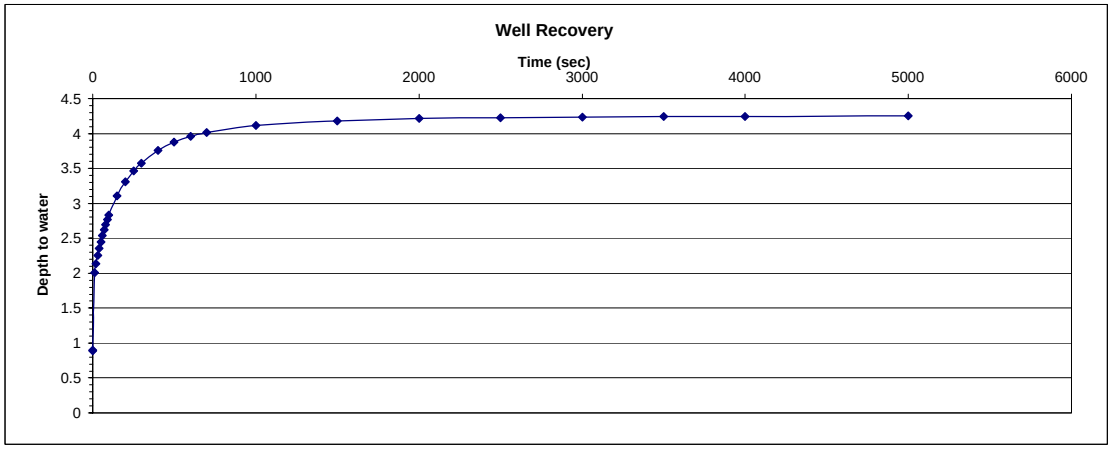
Hvorslev, 1951

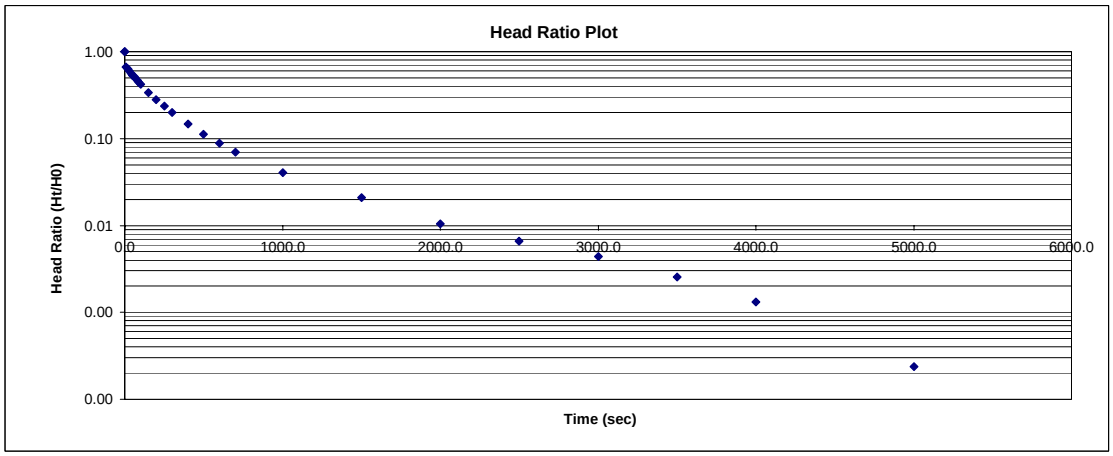
Fixed Parameters	Unit	Value
SWL = Standing Water Level	mTOC	4.250
L = test section (gravel pack thickness)	m	11.30
R = radius of boring	m	0.063
r = radius of casing	m	0.025
T_0 = basic time lag = t (Head Ratio = 0.37)	secs	125.0
H_0 = Initial Head change	m	3.35



Elapsed Time (sec)	Depth to Water (mTOC)	Head Ratio (m)
0.0	0.9	1.00
1	0.8882	1.00
10	2.0065	0.67
20	2.1374	0.63
30	2.2517	0.60
40	2.3529	0.57
50	2.4467	0.54
60	2.5342	0.51
70	2.6171	0.49
80	2.694	0.46
90	2.769	0.44
100	2.8365	0.42
150	3.1093	0.34
200	3.3098	0.28
250	3.4627	0.24
300	3.5776	0.20
400	3.754	0.15
500	3.8765	0.11
600	3.9551	0.09
700	4.0145	0.07
1000	4.1148	0.04
1500	4.1801	0.02
2000	4.2149	0.01
2500	4.2279	0.01
3000	4.2354	0.00
3500	4.2415	0.00
4000	4.2456	0.00
5000	4.2508	0.00

	K	
	m/s	m/day
Basic Time Lag Determination $K = \frac{r^2 \ln(L/R)}{2LT_0}$	**1.1E-06**	**9.93E-02**



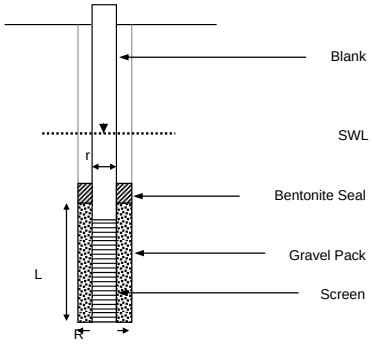


HYDRAULIC CONDUCTIVITY ANALYSIS

Monitoring Well ID: **MW56**
Test Date: **22/3/2010**
Site: **Barangaroo**

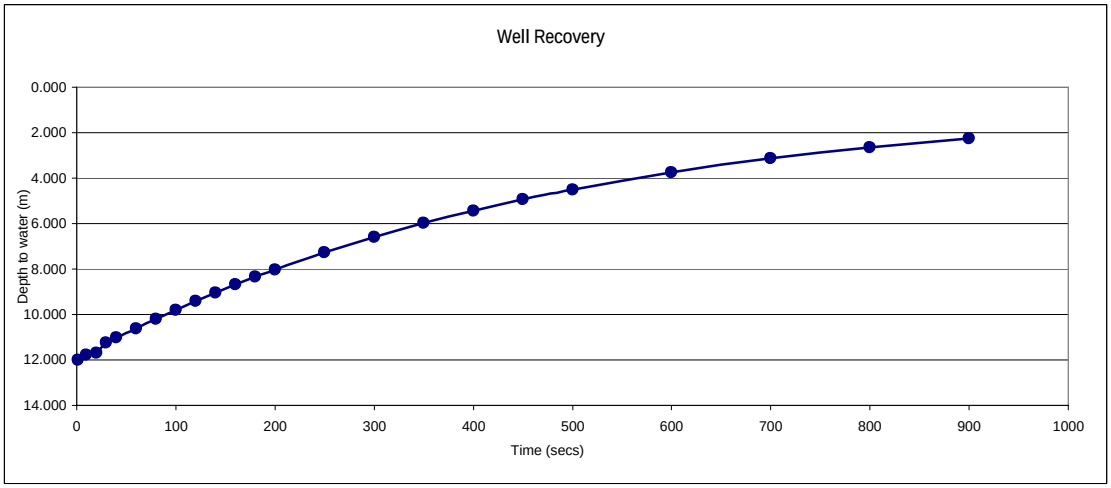
Hvorslev, 1951

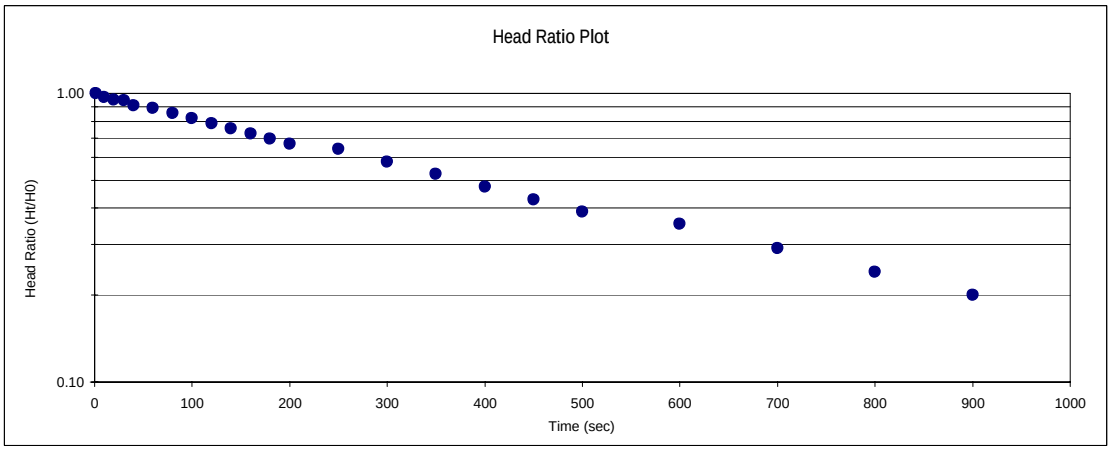
Fixed Parameters	Unit	Value
SWL = Standing Water Level	mTOC	0.200
L = test section (gravel pack thickness)	m	3.00
R = radius of boring	m	0.063
r = radius of casing	m	0.025
T_0 = basic time lag = t (Head Ratio = 0.37)	secs	550.0
H_0 = Initial Head change	m	12.184



Elapsed Time (sec)	Depth to Water (mTOC)	Head Ratio (m)
0	12.384	1.00
1	12.007	1.00
10	11.779	0.97
20	11.697	0.95
30	11.244	0.94
40	11.012	0.91
60	10.624	0.89
80	10.200	0.86
100	9.795	0.82
120	9.409	0.79
140	9.040	0.76
160	8.686	0.73
180	8.347	0.70
200	8.023	0.67
250	7.270	0.64
300	6.593	0.58
350	5.982	0.52
400	5.433	0.47
450	4.940	0.43
500	4.498	0.39
600	3.743	0.35
700	3.136	0.29
800	2.646	0.24
900	2.251	0.20

Basic Time Lag Determination	K	
	m/s	m/day
$K = \frac{r^2 \ln(L/R)}{2LT_0}$	**7.3E-07**	**6.33E-02**



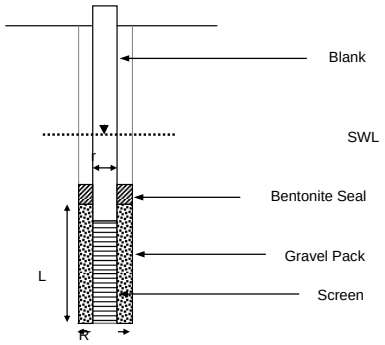


HYDRAULIC CONDUCTIVITY ANALYSIS

Monitoring Well ID: **MW58**
Test Date: **22/3/2010**
Site: **Barangaroo**

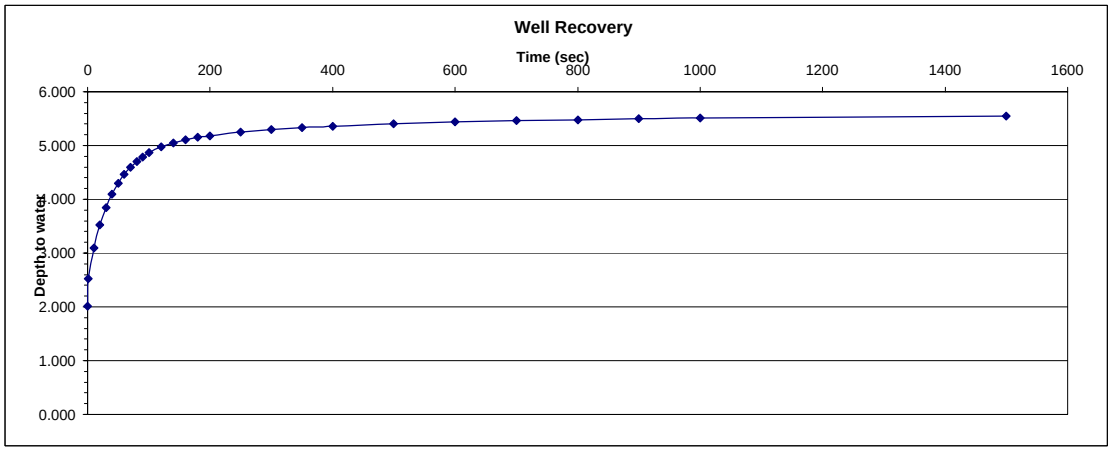
Hvorslev, 1951

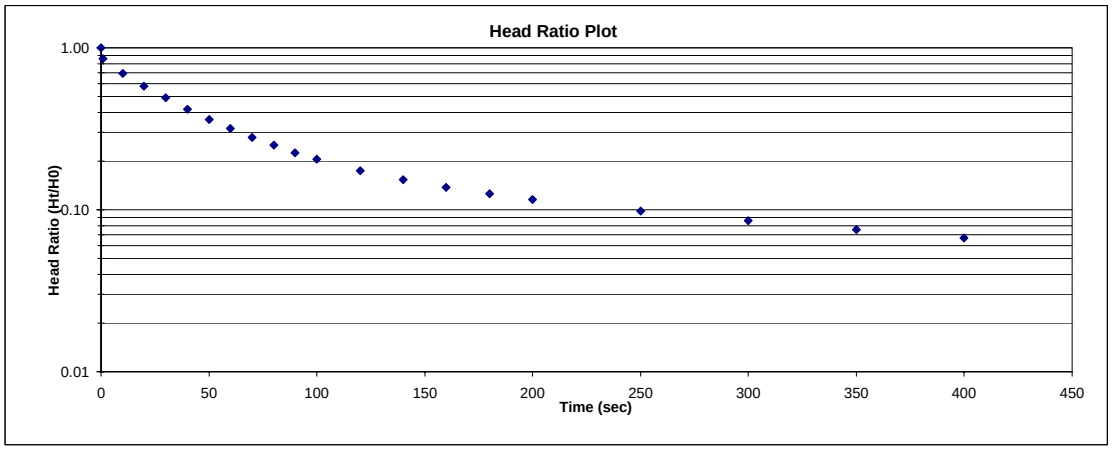
Fixed Parameters	Unit	Value
SWL = Standing Water Level	mTOC	5.600
L = test section (gravel pack thickness)	m	1.00
R = radius of boring	m	0.063
r = radius of casing	m	0.025
T_0 = basic time lag = t (Head Ratio = 0.37)	secs	51.0
H_0 = Initial Head change	m	3.59



Elapsed Time (sec)	Depth to Water (mTOC)	Head Ratio (m)
0	2.012	1.00
1	2.528	0.86
10	3.0973	0.70
20	3.5197	0.58
30	3.8434	0.49
40	4.0979	0.42
50	4.3014	0.36
60	4.4652	0.32
70	4.5973	0.28
80	4.7044	0.25
90	4.7915	0.23
100	4.8631	0.21
120	4.9722	0.17
140	5.0489	0.15
160	5.1053	0.14
180	5.1494	0.13
200	5.1844	0.12
250	5.2485	0.10
300	5.2939	0.09
350	5.3305	0.08
400	5.3594	0.07
500	5.4013	0.06
600	5.4347	0.05
700	5.4591	0.04
800	5.4791	0.03
900	5.4957	0.03
1000	5.5081	0.03
1500	5.5485	0.01

	K	
	m/s	m/day
Basic Time Lag Determination $K = \frac{r^2 \ln(L/R)}{2LT_0}$	**1.7E-05**	**1.47E+00**



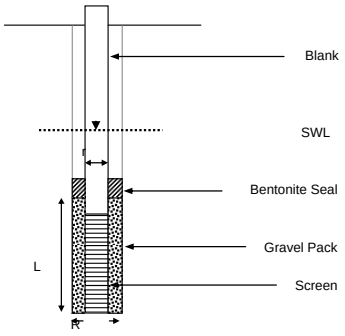


HYDRAULIC CONDUCTIVITY ANALYSIS

Monitoring Well ID: **MW60**
Test Date: **22/3/2010**
Site: **Barangaroo**

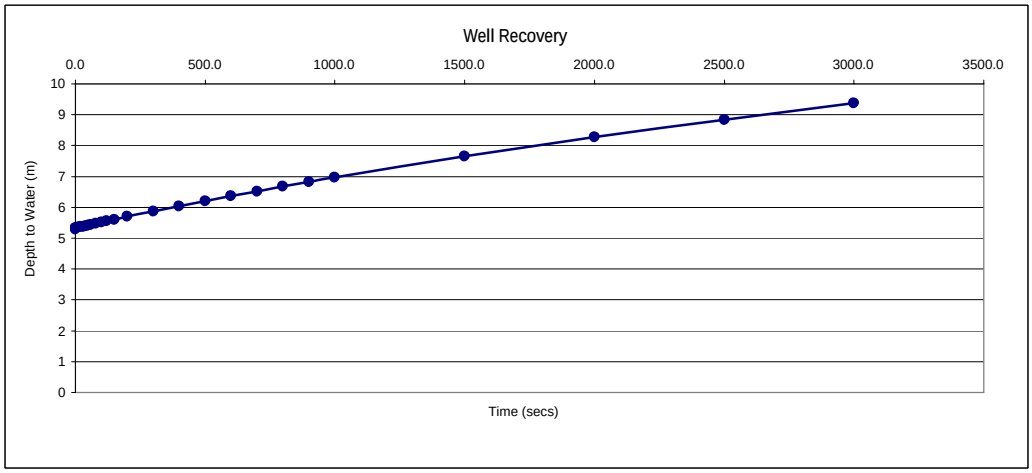
Hvorslev, 1951

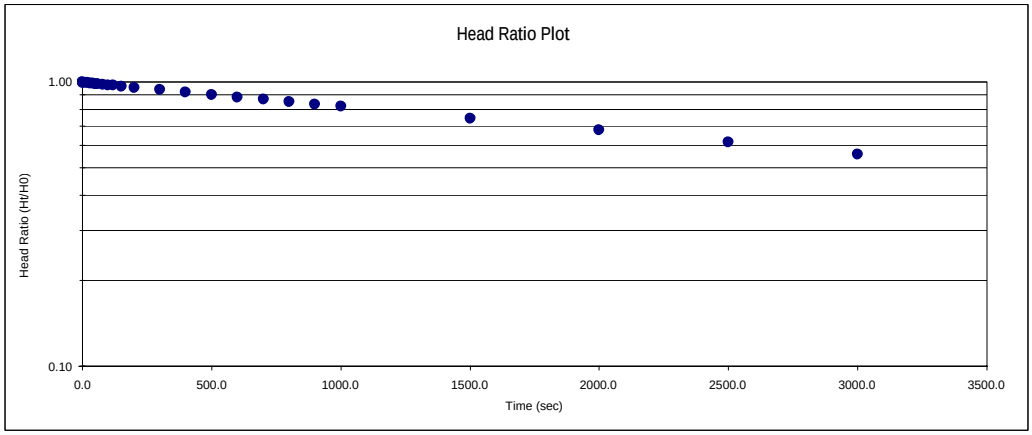
Fixed Parameters	Unit	Value
SWL = Standing Water Level	mTOC	14.500
L = test section (gravel pack thickness)	m	8.00
R = radius of boring	m	0.063
r = radius of casing	m	0.025
T_0 = basic time lag = t (Head Ratio = 0.37)	secs	5500.0
H_0 = Initial Head change	m	9.20



Elapsed Time (sec)	Depth to Water (mTOC)	Head Ratio (m)
0.0	5.3	1.00
1	5.3277	1.00
10	5.345	1.00
20	5.3641	0.99
30	5.3833	0.99
40	5.4018	0.99
50	5.4203	0.99
60	5.4407	0.98
80	5.478	0.98
100	5.5159	0.98
120	5.5532	0.97
150	5.6076	0.97
200	5.6989	0.96
300	5.8734	0.94
400	6.0433	0.92
500	6.2076	0.90
600	6.3666	0.88
700	6.5219	0.87
800	6.6732	0.85
900	6.8198	0.83
1000	6.9651	0.82
1500	7.6477	0.74
2000	8.2689	0.68
2500	8.8421	0.61
3000	9.3682	0.56

	K	
	m/s	m/day
Basic Time Lag Determination $K = \frac{r^2 \ln(L/R)}{2LT_0}$	**3.4E-08**	**2.98E-03**





Appendix G

Tidal Assessment Plots

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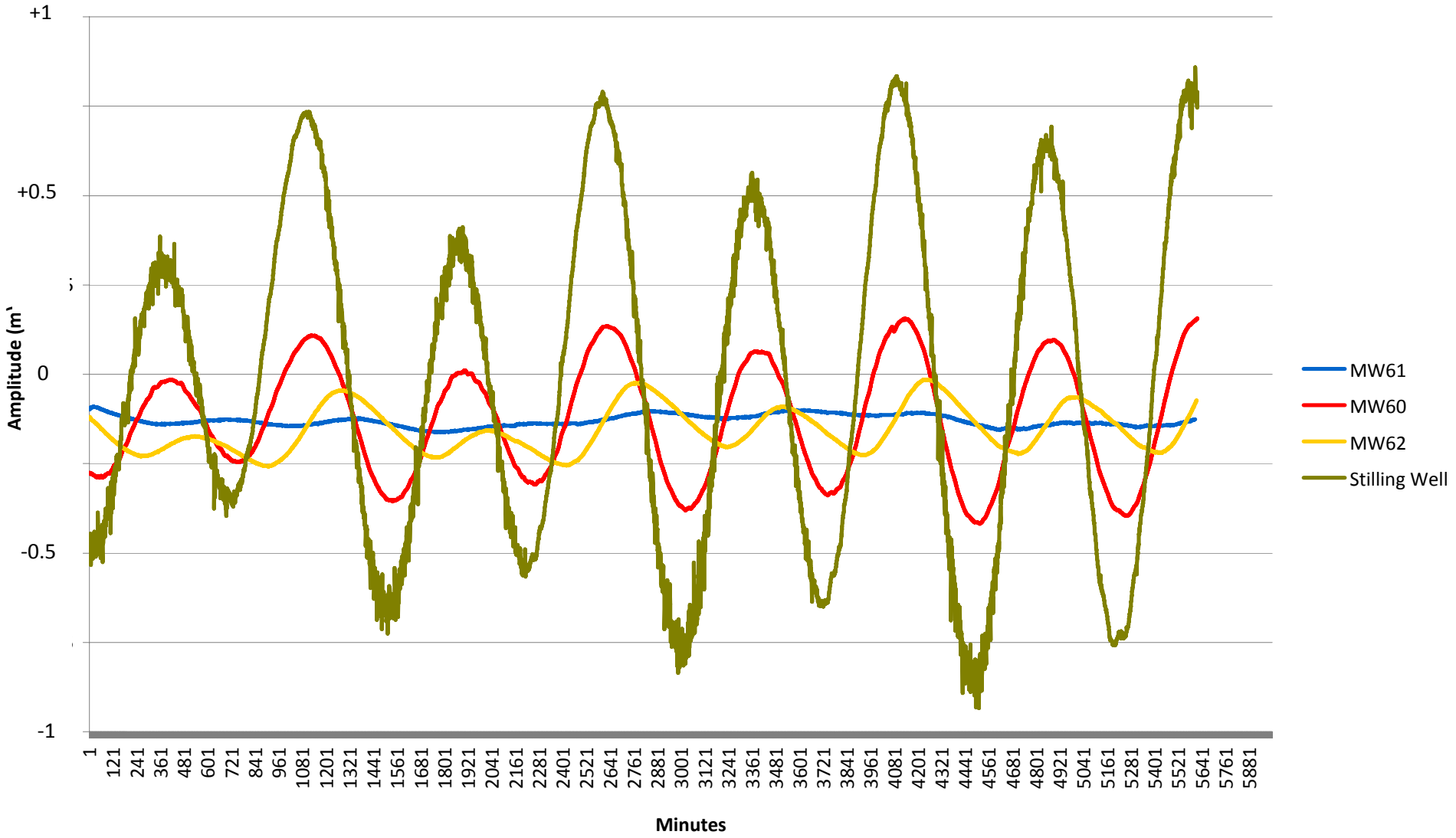
Tidal Data

Start: 25 March 2010 at 11:17am
Finish: 29 March 2010 at 8:42am



Appendix H

Data Quality Indicators

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1.0 Introduction

The following sections describe the components of the Quality Assurance and Control Plan that assess the achievement of the DQOs set out in **Appendix A**, by consideration of the data quality indicators – DQIs (precision, accuracy, reproducibility, completeness and comparability). It is noted that the following document relates to the areas of Barangaroo identified as the 'Other Remediation Works (North) Area' and the 'VMP and PDA' Remediation Works Area'.

1.1 Data Quality Indicators

The project DQIs have been established to set acceptance limits on field and laboratory data collected as part of this investigation. For both field and laboratory procedures acceptance limits are set at different levels for different projects and by the laboratories.

Non-compliances with acceptance limits are to be documented and discussed in the report. The DQIs are as follows:

DQI	Field	Laboratory	Acceptability Limits
Completeness	All critical locations sampled All samples collected (from grid and depth) Standard Operating Procedures (SOPs) appropriate and complied with Experienced sampler Documentation correct	All critical samples analysed and all analytes analysed according to Sampling and Analysis Plan (SAQP) Appropriate methods Appropriate Limits of Reporting (LORs) Sample documentation complete Sample holding times complied with	As per NEPC (1999) < nominated criteria As per NEPC (1999)
Comparability	Sample SOPs used on each occasion Experienced sampler Climatic conditions Same types of samples collected	Same analytical methods used Sample LORs (justify/quantify if different) Same laboratories (NATA accredited) Same units	As per NEPC (1999) < nominated criteria
Representativeness	Appropriate media sampled according to SAQP	All samples analysed to meet SAQP	
Precision	SOPs appropriate and complied with Collection of blind and split duplicate samples	Analysis of: Field intra-laboratory duplicate samples (1 in 10 samples) Field inter-laboratory duplicate samples (1 in 20 samples) Laboratory duplicate samples	RPD <50%

DQI	Field	Laboratory	Acceptability Limits
Accuracy	SOPs appropriate and complied with Collection of rinsate blanks	Analysis of: Field/trip blanks (1/day) Rinsate blanks (1/day/equipment) Inter-laboratory duplicate samples (1 in 20 samples) Method blanks Matrix spikes Matrix spike duplicates Surrogate spikes Laboratory control samples Laboratory prepared spikes Reagent blanks Reference materials	 Non-detect for CoPC Non-detect for CoPC RPD <50% (Non-detect for CoPC %R 70 to 130%* RPD of <30% %R 70 to 130%* %R 70 to 130 %* %R 70 to 130%* Non-detect for CoPC Varies

*If laboratory matrix spike, surrogate or laboratory control sample recoveries were outside the set acceptable limit of 70 to 130%, the results were compared to the Laboratory Analyte Specific Acceptance Criteria (ASAC).

All reporting must comply with NSW EPA (2000) *Guidelines for Consultants Reporting on Contaminated Sites*.

2.0 Field QA/QC

2.1 Sampling Team

Soil samples were collected between 12 February and 8 March 2010 by Kate Pigram, Sam Patel, Steven Masters, Geoff Tredinnick, Lauren Kontus and Kate O'Brien, suitably qualified and experienced AECOM Environmental Engineers/Scientists by reference to written Standard Operating Procedures for each task undertaken as part of the field program.

Groundwater samples were collected between 15 and 20 March 2010 by Kate Pigram, Kate O'Brien and Lauren Kontus.

Soil vapour samples were collected by Steven Masters between 17 and 18 March 2010.

2.2 Sample Collection

Soil, groundwater and soil vapour samples were collected in accordance with the AECOM SAQP (2009).

2.3 Sample Handling and Preservation

A new pair of disposable nitrile sampling gloves was donned between collection of each soil and groundwater sample. Soil samples were immediately placed into laboratory prepared and supplied, acid washed and solvent jars with screw top Teflon-lined lids. Sample jars were filled so that no headspace remained (where practical).

Soil and groundwater samples were placed either in a chilled, insulated container with ice or in a sample refrigerator between sampling and analysis. Soil and groundwater samples were preserved for the various contaminants of concern in accordance with the requirements of NEPC (1999) as detailed in the table below:

Matrix	Analyte	Container	Preservation
Soil	All analytes	250 mL Glass screw top jar	Unpreserved, 4ºC
	SPOCAS	Zip lock plastic bag	Unpreserved, 4ºC (24hr holding time) or freeze (indefinite holding time)
Water	Metals (Ultra Trace)	125 ml Clear Plastic Bottle	Field Filtered , Ultra Pure Nitric Acid, 4ºC
	Chromium VI	125 ml White Plastic Bottle (28 day THT) 125 ml Clear Plastic (24 hr THT)	Sodium Hydroxide, 4ºC (28 day THT) Unpreserved, 4ºC (24 hr THT)

Matrix	Analyte	Container	Preservation
	TPH(C_{10}-C_{36}), PAH	500 ml Amber Bottle	Unpreserved, 4ºC
	TPH(C_6-C_9), BTEX	2 x 40 ml Amber Vials	Hydrochloric Acid, 4ºC
	Cyanide	250 ml White Plastic Bottle	$Cd(NO_3)_2$, NaOH, 4ºC
	Methane	2 x 40 ml Amber Vials	Sodium Bisulphate, 4ºC
	TOC	1 x 40 ml Amber Vial	Sulphuric Acid, 4ºC
	Major Anions, Cations, pH, Sulphate, Alkalinity	1.25 L4ºC	Unpreserved, 4ºC
	Ammonia, Nitrogen	250 ml Clear Plastic	Sulphuric Acid, 4ºC
	Ferrous Iron	80 ml Clear Plastic	Filtered, Hydrochloric Acid, 4ºC

Sample numbers, depths, preservation and analytical requirements were recorded on the chain-of-custody documentation (signed copies provided with the laboratory reports in **Appendix I**), which accompanied the samples to the laboratory.

It is noted that the following primary sample batches reported temperatures greater than 4ºC ± 2 when received by the laboratory:

- ES1003046 – 6.4 ºC
- ES1003970 – 6.9 ºC
- ES1004014 – 6.8 ºC
- ES1004323 – 7.2 ºC
- ES1004027 – 7.4 ºC
- ES1004308 – 6.3 ºC
- ES1004323 – 7.2 ºC
- ES1004647 – 10.4 ºC
- ES1004782 – 6.3 ºC
- ES1004947 – 12.2 ºC
- ES1004994 – 8.1 ºC
- ES1005598 – 7.5 ºC

For all the batches listed above, some of the samples in each batch were received at the laboratory on the day they were collected in the field. Therefore, the samples had insufficient time to drop to or below 4 ºC±, but were stored in refrigeration when received by the laboratory.

Samples were placed in eskies with crushed ice immediately after collection and the laboratory reported that all batches were received with ice, AECOM therefore considers that the samples were appropriately stored and preserved.

2.4 Calibration

During the field investigation calibration of the photoionisation detector (PID) was undertaken in accordance with manufacturer's instructions. The PID was calibrated prior to delivery by the supplier, and at least once daily (at the start of each sampling day) with 100 parts per million (ppm) of isobutylene.

The water quality meters (TPS 90 FLMV) were calibrated to delivery by the supplier, and at least once daily (at the start of each sampling day) in the field with the required calibration solutions.

All calibration results were satisfactory. Details of calibration are provided in **Appendix K**.

2.5 Field Intra and Inter-laboratory Duplicate Samples

The purpose of duplicate samples are to estimate the variability of a given characteristic or contaminant associated with a population. For this assessment, intra-laboratory duplicate soil samples were collected in the

field at a rate of at least one in ten primary samples. Inter-laboratory duplicate soil samples were collected at a rate of at least one in twenty primary samples.

The field duplicate soil samples were obtained from similar soils of an identical depth and immediately adjacent to the primary sample by placing approximately equal portions of the primary sample into two sample jars. Samples were not homogenised due to potential loss of volatiles.

Duplicate samples were labelled so as to conceal their relationship to the primary sample from the laboratory and the key to the duplicate samples was recorded in the field note book.

It is common that significant variation in duplicate results is often observed (particularly for solid matrix samples) due to sample heterogeneity or low reported concentrations near the LOR. The overall precision of field intra-laboratory duplicates, inter-laboratory duplicate samples and laboratory duplicates is generally assessed by their Relative Percent Difference (RPD), given by:

$$RPD = \frac{|D1-D2|}{(D1+D2)/2} \times 100$$

where D1 is the primary sample measurement

D2 is the duplicate sample measurement

RPDs for soil duplicate samples were compared to criteria presented in the DQI table above. The field duplicate and corresponding primary sample results and calculated RPDs are presented in **Tables 1 to 8a** at the end of this report in **Appendix H**.

The following table provides summary of the field duplicate samples analytes and the RPD results which were above the DQIs.

Soil Duplicate Results

QA/QC Sample ID	Primary Sample			Duplicate Type	Analytes	RPD Exceedences
	Loc	Depth	Soil Type			
QC54	BH40	8.5-8.7	Fill	Intra	pH	No exceedences
QC56	BH46	1-1.2	Fill	Intra	Metals,TPH, BTEX, PAH, phenols, inorganics	Cr (58%)
QC57	BH46	7-7.2	Fill	Intra	Metals,TPH, BTEX, PAH, phenols, inorganics	Ba (86%), Co (67%)
QC58	BH46	7-7.2	Fill	Inter	Metals,TPH, BTEX, PAH, phenols, inorganics	Ba (78%), Cu (67%)
QC70	BH38	8.5-8.7	Fill	Intra	Metals,TPH, BTEX, PAH, phenols, inorganics	No exceedences
QC71	BH38	8.5-8.7	Fill	Inter	Metals,TPH, BTEX, PAH, phenols, inorganics	Pb (55%)

QA/QC Sample ID	Primary Sample			Duplicate Type	Analytes	RPD Exceedences
	Loc	Depth	Soil Type			
QC74	BH47	18.6-18.8	Natural	Intra	Metals, inorganics	Cr (67%), Mn (140%), Ni (67%), V (71%), Zn (156%)
QC75	BH47	18.6-18.8	Natural	Inter	Metals, inorganics	Ba (108%), Cr (95%), Pb (75%), Mn (134%), Ni (67%), V (97%) and Zn (144%)
QC76	BH48	1-1.2	Fill	Intra	Metals,TPH, BTEX, PAH, phenols, inorganics	No exceedences
QC77	BH48	1-1.2	Fill	Inter	Metals,TPH, BTEX, PAH, phenols, inorganics	Hg (102%), Ba (52%), TPH C_{15}-C_{28} (67%), Fluoranthene (52%) and Pyrene (57%)
QC78	BH48	14.5-14.7	Natural	Intra	Metals,TPH, BTEX, PAH, phenols, inorganics, SVOCs, OCPs, OP	Ba (100%), Pb (67%), Zn (118%) and TPH C_6-C_9 (130%)
QC101	BH39	16-16.2	Natural	Intra	Metals,TPH, BTEX, PAH, phenols, inorganics	Pb (75%), V (56%)
QC102	BH39	16-16.2	Fill	Inter	Metals,TPH, BTEX, PAH, phenols, inorganics	Ba (76%), Pb (67%)
QC105	BH75	4-4.2	Fill	Intra	Metals, inorganics	Ba (67%)
QC107	BH75	16-16.2	Fill	Intra	Metals,TPH, BTEX, PAH, phenols, inorganics	Ba (67%), Cr total (93%), Fe (126%), Pb (67%) and Vn (146%)
QC108	BH75	16-16.2	Fill	Inter	Metals,TPH, BTEX, PAH, phenols, inorganics	Cr total (77%), Pb (53%) and Vn (78%)
QC110	BH60	7-7.2	Fill	Intra	Metals,TPH, BTEX, inorganics	Cu (114%)
QC111	BH63	13-13.3	Natural	Intra	Metals,TPH, BTEX, PAH, phenols, inorganics	Cr total (117%), Fe (60%), Pb (90%), Vn (158%), and Naphthalene (80%)
QC120	BH60	17.5-17.7	Natural	Intra	Metals,TPH, BTEX, PAH, phenols, inorganics	As (77%), Ba (67%), Cr total (63%) and BTEX (67 to 90%)

QA/QC Sample ID	Primary Sample			Duplicate Type	Analytes	RPD Exceedences
	Loc	Depth	Soil Type			
QC121	BH60	17.5-17.7	Natural	Inter	Metals, TPH, BTEX, PAH, phenols, inorganics	As (120%), Ba (58%), Cr Total (70%), Vn (50%), TPH C_{10}-C_{36} (124%), Naphthalene (75%),
QC122	BH74	10-10.5	Fill	Intra	Metals, TPH, BTEX, PAH, phenols, inorganics, VOCs, SVOCs, OCPs, OP	No exceedences
QC125	BH56	14.5-15	Fill	Intra	Metals, TPH, BTEX, PAH, phenols, inorganics, VOCs, SVOCs, OCPs, OP	Cu (67%)
QC126	BH56	14.5-15	Fill	Inter	Metals, TPH, BTEX, PAH, phenols, inorganics, VOCs, SVOCs, OCPs, OP	TOC (100%), Fluoranthene (60%) and pyrene (59%)
QC169	BH70	16-16.2	Natural	Intra	Metals, TPH, BTEX, PAH, phenols, inorganics, VOCs	Five VOC compounds (128% to 148%)
QC208	BH53	1.1-1.5	Fill	Intra	Metals, TPH, BTEX, PAH, phenols, inorganics	Hg (67%), Cu (62%), Mn (81%), Zn (77%), TPH C_{10}-C_{36} (52%), PAHs (80%) and B(a)P (59%)
QC211	BH61	2-2.4	Fill	Intra	Metals, TPH, BTEX, PAH, phenols, inorganics	Mn (118%) and BTEX (96-123%)
QC212	BH61	2-2.4	Fill	Inter	Metals, TPH, BTEX, PAH, phenols, inorganics	BTEX (70 to 86%)
QC220	BH52	2.2-2.6	Fill	Intra	Metals, TPH, BTEX, PAH, phenols, inorganics, VOCs	Cr Total (127%), Fe (107%) and Mn (187%)
QC221	BH52	2.2-2.6	Fill	Inter	Metals, TPH, BTEX, PAH, phenols, inorganics, VOCs	Cr (127%), Fe (169%), Pb (150%), Mn (180%), V (104%) and Zn (164%)

QA/QC Sample ID	Primary Sample			Duplicate Type	Analytes	RPD Exceedences
	Loc	Depth	Soil Type			
QC223	BH49	6.2-6.4	Fill	Intra	Metals, TPH, BTEX, PAH, phenols, inorganics, VOCs, SVOCs, OCPs, OP	Mn (67%), TPH C_{10}-C_{36} (81%), 2,4-dimethylphenol (83%) and Phenanthrene (85%)
QC224	BH49	6.2-6.4	Fill	Inter	Metals, TPH, BTEX, PAH, phenols, inorganics, VOCs, SVOCs, OCPs, OP	Mn (90%), Ni (127%), Zn (126%), TPH C_{10}-C_{36} (104%), TOC (141%), six SVOCs (56 to 129%) and BTEX (62% to 89%).
QC225	BH58	3.2-3.4	Fill	Intra	Metals, TPH, BTEX, PAH, phenols, inorganics	Hg (100%), Co (67%) and Ni (67%)
QC226	BH58	3.2-3.4	Fill	Inter	Metals, TPH, BTEX, PAH, phenols, inorganics	Hg (67%), Co (100%), Cu (89%), Mn (81%), Ni (82%), V (55%), B(a)P (86%) and six PAH compounds (60 to 125%).
QC228	BH54	1-1.4	Fill	Intra	Metals, TPH, BTEX, PAH, phenols, inorganics	Fe (99%), Mn (157%), TPH C_{10}-C_{36} (82%), TPH C_6-C_9 (99%), B(a)P (71%)and thirteen PAH compounds (54% to 94%)
QC230	BH45	3.2-3.4	Fill	Intra	Metals, TPH, BTEX, PAH, phenols, inorganics	Phenanthrene (75%), Mn (90%), Ni (127%), Zn (126%), TPH C_{10}-C_{36} (104%), seven SVOCs compounds (56 to 129%) and six VOC compounds (62 to 89%).
QC231	BH45	7.2-7.4	Fill	Intra	Metals, TPH, BTEX, PAH, phenols, inorganics	Fe (53%)
QC232	BH45	7.2-7.4	Fill	Inter	Metals, TPH, BTEX, PAH, phenols, inorganics	Fe (86%) and Mn (75%)
QC234	BH65	3.4-3.6	Fill	Intra	Metals, TPH, BTEX, PAH, phenols, inorganics	Hg (67%), As (53%), Ba (103%), Cr (125%), Cu (84%), Pb (129%), Mn (58%), Zn (92%), TPH C_{15}-C_{28} (55%), B(a)P (133%),
QC240	BH34	1.8-2.2	Fill	Intra	Metals, TPH, BTEX, PAH, phenols, inorganics	No exceedences

QA/QC Sample ID	Primary Sample			Duplicate Type	Analytes	RPD Exceedences
	Loc	Depth	Soil Type			
QC241	BH34	1.8-2.2	Fill	Inter	Metals, TPH, BTEX, PAH, phenols, inorganics	-

RPDs for groundwater duplicate samples have been compared to criteria presented in the DQI table above and exceedences are presented below:

Groundwater Duplicates

QA/QC Sample ID	Primary Sample	Duplicate Type	Analytes	RPD Exceedences
QC237	MW58 (AECOM)	Intra	Metals, BTEX, TPH, PAH, Phenols, SVOCs, VOCs, Inorganics	No exceedences
QC320	MW08 (ERM)	Intra	Metals, BTEX, TPH, PAH, Phenols, SVOCs, VOCs, Inorganics	Cd (156%)
QC321	MW08(ERM)	Inter	Metals, BTEX, TPH, PAH, Phenols, SVOCs, VOCs, Inorganics	Co (168%), 2,4-dimethylphenol (108%), 2-methylphenol (96%), 3-&4-methylphenol (55%), carbazole (75%), naphthalene (89%), TPH C_{29}-C_{36} (61%), TPH C_{15}-C_{28} (53%), Total PAHs (89%).
QC323	MW198 (ERM)	Intra	Metals, BTEX, TPH, PAH, Phenols, SVOCs, VOCs, Inorganics	No exceedences
QC324	MW198 (ERM)	Inter	Metals, BTEX, TPH, PAH, Phenols, SVOCs, VOCs, Inorganics	Total PAHs (70%)
QC331	IT2MID	Intra	Metals, BTEX, TPH, PAH, Phenols, SVOCs, VOCs, Inorganics	Ba (158%), Pb (108%), TPH C_{10}-C_{36} (97%), PAHs (69%), Napthalene (83%), Bicarbonate (58%), Calcium (75%), Mg (126%), Sulphate (83%), Sulphur (110%), TOC (74%), Dibenzofuran (55%), Di-n-butyl phthalate (50%)
QC332	IT2MID	Inter	Metals, BTEX, TPH, PAH, Phenols, SVOCs, VOCs, Inorganics	Ba (153%), cobalt (143%), Nickel (94%), TPH C_{10}-C_{36} (189%), 2-Napthalene (122%)

RPDs for soil vapour duplicate samples have been compared to criteria presented in the DQI table above and exceedences are presented below:

Soil Vapour Duplicates

QA/QC Sample ID	Primary Sample	Duplicate Type	Analytes	RPD Exceedences

QC1	SV07/1.6	Intra	VOCs	No exceedences
QC2	SV08	Intra	VOCs	No exceedences

The majority of the above soil RPD exceeedences indicate variability of metal concentrations in fill material and can be attributed to either the sample heterogeneity of the fill material l or to low detected concentrations (<10x LOR). In some instances (QC78/BH48, QC208/BH53, QC211/BH61, QC223/BH49, QC228/BH54 and QC234/BH65) high RPS were calculated for one or more of the TPH, PAH or BTEX results where there were elevated concentration of these analytes. Given the elevated concentrations of the analytes in the samples, the high RPDs for these samples are not considered affect the overall the assessment of this data.

The water RPD exceedances for QC321, QC324, QC331 and QC332 can be attributed to the variation of concentrations of contaminants in the water column.

Variation in concentrations was noted for cobalt in the groundwater duplicate sample pair QC321 (intra-laboratory duplicate) and primary sample ERM MW08 and duplicate pair QC332 (intra-laboratory duplicate) and primary sample IT2MID. QC321 and MW08 reported concentrations of 11 µg/L and 1 µg/L respectively, with a calculated RPD of 167%. QC332 and IT2MID reported concentrations of 3 µg/L and 0.5 µg/L respectively, with a calculated RPD of 167%.

The adopted criteria (ANZECC [2000] 95% Marine) for cobalt is 1 µg/L, therefore QC321 and QC332 exceeded the criteria whereas the primary samples did not. The cobalt concentration variation will be considered when assessing ERM MW08 and IT2MID against the adopted assessment criteria.

The actual intra-laboratory duplicate sample frequency for this investigation was 10-12% (i.e. at least 1 duplicate sample per 10 primary samples). The actual inter-laboratory duplicate sample frequency for this investigation was 5 to 8% (i.e.at least 1 duplicate sample per 20 primary samples).

2.6 Decontamination Procedure

Sampling equipment (including SPT split spoon, interface meter and Micropurge submersible pump) was cleaned in phosphate free detergent (“Decon” 90) solution, rinsed in potable water and then finally rinsed in laboratory supplied water prior to use and between each sampling location.

Forty one rinsate blank samples were collected using laboratory supplied rinse water, which was run over the decontaminated sampling equipment at the end of each day’s fieldwork. The samples were used to evaluate whether contaminants were likely to have been introduced by contact of the sample medium with sampling equipment.

The rinsate results are presented in **Table 9** at the end of this report in **Appendix H**.

The table below presents a summary of the results of the blank samples collected and analysed:

Rinsate Sample ID	Date	Equipment	Results
QC26	16/02/10	SPT Split Spoon	All result less than LOR with exception Chromium (III+VI) (0.001 mg/L) equal to LOR
QC27	9/02/10	SPT Split Spoon	All result less than LOR
QC43	10/02/10	SPT Split Spoon	All result less than LOR
QC44	11/02/10	SPT Split Spoon	All result less than LOR
QC46	12/02/10	SPT Split Spoon	All result less than LOR
QC49	15/02/10	SPT Split Spoon	All result less than LOR
QC51	18/02/10	SPT Split Spoon	All result less than LOR
QC52	18/02/10	SPT Split Spoon	All result less than LOR
QC59	23/02/10	SPT Split Spoon	Copper (0.001 ug/L) equal to LOR
QC60	16/02/10	SPT Split Spoon	All result less than LOR

Rinsate Sample ID	Date	Equipment	Results
QC66	17/02/10	SPT Split Spoon	All result less than LOR
QC80	19/02/10	SPT Split Spoon	Nickel (0.002 ug/L)
QC100	23/02/10	SPT Split Spoon	All result less than LOR
QC103	24/02/10	SPT Split Spoon	All result less than LOR
QC104	25/02/10	SPT Split Spoon	All result less than LOR
QC114	2/03/10	SPT Split Spoon	All result less than LOR
QC115	3/03/10	SPT Split Spoon	All result less than LOR
QC142	4/03/10	SPT Split Spoon	All result less than LOR
QC166	5/03/10	SPT Split Spoon	All result less than LOR
QC167	8/03/10	SPT Split Spoon	All result less than LOR
QC209	6/03/10	SPT Split Spoon	All result less than LOR
QC213	7/03/10	SPT Split Spoon	All result less than LOR
QC227	22/02/10	SPT Split Spoon	All result less than LOR
QC233	24/02/10	SPT Split Spoon	All result less than LOR
QC239	24/02/10	SPT Split Spoon	All result less than LOR
QC243	25/02/10	SPT Split Spoon	All result less than LOR
QC246	26/02/10	SPT Split Spoon	All result less than LOR
QC249	2/03/10	SPT Split Spoon	All result less than LOR
QC250	3/03/10	SPT Split Spoon	All result less than LOR
QC251	4/03/10	SPT Split Spoon	All result less than LOR
QC252	5/03/10	SPT Split Spoon	All result less than LOR
QC303	27/02/10	Micropurge submersible pump	All result less than LOR
QC312	15/03/10	Micropurge submersible pump	All results < LOR with exception of ammonia as N (20 ug/L), cadmium (0.002 mg/L), nitrate (as N) (0.02 mg/L), nitrogen (total oxidised) (0.02 mg/L)
QC325	16/03/10	Micropurge submersible pump	All results <LOR with exception of metals; barium (0.0175 mg/L), cadmium (0.0546 mg/L) chromium (III+VI) (0.0002 mg/L, equal to LOR) cobalt (0.0009 mg/L), copper (0.001 mg/L, equal to LOR), lead(0.0002 mg/L, equal to LOR) manganese (0.008 mg/L), nickel (0.0008 mg/L), zinc (0.004 mg/L)

Rinsate Sample ID	Date	Equipment	Results
QC326	16/03/10	Micropurge submersible pump	All results <LOR with exception of metals; barium (0.0195 mg/L),chromium (III+VI) (0.0002 mg/L), cobalt (0.001 mg/L), copper (0.001 mg/L), lead (0.0001 mg/L) manganese (0.0079 mg/L), nickel (0.0009 mg/L)zinc (0.005 mg/L).
QC329	18/03/10	Micropurge submersible pump	All result less than LOR
QC330	19/03/10	Micropurge submersible pump	All result less than LOR
QC333	24/03/10	Micropurge submersible pump	Chromium (III+IV) (0.0027 mg/L), nickel (0.0011 mg/L)
QC340	20/03/10	Micropurge submersible pump	All result less than LOR

In summary, in soil sampling equipment rinsates there were only detections of metals (copper, chromium and nickel) in three rinsate samples out of a total of 31 rinsates.

The detections in four of the eight groundwater sampling equipment rinsate samples were relatively low. In the primary samples collected on the 16/03/10, all of the metals detected in the rinsate samples were detected in the primary samples, with the exception of copper.

With the exception of the metal detections from the rinsates on the 16/3/10, it is concluded that the decontamination procedures were adequate and that the contaminants were unlikely to have been introduced by contact of the sample medium with sampling equipment.

2.7 Trip Blanks

A trip blank assesses the potential for cross contamination during transit from the investigation site to the laboratory. Samples are typically analysed for the same contaminants targeted as part of the investigation.

Eighteen trip soil blank samples and seven water trip blank samples were utilised during storage and transport of the samples, which complied with the SAQP (AECOM, 2009). The trip blank results are presented in **Table 9 and 10** at the end of this report in **Appendix H.** The samples and results are summarised in the table below.

Batch	Field_ID	Sampled_Date	Matrix	Results
ES1003390	TB02	19/02/10	soil	All results < LOR
ES1003391	TB03	18/02/10	soil	All results < LOR
ES1003671	TB05	23/02/10	soil	All results < LOR
ES1003671	TB06	22/02/10	soil	All results < LOR
ES1003671	TB07	22/02/10	soil	All results < LOR
ES1003672	TB08	22/02/10	soil	All results < LOR
ES1003672	TB09	22/02/10	soil	All results < LOR
ES1003971	TB10	24/02/10	soil	All results < LOR
ES1004018	TB11	25/02/10	soil	All results < LOR
ES1004018	TB12	25/02/10	soil	All results < LOR
ES1004031	TB13	25/02/10	soil	All results < LOR

Batch	Field_ID	Sampled_Date	Matrix	Results
ES1004031	TB14	25/02/10	soil	All results < LOR
ES1004218	TB14	3/03/10	soil	All results < LOR
ES1004218	TB15	4/03/10	soil	All results < LOR
ES1004308	TB16	5/03/10	soil	All results < LOR
ES1004323	TB17	5/03/10	soil	All results < LOR
ES1004648	TB18	5/03/10	soil	All results < LOR
ES1003746	QC304	27/02/10	water	All results < LOR
ES1004947	TB301	16/03/10	water	All results < LOR
ES1004956	TB302	16/03/10	water	All results < LOR
ES1005244	TB303	16/03/10	water	All results < LOR
ES1005244	TB304	18/03/10	water	All results < LOR
ES1005391	TB306	20/03/10	water	All results < LOR
ES1005598	TB307	24/03/10	water	All results < LOR

The results indicate that there was no significant loss or gain of volatile constituents from soil and groundwater samples whilst in transit from the investigation site to the laboratory.

3.0 Laboratory QA/QC

3.1 Analytical Laboratory

Samples were submitted to the following laboratories:

- ALS Laboratory Group (ALS) in Smithfield, NSW (primary laboratory);
- LabMark Environmental Laboratories (LabMark) in Asquith, NSW (secondary laboratory);
- SGS Australia Pty Ltd (SGS) in Alexandria, NSW (soil vapour analysis); and
- Australian Soil Testing in Rockdale, NSW (soil permeability analysis)

The ALS NATA accreditation number is 825, and its analytical procedures are based on established internationally-recognised procedures such as those published by the US EPA, APHA, AS and NEPM (1999). In house procedures are employed by ALS in the absence of documented standards.

The Labmark NATA accreditation number is 13542, and its analytical procedures are based on methods referenced from NEPC, ASTM, modified USEPA / APHA.

The SGS NATA accreditation number is 2562.

The Australian Soil Testing accreditation number is 1459.

3.2 Analytical Methods

The laboratory analysis methods for soil and groundwater are provided on the laboratory certificates in **Appendix I** and summarised in following two tables:

Soil Analytical Methods

Analysis	ALS Limit of Reporting	ALS Reference method	Labmark Limit of Reporting	Labmark Reference method
Metals suite comprising arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), chromium (Cr), cobalt (Co), copper (Cu),manganese (Mn), nickel (Ni), lead (Pb), vanadium (V) and zinc (Zn). Selected samples Aluminium (Al), Antinomy (Sb), Selenium (Se) and Silver (Ag).	1 - 5 mg/kg, Ba 10 mg/kg, Al 50 mg/kg,	Acid Digestion/ICPAES (Alpha 20th 3120-(USEPA SW846, 6010)	0.1 - 5.0 mg/kg (Ba 10 mg/kg)	Acid Digestion/ICPAES (Alpha 20th 3120-(USEPA SW846, 6010)
Mercury (Hg)	0.1 mg/kg	Acid Digestion/CV-FIMS (Alpha 20th 3120-USEPA SW846, 6010)	0.1 mg/kg	Acid Digestion/CV-FIMS (Alpha 20th 3120-USEPA SW846, 6010)
Chromium VI	0.5 mg/kg	Alkaline Digestion (USEPA SW846)	1 mg/kg	Buffered Alkali Digestion/colourimetry – diphenylcarbazide (APHA 21st –USEPA 3060a)
Free cyanide	1 mg/kg	APHA 4500-CN C&N	1 mg/kg	Neutral extraction, diffusion and colour metric determination. (ASTM Designation: D4282 and ALHA 21st Ed)
WAD Cyanide	1 mg/kg	APHA 4500 –CN I&N	1 mg/kg	(APHA 20th 3120-(USEPA SW846, 6010)
Iron	50 mg/kg	Acid Digestion/ICPAES (USEPA 220.2 mod.)	10 mg/kg	Microwave digestion with nitric and HCL digestion
pH	0.1 pH	Electrode	0.1 pH	Electrode
PAHs	0.5 mg/kg	Mechanical Agitation/GCMS (USEPA 8270)	0.5-1.0 mg/kg	Mechanical Agitation/GCMS (USEPA 8270)
TPH C_6-C_9	2 mg/kg	P&T/GC/MS (USEPA 5030/8260)	0.2 – 10 mg/kg	PT-GC/FID (USEPA 5030/3510/8015)

Analysis	ALS Limit of Reporting	ALS Reference method	Labmark Limit of Reporting	Labmark Reference method
TPH C_{10}-C_{36}	50 -100 mg/kg	GC/FID (USEPA 3510/8015)	50 – 100 mg/kg	GC/FID (USEPA 3510/8015)
BTEX	0.2 – 0.4 mg/kg	GC/MS (USEPA 5030/8260)	0.2-1 mg/kg	Methanol Extraction/P&T/GC/MS (USEPA5030/8260) (USEPA8015)
OCPs	0.05 - 0.2 µg/kg	GC/ECD/ECD/MS (USEPA 3510/8270)	0.05 - 0.2 mg/kg	GC/Dual ECD (USEPA 3510/8270)
PCBs	0.1 mg/kg	GC/ECD/ECD/MS (USEPA 3510/8270)	0.5 mg/kg	GC/Dual ECD (USEPA 3510/8270)
ASS	0.02% S	POCAS – Ahern et al (2004)	0.02% S	POCAS Digest, titration and ICP – In house method
VOCs	0.2 – 5 mg/kg	USEPA 5030/8260 P&T/GC/MS	0.2-5 mg/kg	PT-GC/MS
SVOCs	0.2 – 5 mg/kg	USEPA 5030/8260 P&T/GC/MS	0.5 – 10 mg/kg	Analysis by GC/MS (SCAN)
Asbestos*	NA	NA	ND/D	PLM & Disp Staining
TCLP – metals and PAHs	NA	NA	Metals - 0.1-5 µg/L PAHs - 0.01 - 0.02 µg/L (TL)	Tumbling (USEPA 1311) ICP-AES (metals) GC/MS (PAH's)

Groundwater Analytical Methods

Analysis	ALS Limit of Reporting	ALS Reference method	Labmark Limit of Reporting	Labmark reference method
Metals suite comprising arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), chromium (Cr), cobalt (Co), copper (Cu),manganese (Mn), nickel (Ni), lead (Pb), vanadium (V) and zinc (Zn)	As, Cr, Mn, Ni, V – 0.5 µg/L Ba, Cu – 1 µg/L Be, Co, Pb – 0.1 µg/L Cd, Co & Pb 0.2 µg/L Zn – 5 µg/L	IORC/ICP/MS Octopole Reaction Cell (APHA 3125B)		Microwave digestion with nitric acid ICPMS (USEPA 6020)ICPMS (USEPA 6020)

Analysis	ALS Limit of Reporting	ALS Reference method	Labmark Limit of Reporting	Labmark reference method
Hg	0.0001 mg/L	CV-FIMS (APHA 3112)	0.01µg/L	CV-FIMS (APHA 3112)
Dissolved Iron	5 µg/L	IORC/ICP/MS Octopole Reaction Cell (APHA 3125B)	0.05 mg/L	ICPAES
pH	0.1 pH	Electrode	0.1 pH	Electrode
TPH C_6-C_9	20 µg/L	P&T/GC/MS (USEPA 5030/8260)	1 – 50 µg/L	PT-GC/FID (USEPA 5030/5035/8260)
TPH C_{10}-C_{36}	50 – 100 µg/L	GC/FID (USEPA 3510/8015)	50 – 200 µg/L	GC/FID USEPA 3510/8015)
BTEX	1 – 4 µg/L	P&T/GCMS (USEPA5030/8260)	1 – 2 µg/L	P-T/GCMS (USEPA 5030/8260)
PAHs/Phenols	0.05 – 0.1 µg/L (UT)	GPC-GC/MS-SIM (USEPA 3640/8270)	0.01 - 0.02 µg/L (TL)	GC/MS (USEPA 3510/8270)
Free and total cyanide	1 mg/kg	APHA 4500-CNC& N	0.005 – 0.01 mg/L	Diffusion cell / Colourimetric
WAD Cyanide	0.004 mg/L	APHA 4500-CNC&N	0.01 mg/L	Weak acid distillation / Colourimetric (APHA 21st)
Methane	0.01 mg/L	Dual Column GC/FID	-	-
TOC	1 mg/L	APHA 5310 B	1 mg/L	E2580 TOC analyser
Ammonia	1 mg/L	APHA 4500-NH3 G	0.02 mg/L	In-house method E036.1
Nitrite as N	0.01 mg/L	APHA 4500-N02 B	0.01 mg/L	In-house method E037.1
Nitrate as N	0.01 mg/L	APHA 4500-N03 F	0.01 mg/L	In-house method E036.2
Ionic Balance	1 mg/L	APHA 1030 F	1 mg/L	In-house method
Standard Anions	1 mg/L	APHA 4110	0.05 mg/L	In-house E042.1, colourimetric, discrete analyser, FIA and IC

Analysis	ALS Limit of Reporting	ALS Reference method	Labmark Limit of Reporting	Labmark reference method
Major Cations Dissolved	1 mg/L	APHA 3120, USEPA SW 846 6010	0.2 mg/L	AES/ICP, in-house method E030.5

3.3 Laboratory (Method) Blanks

Laboratory method or control blanks consist of reagents specific to each individual analytical method and are prepared and analysed by laboratories in the same manner as regular samples. The preparation and analysis of laboratory blanks enables the measurement of contamination within the laboratory.

Laboratory blanks are typically analysed at a frequency of 1 in 20, with a minimum of one analysed per batch. For this investigation, method blank was analysed in each soil and groundwater batch.

Review of the laboratory QA/QC reports indicated that the results for all method blanks were below the laboratory detection limit.

3.4 Laboratory Duplicates

Laboratory duplicate samples are prepared in the laboratory by splitting a field sample and analysing it as two independent samples. The analysis of laboratory duplicate samples provides an indication of analytical precision and may be influenced by sample heterogeneity. The laboratory duplicate RPDs are used to assess laboratory precision.

Laboratory duplicates are typically analysed at a frequency of 1 in 20, with a minimum of one analysed per batch. Laboratory duplicates were analysed at an appropriate frequency (1 in 5 to 1 in 7) in all batches.

Review of the laboratory QA/QC reports indicated that the RPDs for all laboratory duplicate samples were within the DQI acceptance criteria, with the following exceptions summarised in the table below.

Batch	Sample Code	Chemical Name	RPD (%)	Matrix
ES1004031	ES1004031-027 BH73_17.5-17.7	meta- & para-Xylene 1.2.4-Trimethylbenzene meta- & para-Xylene	85 75 86.2	soil
ES1004308	ES1004308-001 BH53_1.1-1.5	Acenaphthene Fluorene	59.7 76.3	soil
ES1004323	ES1004323-002 BH72_2.5-2.7	Phenanthrene	76.5	soil
ES1003672	ES1003672-039 BH54_1.0-1.4	ChryseneManganese Benzene	50.8 98.2 75.1	soil soil
ES1004018	ES1004018-002 BH64_1.0-1.2	Five PAH compounds	50.6 to 64.1	soil
ES1004323	ES1004323-002 BH72_2.5-2.7	Phenanthrene	76.5	soil

AECOM notes that laboratory duplicates were not analysed in the secondary laboratory (LabMark) batches.

All of the above samples were fill material and, therefore, the duplicate exceedences are likely due to sample heterogeneity, with the exception of ES1004031-027 (BH73_17.5-17.7). The RPD exceedences for ES1004031-027 can however be attributed to low concentrations (<10 times the laboratory LOR).

The laboratory duplicate RPD results indicate that the laboratory precision was acceptable for this investigation.

3.5 Laboratory Control Samples

Laboratory control samples (LCS) or Quality Control check samples are prepared within the laboratory by spiking an aliquot of an appropriate clean matrix reagent with known concentrations of specific analytes. The LCS sample is then analysed and the results are used to assess the laboratory performance on sample preparation and analysis procedure. Certified reference material may also be used to assess analytical accuracy independent of the investigations. Accuracy is assessed by calculation of percent recovery.

LCSs are typically analysed at a frequency of 1 in 20, with a minimum of one analysed per analytical batch. For this investigation, LCSs were analysed at an appropriate rate (1 per batch).

Review of the laboratory QA/QC reports indicated that the percent recoveries for LCSs were within the DQI acceptance criteria (70-130%) or the Laboratory Analyte Specific Acceptance Criteria (ASAC), with the exception of those listed in the below table.

Batch	Sample Code	Chemical Name	Result (%)	Matrix
ES1003183	1455863-007	Pentachlorophenol	27.4	soil
ES1003390	1462251-007	Pentachlorophenol	20.6	soil
		Indeno(1.2.3.cd)pyrene	68.4	soil
ES1003391	1463077-002	2.4-Dimethylphenol	22.7	soil
		Pentachlorophenol	26.6	soil
		trans-Isosafole	42	soil
	1462251-007	Pentachlorophenol	20.6	soil
ES1003971	1469384-002	2.4-Dimethylphenol	21.8	soil
		Pentachlorophenol	29.2	soil
	1463914-012	Tetrachloroethene	133	soil
		Vinyl Acetate	14.6	soil
	1464026-007	Pentachlorophenol	7.3	soil
	1464831-008	Pentachlorophenol	25.3	soil
	1469383-007	Pentachlorophenol	10.7	soil
	1466763-002	1-Naphthylamine	29.7	soil
	1463876-016	TPH C29 - C36 Fraction	131	soil
ES1003672	1466763-002	1-Naphthylamine	29.7	soil
	1464831-008	Pentachlorophenol	25.3	soil
	1465407-007	Pentachlorophenol	12.4	soil
ES1004308	1474285-002	Pentachlorophenol	7.8	soil
	1475249-002	Pentachlorophenol	10.8	soil
ES1004018	1470949-011	Pentachloroethane	28.3	soil
		Vinyl Acetate	27	soil
	1475249-002	Pentachlorophenol	10.8	soil
ES1004022	1469312-007	Pentachlorophenol	9.7	soil
ES1004031	1475249-002	Pentachlorophenol	10.8	soil
ES1004323	1476020-002	Pentachlorophenol	29.6	soil
ES1004218	1477035-007	2.4-Dimethylphenol	20.4	soil

Batch	Sample Code	Chemical Name	Result (%)	Matrix
		N-Nitrosodiphenyl & Diphenylamine	28.5	soil
ES1004648	1479805-007	Pentachlorophenol	23.1	soil
	1481174-007	2.4-Dimethylphenol	22.4	soil
		Pentachlorophenol	14.8	soil
	1479850-008	Vinyl Acetate	24.5	soil
ES1004782	1484522-016	4-Nitroquinoline-N-oxide	13.3	water
ES1004783	1488334-012	Pentachlorophenol	29.7	water
ES1004947	1486285-011	2-Picoline	24.4	water
ES1005598	1502167-002	TPH C_{15} - C_{28} Fraction	136	water

There were 25 out of 315 soil and 4 out of 154 water LCS samples with recoveries outside the acceptable DQI range for the compounds listed in the above table.

It is noted that the majority of low recoveries for LCS samples were for phenols in soil, which generally have poor recoveries. It is noted that five phenol compounds were detected in field soil samples, with 1 to 42samples with detections out of 174 samples (including field duplicate samples). The highest concentration of phenol was 540 mg/kg (BH53_4.0-4.4), which is calculated to be 3% of the most conservative criteria (NSW DECC [2006] SIL_3-17000 mg/kg) adopted in this investigation. It is therefore unlikely that a higher recovery would have resulted in an exceedence of the criteria.

Based on this the LCS recoveries indicate that the accuracy of the results is acceptable.

3.6 Matrix Spikes

Matrix spikes are samples prepared within the laboratory by dividing a field sample into two aliquots, then spiking each with identical concentrations of the analytes. The matrix spike and matrix spike duplicate are then analysed separately and the results compared to determine the effects of the sample matrix on the accuracy and precision of the analytes. Accuracy is assessed by the calculation of the percent recovery.

Review of the laboratory QA/QC reports indicated that the percent recoveries for matrix spikes were within the DQI acceptance criteria (70-130%) or the Laboratory Analyte Specific Acceptance Criteria (ASAC), with the exception of those listed in the below table.

Sample Code	Batch	Chemical Name	Recovery (%)	Matrix
ES1003390	1463077-005	Pentachlorophenol	14.4	soil
	1462936-005	Hexavalent Chromium	25	soil
ES1004323	1476902-055	Hexavalent Chromium	19	soil
ES1004648	1482929-030	Hexavalent Chromium	11	soil
ES1003671	1466763-005	Pentachlorophenol	20.4	soil
	1464026-009	Pentachlorophenol	24.7	soil
	1464831-010	Acenaphthene	138	soil
	1466763-005	Pentachlorophenol	20.4	soil
ES1004018	1470922-009	2-Nitrophenol	132	soil
	1477814-009	Pentachlorophenol	27.8	soil
	1475249-005	Pentachlorophenol	17.6	soil
ES1004323	1476020-005	Pentachlorophenol	23.8	soil
ES1004218	1477035-005	Pentachlorophenol	21.4	soil

Sample Code	Batch	Chemical Name	Recovery (%)	Matrix
ES1004648	1481174-005	Pentachlorophenol	24.6	soil
ES1004947	1486285-014	Pentachlorophenol	29.5	water
	1486285-014	Phenol	19.6	water
ES1003746	1466402-005	Weak Acid Dissociable Cyanide	25.1	water

There were only 14 out of 260 soil and two out of 114 water matrix spike samples with recoveries outside the acceptable DQI range for the compounds listed in the above table.

It is noted that as discussed in Section 3.5 above, the majority of low recoveries for matrix spike samples were for phenols in soil, which generally have poor recoveries. Based on the concentrations of the field soil samples, it is unlikely that a higher recovery would have resulted in an exceedence of the most conservative criteria.

Based on this the matrix spike recoveries indicate that the accuracy of the results is acceptable.

3.7 Surrogates

Surrogates are compounds which are similar to the organic analytes of interest in chemical composition, extraction, and chromatographic behaviour, but which are not normally found in field samples. Surrogates are generally spiked into all sample aliquots prior to preparation and analysis by chromatogaphic methods. Percent recoveries are calculated for each surrogate, providing an indication of analytical accuracy. US EPA methodology (SW – 846) requires that surrogate testing be performed whenever analysing by Gas Chromatography or HPLC.

Review of the laboratory QA/QC reports indicated that the percent recoveries for surrogates were within the DQI acceptance criteria (70-130%) or the Laboratory Analyte Specific Acceptance Criteria (ASAC), with the exception of those listed in the below table.

Batch	Sample Code	Chemical Name	Recovery (%)	Matrix
ES1003390	1460495-001	Phenol-d6	12.7	soil
		2-Chlorophenol-D4	14.9	soil
		2-Chlorophenol-D4	14.9	soil
		2.4.6-Tribromophenol	2.5	soil
		2.4.6-Tribromophenol	2.5	soil
ES1003391	1465195-001	Phenol-d6	17.2	soil
ES1003970	1471913-001	Phenol-d6	16.8	soil
	1471913-009	Phenol-d6	22.3	soil
ES1003971	1471913-009	Phenol-d6	22.3	soil
	1471913-001	Phenol-d6	16.8	soil
ES1003672	024	2.4.6-Tribromophenol	16	soil
	024	2.4.6-Tribromophenol	16	soil
	1465249-001	Phenol-d6	21.1	soil
ES1004018	015	2.4.6-Tribromophenol	138	soil
	1471913-001	Phenol-d6	16.8	soil
	1471913-009	Phenol-d6	22.3	soil
	015	2.4.6-Tribromophenol	138	soil
ES1004031	003	2.4.6-Tribromophenol	141	soil

Batch	Sample Code	Chemical Name	Recovery (%)	Matrix
	003	2.4.6-Tribromophenol	141	soil
ES1004218	1477035-007	2.4.6-Tribromophenol	10.9	soil
	1477508-001	Phenol-d6	15.5	soil
ES1004308	1475680-001	Phenol-d6	23.7	soil
ES1004323	1477508-001	Phenol-d6	15.5	soil
	ES1004323 006	2-Fluorobiphenyl	28.4	soil
ES1004782	002	2.4.6-Tribromophenol	136	water
	003	2.4.6-Tribromophenol	139	water
ES1004947	002	Phenol-d6	23	water
	1486285-014	Phenol-d6	23.8	water
ES1004956	003	Phenol-d6	22.3	water
ES1005598	1502206-001	Phenol-d6	22.7	water
ES1005244	004	Phenol-d6	16.3	water

There were only 12 out of 240 soil and 7 out of 36 water surrogate samples with recoveries outside the acceptable DQI range for the compounds listed in the above table. Based on this the LCS recoveries indicate that the accuracy of the results is acceptable.

It is noted that as discussed in Section 3.5 and 3.6, the majority of low recoveries for surrogate samples were for phenols in soil, which generally have poor recoveries. Based on the concentrations of the field soil samples, it is unlikely that a higher recovery would have resulted in an exceedence of the most conservative criteria.

It is also noted that the for surrogate samples listed in the table below, recoveries were not determined due to (target or non-target) matrix interferences (ie the background concentrations were greater than four times or more than the spike concentration and therefore the surrogate recoveries could not be determined).

Batch	Sample Code	Chemical Name
ES1003971 (soil)	1469384-005	2-Chlorophenol-D4
	1469384-005	Anthracene-d10
ES1003672 (soil)	ES1003672 037	Phenol-d6
	ES1003672 037	2.4.6-Tribromophenol
	ES1003672 038	Anthracene-d10
ES0804146 (soil)	ES0804146 003	2-Chlorophenol-D4
	ES0804146 004	2-Chlorophenol-D4
	ES0804146 005	2-Chlorophenol-D4
	ES0804146 006	2-Chlorophenol-D4
	ES0804146 007	2-Chlorophenol-D4
	ES0804146 003	2.4.6-Tribromophenol
	ES0804146 004	2.4.6-Tribromophenol
	ES0804146 005	2.4.6-Tribromophenol
	ES0804146 006	2.4.6-Tribromophenol
	ES0804146 003	Nitrobenzene-D5

Batch	Sample Code	Chemical Name
	ES0804146 004	Nitrobenzene-D5
	ES0804146 005	Nitrobenzene-D5
	ES0804146 006	Nitrobenzene-D5
	ES0804146 007	Nitrobenzene-D5
	ES0804146 007	2.4.6-Tribromophenol
	ES0804146 003	1.2-Dichlorobenzene-D4
	ES0804146 004	1.2-Dichlorobenzene-D4
	ES0804146 005	1.2-Dichlorobenzene-D4
	ES0804146 006	1.2-Dichlorobenzene-D4
	ES0804146 007	1.2-Dichlorobenzene-D4
ES1004308 (soil)	ES1004308 003	2.4.6-Tribromophenol
	ES1004308 009	2.4.6-Tribromophenol
ES1004323 (soil)	ES1004323 006	1.2-Dichlorobenzene-D4
	ES1004323 006	2.4.6-Tribromophenol
ES1004648 (soil)	ES1004648 010	2.4.6-Tribromophenol
ES1004782 (water)	ES1004782 002	Phenol-d6
	ES1004782 003	Phenol-d6
ES1004956 (water)	ES1004956 001	2-Fluorobiphenyl
	ES1004956 001	2.4.6-Tribromophenol
	ES1004956 001	2-Chlorophenol-D4
	ES1004956 001	Phenol-d6
ES0805183 (water)	ES0805183001-1	2-Chlorophenol-D4
	ES0805183 001-1	2.4.6-Tribromophenol
ES1005244 (water)	ES1005244 006	2.4.6-Tribromophenol
	ES1005244 012	2.4.6-Tribromophenol
	ES1005244 006	Nitrobenzene-D5
	ES1005244 012	Nitrobenzene-D5
	ES1005244 006	1.2-Dichlorobenzene-D4
	ES1005244 012	1.2-Dichlorobenzene-D4
	ES1005244 006	Phenol-d6
	ES1005244 012	Phenol-d6
	ES1005244 006	2-Chlorophenol-D4
	ES1005244 012	2-Chlorophenol-D4
	ES1005244 006	2.4.6-Tribromophenol
	ES1005244 012	2.4.6-Tribromophenol
	ES1005244 006	Anthracene-d10
	ES1005244 012	Anthracene-d10

Batch	Sample Code	Chemical Name
	ES1005244 006	2-Fluorobiphenyl
	ES1005244 012	2-Fluorobiphenyl
	ES1005244 006	2-Chlorophenol-D4
	ES1005244 012	2-Chlorophenol-D4
ES1005598 (water)	ES1005598 003	Phenol-d6

3.8 Holding Times

NEPC (1999), APHA 20th Edition and AS2031.1-1986 present recommended holding times for various analyses (under specified conditions, for example below 4°C in an airtight container), which must be met in order to consider the results valid. The holding times may vary slightly depending on the document referenced.

Review of the chain-of-custody documentation and the laboratory reports indicated that the holding time have been met for all analyses as presented in the table below"

Analyte	Matrix	Recommended Maximum Holding Time	Non Compliance
Metals	Soil / Water	6 months – metals 1 day - Ferrous Iron	**Ferrous Iron 1 day overdue:** MW200, MW209, MW198, QC323, MW210
Mercury	Soil / Water	28 days	-
TPH C_6-C_9	Soil / Water	14 days / 7 days	-
TPH C_{10}-C_{36}	Soil / Water	14 days / 7 days	**3 days overdue:** QC80 **5 days overdue:** QC115 **2 days overdue**: QC239 **1 day overdue**: QC243
BTEX	Soil / Water	14 days / 14 days (with HCl)	-
SVOCs	Soil / Water	14 days / 7 days	**1 day overdue:** MW205
OCPs/PCBs	Soil / Water	14 days / 7 days	-

Analyte	Matrix	Recommended Maximum Holding Time	Non Compliance
Free and WAD Cyanide	Soil / Water	7 days/14 days	**Free Cyanide 6 days overdue for extraction**: BH37_5.5-5.7, BH37_15.8-16.0, BH37_20.4-20.5, QC67,QC69, BH37_22.2-AUGER, BH33_5.0-5.2, BH40_16.5-16.7, BH40_17.8-18.0 **Free Cyanide 5 days overdue for extraction**: BH38_8.5-8.7, BH38_11.5-11.7, BH38_14.5-14.7, BH38_20.5-20.7,QC70, QC71 **Free Cyanide 4 days overdue for extraction**: BH57_7.0-7.2, BH57_11.5-11.7 **Free Cyanide 4 days overdue for extraction**: BH75_16.0-16.2, QC107 **Free Cyanide 4 days overdue for extraction:** BH59_1.9-2.0, BH59_3.4-3.5, BH59_4.2-4.3, BH35_4.9-5.0,BH52_2.2-2.6, BH52_4.2-4.4,BH49_6.2-6.4, BH49_10.2-10.4, BH49_12.2-12.4, BH58_5.2-5.4, QC220, QC223 **Total Cyanide 1 day overdue for extraction**:BH37_5.5-5.7, BH37_15.8-16.0, BH37_20.4-20.5, QC67,QC69, BH37_22.2-AUGER, BH57_7.0-7.2, BH57_11.5-11.7, BH75_8.5-8.7, BH40_17.8-18.0, BH64_2.5-2.7, BH60_16.0-16.4 **Free Cyanide 1 day Overdue for extraction**: BH46-7.0-7.2, BH46-14.5-14.7,QC57, QC78,BH46-19.0-19.2, BH46-20.5-20.7,BH48-14.5-14.7 BH42_3.2-3.3, BH44_1.9-2.0, BH44_4.9-5.0, QC228, BH54_1.0-1.4, BH54_2.8-3.0, BH45_7.2-7.4, QC231 **WAD Cyanide 7 days overdue for extraction:** BH40_16.5-16.7 **WAD Cyanide 6 days overdue for extraction:** BH33_5.0-5.2 **WAD Cyanide 4 days overdue for extraction:** BH75_8.5-8.7, BH55_1.0-1.2, BH55_2.2-2.4, BH55_2.7-2.9, BH34_1.8-2.2, QC240 **WAD Cyanide 3 days overdue for extraction:** BH47-4.0-4.2, BH47-13.0-13.2, BH63_2.5-2.7, BH75_16.0-16.2,QC107, BH59_1.9-2.0, BH59_3.4-3.5, BH59_4.2-4.3, BH35_4.9-5.0,BH52_2.2-2.6, BH52_4.2-4.4, BH49_6.2-6.4, BH49_10.2-10.4, BH49_12.2-12.4, BH58_5.2-5.4, QC220, QC223, BH62_1.0-1.2, BH62_5.4-5.6, BH62_11.8-12.0, BH50_1.3-1.5, BH69_1.0-1.15, BH69_10.0-10.2 **WAD Cyanide 2 days overdue for extraction:** BH46-7.0-7.2, BH46-14.5-14.7,QC57, QC78, BH46-19.0-19.2, BH46-20.5-20.7, BH48-14.5-14.7, BH72_1.0-1.2, BH72_5.5-5.7, BH71_0.08-0.15, BH36_4.0-4.4, BH36_15-15.05, BH42_3.2-3.3, BH44_1.9-2.0, BH44_4.9-5.0, QC228,BH54_1.0-1.4, BH54_2.8-3.0, BH45_7.2-7.4, QC231 BH74_1.0-1.12, BH74_10.0-10.5, QC122 **WAD Cyanide 1 day overdue for extraction** BH39-16.0-16.2, BH39-20.5-20.7, QC101, BH72_19.0-19.2, BH72_20.5-20.7,BH71_2.5-2.7, BH71_10.0-10.2,BH71_13.0-13.2, BH71_15.0-15.2, BH41_1.0-1.4, BH41_4.0-4.4, BH41_8.5-8.9, BH41_14.5-14.7, BH41_16.0-16.2, , BH41_17.5-17.7, BH70_2.5-2.7,BH70_4.0-4.2, BH70_5.5-5.7,BH70_11.5-11.7, BH70_16.0-16.2, BH65_3.4-3.6, BH65_11.2-11.4, BH65_13.4-13.6, QC234, BH66_2.3-2.4, BH56_7.0-7.2

Analyte	Matrix	Recommended Maximum Holding Time	Non Compliance
pH	Soil / Water	7 days/6 hours	**5 days overdue for analysis:** BH40_16.5-16.7, MW68, MW74, MW60 **4 days overdue for analysis:** BH57_7.0-7.2, BH75_1.0-1.2, BH75_8.5-8.7, MW62, MW58, MW56, QC237, MW54, MW52, MW45, MW69 **3 days overdue for analysis:** MW61, BH6, BH3, MW40, MW64 **2 days overdue for analysis:** MW200, MW209, MW198, MW210 **1 day overdue for analysis**: MW22, MW204S, MW15 MW08, MW14, MW213, MW24, MW22, MW204S, MW15, MW62, MW58, MW56, QC237
Organic Matter (TOC)	Soil / Water	7 days	**Organic Matter 12 days overdue for analysis**: BH40_16.5-16.7, BH40_17.8-18.0 **Organic Matter 8 days overdue for analysis**: BH37_15.8-16.0, BH37_20.4-20.5, QC67, QC69,BH37_22.2-AUGER **Organic Matter 7 days overdue for analysis**: BH38_8.5-8.7, QC70,QC71 **Organic Matter 5 days overdue for analysis:** BH57_7.0-7.2, BH72_1.0-1.2, BH72_5.5-5.7, BH36_15-15.05, BH74_1.0-1.12 **Organic Matter 4 days overdue for analysis**: BH47-13.0-13.2, BH63_2.5-2.7, BH75_16.0-16.2, QC107, BH71_2.5-2.7, BH71_10.0-10.2, BH71_13.0-13.2, BH71_15.0-15.2, BH41_1.0-1.4, BH41_4.0-4.4, BH41_8.5-8.9, BH72_19.0-19.2, BH72_20.5-20.7, BH52_2.2-2.6, BH49_6.2-6.4,BH49_12.2-12.4, BH58_8.6-8.8,BH58_10.8-11.2, QC220, QC223, BH59_3.4-3.5, BH35_9.9-10.0, BH34_1.8-2.2, QC240, BH56_2.5-2.7 **Organic Matter 3 days overdue for analysis**: BH46-14.5-14.7, QC78,BH46-19.0-19.2, BH46-20.5-20.7, BH48-14.5-14.7, BH42_3.2-3.3, BH44_1.9-2.0, BH44_4.9-5.0, QC228, BH54_1.0-1.4, BH45_7.2-7.4, QC231, BH50_1.3-1.5, BH69_1.0-1.15, BH56_14.5-15.0, QC125 **Organic Matter 2 days overdue for analysis:** BH65_11.2-11.4, BH66_2.3-2.4 **Organic Matter 1 day overdue for analysis:** BH63_13.0-13.3, QC111, BH64_2.5-2.7, BH60_7.0-7.2, BH60_16.0-16.4
ASS (SPOCAS)	Soil	Indefinite (freeze) 24 hours (4ºC)	-
TCLP Metals	Soil	6 months	-
TCLP Organics	Soil	14 days	-
Anions/Cations	Water	28 days 2 days (Nitrate/Nitrite/Reactive phosphorus) 14 days (Acid/Alkalinity)	**Nitrite and Reactive Phosphorus 3 days overdue:** MW69 **Nitrite and Reactive Phosphorus 2 days overdue:** MW68, MW61, BH6, BH3, MW40, MW64 **Nitrite and Reactive Phosphorus 1 day overdue** MW54, MW52, MW45
VOCs	Soil / Water	14 days	-
Asbestos	Soil	NA	-

The holding time exceedences for pH in water samples are attributed to the short holding time of six hours. In some instances it was not practicable to collect the groundwater samples, deliver to the laboratory and be analyse by the laboratory within a six hour time period, due to the sampling methodology, time constraints and distance between the Site and the laboratory. It is noted that pH was measured and recorded in the field with a

calibrated water quality meter at the time of sampling and may provide more accurate indications of groundwater pH where there were exceedences in holding time for laboratory measured pH. Reported laboratory pH results were used to check the reported field pH results.

The holding time exceedences for pH in the soil samples were between one and five days overdue for five soil samples. The small number of exceedences is not considered to significantly affect the quality of the data set.

The holding time exceedence for TPH is not considered to affect the quality of primary data as they were field QA/QC samples.

There were 72 out of 146 samples with holding time exceedences for free and/or WAD cyanide. The free and WAD cyanide holding time exceedences in soil are not considered to affect the assessment significantly as they have not been detected at concentrations greater than the LOR at the Site. Additionally concentrations of total cyanide at the Site has ranged between <1 mg/kg and 575 mg/kg and have been significantly less than the adopted assessment criteria of 2000 mg/kg. With the exception of the samples listed above, soil samples were extracted and analysed with the recommended holding times for total cyanide. As noted above, some samples were extracted one day outside the holding times for total cyanide. All samples were held in refrigeration in the laboratory and the given the results reported, the one day over extraction is not considered to affect the overall assessment of the data.

There were 46 samples overdue for analysis of organic matter (TOC). It is noted that samples were received by laboratory within holding times for cyanide and organic matter. Follow up with the laboratory (ALS) indicated that the reported holding time exceedences occurred due the amount of samples being analysed at the time by the laboratory.

4.0 Data Validation

The overall assessment of the quality of the data obtained during this investigation is discussed below in terms of the data quality indicators provided above.

Non-compliances are to be documented and discussed in the report. The DQIs are as follows:

DQI	Description	Compliance
Completeness	Completeness is a measure of the amount of usable data (expressed as %) from a data collection activity.	The completeness of data is defined as the percentage of analytical results that are considered valid. Valid chemical data are values that have been identified as acceptable or acceptable as qualified during the data validation process. The completeness is a comparison of the total number of samples accepted against the total number of samples, calculated as a percentage. The project goal for completeness is 95%. Completeness also includes checking that all entries in the data tables are correct, properly entered, and that any typographical errors are corrected and the data are re-entered properly, as required. Approximately 95% of the samples collected and analysed complied with the DQOs and DQIs, as such the data obtained is considered to be sufficiently quantitative and complete for the purposes of this investigation (i.e. >95%)

DQI	Description	Compliance
Comparability	Comparability is the confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event.	Comparability expresses the confidence with which one data set can be compared with another. In order to assess comparability, field sampling procedures, laboratory sample preparation procedures, analytical procedures, and reporting units must be known and similar to established protocols, as was the case during this investigation. Qualitatively, data subjected to strict QA/QC procedures will be deemed more reliable, and therefore more comparable, than other data. The sampling was conducted by AECOM environmental scientists in accordance with AECOM sampling and analysis procedures. Each analyte was analysed by the same analytical laboratory using identical methods, and laboratory LORs were consistent over each laboratory batch. Additionally, a check laboratory was used to assess variability between laboratories. Based on the above, the data obtained throughout the investigation is considered to be suitably comparable.
Representativeness	Representativeness is the confidence (expressed qualitatively) that data are representative of each media present on the site.	Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of parameter variations at sampling points or environmental conditions. Sample representativeness is controlled through selecting sampling locations that exemplify site conditions and obtaining suitable samples from these sites. Sample selection and analysis was conducted in order to meet the specific objectives of the project. Analysis for the contaminants of concern was selectively conducted on soil samples as indicated in analytical tables. Based on the sampling and analytical regime undertaken by AECOM, the results obtained are considered to be sufficiently representative of the subsurface conditions at the locations tested.
Precision	Precision is a quantitative measure of the variability (or reproducibility) of data.	All work was conducted in accordance with AECOM's documented SOPs. Precision or variability of the data was assessed by determining RPDs between the original and duplicate samples analysed. Based on results discussed above, AECOM considers that the precision of the data is sufficient for the purposes of this investigation. Two High RPD exceedences were noted where the primary sample did not exceed the adopted assessment criteria but the duplicate sample did, occurred in the following two duplicate pairs: • MW08 (ERM location) and QC321 (intra-laboratory duplicate) and primary sample– cobalt concentrations in groundwater ; and • BH60_17.5-17.7 (primary sample) and QC121 (inter-laboratory duplicate) – TPH C_6-C_9 concentrations in soil. The variation in concentrations will be taken into consideration when assessing these locations against the adopted assessment criteria. Both of these locations are within the Other Remediation Works (North) area.. In addition, the variation in concentrations for analyte which were below but close to the assessment criteria will be taken into consideration.

DQI	Description	Compliance
Accuracy	Accuracy is a quantitative measure of the closeness of reported data to the true value.	All work was conducted in accordance with AECOM's documented SOPs. Accuracy of the data was mainly assessed through review of the laboratory QA/QC results, though the rinsate blanks also contributed to the assessment of accuracy. Based on results discussed above, AECOM considers that the accuracy of the data is sufficient for the purposes of this investigation.

Based on an assessment of field and laboratory QA/QC data, the reported analytical results are considered, by achievement of the DQIs, to be reliable and representative of concentrations of the compounds analysed at the locations sampled.

Table 1 - Appendix H
Field QA/QC
Soil Field Duplicate Results

			SDG	ES1004308	ES1004308		ES1004308	ES1004308		ES1004648	ES1004648		ES1004308	Interlab_D	
			Field_ID	BH53_1.1-1.5	QC208	RPD	BH61_2-2.4	QC211	RPD	BH70_16.0-16.2	QC169	RPD	BH61_2-2.4	QC212	RPD
			Sampled_Date	6/03/2010	6/03/2010		7/03/2010	7/03/2010		8/03/2010	8/03/2010		7/03/2010	7/03/2010	
Method_Type	ChemName	Units	EQL												
Hexavalent Chromium	Chromium (hexavalent)	mg/kg	0.5	-	-	-	**<0.5**	**1.9**	**117**	-	-	-	<0.5	2.4	nc
Total Mercury by FIMS	Mercury	mg/kg	0.1	**0.1**	**0.2**	**67**	<0.1	<0.1	0	-	-	-	<0.1	<0.1	nc
Total Metals by ICP-AES	Aluminium	mg/kg	50	-	-	-	2810	1780	45	-	-	-	2810	2530	10
	Antimony	mg/kg	5	-	-	-	<5.0	<5.0	0	-	-	-	<5.0	<5.0	nc
	Arsenic	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	0	-	-	-	<5.0	<5.0	nc
	Barium	mg/kg	10	60	40	40	680	530	25	-	-	-	680	470	**37**
	Beryllium	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	0	-	-	-	<1.0	<1.0	0
	Cadmium	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	0	-	-	-	<1.0	<1.0	0
	Chromium (III+VI)	mg/kg	2	7	5	33	50	49	2	-	-	-	50	44	13
	Cobalt	mg/kg	2	2	<2.0	0	<2.0	<2.0	0	-	-	-	<2.0	<2.0	0
	Copper	mg/kg	5	**17**	**9**	**62**	32	21	42	-	-	-	32	29	10
	Iron	mg/kg	50	-	-	-	22900	27300	18	-	-	-	22900	22500	2
	Lead	mg/kg	5	95	77	21	58	49	17	-	-	-	58	54	7
	Manganese	mg/kg	5	**172**	**73**	**81**	**78**	**20**	**118**	-	-	-	78	129	**49**
	Nickel	mg/kg	2	**4**	**<2.0**	**67**	**5**	**<2.0**	**86**	-	-	-	5	3	50
	Selenium	mg/kg	5	-	-	-	<5.0	<5.0	0	-	-	-	<5.0	<5.0	0
	Silver	mg/kg	2	-	-	-	<2.0	<2.0	0	-	-	-	<2.0	<2.0	0
	Tin	mg/kg	5	-	-	-	<5.0	<5.0	0	-	-	-	<5.0	<5.0	0
	Vanadium	mg/kg	5	12	11	9	35	50	35	-	-	-	35	39	11
	Zinc	mg/kg	5	**75**	**168**	**77**	12	9	29	-	-	-	12	10	18
TPH - Semivolatile Fraction	TPH C10 - C14	mg/kg	50	<50.0	<50.0	0	450	280	47	-	-	-	450	420	7
	TPH C15 - C28	mg/kg	100	**1920**	**1040**	**59**	8130	6180	27	-	-	-	8130	8390	3
	TPH C29-C36	mg/kg	100	1330	860	43	4660	3420	31	-	-	-	4660	4380	6
	TPH+C10 - C36 (Sum of total	mg/kg	50	**3250**	**1900**	**52**	13200	9880	29	-	-	-	13200	13200	0
TPH Volatiles/BTEX	Benzene	mg/kg	0.2	0.4	0.3	29	**32.7**	**7.8**	**123**	-	-	-	**32.7**	**13.1**	**86**
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	0	-	-	-	<0.5	<0.5	0
	Toluene	mg/kg	0.5	<0.5	<0.5	nc	**9.5**	**2.8**	**109**	-	-	-	**9.5**	**4.6**	**70**
	TPH C6 - C9	mg/kg	10	<10.0	<10.0	nc	**67**	**20**	**108**	-	-	-	**67**	**29**	**79**
	Xylene (m & p)	mg/kg	0.5	<0.5	<0.5	nc	**5.4**	**1.9**	**96**	-	-	-	**5.4**	**2.6**	**70**
	Xylene (o)	mg/kg	0.5	<0.5	<0.5	nc	**1.4**	**<0.5**	**nc**	-	-	-	**1.4**	**0.6**	**80**
Moisture Content	Moisture	%	1	26.1	21.6	19	34.2	36.5	7	**63.1**	**14.5**	**125**	34.2	32.7	4
Organic Matter	TOC	%	0.5	-	-	-	<0.5	<0.5	0	-	-	-	<0.5	<0.5	nc
PAH/Phenols (SIM)	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	0	-	-	-	<0.5	<0.5	nc
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	0	-	-	-	<0.5	<0.5	nc
	2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	0	-	-	-	<0.5	<0.5	c
	2,4-dimethylphenol	mg/kg	0.5	0.7	<0.5	33	0.8	0.9	12	-	-	-	0.8	0.9	12
	2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	0	-	-	-	<0.5	<0.5	nc
	2-chlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	0	-	-	-	<0.5	<0.5	nc
	2-methylnaphthalene	mg/kg	0.5	<0.5	<0.5	nc	2	2.3	14	-	-	-	2	2.2	10
	2-methylphenol	mg/kg	0.5	0.8	<0.5	46	1.5	1.4	7	-	-	-	1.5	1.7	13
	2-nitrophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	0	-	-	-	<0.5	<0.5	nc
	3-&4-methylphenol	mg/kg	1	1.6	<1.0	46	2.2	2.4	9	-	-	-	2.2	2.5	13
	4-chloro-3-methylphenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	0	-	-	-	<0.5	<0.5	nc
	Acenaphthene	mg/kg	0.5	**5.4**	**2.3**	**81**	4.8	5.1	6	-	-	-	4.8	4.8	0
	Acenaphthylene	mg/kg	0.5	**13**	**6.1**	**72**	47.6	50.2	5	-	-	-	47.6	55.2	15
	Anthracene	mg/kg	0.5	**25.7**	**10**	**88**	91.6	106	15	-	-	-	91.6	97	6
	Benz(a)anthracene	mg/kg	0.5	**52.3**	**28.3**	**60**	217	253	15	-	-	-	217	220	1
	Benzo(a) pyrene	mg/kg	0.5	**38.1**	**20.7**	**59**	162	189	15	-	-	-	162	163	1
	Benzo(b)fluoranthene	mg/kg	0.5	**50.4**	**30**	**51**	182	251	**32**	-	-	-	182	185	2
	Benzo(g,h,i)perylene	mg/kg	0.5	**16.8**	**8.6**	**65**	41.5	43.4	4	-	-	-	41.5	36.2	14
	Benzo(k)fluoranthene	mg/kg	0.5	13.8	11.2	21	28	44.4	**45**	-	-	-	28	33.9	19
	Chrysene	mg/kg	0.5	**36.1**	**20.3**	**56**	164	196	18	-	-	-	164	164	0
	Dibenz(a,h)anthracene	mg/kg	0.5	**4.4**	**2.3**	**63**	13.2	14.1	7	-	-	-	13.2	11.7	12
	Fluoranthene	mg/kg	0.5	**142**	**55.7**	**87**	423	500	17	-	-	-	423	428	1
	Fluorene	mg/kg	0.5	**15.6**	**5.5**	**96**	23.8	24.6	3	-	-	-	23.8	22	8
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	**14.7**	**7.8**	**61**	39.5	42.7	8	-	-	-	39.5	36.3	8
	Naphthalene	mg/kg	0.5	**20.8**	**7.1**	**98**	51.2	45.3	12	-	-	-	51.2	57.4	11
	PAHs (Sum of total)	mg/kg	0.5	**668**	**287**	**80**	2170	2560	16	-	-	-	2170	2190	1
	Pentachlorophenol	mg/kg	2	<2.0	<2.0	nc	<2.0	<2.0	0	-	-	-	<2.0	<2.0	nc
	Phenanthrene	mg/kg	0.5	**91.2**	**23.2**	**119**	267	303	13	-	-	-	267	254	5
	Phenol	mg/kg	0.5	1.2	0.8	40	<0.5	<0.5	0	-	-	-	**<0.5**	**1.9**	**117**
	Pyrene	mg/kg	0.5	**128**	**47.7**	**91**	412	488	17	-	-	-	412	422	2

Data Entry: KO
Data Review: DM
AECOM

Table 1 - Appendix H
Field QA/QC
Soil Field Duplicate Results

			SDG	ES1004308	ES1004308		ES1004308	ES1004308		ES1004648	ES1004648		ES1004308	Interlab_D	
			Field_ID	BH53_1.1-1.5	QC208	RPD	BH61_2-2.4	QC211	RPD	BH70_16.0-16.2	QC169	RPD	BH61_2-2.4	QC212	RPD
			Sampled_Date	6/03/2010	6/03/2010		7/03/2010	7/03/2010		8/03/2010	8/03/2010		7/03/2010	7/03/2010	
Method_Type	ChemName	Units	EQL												
pH (1:5)	pH (Lab)	pH_Units	0.1	-	-	-	6.4	6	6	-	-	-	6.4	-	-
Volatile Organic Compounds	1,1,1,2-tetrachloroethane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	1,1,1-trichloroethane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	1,1,2,2-tetrachloroethane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	1,1,2-trichloroethane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	1,1-dichloroethane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	1,1-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	1,1-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	1,2,3-trichlorobenzene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	1,2,3-trichloropropane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	**220**	**48.6**	**128**	-	-	-
	1,2-dibromo-3-chloropropane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	1,2-dichloroethane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	1,2-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	**100**	**21.4**	**129**	-	-	-
	1,3-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	2,2-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Methyl Ethyl Ketone	mg/kg	5	-	-	-	-	-	-	<5.0	<5.0	nc	-	-	-
	2-chlorotoluene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	2-hexanone (MBK)	mg/kg	5	-	-	-	-	-	-	<5.0	<5.0	nc	-	-	-
	4-chlorotoluene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	4-Methyl-2-pentanone	mg/kg	5	-	-	-	-	-	-	<5.0	<5.0	nc	-	-	-
	Benzene	mg/kg	0.2	-	-	-	-	-	-	**300**	**44.1**	**149**	-	-	-
	Bromobenzene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Bromodichloromethane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Bromoform	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Bromomethane	mg/kg	5	-	-	-	-	-	-	<5.0	<5.0	nc	-	-	-
	Carbon disulfide	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Carbon tetrachloride	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Chlorobenzene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Chlorodibromomethane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Chloroethane	mg/kg	5	-	-	-	-	-	-	<5.0	<5.0	nc	-	-	-
	Chloroform	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Chloromethane	mg/kg	5	-	-	-	-	-	-	<5.0	<5.0	nc	-	-	-
	cis-1,2-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	cis-1,3-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	cis-1,4-Dichloro-2-butene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Dibromomethane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Dichlorodifluoromethane	mg/kg	5	-	-	-	-	-	-	<5.0	<5.0	nc	-	-	-
	Ethylbenzene	mg/kg	0.5	-	-	-	-	-	-	**40.1**	**6.4**	**145**	-	-	-
	Iodomethane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Isopropylbenzene	mg/kg	0.5	-	-	-	-	-	-	**1.8**	**<0.5**	nc	-	-	-
	n-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	n-propylbenzene	mg/kg	0.5	-	-	-	-	-	-	**5.4**	**0.8**	**148**	-	-	-
	Pentachloroethane	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	p-isopropyltoluene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	sec-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Styrene	mg/kg	0.5	-	-	-	-	-	-	**241**	**45.8**	**136**	-	-	-
	Trichloroethene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	tert-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Tetrachloroethene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Toluene	mg/kg	0.5	-	-	-	-	-	-	**346**	**98.1**	**112**	-	-	-
	trans-1,2-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	trans-1,4-Dichloro-2-butene	mg/kg	0.5	-	-	-	-	-	-	<0.5	<0.5	nc	-	-	-
	Trichlorofluoromethane	mg/kg	5	-	-	-	-	-	-	<5.0	<5.0	nc	-	-	-
	Vinyl acetate	mg/kg	5	-	-	-	-	-	-	<5.0	<5.0	nc	-	-	-
	Vinyl chloride	mg/kg	5	-	-	-	-	-	-	<5.0	<5.0	nc	-	-	-
	Xylene (m & p)	mg/kg	0.5	-	-	-	-	-	-	**481**	**91.4**	**136**	-	-	-
	Xylene (o)	mg/kg	0.5	-	-	-	-	-	-	**179**	**34**	**136**	-	-	-

Data Entry: KO
Data Review: DM
AECOM

Table 2 - Appendix H
Field QA/QC
Field Duplicate Results

Filter: SDG
in('ES1004218','ES1004326','ES1004464','ES1004328','ES1004177','ES1004113')

			SDG	ES1004218	ES1004218		ES1004218	ES1004218		ES1004218	Interlab_D	
			Field_ID	BH56_14.5-15.0	QC125	RPD	BH74_10.0-10.5	QC122	RPD	BH56_14.5-15.0	QC126	RPD
			Sampled_Date	5/03/2010	5/03/2010		3/03/2010	3/03/2010		5/03/2010	5/03/2010	
Method_Type	ChemName	Units	EQL									
	Chromium (hexavalent)	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<1.0	nc
Mercury	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	nc	<0.1	<0.1	nc	<0.1	0.14	33
Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0	2	nc
	Barium	mg/kg	10 (Primary): 5 (Interlab)	40	30	29	40	30	29	40	34	16
	Beryllium	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	Cadmium	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<0.1	nc
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	6	5	18	6	6	nc	6	5	18
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	nc	<2.0	1	nc
	Copper	mg/kg	5 (Primary): 2 (Interlab)	**12**	**6**	**67**	11	10	10	12	10	18
	Iron	mg/kg	50 (Primary): 10 (Interlab)	7550	5530	31	4980	6270	23	7550	7900	5
	Lead	mg/kg	5 (Primary): 2 (Interlab)	105	91	14	58	49	17	105	131	22
	Manganese	mg/kg	5	27	36	29	59	56	5	27	44	48
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	<2.0	<2.0	nc	3	2	40	<2.0	2	nc
	Vanadium	mg/kg	5	18	12	40	8	9	12	18	16	12
	Zinc	mg/kg	5	41	48	16	44	55	22	41	65	45
TPH	TPH C10 - C14	mg/kg	50	<50.0	<50.0	nc	<50.0	<50.0	nc	<50.0	<50.0	nc
	TPH C15 - C28	mg/kg	100	<100.0	140	nc	130	120	8	<100.0	<100.0	nc
	TPH C29-C36	mg/kg	100	<100.0	<100.0	nc	100	130	26	<100.0	<100.0	nc
	TPH+C10 - C36 (Sum of total)	mg/kg	50	<50.0	140	nc	230	250	8	<50.0	0	nc
TPH Volatiles	TPH C6 - C9	mg/kg	10	<10.0	<10.0	nc	<10.0	<10.0	nc	<10.0	<10.0	nc
Moisture Content	Moisture	%	1	18.4	21.5	16	18.5	21.1	13	18.4	16	14
Organic Matter	TOC	%	0.5 (Primary): 0.1 (Interlab)	**0.9**	<0.5	57	-	-	-	0.9	0.3	100
pH (1:5)	pH (Lab)	pH_Units	0.1	9.6	9.6	nc	-	-	-	9.6	-	-
SVOCs	1,2,4,5-tetrachlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2,4-trichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,3,5-Trichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	1,3,5-Trinitrobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	1,3-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,4-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1-naphthylamine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-(acetylamino) fluorene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,3,4,6-tetrachlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,4-Dinitrotoluene	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,6-dinitrotoluene	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	2-chloronaphthalene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-chlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-methylnaphthalene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-methylphenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-nitroaniline	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	2-nitrophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-Picoline	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	3-&4-methylphenol	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<1.0	nc
	3,3-Dichlorobenzidine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	3-methylcholanthrene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	3-nitroaniline	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	4-(dimethylamino) azobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	4,4-DDE	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-aminobiphenyl	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-bromophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-chloro-3-methylphenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-chloroaniline	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-chlorophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-nitroaniline	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-Nitroquinoline-N-oxide	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	2-methyl-5-nitroaniline	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	7,12-dimethylbenz(a)anthracene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	a-BHC	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Acenaphthene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Acetophenone	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Aldrin	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Aniline	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Anthracene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Azobenzene	mg/kg	1 (Primary): 0.5 (Interlab)	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<0.5	nc
	b-BHC	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	0.5	nc
	Benzo(a) pyrene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	0.6	18
	Benzo(b)&(k)fluoranthene	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Bis(2-chloroethoxy) methane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Bis(2-chloroisopropyl) ether	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Bis(2-ethylhexyl) phthalate	mg/kg	5	<5.0	<5.0	nc	**<5.0**	**13.1**	nc	<5.0	<5.0	nc
	Butyl benzyl phthalate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Carbazole	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Chlorfenvinphos	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	Chlorobenzilate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	Chlorpyrifos	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Chlorpyrifos-methyl	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	Chrysene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	0.6	18
	d-BHC	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	DDD	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	DDT	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	Diallate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	Diazinon	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dibenzofuran	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dichlorvos	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dieldrin	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Diethylphthalate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dimethoate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dimethyl phthalate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Di-n-butyl phthalate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Di-n-octyl phthalate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Endosulfan I	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc

Data Entry: KO
Data Review: DM
AECOM

Table 2 - Appendix H
Field QA/QC
Field Duplicate Results

Filter: SDG
in('ES1004218','ES1004326','ES1004464','ES1004328','ES1004177','ES1004113')

			SDG	ES1004218	ES1004218		ES1004218	ES1004218		ES1004218	Interlab_D	
			Field_ID	BH56_14.5-15.0	QC125	RPD	BH74_10.0-10.5	QC122	RPD	BH56_14.5-15.0	QC126	RPD
			Sampled_Date	5/03/2010	5/03/2010		3/03/2010	3/03/2010		5/03/2010	5/03/2010	
Method_Type	ChemName	Units	EQL									
	Endosulfan II	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Endosulfan sulphate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Endrin	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Ethion	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	Ethyl methanesulfonate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Fenthion	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Fluoranthene	mg/kg	0.5	0.7	0.8	13	1.2	1	18	**0.7**	**1.3**	**60**
	Fluorene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	g-BHC (Lindane)	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Heptachlor	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Heptachlor epoxide	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Hexachlorobenzene	mg/kg	1 (Primary): 0.5 (Interlab)	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<0.5	nc
	Hexachlorobutadiene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Hexachlorocyclopentadiene	mg/kg	2.5 (Primary): 2 (Interlab)	<2.5	<2.5	nc	<2.5	<2.5	nc	<2.5	<2.0	nc
	Hexachloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Hexachloropropene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Isophorone	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Isosafrole (cis)	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	Isosafrole (trans)	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	Malathion	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Methapyrilene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5		
	Methyl methanesulfonate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Naphthalene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	N-nitrosodiethylamine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	N-nitrosodi-n-butylamine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	N-nitrosodi-n-propylamine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	N-Nitrosodiphenyl & Diphenylamine	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	-	-
	N-Nitrosomethylethylamine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	N-nitrosomorpholine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	N-nitrosopiperidine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	N-nitrosopyrrolidine	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	Pentachlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Pentachloronitrobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Pentachlorophenol	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	Phenacetin	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Phenanthrene	mg/kg	0.5	0.9	0.8	12	1.1	1.2	9	0.9	0.8	12
	Phenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Pirimphos-ethyl	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	Pronamide	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	Prothiofos	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Pyrene	mg/kg	0.5	0.6	0.8	29	1.4	1.1	24	**0.6**	**1.1**	**59**
	Safrole	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
Cyanide	Cyanide Total	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
VOCs	1,1,1,2-tetrachloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,1,1-trichloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,1,2,2-tetrachloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,1,2-trichloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,1-dichloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,1-dichloroethene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,1-dichloropropene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2,3-trichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2,3-trichloropropane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2,4-trimethylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2-dibromo-3-chloropropane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2-dibromoethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2-dichloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2-dichloropropane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,3,5-trimethylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,3-dichloropropane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,2-dichloropropane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Methyl Ethyl Ketone	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0	-	-
	2-chlorotoluene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-hexanone (MBK)	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0	-	-
	4-chlorotoluene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-Methyl-2-pentanone	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0	-	-
	Benzene	mg/kg	0.2 (Primary): 0.5 (Interlab)	<0.2	<0.2	nc	<0.2	<0.2	nc	<0.2	<0.5	nc
	Bromobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Bromodichloromethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Bromoform	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Bromomethane	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0	<5.0	nc
	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Carbon tetrachloride	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Chlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Chlorodibromomethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Chloroethane	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0	<5.0	nc
	Chloroform	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Chloromethane	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0	<5.0	nc
	cis-1,2-dichloroethene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	cis-1,3-dichloropropene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	cis-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	Dibromomethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dichlorodifluoromethane	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0	<5.0	nc
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Iodomethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	Isopropylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	n-butylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	n-propylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Pentachloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	p-isopropyltoluene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	sec-butylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Styrene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Trichloroethene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	tert-butylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Tetrachloroethene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Toluene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	trans-1,2-dichloroethene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	trans-1,3-dichloropropene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	trans-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	-	-
	Trichlorofluoromethane	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0	<5.0	nc
	Vinyl acetate	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0	<5.0	nc

Data Entry: KO
Data Review: DM
AECOM

Table 2 - Appendix H
Field QA/QC
Field Duplicate Results

Filter: SDG
in('ES1004218','ES1004326','ES1004464','ES1004328','ES1004177','ES1004113')

			SDG	ES1004218	ES1004218		ES1004218	ES1004218		ES1004218	Interlab_D	
			Field_ID	BH56_14.5-15.0	QC125	RPD	BH74_10.0-10.5	QC122	RPD	BH56_14.5-15.0	QC126	RPD
			Sampled_Date	5/03/2010	5/03/2010		3/03/2010	3/03/2010		5/03/2010	5/03/2010	
Method_Type	ChemName	Units	EQL									
	Vinyl chloride	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0	<5.0	nc
	Xylene (m & p)	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<1.0	nc
	Xylene (o)	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
Cyanide	Weak Acid Dissociable Cyanide	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	-	-

Data Entry: KO
Data Review: DM
AECOM

Table 3 - Appendix H
Field QA/QC
Field Soil Duplicate Results

AECOM

Field Duplicates (SOIL) Filter: SDG in('ES1004031','ES1004018','ES1004027','ES1004022')			SDG	ES1004018	ES1004018		ES1004018	ES1004018		ES1004022	ES1004022		ES1004031	ES1004031		ES1004031	ES1004031	
			Field_ID	BH60_7.0-7.2	QC110	RPD	BH60_17.5-17.7	QC120	RPD	BH34_1.8-2.2	QC240	RPD	BH63_13.0-13.3	QC111	RPD	BH75_4.0-4.2	QC105	RPD
			Sampled_Date	1/03/2010	1/03/2010		2/03/2010	2/03/2010		25/02/2010	25/02/2010		1/03/2010	1/03/2010		25/02/2010	25/02/2010	
Method_Type	ChemName	Units	EQL															
Free Cyanide	Cyanide (Free)	mg/kg	1	-	-	-	-	-	-	-	-	-	<1.0	<1.0	nc	-	-	-
WAD Cyanide	Weak Acid Dissociable Cyanide	mg/kg	1	-	-	-	-	-	-	<1.0	<1.0	nc	-	-	-	-	-	-
Hexavalent Chromium	Chromium (hexavalent)	mg/kg	0.5 (Primary): 1 (Interlab)	-	-	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
Total Mercury	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	nc	<0.1	<0.1	nc	<0.1	<0.1	nc	<0.1	<0.1	nc	<0.1	<0.1	nc
Total Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	<5.0	<5.0	nc	**36**	**16**	**77**	<5.0	<5.0	nc	**36**	**<5.0**	151	<5.0	<5.0	nc
	Barium	mg/kg	10 (Primary): 5 (Interlab)	90	80	12	**20**	**10**	**67**	80	70	13	20	20	nc	**30**	**60**	**67**
	Beryllium	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	Cadmium	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	13	14	7	**25**	**13**	**63**	16	12	29	**42**	**11**	**117**	11	9	20
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)	3	3	nc	<2.0	<2.0	nc	5	4	22	<2.0	<2.0	nc	6	4	40
	Copper	mg/kg	5 (Primary): 2 (Interlab)	**34**	**125**	**114**	<5.0	<5.0	nc	6	6	nc	<5.0	39	nc	<5.0	<5.0	nc
	Iron	mg/kg	50 (Primary): 10 (Interlab)	-	-	-	-	-	-	-	-	-	**31600**	**17000**	**60**	-	-	-
	Lead	mg/kg	5 (Primary): 2 (Interlab)	37	38	3	13	10	26	15	12	22	**14**	**37**	**90**	11	9	20
	Manganese	mg/kg	5	145	151	4	<5.0	<5.0	nc	252	253	0	<5.0	70	nc	260	158	49
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	6	8	29	2	<2.0	nc	6	5	18	<2.0	2	nc	7	5	33
	Vanadium	mg/kg	5	28	26	7	72	53	30	18	18	nc	**85**	**10**	**158**	19	14	30
	Zinc	mg/kg	5	63	100	**45**	5	<5.0	nc	33	24	32	5	6	18	42	30	33
TPH	TPH C10 - C14	mg/kg	50	<50.0	<50.0	nc	60	80	29	<50.0	<50.0	nc	<50.0	<50.0	nc	<50.0	<50.0	nc
	TPH C15 - C28	mg/kg	100	<100.0	<100.0	nc	160	200	22	<100.0	<100.0	nc	<100.0	<100.0	nc	<100.0	<100.0	nc
	TPH C29-C36	mg/kg	100	<100.0	<100.0	nc	<100.0	<100.0	nc	<100.0	<100.0	nc	<100.0	<100.0	nc	<100.0	<100.0	nc
	TPH+C10 - C36 (Sum of total)	mg/kg	50	<50.0	<50.0	nc	220	280	24	<50.0	<50.0	nc	<50.0	<50.0	nc	<50.0	<50.0	nc
TPH Volatiles/BTEX	Benzene	mg/kg	0.2	<0.2	<0.2	nc	**0.6**	**1.2**	**67**	<0.2	<0.2	nc	<0.2	<0.2	nc	-	-	-
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	0.5	0	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	Toluene	mg/kg	0.5	<0.5	<0.5	nc	**1.9**	**5**	**90**	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	TPH C6 - C9	mg/kg	10	<10.0	<10.0	nc	**12**	**25**	**70**	<10.0	<10.0	nc	<10.0	<10.0	nc	<10.0	<10.0	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	nc	**2.4**	**7**	**98**	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	Xylene (o)	mg/kg	0.5	<0.5	<0.5	nc	**0.9**	**2.3**	**88**	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
Organic Matter	TOC	%	0.5 (Primary): 0.1 (Interlab)	-	-	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
PAH/Phenols (SIM)	2,4,5-trichlorophenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	2,4,6-trichlorophenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	2,4-dichlorophenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	2,4-dimethylphenol	mg/kg	0.5	-	-	-	0.6	0.7	15	<0.5	<0.5	nc	1.2	1.2	0	-	-	-
	2,6-dichlorophenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	2-chlorophenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	2-methylnaphthalene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	-	-	-	-	-	-
	2-methylphenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	0.7	0.7	0	-	-	-
	2-nitrophenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	3-&4-methylphenol	mg/kg	1	-	-	-	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	-	-	-
	4-chloro-3-methylphenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	Acenaphthene	mg/kg	0.5	-	-	-	3.7	4.2	13	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	Acenaphthylene	mg/kg	0.5	-	-	-	19.5	21.5	10	<0.5	<0.5	nc	0.7	1	35	-	-	-
	Anthracene	mg/kg	0.5	-	-	-	17.9	19.2	7	<0.5	<0.5	nc	0.7	1.1	44	-	-	-
	Benz(a)anthracene	mg/kg	0.5	-	-	-	13.1	14.5	10	<0.5	<0.5	nc	<0.5	0.6	18	-	-	-
	Benzo(a) pyrene	mg/kg	0.5	-	-	-	6.9	7.7	11	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	Benzo(b)fluoranthene	mg/kg	0.5	-	-	-	9.9	10.6	7	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	Benzo(g,h,i)perylene	mg/kg	0.5	-	-	-	2.4	2.6	8	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	4.1	5.1	22	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	Chrysene	mg/kg	0.5	-	-	-	9	10.1	12	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	Dibenz(a,h)anthracene	mg/kg	0.5	-	-	-	0.7	0.7	0	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	Fluoranthene	mg/kg	0.5	-	-	-	33.4	37.5	12	<0.5	<0.5	nc	1.2	1.6	29	-	-	-
	Fluorene	mg/kg	0.5	-	-	-	22.3	25.3	13	<0.5	<0.5	nc	0.7	1.1	44	-	-	-
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	-	-	-	2.3	2.6	12	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	Naphthalene	mg/kg	0.5	-	-	-	101	113	11	<0.5	<0.5	nc	**2.9**	**6.8**	**80**	-	-	-
	PAHs (Sum of total)	mg/kg	0.5	-	-	-	323	361	11	-	-	-	-	-	-	-	-	-
	Pentachlorophenol	mg/kg	2 (Primary): 1 (Interlab)	-	-	-	<2.0	<2.0	nc	<2.0	<2.0	nc	<2.0	<2.0	nc	-	-	-
	Phenanthrene	mg/kg	0.5	-	-	-	50.7	57.8	13	<0.5	<0.5	nc	2	2.7	30	-	-	-
	Phenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-
	Pyrene	mg/kg	0.5	-	-	-	25.7	28.6	11	<0.5	<0.5	nc	1	1.4	33	-	-	-
pH (1:5)	pH (Lab)	pH_Units	0.1	-	-	-	-	-	-	7.7	7.6	1	6.8	6	13	-	-	-
Total Cyanide	Cyanide Total	mg/kg	1	-	-	-	-	-	-	<1.0	<1.0	nc	<1.0	<1.0	nc	-	-	-

Data Entry: KOB
Data Review: DM
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Table 3 - Appendix H
Field QA/QC
Field Soil Duplicate Results

AECOM

Field Duplicates (SOIL) Filter: SDG in('ES1004031','ES1004018','ES1004027','ES1004022')			SDG	ES1004031	ES1004031		ES1004018	Interlab_D		ES1004031	Interlab_D	
			Field_ID	BH75_16.0-16.2	QC107	RPD	BH60_17.5-17.7	QC121	RPD	BH75_16.0-16.2	QC108	RPD
			Sampled_Date	26/02/2010	26/02/2010		2/03/2010	2/03/2010		26/02/2010	26/02/2010	
Method_Type	**ChemName**	**Units**	**EQL**									
Free Cyanide	Cyanide (Free)	mg/kg	1	-	-	-	-	-	-	-	-	-
WAD Cyanide	Weak Acid Dissociable Cyanide	mg/kg	1	<1.0	<1.0	nc	-	-	-	<1.0	-	-
Hexavalent Chromium	Chromium (hexavalent)	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	nc	-	-	-	<0.5	<1.0	0
Total Mercury	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	nc	<0.1	<0.05	0	<0.1	<0.05	nc
Total Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	<5.0	<5.0	nc	**36**	**9**	**120**	<5.0	<1.0	0
	Barium	mg/kg	10 (Primary): 5 (Interlab)	**20**	**40**	**67**	**20**	**11**	**58**	20	18	11
	Beryllium	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	0
	Cadmium	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	nc	<1.0	<0.1	nc	<1.0	<0.1	0
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	**8**	**22**	**93**	**25**	**12**	**70**	**8**	**18**	**77**
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)	<2.0	<2.0	nc	<2.0	<1.0	nc	<2.0	<1.0	nc
	Copper	mg/kg	5 (Primary): 2 (Interlab)	<5.0	<5.0	nc	<5.0	2	nc	<5.0	-	-
	Iron	mg/kg	50 (Primary): 10 (Interlab)	**760**	**3340**	**126**	-	-	-	760	1050	32
	Lead	mg/kg	5 (Primary): 2 (Interlab)	**11**	**22**	**67**	13	10	26	**11**	**19**	**53**
	Manganese	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0	<5.0	nc
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	<2.0	2	nc	2	3	40	<2.0	1	nc
	Vanadium	mg/kg	5	**7**	**45**	**146**	**72**	**43**	**50**	**7**	**16**	**78**
	Zinc	mg/kg	5	<5.0	<5.0	nc	5	7	33	<5.0	<5.0	nc
TPH	TPH C10 - C14	mg/kg	50	<50.0	<50.0	nc	**60**	**270**	**127**	<50.0	<50.0	nc
	TPH C15 - C28	mg/kg	100	<100.0	<100.0	nc	**160**	**550**	**110**	<100.0	<100.0	nc
	TPH C29-C36	mg/kg	100	<100.0	<100.0	nc	<100.0	120	18	<100.0	<100.0	nc
	TPH+C10 - C36 (Sum of total)	mg/kg	50	<50.0	<50.0	nc	**220**	**940**	**124**	<50.0	0	nc
TPH Volatiles/BTEX	Benzene	mg/kg	0.2	<0.2	<0.2	nc	0.6	0.7	15	<0.2	<0.2	nc
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Toluene	mg/kg	0.5	<0.5	<0.5	nc	1.9	1.6	17	<0.5	<0.5	nc
	TPH C6 - C9	mg/kg	10	<10.0	<10.0	nc	12	<10.0	18	<10.0	<10.0	nc
	Xylene (m & p)	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	nc	2.4	2	18	<0.5	<1.0	nc
	Xylene (o)	mg/kg	0.5	<0.5	<0.5	nc	0.9	0.8	12	<0.5	<0.5	nc
Organic Matter	TOC	%	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	nc	-	-	-	<0.5	0.1	0
PAH/Phenols (SIM)	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	0
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	0
	2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	0
	2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	nc	0.6	0.7	15	<0.5	<0.5	0
	2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-	<0.5	-	-
	2-chlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	0
	2-methylnaphthalene	mg/kg	0.5	-	-	-	<0.5	-	-	-	-	-
	2-methylphenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-nitrophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	3-&4-methylphenol	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	4-chloro-3-methylphenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Acenaphthene	mg/kg	0.5	<0.5	<0.5	nc	3.7	3.1	18	<0.5	<0.5	nc
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	nc	19.5	14.8	27	<0.5	<0.5	nc
	Anthracene	mg/kg	0.5	<0.5	<0.5	nc	17.9	14.4	22	<0.5	<0.5	nc
	Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	nc	13.1	11.3	15	<0.5	<0.5	nc
	Benzo(a) pyrene	mg/kg	0.5	<0.5	<0.5	nc	6.9	6.6	4	<0.5	<0.5	nc
	Benzo(b)fluoranthene	mg/kg	0.5	<0.5	<0.5	nc	9.9	-	-	<0.5	-	-
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.5	nc	2.4	2.4	0	<0.5	<0.5	nc
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	nc	4.1	-	-	<0.5	-	-
	Chrysene	mg/kg	0.5	<0.5	<0.5	nc	9	7.9	13	<0.5	<0.5	nc
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	nc	0.7	1	35	<0.5	<0.5	nc
	Fluoranthene	mg/kg	0.5	<0.5	<0.5	nc	33.4	39.2	16	<0.5	<0.5	nc
	Fluorene	mg/kg	0.5	<0.5	<0.5	nc	22.3	25	11	<0.5	<0.5	nc
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	<0.5	<0.5	nc	2.3	2.4	4	<0.5	<0.5	nc
	Naphthalene	mg/kg	0.5	<0.5	<0.5	nc	**101**	**222**	**75**	<0.5	<0.5	nc
	PAHs (Sum of total)	mg/kg	0.5	-	-	-	323	445.7	32	-	-	-
	Pentachlorophenol	mg/kg	2 (Primary): 1 (Interlab)	<2.0	<2.0	nc	<2.0	<1.0	0	<2.0	<1.0	nc
	Phenanthrene	mg/kg	0.5	<0.5	<0.5	nc	50.7	58.3	14	<0.5	<0.5	nc
	Phenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Pyrene	mg/kg	0.5	<0.5	<0.5	nc	25.7	27.3	6	<0.5	<0.5	nc
pH (1:5)	pH (Lab)	pH_Units	0.1	-	-	-	-	-	-	-	-	-
Total Cyanide	Cyanide Total	mg/kg	1	<1.0	<1.0	nc	-	-	-	<1.0	<1.0	nc

Data Entry: KOB
Data Review: DM
AECOM

Table 4 - Appendix H
Field QA/QC
Field Soil Duplicate Results

AECOM

Field Duplicates (SOIL)			SDG	ES1003672	ES1003672		ES1003672	ES1003672		ES1003672	ES1003672		ES1003672	ES1003672		ES1003672	ES1003672		ES1003672
Filter: SDG in('ES1004014','ES1003971','ES1003970','ES1003672','ES1(			Field_ID	BH52_2.2-2.6	QC220	RPD	BH58_3.2-3.4	QC225	RPD	BH54_1.0-1.4	QC228	RPD	BH45_7.2-7.4	QC231	RPD	BH65_3.4-3.6	QC234	RPD	BH45_3.2-3.4
			Sampled_Date	22/02/2010	22/02/2010		22/02/2010	22/02/2010		23/02/2010	23/02/2010		23/02/2010	23/02/2010		24/02/2010	24/02/2010		23/02/2010
Method_Type	ChemName	Units	EQL																
Free Cyanide	Cyanide (Free)	mg/kg	1	<1.0	<1.0	nc	-	-	-	-	-	-	<1.0	<1.0	nc	<1.0	<1.0	nc	-
Hexavalent Chromium by Alk	Chromium (hexavalent)	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-
Total Mercury	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	0	**0.1**	**0.3**	**100**	<0.1	0.1	nc	<0.1	<0.1	nc	**0.3**	**0.6**	**67**	<0.1
Total Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	<5.0	<5.0	0	<5.0	6	18	<5.0	<5.0	nc	<5.0	<5.0	nc	**7**	**12**	**53**	<5.0
	Barium	mg/kg	10 (Primary): 5 (Interlab)	**20**	**<10.0**	nc	50	70	33	40	40	nc	50	60	18	**690**	**220**	**103**	60
	Beryllium	mg/kg	1	<1.0	<1.0	0	<1.0	<1.0	nc	<1.0	<1.0	nc	1	<1.0	nc	<1.0	<1.0	nc	<1.0
	Cadmium	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	**5**	**<1.0**	**133**	<1.0
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	**18**	**4**	**127**	9	8	12	12	13	8	9	11	20	**309**	**71**	**125**	16
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)	3	<2.0	40	**6**	**3**	**67**	3	<2.0	nc	5	4	22	6	7	15	5
	Copper	mg/kg	5 (Primary): 2 (Interlab)	**14**	**<5.0**	nc	70	59	17	28	21	29	5	7	33	**161**	**66**	**84**	<5.0
	Iron	mg/kg	50 (Primary): 10 (Interlab)	**12400**	**3740**	**107**	-	-	-	**118000**	**39600**	**99**	**21800**	**12700**	**53**	-	-	-	-
	Lead	mg/kg	5 (Primary): 2 (Interlab)	**35**	**<5.0**	nc	118	171	37	206	158	26	16	26	48	**2110**	**454**	**129**	13
	Manganese	mg/kg	5	**150**	**5**	**187**	160	130	21	**652**	**79**	**157**	193	167	14	**96**	**53**	**58**	318
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	**8**	**<2.0**	nc	**12**	**6**	**67**	3	2	40	6	5	18	45	72	46	7
	Vanadium	mg/kg	5	19	14	30	28	17	49	22	17	26	15	15	0	19	24	23	19
	Zinc	mg/kg	5	**61**	**<5.0**	nc	120	121	1	20	21	5	51	36	34	**1150**	**425**	**92**	29
TPH	TPH C10 - C14	mg/kg	50	<50.0	<50.0	nc	80	<50.0	46	**4380**	**10300**	**81**	<50.0	<50.0	nc	710	820	14	<50.0
	TPH C15 - C28	mg/kg	100	<100.0	<100.0	nc	450	520	14	**11700**	**27600**	**81**	<100.0	<100.0	nc	**7500**	**13200**	**55**	<100.0
	TPH C29-C36	mg/kg	100	<100.0	<100.0	nc	380	400	5	**3560**	**8940**	**86**	<100.0	<100.0	nc	5760	4920	16	<100.0
	TPH+C10 - C36 (Sum of total)	mg/kg	50	<50.0	<50.0	nc	910	920	1	**19600**	**46800**	**82**	<50.0	<50.0	nc	14000	18900	30	<50.0
TPH Volatiles/BTEX	Benzene	mg/kg	0.2 (Primary): 0.5 (Interlab)	<0.2	-	-	<0.2	<0.2	nc	-	-	-	<0.2	<0.2	nc	<0.2	<0.2	nc	-
	Ethylbenzene	mg/kg	0.5	<0.5	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-
	Toluene	mg/kg	0.5	<0.5	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-
	TPH C6 - C9	mg/kg	10	<10.0	<10.0	0	<10.0	<10.0	nc	**72**	**212**	**99**	12	<10.0	18	<10.0	<10.0	nc	10
	Xylene (m & p)	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-
	Xylene (o)	mg/kg	0.5	<0.5	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-
Moisture Content	Moisture	%	1	20.9	13.8	**41**	23.5	21	11	20.2	18.4	9	14.7	20.3	32	**38.6**	**16.4**	**81**	12.1
Organic Matter	TOC	%	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	nc	-	-	-	1.4	1.5	7	<0.5	<0.5	nc	-	-	-	-
PAH/Phenols (SIM)	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<4.0	<4.0	nc	<0.5	<0.5	nc	<0.5	<4.0	0	<0.5
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<4.0	<4.0	nc	<0.5	<0.5	nc	<0.5	<4.0	0	<0.5
	2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<4.0	<4.0	nc	<0.5	<0.5	nc	<0.5	<4.0	0	<0.5
	2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	nc	0.6	<0.5	18	**22.8**	**<4.0**	**nc**	<0.5	<0.5	nc	**<0.5**	**4.6**	**161**	<0.5
	2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<4.0	<4.0	nc	<0.5	<0.5	nc	<0.5	<4.0	0	<0.5
	2-chlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<4.0	<4.0	nc	<0.5	<0.5	nc	<0.5	<4.0	0	<0.5
	2-methylphenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	**7**	**<4.0**	**nc**	<0.5	<0.5	nc	<0.5	<4.0	0	<0.5
	2-nitrophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<4.0	<4.0	nc	<0.5	<0.5	nc	<0.5	<4.0	0	<0.5
	3-&4-methylphenol	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc	<8.0	<8.0	nc	<1.0	<1.0	nc	<1.0	<8.0	0	<1.0
	4-chloro-3-methylphenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	<4.0	<4.0	nc	<0.5	<0.5	nc	<0.5	<4.0	0	<0.5
	Acenaphthene	mg/kg	0.5	<0.5	<0.5	nc	1.6	2.4	40	**273**	**144**	**62**	<0.5	<0.5	nc	**5.2**	**35.3**	**149**	<0.5
	Acenaphthylene	mg/kg	0.5	**1**	**<0.5**	67	1.1	1.1	nc	**1000**	**468**	**72**	<0.5	<0.5	nc	**13.8**	**61**	**126**	<0.5
	Anthracene	mg/kg	0.5	**1**	**<0.5**	67	2.2	3.1	34	**1070**	**509**	**71**	<0.5	<0.5	nc	**28.1**	**156**	**139**	<0.5
	Benz(a)anthracene	mg/kg	0.5	**2.4**	**<0.5**	131	**2.8**	**6**	**73**	**912**	**467**	**65**	<0.5	<0.5	nc	**40.6**	**208**	**135**	<0.5
	Benzo(a) pyrene	mg/kg	0.5	**1.6**	**<0.5**	105	2.1	3.4	47	**533**	**253**	**71**	<0.5	<0.5	nc	**27**	**135**	**133**	<0.5
	Benzo(b)fluoranthene	mg/kg	0.5	**2.4**	**<0.5**	131	3.6	5.1	34	**824**	**488**	**51**	<0.5	<0.5	nc	**32.3**	**151**	**130**	<0.5
	Benzo(g,h,i)perylene	mg/kg	0.5	**0.9**	**<0.5**	57	1.4	1.7	19	**248**	**130**	**62**	<0.5	<0.5	nc	**17.4**	**62.4**	**113**	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5	**1**	**<0.5**	67	**1**	**2.4**	**82**	**324**	**117**	**94**	<0.5	<0.5	nc	**17.2**	**68.4**	**120**	<0.5
	Chrysene	mg/kg	0.5	**1.9**	**<0.5**	117	2.5	4.1	48	549	341	47	<0.5	<0.5	nc	**30.2**	**162**	**137**	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	**72.5**	**36.6**	**66**	<0.5	<0.5	nc	**3.7**	**23.3**	**145**	<0.5
	Fluoranthene	mg/kg	0.5	**4.1**	**<0.5**	157	**6.6**	**16.5**	**86**	2130	1780	18	<0.5	<0.5	nc	**82.9**	**463**	**139**	**<0.5**
	Fluorene	mg/kg	0.5	<0.5	<0.5	nc	1.3	2	42	**1290**	**653**	**66**	<0.5	<0.5	nc	**29.1**	**196**	**148**	<0.5
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	0.8	<0.5	46	1	1.2	18	**231**	**119**	**64**	<0.5	<0.5	nc	**13.6**	**54.3**	**120**	<0.5
	Naphthalene	mg/kg	0.5	<0.5	<0.5	nc	**10.9**	**3.4**	**105**	**6370**	**3680**	**54**	<0.5	<0.5	nc	**10.1**	**92.2**	**161**	0.5
	Pentachlorophenol	mg/kg	2 (Primary): 1 (Interlab)	<2.0	<2.0	nc	<2.0	<2.0	nc	<8.0	<8.0	nc	<2.0	<2.0	nc	<2.0	<8.0	0	<2.0
	Phenanthrene	mg/kg	0.5	**2.3**	**<0.5**	129	**5.9**	**11.1**	**61**	3130	2390	27	<0.5	<0.5	nc	**98.8**	**644**	**147**	**0.5**
	Phenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc	5	<4.0	22	<0.5	<0.5	nc	<0.5	<4.0	0	<0.5
	Pyrene	mg/kg	0.5	**3.9**	**<0.5**	155	**6.8**	**15.5**	**78**	**1670**	**851**	**65**	<0.5	<0.5	nc	**82.8**	**452**	**138**	<0.5
pH (1:5)	pH (Lab)	pH_Units	0.1	7.4	8.8	17	9.5	9.2	3	7.8	8.4	7	7.4	7.4	nc	-	-	-	-
WAD Cyanide By Discrete	Weak Acid Dissociable Cyanide	mg/kg	1	<1.0	<1.0	nc	-	-	-	-	-	-	<1.0	<1.0	nc	<1.0	<1.0	nc	-

Data Entry: KO
Data Review: DM
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Table 4 - Appendix H
Field QA/QC
Field Soil Duplicate Results

AECOM

Field Duplicates (SOIL)
Filter: SDG in('ES1004014','ES1003971','ES1003970','ES1003672','ES1(

			SDG	ES1003672		ES1003672	Interlab_D		ES1003672	Interlab_D		ES1003672	Interlab_D	
			Field_ID	QC230	RPD	BH52_2.2-2.6	QC221	RPD	BH58_3.2-3.4	QC226	RPD	BH45_7.2-7.4	QC232	RPD
			Sampled_Date	23/02/2010		22/02/2010	22/02/2010		22/02/2010	22/02/2010		23/02/2010	23/02/2010	
Method_Type	ChemName	Units	EQL											
Free Cyanide	Cyanide (Free)	mg/kg	1	-	-	<1.0	<1.0	nc	-	-	-	<1.0	<1.0	0
Hexavalent Chromium by Alk	Chromium (hexavalent)	mg/kg	0.5 (Primary): 1 (Interlab)	-	-	<0.5	<1.0	nc	-	-	-	<0.5	<1.0	0
Total Mercury	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	nc	<0.1	<0.05	nc	**0.1**	**0.2**	**67**	<0.1	<0.05	nc
Total Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	<5.0	nc	<5.0	<1.0	nc	<5.0	4	nc	<5.0	3	nc
	Barium	mg/kg	10 (Primary): 5 (Interlab)	70	15	20	<5.0	nc	50	36	33	50	33	41
	Beryllium	mg/kg	1	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	0	1	<1.0	nc
	Cadmium	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	nc	<1.0	<0.1	nc	<1.0	0.2	0	<1.0	<0.1	nc
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	18	12	**18**	**4**	**127**	9	10	11	9	10	11
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)	5	nc	3	<1.0	nc	**6**	**2**	**100**	5	7	33
	Copper	mg/kg	5 (Primary): 2 (Interlab)	5	nc	14	<2.0	nc	**70**	**27**	**89**	5	6	18
	Iron	mg/kg	50 (Primary): 10 (Interlab)	-	-	**12400**	**1030**	**169**	-	-	-	**21800**	**8730**	**86**
	Lead	mg/kg	5 (Primary): 2 (Interlab)	16	21	**35**	**5**	**150**	118	123	4	16	16	0
	Manganese	mg/kg	5	321	1	**150**	**8**	**180**	**160**	**68**	**81**	**193**	**424**	**75**
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	7	nc	8	<1.0	nc	**12**	**5**	**82**	6	8	29
	Vanadium	mg/kg	5	16	17	**19**	**6**	**104**	**28**	**16**	**55**	15	14	7
	Zinc	mg/kg	5	31	7	**61**	**6**	**164**	120	190	45	51	48	6
TPH	TPH C10 - C14	mg/kg	50	<50.0	nc	<50.0	<50.0	nc	80	<50.0	46	<50.0	<50.0	nc
	TPH C15 - C28	mg/kg	100	<100.0	nc	<100.0	<100.0	nc	450	320	34	<100.0	<100.0	nc
	TPH C29-C36	mg/kg	100	<100.0	nc	<100.0	<100.0	nc	380	270	34	<100.0	<100.0	nc
	TPH+C10 - C36 (Sum of total)	mg/kg	50	<50.0	nc	<50.0	0	nc	910	590	43	<50.0	0	nc
TPH Volatiles/BTEX	Benzene	mg/kg	0.2 (Primary): 0.5 (Interlab)	-	-	<0.2	<0.5	nc	<0.2	<0.2	nc	<0.2	<0.2	nc
	Ethylbenzene	mg/kg	0.5	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Toluene	mg/kg	0.5	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	TPH C6 - C9	mg/kg	10	<10.0	nc	<10.0	<10.0	nc	<10.0	<10.0	nc	12	<10.0	nc
	Xylene (m & p)	mg/kg	0.5 (Primary): 1 (Interlab)	-	-	<0.5	<1.0	nc	<0.5	<1.0	nc	<0.5	<1.0	nc
	Xylene (o)	mg/kg	0.5	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
Moisture Content	Moisture	%	1	12	1	20.9	13	47	**23.5**	**14**	**51**	14.7	15	2
Organic Matter	TOC	%	0.5 (Primary): 0.1 (Interlab)	-	-	<0.5	<0.1	nc	-	-	-	<0.5	0.2	0
PAH/Phenols (SIM)	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	nc	<0.5	<0.5	0	<0.5	<0.5	0
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	nc	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-dichlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	nc	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-dimethylphenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	nc	0.6	<0.5	18	<0.5	<0.5	0
	2,6-dichlorophenol	mg/kg	0.5	<0.5	0	<0.5	-	-	<0.5	-	-	<0.5	-	-
	2-chlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	nc	<0.5	<0.5	0	<0.5	<0.5	0
	2-methylphenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	nc	<0.5	<0.5	0	<0.5	<0.5	0
	2-nitrophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	nc	<0.5	<0.5	0	<0.5	<0.5	0
	3-&4-methylphenol	mg/kg	1	<1.0	0	<1.0	<1.0	nc	<1.0	<1.0	0	<1.0	<1.0	0
	4-chloro-3-methylphenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	nc	<0.5	<0.5	0	<0.5	<0.5	0
	Acenaphthene	mg/kg	0.5	<0.5	0	<0.5	<0.5	nc	1.6	1.4	13	<0.5	<0.5	0
	Acenaphthylene	mg/kg	0.5	<0.5	0	**1**	**<0.5**	nc	1.1	1.4	24	<0.5	<0.5	0
	Anthracene	mg/kg	0.5	<0.5	0	**1**	**<0.5**	nc	2.2	1.8	20	<0.5	<0.5	0
	Benz(a)anthracene	mg/kg	0.5	<0.5	0	**2.4**	**<0.5**	nc	**2.8**	**5.7**	**68**	<0.5	<0.5	0
	Benzo(a) pyrene	mg/kg	0.5	<0.5	0	**1.6**	**<0.5**	nc	**2.1**	**5.3**	**86**	<0.5	<0.5	0
	Benzo(b)fluoranthene	mg/kg	0.5	<0.5	0	2.4	-	-	3.6	-	-	<0.5	-	-
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	0	**0.9**	**<0.5**	nc	**1.4**	**2.9**	**70**	<0.5	<0.5	0
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	0	1	-	-	1	-	-	<0.5	-	-
	Chrysene	mg/kg	0.5	<0.5	0	**1.9**	**<0.5**	nc	**2.5**	**4.9**	**65**	<0.5	<0.5	0
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	0	<0.5	<0.5	nc	<0.5	0.8	46	<0.5	<0.5	0
	Fluoranthene	mg/kg	0.5	**0.9**	**57**	**4.1**	**<0.5**	nc	6.6	10.1	42	<0.5	<0.5	0
	Fluorene	mg/kg	0.5	<0.5	0	<0.5	<0.5	nc	1.3	1.1	17	<0.5	<0.5	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	<0.5	0	0.8	<0.5	nc	**1**	**2.4**	**82**	<0.5	<0.5	0
	Naphthalene	mg/kg	0.5	<0.5	0	<0.5	<0.5	nc	**10.9**	**2.5**	**125**	<0.5	<0.5	0
	Pentachlorophenol	mg/kg	2 (Primary): 1 (Interlab)	<2.0	0	<2.0	<1.0	nc	<2.0	<1.0	0	<2.0	<1.0	0
	Phenanthrene	mg/kg	0.5	**1.1**	**75**	**2.3**	**<0.5**	nc	5.9	4.7	23	<0.5	<0.5	0
	Phenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	nc	<0.5	<0.5	0	<0.5	<0.5	0
	Pyrene	mg/kg	0.5	0.8	46	**3.9**	**<0.5**	nc	**6.8**	**12.6**	**60**	<0.5	<0.5	0
pH (1:5)	pH (Lab)	pH_Units	0.1	-	-	7.4	-	-	9.5	-	-	7.4	-	-
WAD Cyanide By Discrete	Weak Acid Dissociable Cyanide	mg/kg	1	-	-	<1.0	-	-	-	-	-	<1.0	-	-

Data Entry: KO
Data Review: DM
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Table 5 - Appendix H
Field QA/QC
Field Soil Duplicate Results

Field Duplicates (SOIL)
Filter: SDG in('ES1004014','ES1003971','ES1003970','ES1003672','E

			SDG	ES1003672	ES1003672		ES1003672	Interlab_D	
			Field_ID	BH49_6.2-6.4	QC223	RPD	BH49_6.2-6.4	QC224	RPD
			Sampled_Date	22/02/2010	22/02/2010		22/02/2010	22/02/2010	
Method_Type	ChemName	Units	EQL						
Free Cyanide	Cyanide (Free)	mg/kg	1	<1.0	<1.0	0	<1.0	<1.0	nc
Hexavalent Chromium by Al	Chromium (hexavalent)	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<1.0	nc
Total Mercury	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	nc	<0.1	0.07	0
Total Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	14	13	7	14	12	15
	Barium	mg/kg	10 (Primary): 5 (Interlab)	<10.0	<10.0	nc	<10.0	14	33
	Beryllium	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc
	Cadmium	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	nc	<1.0	<0.1	nc
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	23	16	36	23	25	8
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)	<2.0	<2.0	nc	<2.0	3	40
	Copper	mg/kg	5 (Primary): 2 (Interlab)	<5.0	<5.0	nc	<5.0	4	0
	Iron	mg/kg	50 (Primary): 10 (Interlab)	24400	19800	21	24400	17000	36
	Lead	mg/kg	5 (Primary): 2 (Interlab)	7	<5.0	33	7	10	35
	Manganese	mg/kg	5	**20**	**10**	**67**	**20**	**53**	**90**
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	2	<2.0	nc	**2**	**9**	**127**
	Vanadium	mg/kg	5	49	38	25	49	31	45
	Zinc	mg/kg	5	<5.0	<5.0	nc	<5.0	22	nc
TPH	TPH C10 - C14	mg/kg	50	**160**	**60**	**91**	160	130	21
	TPH C15 - C28	mg/kg	100	**450**	**260**	**54**	**450**	**110**	**121**
	TPH C29-C36	mg/kg	100	150	<100.0	40	150	<100.0	nc
	TPH+C10 - C36 (Sum of total)	mg/kg	50	**760**	**320**	**81**	**760**	**240**	**104**
	TPH C6 - C9	mg/kg	10	<10.0	11	10	<10.0	10	nc
Moisture Content	Moisture	%	1	40.1	28.3	35	40.1	38	5
Organic Matter	TOC	%	0.5 (Primary): 0.1 (Interlab)	**<0.5**	**1.6**	**105**	<0.5	2.9	nc
pH (1:5)	pH (Lab)	pH_Units	0.1	8.2	8.7	6	8.2	-	-
SVOCs	1,2,4,5-tetrachlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2,4-trichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,3,5-Trichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	1,3,5-Trinitrobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	1,3-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,4-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1-naphthylamine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-(acetylamino) fluorene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,3,4,6-tetrachlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,4-dimethylphenol	mg/kg	0.5	**1.4**	**3.4**	**83**	**1.4**	**6.5**	**129**
	2,4-Dinitrotoluene	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc
	2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,6-dinitrotoluene	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc
	2-chloronaphthalene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-chlorophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-methylnaphthalene	mg/kg	0.5	4	5.3	28	**4**	**7.1**	**56**
	2-methylphenol	mg/kg	0.5	**<0.5**	**1**	**67**	<0.5	<0.5	nc
	2-nitroaniline	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc
	2-nitrophenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-Picoline	mg/kg	0.5	**0.9**	**<0.5**	**57**	0.9	-	-
	3-&4-methylphenol	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	nc	<0.5	<1.0	nc
	3,3-Dichlorobenzidine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	3-methylcholanthrene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	3-nitroaniline	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc
	4-(dimethylamino) azobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	4,4-DDE	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-aminobiphenyl	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-bromophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-chloro-3-methylphenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-chloroaniline	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-chlorophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-nitroaniline	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-Nitroquinoline-N-oxide	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	2-methyl-5-nitroaniline	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	7,12-dimethylbenz(a)anthracene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	a-BHC	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Acenaphthene	mg/kg	0.5	0.8	1	22	0.8	1	22
	Acenaphthylene	mg/kg	0.5	2.3	2.9	23	2.3	2.2	4
	Acetophenone	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Aldrin	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Aniline	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Anthracene	mg/kg	0.5	1.7	2.8	49	1.7	1.4	19
	Azobenzene	mg/kg	1 (Primary): 0.5 (Interlab)	<1.0	<1.0	nc	<1.0	<0.5	nc
	b-BHC	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Benz(a)anthracene	mg/kg	0.5	3.1	2.5	21	**3.1**	**1.3**	**82**
	Benzo(a) pyrene	mg/kg	0.5	2.5	1.9	27	**2.5**	**1**	**86**
	Benzo(b)&(k)fluoranthene	mg/kg	1	3	2	40	**3**	**1**	**100**
	Benzo(g,h,i)perylene	mg/kg	0.5	0.6	<0.5	18	0.6	<0.5	18
	Bis(2-chloroethoxy) methane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Bis(2-chloroisopropyl) ether	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Bis(2-ethylhexyl) phthalate	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc
	Butyl benzyl phthalate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Carbazole	mg/kg	0.5	2	1.8	11	2	1.7	16
	Chlorfenvinphos	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	Chlorobenzilate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	Chlorpyrifos	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	0
	Chlorpyrifos-methyl	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	Chrysene	mg/kg	0.5	2.4	2	18	**2.4**	**1.1**	**74**
	d-BHC	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	DDD	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	DDT	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc
	Diallate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	Diazinon	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dibenzofuran	mg/kg	0.5	2.1	3.1	38	2.1	2.7	25
	Dichlorvos	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dieldrin	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Diethylphthalate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dimethoate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dimethyl phthalate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Di-n-butyl phthalate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Di-n-octyl phthalate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Endosulfan I	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Endosulfan II	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Endosulfan sulphate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Endrin	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Ethion	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	Ethyl methanesulfonate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Fenthion	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Fluoranthene	mg/kg	0.5	4.4	5.7	26	4.4	4.1	7
	Fluorene	mg/kg	0.5	2.7	4.2	43	2.7	2.6	4
	g-BHC (Lindane)	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Heptachlor	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Heptachlor epoxide	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Hexachlorobenzene	mg/kg	1 (Primary): 0.5 (Interlab)	<1.0	<1.0	nc	<1.0	<0.5	nc
	Hexachlorobutadiene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Hexachlorocyclopentadiene	mg/kg	2.5 (Primary): 2 (Interlab)	<2.5	<2.5	nc	<2.5	<2.0	nc
	Hexachloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Hexachloropropene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc

Data Entry: KO
Data Review: DM
AECOM

Table 5 - Appendix H
Field QA/QC
Field Soil Duplicate Results

Field Duplicates (SOIL)
Filter: SDG in('ES1004014','ES1003971','ES1003970','ES1003672','E

			SDG	ES1003672	ES1003672		ES1003672	Interlab_D	
			Field_ID	BH49_6.2-6.4	QC223	RPD	BH49_6.2-6.4	QC224	RPD
			Sampled_Date	22/02/2010	22/02/2010		22/02/2010	22/02/2010	
Method_Type	ChemName	Units	EQL						
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	0.7	0.5	33	0.7	<0.5	33
	Isophorone	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Isosafrole (cis)	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	Isosafrole (trans)	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	Malathion	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Methapyrilene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	Methyl methanesulfonate	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Naphthalene	mg/kg	0.5	19.5	29.3	40	**19.5**	**50.7**	**91**
	N-nitrosodiethylamine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	N-nitrosodi-n-butylamine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	N-nitrosodi-n-propylamine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	N-Nitrosodiphenyl & Diphenylamine	mg/kg	1	<1.0	<1.0	nc	<1.0	-	-
	N-Nitrosomethylethylamine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	N-nitrosomorpholine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	N-nitrosopiperidine	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	N-nitrosopyrrolidine	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc
	Pentachlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Pentachloronitrobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Pentachlorophenol	mg/kg	1	<1.0	<1.0	nc	<1.0	<1.0	nc
	Phenacetin	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Phenanthrene	mg/kg	0.5	**5.7**	**14.2**	**85**	5.7	6	5
	Phenol	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Pirimphos-ethyl	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	Pronamide	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	Prothiofos	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Pyrene	mg/kg	0.5	3.7	4.8	26	3.7	2.8	28
	Safrole	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
VOCs	1,1,1,2-tetrachloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,1,1-trichloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,1,2,2-tetrachloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,1,2-trichloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,1-dichloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,1-dichloroethene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,1-dichloropropene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2,3-trichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2,3-trichloropropane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2,4-trichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2,4-trimethylbenzene	mg/kg	0.5	1	1.2	18	**1**	**1.9**	**62**
	1,2-dibromo-3-chloropropane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2-dibromoethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2-dichloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,2-dichloropropane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,3,5-trimethylbenzene	mg/kg	0.5	<0.5	0.6	18	<0.5	<0.5	nc
	1,3-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,3-dichloropropane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	1,4-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,2-dichloropropane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Methyl Ethyl Ketone	mg/kg	5	<5.0	<5.0	nc	<5.0	-	-
	2-chlorotoluene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-hexanone (MBK)	mg/kg	5	<5.0	<5.0	nc	<5.0	-	-
	4-chlorotoluene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	4-Methyl-2-pentanone	mg/kg	5	<5.0	<5.0	nc	<5.0	-	-
	Benzene	mg/kg	0.2 (Primary): 0.5 (Interlab)	1.6	2.4	40	**1.6**	**3.3**	**69**
	Bromobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Bromodichloromethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Bromoform	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Bromomethane	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc
	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Carbon tetrachloride	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Chlorobenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Chlorodibromomethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Chloroethane	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc
	Chloroform	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Chloromethane	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc
	cis-1,2-dichloroethene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	cis-1,3-dichloropropene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	cis-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	Dibromomethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dichlorodifluoromethane	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	1.3	nc
	Hexachlorobutadiene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Iodomethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	Isopropylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	n-butylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	n-propylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Pentachloroethane	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	p-isopropyltoluene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	sec-butylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Styrene	mg/kg	0.5	<0.5	0.5	nc	<0.5	<0.5	nc
	Trichloroethene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	tert-butylbenzene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Tetrachloroethene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	Toluene	mg/kg	0.5	1.8	2.5	33	**1.8**	**3.4**	**62**
	trans-1,2-dichloroethene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	trans-1,3-dichloropropene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	<0.5	nc
	trans-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	nc	<0.5	-	-
	Trichlorofluoromethane	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc
	Vinyl acetate	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc
	Vinyl chloride	mg/kg	5	<5.0	<5.0	nc	<5.0	<5.0	nc
	Xylene (m & p)	mg/kg	0.5 (Primary): 1 (Interlab)	2	2.6	26	**2**	**4**	**67**
	Xylene (o)	mg/kg	0.5	0.8	1	22	**0.8**	**1.8**	**77**
WAD Cyanide By Discrete	Weak Acid Dissociable Cyanide	mg/kg	1	<1.0	<1.0	nc	<1.0	-	-

Data Entry: KO
Data Review: DM
AECOM

Table 6 - Appendix H
Field QA/QC
Fiedl Soil Duplicate Results

AECOM

Field Duplicates (SOIL)
Filter: SDG in('ES1003671','ES1003391','ES1003431','ES1003390','ES

			SDG	ES1003390	ES1003390		ES1003391	ES1003391		ES1003671	ES1003671		ES1003671	ES1003671		ES1003671	ES1003671		ES1003671
			Field_ID	BH40_8.5-8.7	QC54	RPD	BH38_8.5-8.7	QC70	RPD	BH47-18.6-18.8	QC74	RPD	BH48-1.0-1.2	QC76	RPD	BH46-1.0-1.2	QC56	RPD	BH46-7.0-7.2
			Sampled_Date-Time	18/02/2010	18/02/2010		19/02/2010	19/02/2010		22/02/2010	22/02/2010		22/02/2010	22/02/2010		23/02/2010	23/02/2010		23/02/2010
Method_Type	ChemName	Units	EQL																
Free Cyanide	Cyanide (Free)	mg/kg	1	-	-	-	<1.0	<1.0	nc	-	-	-	-	-	-	-	-	-	<1.0
Hexavalent Chromium	Chromium (hexavalent)	mg/kg	0.5	-	-	-	<0.5	2	120	-	-	-	-	-	-	-	-	-	-
Total Mercury	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	-	-	-	<0.1	<0.1	nc	<0.1	<0.1	nc	0.3	0.3	0	<0.1	<0.1	nc	<0.1
Total Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	-	-	-	<5.0	<5.0	nc	7	<5.0	33	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0
	Barium	mg/kg	10 (Primary): 5 (Interlab)	-	-	-	70	80	13	20	20	nc	130	120	8	270	300	11	**50**
	Beryllium	mg/kg	1	-	-	-	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0
	Cadmium	mg/kg	1 (Primary): 0.1 (Interlab)	-	-	-	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	-	-	-	6	6	nc	**14**	**7**	**67**	8	8	0	**20**	**11**	**58**	7
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)	-	-	-	<2.0	<2.0	nc	<2.0	<2.0	nc	<2.0	<2.0	nc	5	5	nc	**3**
	Copper	mg/kg	5 (Primary): 2 (Interlab)	-	-	-	8	11	32	7	<5.0	nc	13	9	36	7	5	33	6
	Iron	mg/kg	50	-	-	-	8210	8350	2	-	-	-	-	-	-	-	-	-	-
	Lead	mg/kg	5 (Primary): 2 (Interlab)	-	-	-	42	48	13	11	10	10	259	226	14	11	12	9	12
	Manganese	mg/kg	5	-	-	-	167	145	14	**51**	**9**	**140**	90	108	18	285	352	21	154
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	-	-	-	4	4	c	**4**	**2**	**67**	3	3	0	6	6	nc	4
	Vanadium	mg/kg	5	-	-	-	11	12	9	**23**	**11**	**71**	14	11	24	13	14	7	12
	Zinc	mg/kg	5	-	-	-	53	60	12	**49**	**6**	**156**	201	136	39	29	34	16	27
TPH	TPH C10 - C14	mg/kg	50	-	-	-	<50.0	<50.0	nc	-	-	-	<50.0	<50.0	nc	<50.0	<50.0	nc	<50.0
	TPH C15 - C28	mg/kg	100	-	-	-	<100.0	<100.0	nc	-	-	-	200	150	29	<100.0	<100.0	nc	<100.0
	TPH C29-C36	mg/kg	100	-	-	-	<100.0	<100.0	nc	-	-	-	150	160	6	<100.0	<100.0	nc	<100.0
	TPH+C10 - C36 (Sum of total)	mg/kg	50	-	-	-	<50.0	<50.0	nc	-	-	-	350	310	12	<50.0	<50.0	nc	<50.0
TPH Volatiles/BTEX	Benzene	mg/kg	0.2	-	-	-	<0.2	<0.2	nc	-	-	-	<0.2	<0.2	nc	<0.2	<0.2	nc	<0.2
	Ethylbenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	Toluene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	TPH C6 - C9	mg/kg	10	-	-	-	<10.0	<10.0	nc	-	-	-	<10.0	<10.0	nc	<10.0	<10.0	nc	<10.0
	Xylene (m & p)	mg/kg	0.5 (Primary): 1 (Interlab)	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	Xylene (o)	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
Organic Matter	TOC	%	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	-	-	-	-	-	-	-
PAH/Phenols (SIM)	2,4,5-trichlorophenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	2,4,6-trichlorophenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	2,4-dichlorophenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	2,4-dimethylphenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	2,6-dichlorophenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	2-chlorophenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	2-methylphenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	2-nitrophenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	3-&4-methylphenol	mg/kg	1	-	-	-	<1.0	<1.0	nc	-	-	-	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0
	4-chloro-3-methylphenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	Acenaphthene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	Acenaphthylene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	Anthracene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	Benz(a)anthracene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	0.9	0.8	12	<0.5	<0.5	nc	<0.5
	Benzo(a) pyrene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	0.7	0.6	15	<0.5	<0.5	nc	<0.5
	Benzo(b)fluoranthene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	0.9	0.8	12	<0.5	<0.5	nc	<0.5
	Benzo(g,h,i)perylene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	Chrysene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	0.7	0.8	13	<0.5	<0.5	nc	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	Fluoranthene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	1.7	1.8	6	<0.5	<0.5	nc	<0.5
	Fluorene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	Naphthalene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	Pentachlorophenol	mg/kg	2 (Primary): 1 (Interlab)	-	-	-	<2.0	<2.0	nc	-	-	-	<2.0	<2.0	nc	<2.0	<2.0	nc	<2.0
	Phenanthrene	mg/kg	0.5	-	-	-	0.5	<0.5	nc	-	-	-	**1**	**1.8**	**57**	<0.5	<0.5	nc	<0.5
	Phenol	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5
	Pyrene	mg/kg	0.5	-	-	-	<0.5	<0.5	nc	-	-	-	1.8	2	11	<0.5	<0.5	nc	<0.5
pH (1:5)	pH (Lab)	pH_Units	0.1	8.6	6.5	28	9.8	9.9	1	-	-	-	-	-	-	-	-	-	-
WAD cyanide	Weak Acid Dissociable Cyanide	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0

Data Entry: KO
Data Review: DM
AECOM

Table 6 - Appendix H
Field QA/QC
Fiedl Soil Duplicate Results

AECOM

Field Duplicates (SOIL)
Filter: SDG in('ES1003671','ES1003391','ES1003431','ES1003390','ES

			SDG	ES1003671		ES1003671	ES1003671		ES1003671	ES1003671		ES1003391	Interlab_D		ES1003671	Interlab_D		ES1003671	Interlab_D
			Field_ID	QC57	RPD	BH39-16.0-16.2	QC101	RPD	BH48-14.5-14.7	QC78	RPD	BH37_8.3-8.5	QC68	RPD	BH46-7.0-7.2	QC58	RPD	BH47-18.6-18.8	QC75
			Sampled_Date-Time	23/02/2010		24/02/2010	24/02/2010		23/02/2010	23/02/2010		18/02/2010	18/02/2010		23/02/2010	23/02/2010		22/02/2010	22/02/2010
Method_Type	ChemName	Units	EQL																
Free Cyanide	Cyanide (Free)	mg/kg	1	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	-	-	-	<1.0	<1.0	nc	-	-
Hexavalent Chromium	Chromium (hexavalent)	mg/kg	0.5	-	-	-	-	-	<0.8	<0.5	nc	-	-	-	-	-	-	-	-
Total Mercury	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	nc	<0.1	<0.1	nc	**0.3**	<0.1	nc	<0.1	<0.05	nc	<0.1	<0.05	nc	<0.1	<0.05
Total Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	<5.0	nc	<5.0	<5.0	nc	<5.0	<5.0	nc	<5.0	3.0	nc	<5.0	2.0	nc	7.0	<1.0
	Barium	mg/kg	10 (Primary): 5 (Interlab)	**20**	**86**	20	20	nc	**30**	**10**	**100**	80	74	8	**50**	**22**	**78**	**20**	**6**
	Beryllium	mg/kg	1	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0
	Cadmium	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<0.1	nc	<1.0	<0.1	nc	<1.0	<0.1
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	8	13	7	10	35	4	6	40	10	8	22	7	7	nc	**14**	**5**
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)	**6**	**67**	<2.0	<2.0	nc	<2.0	<2.0	nc	6	7	15	3	4	29	<2.0	<1.0
	Copper	mg/kg	5 (Primary): 2 (Interlab)	6	nc	<5.0	6	18	23	<5.0	nc	<5.0	4	nc	**6**	**12**	**67**	7	7
	Iron	mg/kg	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lead	mg/kg	5 (Primary): 2 (Interlab)	10	18	**5**	**11**	**75**	**12**	**6**	**67**	11	14	24	12	11	9	**11**	**5**
	Manganese	mg/kg	5	144	7	<5.0	6	18	33	<5.0	nc	329	418	24	154	121	24	**51**	**10**
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	6	40	<2.0	<2.0	0	<2.0	<2.0	0	9	10	11	4	4	nc	**4**	**2**
	Vanadium	mg/kg	5	15	22	**14**	**25**	**56**	8	<5.0	46	16	13	21	12	10	18	**23**	**8**
	Zinc	mg/kg	5	38	34	<5.0	8	46	**27**	**7**	**118**	46	41	11	27	36	29	**49**	**8**
TPH	TPH C10 - C14	mg/kg	50	<50.0	nc	<50.0	<50.0	nc	1750	1980	12	<50.0	<50.0	nc	<50.0	<50.0	nc	-	-
	TPH C15 - C28	mg/kg	100	<100.0	nc	<100.0	<100.0	nc	3610	3490	3	<100.0	<100.0	nc	<100.0	<100.0	nc	-	-
	TPH C29-C36	mg/kg	100	<100.0	nc	<100.0	<100.0	nc	1040	1020	2	<100.0	<100.0	nc	<100.0	<100.0	nc	-	-
	TPH+C10 - C36 (Sum of total)	mg/kg	50	<50.0	nc	<50.0	<50.0	nc	6400	6490	1	<50.0	0	nc	<50.0	0	nc	-	-
TPH Volatiles/BTEX	Benzene	mg/kg	0.2	<0.2	nc	<0.2	<0.2	nc	-	-	-	<0.2	<0.2	nc	<0.2	<0.2	nc	-	-
	Ethylbenzene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Toluene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	TPH C6 - C9	mg/kg	10	<10.0	nc	<10.0	<10.0	nc	**90**	**424**	**130**	<10.0	<10.0	nc	<10.0	<10.0	nc	-	-
	Xylene (m & p)	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<1.0	nc	<0.5	<1.0	nc	-	-
	Xylene (o)	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
Organic Matter	TOC	%	0.5	-	-	-	-	-	**<0.5**	**1**	**67**	-	-	-	-	-	-	-	-
PAH/Phenols (SIM)	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	2,4-dichlorophenol	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	2,4-dimethylphenol	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	2,6-dichlorophenol	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	-	-	<0.5	-	-	-	-
	2-chlorophenol	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	2-methylphenol	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	2-nitrophenol	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	3-&4-methylphenol	mg/kg	1	<1.0	nc	<1.0	<1.0	nc	-	-	-	<1.0	<1.0	nc	<1.0	<1.0	nc	-	-
	4-chloro-3-methylphenol	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Acenaphthene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Acenaphthylene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Anthracene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Benz(a)anthracene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Benzo(a) pyrene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Benzo(b)fluoranthene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	-	-	<0.5	-	-	-	-
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	-	-	<0.5	-	-	-	-
	Chrysene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Fluoranthene	mg/kg	0.5	<0.5	nc	**<0.5**	**1**	**nc**	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Fluorene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Naphthalene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Pentachlorophenol	mg/kg	2 (Primary): 1 (Interlab)	<2.0	nc	<2.0	<2.0	nc	-	-	-	<2.0	<1.0	nc	<2.0	<1.0	nc	-	-
	Phenanthrene	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Phenol	mg/kg	0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
	Pyrene	mg/kg	0.5	<0.5	nc	**<0.5**	**1**	**nc**	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-
pH (1:5)	pH (Lab)	pH_Units	0.1	-	-	-	-	-	7	8.9	24	-	-	-	-	-	-	-	-
WAD cyanide	Weak Acid Dissociable Cyanide	mg/kg	1	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	nc	-	-	-	<1.0	-	-	-	-

Data Entry: KO
Data Review: DM
AECOM

Table 6 - Appendix H
Field QA/QC
Fiedl Soil Duplicate Results

AECOM

Field Duplicates (SOIL)
Filter: SDG in('ES1003671','ES1003391','ES1003431','ES1003390','ES

			SDG		ES1003671	Interlab_D		ES1003671	Interlab_D		ES1003391	Interlab_D	
			Field_ID	RPD	BH48-1.0-1.2	QC77	RPD	BH39-16.0-16.2	QC102	RPD	BH38_8.5-8.7	QC71	RPD
			Sampled_Date-Time		22/02/2010	22/02/2010		24/02/2010	24/02/2010		19/02/2010	19/02/2010	
Method_Type	ChemName	Units	EQL										
Free Cyanide	Cyanide (Free)	mg/kg	1	-				<1.0	<1.0	nc	<1.0	<1.0	nc
Hexavalent Chromium	Chromium (hexavalent)	mg/kg	0.5	-	-	-	-	-	-	-	<0.5	<0.5	nc
Total Mercury	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	0	**0.3**	**0.93**	**102**	<0.1	<0.05	nc	<0.1	<0.1	nc
Total Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	nc	<5.0	3.0	nc	<5.0	<1.0	nc	<5.0	<5.0	nc
	Barium	mg/kg	10 (Primary): 5 (Interlab)	**108**	**130**	**76**	**52**	**20**	**9**	**76**	70	80	13
	Beryllium	mg/kg	1	0	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	Cadmium	mg/kg	1 (Primary): 0.1 (Interlab)	0	<1.0	0.2	nc	<1.0	<0.1	nc	<1.0	<1.0	nc
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	**95**	8	7	13	7	7	0	6	8	29
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)	0	<2.0	1	nc	<2.0	<1.0	nc	<2.0	2	nc
	Copper	mg/kg	5 (Primary): 2 (Interlab)	0	13	14	7	<5.0	2	nc	8	12	40
	Iron	mg/kg	50	-	-	-	-	-	-	-	8210	8520	4
	Lead	mg/kg	5 (Primary): 2 (Interlab)	**75**	259	256	1	**5**	**10**	**67**	**42**	**74**	**55**
	Manganese	mg/kg	5	**134**	90	93	3	<5.0	<5.0	nc	167	186	11
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	**67**	3	4	29	<2.0	1	nc	4	4	nc
	Vanadium	mg/kg	5	**97**	14	11	24	14	9	43	11	14	24
	Zinc	mg/kg	5	**144**	201	175	14	<5.0	<5.0	nc	53	81	42
TPH	TPH C10 - C14	mg/kg	50	-	<50.0	<50.0	0	<50.0	<50.0	nc	<50.0	<50.0	nc
	TPH C15 - C28	mg/kg	100	-	**200**	**100**	**67**	<100.0	<100.0	nc	<100.0	<100.0	nc
	TPH C29-C36	mg/kg	100	-	150	110	31	<100.0	<100.0	nc	<100.0	<100.0	nc
	TPH+C10 - C36 (Sum of total)	mg/kg	50	-	350	210	50	<50.0	0	nc	<50.0	<50.0	nc
TPH Volatiles/BTEX	Benzene	mg/kg	0.2	-	<0.2	<0.2	nc	<0.2	<0.2	nc	<0.2	<0.2	nc
	Ethylbenzene	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Toluene	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	TPH C6 - C9	mg/kg	10	-	<10.0	<10.0	nc	<10.0	<10.0	nc	<10.0	<10.0	nc
	Xylene (m & p)	mg/kg	0.5 (Primary): 1 (Interlab)	-	<0.5	<1.0	nc	<0.5	<1.0	nc	<0.5	<0.5	nc
	Xylene (o)	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
Organic Matter	TOC	%	0.5	-	-	-	-	-	-	-	<0.5	0.7	33
PAH/Phenols (SIM)	2,4,5-trichlorophenol	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,4,6-trichlorophenol	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,4-dichlorophenol	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,4-dimethylphenol	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2,6-dichlorophenol	mg/kg	0.5	-	<0.5	-	-	<0.5	-	-	<0.5	<0.5	nc
	2-chlorophenol	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-methylphenol	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	2-nitrophenol	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	3-&4-methylphenol	mg/kg	1	-	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc
	4-chloro-3-methylphenol	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Acenaphthene	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Acenaphthylene	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Anthracene	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Benz(a)anthracene	mg/kg	0.5	-	0.9	0.6	40	<0.5	<0.5	nc	<0.5	<0.5	nc
	Benzo(a) pyrene	mg/kg	0.5	-	0.7	0.5	33	<0.5	<0.5	nc	<0.5	<0.5	nc
	Benzo(b)fluoranthene	mg/kg	0.5	-	0.9	-	-	<0.5	-	-	<0.5	<0.5	nc
	Benzo(g,h,i)perylene	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Benzo(k)fluoranthene	mg/kg	0.5	-	<0.5	-	-	<0.5	-	-	<0.5	<0.5	nc
	Chrysene	mg/kg	0.5	-	0.7	0.5	33	<0.5	<0.5	nc	<0.5	<0.5	nc
	Dibenz(a,h)anthracene	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Fluoranthene	mg/kg	0.5	-	**1.7**	**1**	**52**	<0.5	<0.5	nc	<0.5	<0.5	nc
	Fluorene	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Naphthalene	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Pentachlorophenol	mg/kg	2 (Primary): 1 (Interlab)	-	<2.0	<1.0	nc	<2.0	<1.0	nc	<2.0	<2.0	nc
	Phenanthrene	mg/kg	0.5	-	1	0.6	50	<0.5	<0.5	nc	0.5	0.5	nc
	Phenol	mg/kg	0.5	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc
	Pyrene	mg/kg	0.5	-	**1.8**	**1**	**57**	<0.5	<0.5	nc	<0.5	0.6	18
pH (1:5)	pH (Lab)	pH_Units	0.1	-	-	-	-	-	-	-	9.8	9.9	1
WAD cyanide	Weak Acid Dissociable Cyanide	mg/kg	1	-	-	-	-	<1.0			-	-	-

Data Entry: KO
Data Review: DM
AECOM

Table 7 - Appendix H
Field QA/QC
Soil Duplicate Results

			SDG	ES1003671	ES1003671	
			Field_ID	BH48-14.5-14.7	QC78	RPD
			Sampled_Date-Time	23/02/2010	23/02/2010	
Method_Type	ChemName	Units	EQL			
Free Cyanide	Cyanide (Free)	mg/kg	1	<1.0	<1.0	nc
Hexavalent Chromium	Chromium (hexavalent)	mg/kg	0.5	<0.8	<0.5	nc
Total Mercury	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	**0.3**	<0.1	nc
Total Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	<5.0	<5.0	nc
	Barium	mg/kg	10 (Primary): 5 (Interlab)	**30**	**10**	**100**
	Beryllium	mg/kg	1	<1.0	<1.0	nc
	Cadmium	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	nc
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	4	6	40
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)	<2.0	<2.0	nc
	Copper	mg/kg	5 (Primary): 2 (Interlab)	23	<5.0	nc
	Iron	mg/kg	50	-	-	-
	Lead	mg/kg	5 (Primary): 2 (Interlab)	**12**	**6**	**67**
	Manganese	mg/kg	5	33	<5.0	nc
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	<2.0	<2.0	0
	Vanadium	mg/kg	5	8	<5.0	46
	Zinc	mg/kg	5	**27**	**7**	**118**
TPH	TPH C10 - C14	mg/kg	50	1750	1980	12
	TPH C15 - C28	mg/kg	100	3610	3490	3
	TPH C29-C36	mg/kg	100	1040	1020	2
	TPH+C10 - C36 (Sum of total)	mg/kg	50	6400	6490	1
	TPH C6 - C9	mg/kg	10	**90**	**424**	**130**
Organic Matter	TOC	%	0.5	<0.5	1	nc
pH (1:5)	pH (Lab)	pH_Units	0.1	7	8.9	24
SVOCs	1,2,4,5-tetrachlorobenzene	mg/kg	0.5	<2.5	<2.5	nc
	1,2,4-trichlorobenzene	mg/kg	0.5	<1.2	<1.2	nc
	1,2-dichlorobenzene	mg/kg	0.5	<1.2	<1.2	nc
	1,3,5-Trichlorobenzene	mg/kg	0.5	<1.2	<1.2	nc
	1,3,5-Trinitrobenzene	mg/kg	0.5	<1.2	<1.2	nc
	1,3-dichlorobenzene	mg/kg	0.5	<1.2	<1.2	nc
	1,4-dichlorobenzene	mg/kg	0.5	<1.2	<1.2	nc
	1-naphthylamine	mg/kg	0.5	<1.2	<1.2	nc
	2-(acetylamino) fluorene	mg/kg	0.5	<1.2	<1.2	nc
	2,3,4,6-tetrachlorophenol	mg/kg	0.5	<1.2	<1.2	nc
	2,4,5-trichlorophenol	mg/kg	0.5	<1.2	<1.2	nc
	2,4,6-trichlorophenol	mg/kg	0.5	<1.2	<1.2	nc
	2,4-dichlorophenol	mg/kg	0.5	<1.2	<1.2	nc
	2,4-dimethylphenol	mg/kg	0.5	97.6	119	20
	2,4-Dinitrotoluene	mg/kg	1	<1.2	<1.2	nc
	2,6-dichlorophenol	mg/kg	0.5	<1.2	<1.2	nc
	2,6-dinitrotoluene	mg/kg	1	<1.2	<1.2	nc
	2-chloronaphthalene	mg/kg	0.5	<1.2	<1.2	nc
	2-chlorophenol	mg/kg	0.5	<1.2	<1.2	nc
	2-methylnaphthalene	mg/kg	0.5	144	196	31
	2-methylphenol	mg/kg	0.5	30.2	39.1	26
	2-nitroaniline	mg/kg	1	<1.2	<1.2	nc
	2-nitrophenol	mg/kg	0.5	<1.2	<1.2	nc
	2-Picoline	mg/kg	0.5	<1.2	<1.2	nc
	3-&4-methylphenol	mg/kg	0.5	**57.1**	**98.3**	**53**
	3,3-Dichlorobenzidine	mg/kg	0.5	1.6	<1.2	29
	3-methylcholanthrene	mg/kg	0.5	<1.2	<1.2	nc
	3-nitroaniline	mg/kg	1	<1.2	<1.2	nc
	4-(dimethylamino) azobenzene	mg/kg	0.5	<1.2	<1.2	nc
	4,4-DDE	mg/kg	0.5	<1.2	<1.2	nc
	4-aminobiphenyl	mg/kg	0.5	<1.2	<1.2	nc
	4-bromophenyl phenyl ether	mg/kg	0.5	<1.2	<1.2	nc
	4-chloro-3-methylphenol	mg/kg	0.5	<1.2	<1.2	nc
	4-chloroaniline	mg/kg	0.5	<1.2	<1.2	nc
	4-chlorophenyl phenyl ether	mg/kg	0.5	<1.2	<1.2	nc
	4-nitroaniline	mg/kg	0.5	<1.2	<1.2	nc
	4-Nitroquinoline-N-oxide	mg/kg	0.5	<1.2	<1.2	nc
	2-methyl-5-nitroaniline	mg/kg	0.5	<1.2	<1.2	nc
	7,12-dimethylbenz(a)anthracene	mg/kg	0.5	<1.2	<1.2	nc
	a-BHC	mg/kg	0.5	<1.2	1.3	8
	Acenaphthene	mg/kg	0.5	12.9	18.2	34
	Acenaphthylene	mg/kg	0.5	113	142	23
	Acetophenone	mg/kg	0.5	<1.2	<1.2	nc
	Aldrin	mg/kg	0.5	<1.2	<1.2	nc
	Aniline	mg/kg	0.5	<1.2	<1.2	nc
	Anthracene	mg/kg	0.5	**54**	**98**	**58**
	Azobenzene	mg/kg	1	<1.0	<1.0	nc
	b-BHC	mg/kg	0.5	<1.2	<1.2	nc
	Benz(a)anthracene	mg/kg	0.5	39.2	54.8	33
	Benzo(a) pyrene	mg/kg	0.5	31	43.4	33
	Benzo(b)&(k)fluoranthene	mg/kg	1	39	54	32
	Benzo(g,h,i)perylene	mg/kg	0.5	8.5	11.8	33
	Bis(2-chloroethoxy) methane	mg/kg	0.5	<1.2	<1.2	nc
	Bis(2-chloroisopropyl) ether	mg/kg	0.5	<1.2	<1.2	nc
	Bis(2-ethylhexyl) phthalate	mg/kg	5	<5.0	<5.0	nc
	Butyl benzyl phthalate	mg/kg	0.5	<1.2	<1.2	nc
	Carbazole	mg/kg	0.5	32.8	41.2	23
	Chlorfenvinphos	mg/kg	0.5	<1.4	<1.4	nc
	Chlorobenzilate	mg/kg	0.5	<1.2	<1.2	nc
	Chlorpyrifos	mg/kg	0.5	<1.2	<1.2	nc
	Chlorpyrifos-methyl	mg/kg	0.5	<1.2	<1.2	nc
	Chrysene	mg/kg	0.5	30.8	41.7	30
	d-BHC	mg/kg	0.5	<1.2	<1.2	nc
	DDD	mg/kg	0.5	<1.2	<1.2	nc
	DDT	mg/kg	1	<1.2	<1.2	nc
	Diallate	mg/kg	0.5	<1.2	<1.2	nc
	Diazinon	mg/kg	0.5	<1.2	<1.2	nc
	Dibenz(a,h)anthracene	mg/kg	0.5	2.9	3.9	29
	Dibenzofuran	mg/kg	0.5	**49.4**	**90.5**	**59**
	Dichlorvos	mg/kg	0.5	<1.2	<1.2	nc
	Dieldrin	mg/kg	0.5	<1.2	<1.2	nc
	Diethylphthalate	mg/kg	0.5	<1.2	<1.2	nc
	Dimethoate	mg/kg	0.5	<1.2	<1.2	nc
	Dimethyl phthalate	mg/kg	0.5	<1.2	<1.2	nc
	Di-n-butyl phthalate	mg/kg	0.5	<1.2	<1.2	nc
	Di-n-octyl phthalate	mg/kg	0.5	<1.2	<1.2	nc
	Endosulfan I	mg/kg	0.5	<1.2	<1.2	nc
	Endosulfan II	mg/kg	0.5	<1.2	<1.2	nc
	Endosulfan sulphate	mg/kg	0.5	<1.2	<1.2	nc
	Endrin	mg/kg	0.5	<1.2	<1.2	nc
	Ethion	mg/kg	0.5	<1.2	<1.2	nc
	Ethyl methanesulfonate	mg/kg	0.5	<1.2	<1.2	nc
	Fenthion	mg/kg	0.5	<1.2	<1.2	nc
	Fluoranthene	mg/kg	0.5	124	157	23
	Fluorene	mg/kg	0.5	94.3	121	25
	g-BHC (Lindane)	mg/kg	0.5	<1.2	<1.2	nc
	Heptachlor	mg/kg	0.5	<1.2	<1.2	nc

Data Entry: KO
Data Review: DM
AECOM

Table 7 - Appendix H
Field QA/QC
Soil Duplicate Results

			SDG	ES1003671	ES1003671	
			Field_ID	BH48-14.5-14.7	QC78	RPD
			Sampled_Date-Time	23/02/2010	23/02/2010	
Method_Type	ChemName	Units	EQL			
	Heptachlor epoxide	mg/kg	0.5	<1.2	<1.2	nc
	Hexachlorobenzene	mg/kg	1	<1.2	<1.2	nc
	Hexachlorobutadiene	mg/kg	0.5	<1.2	<1.2	nc
	Hexachlorocyclopentadiene	mg/kg	2.5	<2.5	<2.5	nc
	Hexachloroethane	mg/kg	0.5	<1.2	<1.2	nc
	Hexachloropropene	mg/kg	0.5	<1.2	<1.2	nc
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	8.9	12.5	34
	Isophorone	mg/kg	0.5	<1.2	<1.2	nc
	Isosafrole (cis)	mg/kg	0.5	<1.2	<1.2	nc
	Isosafrole (trans)	mg/kg	0.5	<1.2	<1.2	nc
	Malathion	mg/kg	0.5	<1.2	<1.2	nc
	Methapyrilene	mg/kg	0.5	<1.2	<1.2	nc
	Methyl methanesulfonate	mg/kg	0.5	<1.2	<1.2	nc
	Naphthalene	mg/kg	0.5	517	720	33
	N-nitrosodiethylamine	mg/kg	0.5	<1.2	<1.2	nc
	N-nitrosodi-n-butylamine	mg/kg	0.5	<1.2	<1.2	nc
	N-nitrosodi-n-propylamine	mg/kg	0.5	<1.2	<1.2	nc
	N-Nitrosodiphenyl & Diphenylamine	mg/kg	1	<2.5	<2.5	nc
	N-Nitrosomethylethylamine	mg/kg	0.5	<1.2	<1.2	nc
	N-nitrosomorpholine	mg/kg	0.5	<1.2	<1.2	nc
	N-nitrosopiperidine	mg/kg	0.5	<1.2	<1.2	nc
	N-nitrosopyrrolidine	mg/kg	1	<1.2	<1.2	nc
	Pentachlorobenzene	mg/kg	0.5	<1.2	<1.2	nc
	Pentachloronitrobenzene	mg/kg	0.5	<1.2	<1.2	nc
	Pentachlorophenol	mg/kg	1	<2.0	<2.0	nc
	Phenacetin	mg/kg	0.5	<1.2	<1.2	nc
	Phenanthrene	mg/kg	0.5	215	267	22
	Phenol	mg/kg	0.5	9.4	11.2	17
	Pirimphos-ethyl	mg/kg	0.5	<1.2	<1.2	nc
	Pronamide	mg/kg	0.5	<1.2	<1.2	nc
	Prothiofos	mg/kg	0.5	<1.2	<1.2	nc
	Pyrene	mg/kg	0.5	101	128	24
	Safrole	mg/kg	0.5	<1.2	<1.2	nc
VOCs	1,1,1,2-tetrachloroethane	mg/kg	0.5	<0.5	<0.5	nc
	1,1,1-trichloroethane	mg/kg	0.5	<0.5	<0.5	nc
	1,1,2,2-tetrachloroethane	mg/kg	0.5	<0.5	<0.5	nc
	1,1,2-trichloroethane	mg/kg	0.5	<0.5	<0.5	nc
	1,1-dichloroethane	mg/kg	0.5	<0.5	<0.5	nc
	1,1-dichloroethene	mg/kg	0.5	<0.5	<0.5	nc
	1,1-dichloropropene	mg/kg	0.5	<0.5	<0.5	nc
	1,2,3-trichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc
	1,2,3-trichloropropane	mg/kg	0.5	<0.5	<0.5	nc
	1,2,4-trichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc
	1,2,4-trimethylbenzene	mg/kg	0.5	**8.7**	**40.9**	**130**
	1,2-dibromo-3-chloropropane	mg/kg	0.5	<0.5	<0.5	nc
	1,2-dibromoethane	mg/kg	0.5	<0.5	<0.5	nc
	1,2-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc
	1,2-dichloroethane	mg/kg	0.5	<0.5	<0.5	nc
	1,2-dichloropropane	mg/kg	0.5	<0.5	<0.5	nc
	1,3,5-trimethylbenzene	mg/kg	0.5	**3.9**	**21.1**	**138**
	1,3-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc
	1,3-dichloropropane	mg/kg	0.5	<0.5	<0.5	nc
	1,4-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	nc
	2,2-dichloropropane	mg/kg	0.5	<0.5	<0.5	nc
	Methyl Ethyl Ketone	mg/kg	5	<5.0	<5.0	nc
	2-chlorotoluene	mg/kg	0.5	<0.5	<0.5	nc
	2-hexanone (MBK)	mg/kg	5	<5.0	<5.0	nc
	4-chlorotoluene	mg/kg	0.5	<0.5	<0.5	nc
	4-Methyl-2-pentanone	mg/kg	5	<5.0	<5.0	nc
	Benzene	mg/kg	0.2	**8.9**	**35**	**119**
	Bromobenzene	mg/kg	0.5	<0.5	<0.5	nc
	Bromodichloromethane	mg/kg	0.5	<0.5	<0.5	nc
	Bromoform	mg/kg	0.5	<0.5	<0.5	nc
	Bromomethane	mg/kg	5	<5.0	<5.0	nc
	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	nc
	Carbon tetrachloride	mg/kg	0.5	<0.5	<0.5	nc
	Chlorobenzene	mg/kg	0.5	<0.5	<0.5	nc
	Chlorodibromomethane	mg/kg	0.5	<0.5	<0.5	nc
	Chloroethane	mg/kg	5	<5.0	<5.0	nc
	Chloroform	mg/kg	0.5	<0.5	<0.5	nc
	Chloromethane	mg/kg	5	<5.0	<5.0	nc
	cis-1,2-dichloroethene	mg/kg	0.5	<0.5	<0.5	nc
	cis-1,3-dichloropropene	mg/kg	0.5	<0.5	<0.5	nc
	cis-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	nc
	Dibromomethane	mg/kg	0.5	<0.5	<0.5	nc
	Dichlorodifluoromethane	mg/kg	5	<5.0	<5.0	nc
	Ethylbenzene	mg/kg	0.5	**1.6**	**7.6**	**130**
	Hexachlorobutadiene	mg/kg	0.5	<0.5	<0.5	nc
	Iodomethane	mg/kg	0.5	<0.5	<0.5	nc
	Isopropylbenzene	mg/kg	0.5	<0.5	<0.5	nc
	n-butylbenzene	mg/kg	0.5	<0.5	<0.5	nc
	n-propylbenzene	mg/kg	0.5	**<0.5**	**1.2**	**82**
	Pentachloroethane	mg/kg	0.5	<0.5	<0.5	nc
	p-isopropyltoluene	mg/kg	0.5	<0.5	0.6	18
	sec-butylbenzene	mg/kg	0.5	<0.5	<0.5	nc
	Styrene	mg/kg	0.5	**9.1**	**43**	**130**
	Trichloroethene	mg/kg	0.5	<0.5	<0.5	nc
	tert-butylbenzene	mg/kg	0.5	<0.5	<0.5	nc
	Tetrachloroethene	mg/kg	0.5	<0.5	<0.5	nc
	Toluene	mg/kg	0.5	**20.8**	**95.5**	**128**
	trans-1,2-dichloroethene	mg/kg	0.5	<0.5	<0.5	nc
	trans-1,3-dichloropropene	mg/kg	0.5	<0.5	<0.5	nc
	trans-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	nc
	Trichlorofluoromethane	mg/kg	5	<5.0	<5.0	nc
	Vinyl acetate	mg/kg	5	<5.0	<5.0	nc
	Vinyl chloride	mg/kg	5	<5.0	<5.0	nc
	Xylene (m & p)	mg/kg	0.5	**20.1**	**101**	**134**
	Xylene (o)	mg/kg	0.5	**7**	**31.3**	**127**
WAD cyanide	Weak Acid Dissociable Cyanide	mg/kg	1	<1.0	<1.0	nc

Data Entry: KO
Data Review: DM
AECOM

Table 8 - Appendix H
Groundwater Duplicates

AECOM

	Field_ID	MW08	QC321	RPD	QC320	RPD	MW198	QC323	RPD	QC324	RPD	MW58	QC237	RPD
	LocCode	BH046	BH046		BH046		BH198	BH198		BH198		AECOM_BH58	AECOM_BH58	
	WellCode	MW08	MW08	%	MW08	%	MW198	MW198	%	MW198	%	MW58	MW58	%
	Sampled_Date	16/03/2010	16/03/2010		16/03/2010		16/03/2010	16/03/2010		16/03/2010		17/03/2010	17/03/2010	
ChemName	Units	EQL		Inter-laboratory		Intra-laboratory		Intra-laboratory		Inter-laboratory			Intra-laboratory	
Metals														
Lead (Filtered)	mg/L	0.0001	<0.0002	<0.001	nc	<0.0002	nc	<0.0001	<0.0001	nc	<0.001	nc	0.0012	0.0015	22
Arsenic (Filtered)	mg/L	0.0002	0.0096	<0.02	nc	0.009	6	0.0035	0.0036	3	<0.01	nc	0.0024	0.0018	29
Barium (Filtered)	mg/L	0.0005	2.23	2.42	8	2.33	4	0.0714	0.0685	4	0.07	2	1.85	1.47	23
Beryllium (Filtered)	mg/L	0.0001	<0.0001	<0.001	nc	<0.0001	nc	<0.0001	<0.0001	nc	<0.001	nc	<0.0001	<0.0001	nc
Cadmium (Filtered)	mg/L	0.00005	0.0002	<0.0002	nc	0.0016	**156**	0.00005	<0.00005	nc	<0.0001	nc	0.0034	0.0033	3
Chromium (hexavalent)	µg/L	2	<2	-	nc	<2	nc	<2	<2	nc	-	nc	<2	6	nc
Chromium (III+VI) (Filtered)	mg/L	0.0002	<0.0005	0.001	nc	<0.0005	nc	0.0025	0.0024	4	<0.005	nc	<0.0005	0.0008	nc
Cobalt (Filtered)	mg/L	0.0001	0.001	0.011	**167**	0.0009	11	0.0029	0.0028	4	0.002	37	0.001	0.001	0
Copper (Filtered)	mg/L	0.0005	<0.001	<0.01	nc	<0.001	nc	<0.0005	<0.0005	nc	<0.01	nc	<0.001	<0.001	nc
Iron	mg/L	0.05	-	-		-		-	-	-	16.2	nc	-	-	nc
Iron (Filtered)	mg/L	0.05	-	-		-		15.9	16.5	4	-	nc	7.03	7.15	2
Manganese (Filtered)	mg/L	0.0005	0.221	0.294	28	0.246	11	0.408	0.395	3	0.368	10	0.226	0.208	8
Mercury (Filtered)	mg/L	0.0001	<0.0001	<0.0002	nc	<0.0001	nc	<0.0001	<0.0001	nc	<0.0002	nc	<0.0001	<0.0001	nc
Nickel (Filtered)	mg/L	0.0005	0.0144	0.013	10	0.0158	9	0.0814	0.0821	1	0.087	7	0.104	0.097	7
Vanadium (Filtered)	mg/L	0.0002	0.0013	<0.01	nc	0.0014	7	0.001	0.0009	11	<0.005	nc	0.0024	0.0018	29
Zinc (Filtered)	mg/L	0.001	0.018	0.012	40	0.012	40	0.113	0.116	3	0.097	15	0.089	0.086	3
TPH														
TPH C6 - C9	µg/L	20	20	-	nc	20	0	<20	<20	nc	<50	nc	<20	<20	nc
TPH C10 - C14	µg/L	50	950	860	10	750	24	120	160	29	170	34	<50	<50	nc
TPH C15 - C28	µg/L	100	3190	5490	**53**	2630	19	590	690	16	580	2	<100	<100	nc
TPH C29-C36	µg/L	50	350	660	**61**	280	22	<50	<50	nc	<50	nc	<50	<50	nc
TPH+C10 - C36 (Sum of total)	µg/L	50	4490	7010	44	3660	20	710	850	18	750	5	<50	<50	nc
BTEX														
Benzene	µg/L	1	7	8	13	9	25	<1	<1	nc	<5	nc	<1	<1	nc
Ethylbenzene	µg/L	2	<2	<5	nc	<2	nc	<2	<2	nc	<5	nc	<2	<2	nc
Toluene	mg/L	0.002	<0.005	<0.005	nc	<0.005	nc	<0.005	<0.005	nc	<0.005	nc	<0.005	<0.005	nc
Xylene (m & p)	µg/L	2	<2	<10	nc	<2	nc	<2	<2	nc	<10	nc	<2	<2	nc
Xylene (o)	µg/L	2	2	<5	nc	3	40	<2	<2	nc	<5	nc	<2	<2	nc
Xylene Total	µg/L		3	<15	nc	4	29	<4	<4	nc	<15	nc	<4	<4	nc
Inorganics														
Weak Acid Dissociable Cyanide	mg/L	0.004	0.006	-	-	0.004	40	<0.004	<0.004	nc	-	nc	<0.004	<0.004	nc
Alkalinity (Hydroxide) as CaCO3	µg/L	1000	-	-	-	-	-	<1000	<1000	nc	-	nc	<1000	<1000	nc
Alkalinity (total) as CaCO3	mg/L	1	-	-	-	-	-	274	271	1	-	nc	744	726	2
Alkalinity (total)	mg/L	5	-	-	-	-	-	-	-	-	250	nc	-	-	nc
Bicarbonate as CaCO3	mg/L	1	-	-	-	-	-	274	271	1	-	nc	744	726	2
Ammonia	mg/L	0.01	-	-	-	-	-	-	-	-	20	nc	-	-	nc
Ammonia as N	µg/L	10	-	-	-	-	-	27400	28200	3	-	nc	13600	13800	1
Anions Total	meq/L	0.01	-	-	-	-	-	67.4	66.5	1	-	nc	441	445	1
Carbonate	mg/L	1	-	-	-	-	-	<1	<1	nc	-	nc	<1	<1	nc
Cations Total	meq/L	0.01	-	-	-	-	-	69	68.8	0	-	nc	469	481	3
Chloride	mg/L	0.5	-	-	-	-	-	2030	2010	1	1900	7	14900	15000	1
Cyanide (WAD)	mg/L	0.01	-	<0.01	-	-	-	-	-	-	0.02	nc	-	-	nc
Cyanide (Free)	mg/L	0.004	<0.004	<0.005	nc	<0.004	nc	<0.004	<0.004	nc	<0.005	nc	<0.004	<0.004	nc
Ferrous Iron	mg/L	0.05	-	-	-	-	-	15	14.6	3	-	nc	7.84	7.96	2
Fluoride	mg/L	0.02	-	-	-	-	-	-	-	-	-	nc	<0.02	<0.02	nc
Ionic Balance	%	0.01	-	-	-	-	-	1.2	1.67	33	-	nc	3.06	3.89	24
Magnesium	mg/L	0.1	-	-	-	-	-	-	-	-	105	nc	-	-	nc
Magnesium (Filtered)	mg/L	1	-	-	-	-	-	113	112	1	-	nc	742	749	1
Nitrate (as N)	mg/L	0.01	-	-	-	-	-	<0.01	<0.01	nc	-	nc	0.06	0.06	0
Nitrate (as NO3-)	mg/L	0.01	-	-	-	-	-	-	-	-	<0.01	nc	-	-	nc
Nitrite (as N)	mg/L	0.01	-	-	-	-	-	<0.01	<0.01	nc	-	nc	<0.01	<0.01	nc
Nitrogen (Total Oxidised)	mg/L	0.01	-	-	-	-	-	<0.01	<0.01	nc	-	nc	0.06	0.06	0
pH (Lab)	pH_Units	0.01	7.88	-	-	-	-	6.13	-	nc	-	nc	5.95	5.81	2
Reactive Phosphorus as P	mg/L	0.01	-	-	-	-	-	-	-	nc	-	nc	0.27	0.27	0
Sodium	mg/L	0.1	-	-	-	-	-	-	-	nc	1110	nc	-	-	nc
Sodium (Filtered)	mg/L	1	-	-	-	-	-	1160	1150	1	-	nc	8840	9100	3
Sulphate	mg/L	0.5	-	-	-	-	-	221	216	2	330	**40**	270	289	7
Sulphur as S	mg/L	1	-	-	-	-	-	124	121	2	109	13	169	172	2
TOC	mg/L	1	95	65	38	87	9	9	7	25	12	29	15	15	0
Calcium	mg/L	0.1	-	-	-	-	-	-	-	-	150	nc	-	-	nc
Calcium (Filtered)	mg/L	1	-	-	-	-	-	163	163	0	-	nc	309	319	3
Potassium	mg/L	0.1	-	-	-	-	-	-	-	-	46.9	nc	-	-	nc
Potassium (Filtered)	mg/L	1	-	-	-	-	-	50	50	0	-	nc	306	318	4
VOCs														
N-nitrosodiethylamine	µg/L	0.5	<0.5	<2	nc	<0.5		<2	<2	nc	<2	nc	<2	<2	nc
N-nitrosodi-n-butylamine	µg/L	0.5	<0.5	<2	nc	<0.5		<2	<2	nc	<2	nc	<2	<2	nc
N-nitrosodi-n-propylamine	µg/L	0.5	<0.5	<2	nc	<0.5		<2	<2	nc	<2	nc	<2	<2	nc
N-Nitrosomethylethylamine	µg/L	0.5	<0.5	-	-	<0.5		<2	<2	nc	-	nc	<2	<2	nc
1-naphthylamine	µg/L	0.5	<0.5	<2	nc	<0.5		<2	<2	nc	<2	nc	<2	<2	nc
2-naphthylamine	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
Diphenylamine	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
2-nitroaniline	µg/L	1	<1	<4	nc	<1	nc	<4	<4	nc	<4	nc	<4	<4	nc
3-nitroaniline	µg/L	1	<1	<4	nc	<1	nc	<4	<4	nc	<4	nc	<4	<4	nc
4-chloroaniline	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
4-nitroaniline	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
2-methyl-5-nitroaniline	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Aniline	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
2-methylaniline	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
1,2,3-trichlorobenzene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
1,2,4,5-tetrachlorobenzene	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
1,2-dichlorobenzene	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
1,3-dichlorobenzene	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
1,4-dichlorobenzene	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
2-chlorotoluene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
4-chlorotoluene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Bromobenzene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Chlorobenzene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Hexachlorobenzene	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<4	<4	nc	<2	nc	<4	<4	nc
Pentachlorobenzene	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
1,2-dibromoethane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Iodomethane	µg/L	5	<5	-	-	<5	nc	<5	<5	nc	-	nc	<5	<5	nc
Trichlorofluoromethane	µg/L	50	<50	<50	nc	<50	nc	<50	<50	nc	<50	nc	<50	<50	nc
1,2,4-trimethylbenzene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
1,3,5-trimethylbenzene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	5	nc	<5	<5	nc
Isopropylbenzene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
n-butylbenzene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
n-propylbenzene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
p-isopropyltoluene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
sec-butylbenzene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Styrene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
tert-butylbenzene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
1,1,1,2-tetrachloroethane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
1,1,1-trichloroethane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
1,1,2,2-tetrachloroethane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
1,1,2-trichloroethane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
1,1-dichloroethane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
1,1-dichloroethene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
1,1-dichloropropene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
1,2,3-trichloropropane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
1,2-dibromo-3-chloropropane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
1,2-dichloroethane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc

Table 8 - Appendix H
Groundwater Duplicates

AECOM

	Field_ID	MW08	QC321	RPD	QC320	RPD	MW198	QC323	RPD	QC324	RPD	MW58	QC237	RPD
	LocCode	BH046	BH046		BH046		BH198	BH198		BH198		AECOM_BH58	AECOM_BH58	
	WellCode	MW08	MW08	%	MW08	%	MW198	MW198	%	MW198	%	MW58	MW58	%
	Sampled_Date	16/03/2010	16/03/2010		16/03/2010		16/03/2010	16/03/2010		16/03/2010		17/03/2010	17/03/2010	
ChemName	Units	EQL		Inter-laboratory		Intra-laboratory		Intra-laboratory		Inter-laboratory			Intra-laboratory	
1,2-dichloropropane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
1,3-dichloropropane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
2,2-dichloropropane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Bromodichloromethane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Bromoform	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Carbon tetrachloride	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Chlorodibromomethane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Chloroethane	µg/L	50	<50	<50	nc	<50	nc	<50	<50	nc	<50	nc	<50	<50	nc
Chloroform	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
cis-1,2-dichloroethene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
cis-1,3-dichloropropene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Dibromomethane	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Hexachlorobutadiene	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Hexachlorocyclopentadiene	µg/L	0.5	<0.5	<4	nc	<0.5	nc	<10	<10	nc	<4	nc	<10	<10	nc
Hexachloroethane	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Trichloroethene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Tetrachloroethene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
trans-1,2-dichloroethene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
trans-1,3-dichloropropene	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Vinyl chloride	µg/L	50	<50	<50	nc	<50	nc	<50	<50	nc	<50	nc	<50	<50	nc
Methyl Ethyl Ketone	µg/L	5	<50	<5	nc	<50	nc	<50	<50	nc	<5	nc	<50	<50	nc
2-hexanone (MBK)	µg/L	5	<50	<5	nc	<50	nc	<50	<50	nc	<5	nc	<50	<50	nc
2-pentanone	µg/L	5	-	<5	nc	-	-	-	-	-	<5	nc	-	-	nc
4-Methyl-2-pentanone	µg/L	5	<50	<5	nc	<50	nc	<50	<50	nc	<5	nc	<50	<50	nc
Ethyl acetate	µg/L	5	-	<5	nc	-	-	-	-	-	<5	nc	-	-	nc
Isophorone	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Methyl Tertiary Butyl Ether	mg/L	0.005	-	<0.005	nc	-	-	-	-	-	<0.005	nc	-	-	nc
Vinyl acetate	µg/L	5	<50	<5	nc	<50	nc	<50	<50	nc	<5	nc	<50	<50	nc
Bromomethane	µg/L	50	<50	<50	nc	<50	nc	<50	<50	nc	<50	nc	<50	<50	nc
Carbon disulfide	µg/L	5	<5	<5	nc	<5	nc	<5	<5	nc	<5	nc	<5	<5	nc
Chloromethane	µg/L	50	<50	<50	nc	<50	nc	<50	<50	nc	<50	nc	<50	<50	nc
cis-1,4-Dichloro-2-butene	µg/L	5	<5	-	-	<5	nc	<5	<5	nc	-	nc	<5	<5	nc
Dichlorodifluoromethane	µg/L	50	<50	<50	nc	<50	nc	<50	<50	nc	<50	nc	<50	<50	nc
Pentachloroethane	µg/L	2	<5	<2	nc	<5	nc	<5	<5	nc	<2	nc	<5	<5	nc
trans-1,4-Dichloro-2-butene	µg/L	5	<5	-	-	<5	nc	<5	<5	nc	-	nc	<5	<5	nc
SVOCs															
1,3,5-Trinitrobenzene	mg/L	0.0005	<0.0005	-	-	<0.0005	nc	<0.002	<0.002	nc	-	nc	<0.002	<0.002	nc
2,4-Dinitrotoluene	µg/L	1	<1	<4	nc	<1	nc	<4	<4	nc	<4	nc	<4	<4	nc
2,6-dinitrotoluene	µg/L	1	<1	<4	nc	<1	nc	<4	<4	nc	<4	nc	<4	<4	nc
Nitrobenzene	ug/l	0.5	<0.5	-	-	<0.5	nc	<2	<2	nc	-	nc	<2	<2	nc
7,12-dimethylbenz(a)anthracene	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Chlorobenzilate	µg/L	0.5	<0.5	-	-	<0.5	nc	<2	<2	nc	-	nc	<2	<2	nc
Parathion	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
Pirimphos-ethyl	µg/L	0.3	<0.5	-	-	<0.5	nc	<2	<2	nc	-	nc	<2	<2	nc
Profenofos	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
Sulfotepp	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
2,3,4,6-tetrachlorophenol	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
2,4,5-trichlorophenol	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
2,4,6-trichlorophenol	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
2,4-dichlorophenol	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
2,6-dichlorophenol	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
2-chlorophenol	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Pentachlorophenol	µg/L	0.6	<1	<4	nc	<1	nc	<4	<4	nc	<4	nc	<4	<4	nc
1,4-dinitrobenzene	µg/L	2	-	<2	nc	-	-	-	-	-	<2	nc	-	-	nc
Bis(2-ethylhexyl) phthalate	µg/L	20	<20	<20	nc	<20	nc	<20	20	nc	<20	nc	<20	<20	nc
Butyl benzyl phthalate	µg/L	2	<2	<2	nc	<2	nc	<2	<2	nc	<2	nc	<2	<2	nc
Diethylphthalate	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Dimethyl phthalate	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Di-n-butyl phthalate	µg/L	2	<2	<2	nc	<2	nc	<2	<2	nc	<2	nc	<2	<2	nc
Di-n-octyl phthalate	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
2-(acetylamino) fluorene	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
2-Picoline	µg/L	0.5	<0.5	-	-	<0.5	nc	<2	5	nc	-	nc	<2	<2	nc
3,3-Dichlorobenzidine	µg/L	0.5	<0.5	-	-	<0.5	nc	<2	<2	nc	-	nc	<2	<2	nc
4-(dimethylamino) azobenzene	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
4-aminobiphenyl	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
4-bromophenyl phenyl ether	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
4-chlorophenyl phenyl ether	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
4-Nitroquinoline-N-oxide	µg/L	0.5	<0.5	-	-	<0.5	nc	<2	<2	nc	-	nc	<2	<2	nc
Acetophenone	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Azobenzene	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Benzyl alcohol	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
Bis(2-chloroethoxy) methane	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Bis(2-chloroethyl)ether	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
Bis(2-chloroisopropyl) ether	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Carbazole	µg/L	0.5	5	11	75	5	0	<2	<2	nc	<2	nc	<2	<2	nc
Dibenzofuran	µg/L	0.5	0.9	<2	nc	0.9	0	<2	<2	nc	<2	nc	<2	<2	nc
EPN	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
Hexachloropropene	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Isosafrole	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
Methapyrilene	µg/L	0.5	<0.5	-	-	<0.5	nc	<2	<2	nc	-	nc	<2	<2	nc
N-nitrosomorpholine	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
N-nitrosopiperidine	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
N-nitrosopyrrolidine	µg/L	1	<1	<4	nc	<1	nc	<4	<4	nc	<4	nc	<4	<4	nc
Pentachloronitrobenzene	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Phenacetin	µg/L	0.5	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
N-Nitrosodiphenyl & Diphenylamine	µg/L	1	<1	-	-	<1	nc	<4	<4	nc	-	nc	<4	<4	nc
Methane	mg/L	0.01	-	-	-	-	-	-	-	-	-	nc	-	-	nc
OCPs															
4,4-DDE	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
a-BHC	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Aldrin	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Aldrin + Dieldrin	µg/L		<1	<4	nc	<1	nc	<4	<4	nc	<4	nc	<4	<4	nc
b-BHC	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Chlordane (cis)	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
Chlordane (trans)	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
d-BHC	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
DDD	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
DDT	µg/L	0.6	<0.6	<4	nc	<0.6	nc	<4	<4	nc	<4	nc	<4	<4	nc
DDT+DDE+DDD	µg/L		<1.6	<8	nc	<1.6	nc	<8	<8	nc	<8	nc	<8	<8	nc
Dieldrin	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Endosulfan I	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Endosulfan II	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Endosulfan sulphate	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Endrin	µg/L	0.3	<0.5	<2	nc	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Endrin aldehyde	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
Endrin ketone	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
g-BHC (Lindane)	µg/L	0.3	<0.5	<2	-	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Heptachlor	µg/L	0.3	<0.5	<2	-	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Heptachlor epoxide	µg/L	0.3	<0.5	<2	-	<0.5	nc	<2	<2	nc	<2	nc	<2	<2	nc
Methoxychlor	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
OPPs															
Azinophos methyl	µg/L	2	-	<2	-	-	-	-	-	-	<2	nc	-	-	nc
Chlorfenvinphos	µg/L	0.3	<0.6	-	-	<0.6	nc	<2	<2	nc	-	nc	<2	<2	nc

	Field_ID	MW08	QC321	RPD	QC320	RPD	MW198	QC323	RPD	QC324	RPD	MW58	QC237	RPD
	LocCode	BH046	BH046		BH046		BH198	BH198		BH198		AECOM_BH58	AECOM_BH58	
	WellCode	MW08	MW08	%	MW08	%	MW198	MW198	%	MW198	%	MW58	MW58	%
	Sampled_Date	16/03/2010	16/03/2010		16/03/2010		16/03/2010	16/03/2010		16/03/2010		17/03/2010	17/03/2010	
ChemName	**Units**	**EQL**		Inter-laboratory		Intra-laboratory		Intra-laboratory		Inter-laboratory			Intra-laboratory	
Chlorpyrifos	µg/L	0.3	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Chlorpyrifos-methyl	µg/L	0.3	<0.5	-	-	<0.5	*nc*	<2	<2	*nc*	-	*nc*	<2	<2	*nc*
Coumaphos	µg/L	2	-	<2	-	-	-	-	-	-	<2	*nc*	-	-	*nc*
Demeton-O	µg/L	2	-	<2	-	-	-	-	-	-	<2	*nc*	-	-	*nc*
Demeton-S	µg/L	2	-	<2	-	-	-	-	-	-	<2	*nc*	-	-	*nc*
Diazinon	µg/L	0.3	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Dichlorvos	µg/L	0.3	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Dimethoate	µg/L	0.3	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Disulfoton	µg/L	2	-	<2	-	-	-	-	-	-	<2	*nc*	-	-	*nc*
Ethion	µg/L	0.3	<0.5	-	-	<0.5	*nc*	<2	<2	*nc*	-	*nc*	<2	<2	*nc*
Ethoprop	µg/L	2	-	<2	-	-	-	-	-	-	<2	*nc*	-	-	*nc*
Ethyl methanesulfonate	µg/L	2	-	<2	-	-	-	-	-	-	<2	*nc*	-	-	*nc*
Fenitrothion	µg/L	2	-	<2	-	-	-	-	-	-	<2	*nc*	-	-	*nc*
Fensulfothion	µg/L	2	-	<2	-	-	-	-	-	-	<2	*nc*	-	-	*nc*
Fenthion	µg/L	0.3	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Malathion	µg/L	0.3	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Methyl methanesulfonate	µg/L	2	-	<2	-	-	-	-	-	-	<2	-	-	-	*nc*
Methyl parathion	µg/L	2	-	<2	-	-	-	-	-	-	<2	-	-	-	*nc*
Mevinphos (Phosdrin)	µg/L	2	-	<2	-	-	-	-	-	-	<2	-	-	-	*nc*
Naled (Dibrom)	µg/L	2	-	<2	-	-	-	-	-	-	<2	-	-	-	*nc*
Pronamide	µg/L	0.5	<0.5	-	-	<0.5	*nc*	<2	<2	*nc*	-	*nc*	<2	<2	*nc*
Phorate	µg/L	2	-	<2	-	-	-	-	-	-	<2	-	-	-	*nc*
Prothiofos	µg/L	0.3	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Ronnel	µg/L	2	-	<2	-	-	-	-	-	-	<2	-	-	-	*nc*
Safrole	µg/L	2	-	<2	-	-	-	-	-	-	<2	-	-	-	*nc*
Stirophos	µg/L	2	-	<2	-	-	-	-	-	-	<2	-	-	-	*nc*
Trichloronate	µg/L	2	-	<2	-	-	-	-	-	-	<2	-	-	-	*nc*
PAH/Phenols															
2,4-dimethylphenol	µg/L	0.5	11	37	***108***	10	*10*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
2-chloronaphthalene	µg/L	0.5	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
2-methylnaphthalene	µg/L	0.5	2	<2	*nc*	1	***67***	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
2-methylphenol	µg/L	0.5	7	20	***96***	6	*15*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
2-nitrophenol	µg/L	0.5	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
3-&4-methylphenol	µg/L	0.5	4	7	***55***	4	*0*	<4	<4	*nc*	<4	*nc*	<4	<4	*nc*
3-methylcholanthrene	µg/L	0.5	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
4-chloro-3-methylphenol	µg/L	0.3	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Acenaphthene	µg/L	0.5	2	2	*0*	2	*0*	2	3	*40*	<2	*nc*	<2	<2	*nc*
Acenaphthylene	µg/L	0.5	<0.5	<2	*nc*	<0.5	*nc*	12	16	*29*	16	*29*	<2	<2	*nc*
Anthracene	µg/L	0.5	1	<2	*nc*	1	*0*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Benz(a)anthracene	µg/L	0.5	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Benzo(a) pyrene	µg/L	0.3	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Benzo(b)&(k)fluoranthene	µg/L	1	<1	<4	*nc*	<1	*nc*	<4	<4	*nc*	<4	*nc*	<4	<4	*nc*
Benzo(b)fluoranthene	µg/L	1	-	-		-	-	-	-	*nc*	-	*nc*	-	-	*nc*
Benzo(g,h,i)perylene	µg/L	0.5	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Benzo(k)fluoranthene	µg/L	1	-	-	-	-	-	-	-	*nc*	-	*nc*	-	-	*nc*
Chrysene	µg/L	0.5	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Dibenz(a,h)anthracene	µg/L	0.5	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Fluoranthene	µg/L	0.5	1	<2	*nc*	1	*0*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Fluorene	µg/L	0.5	2	<2	*nc*	2	*0*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Indeno(1,2,3-c,d)pyrene	µg/L	0.5	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Naphthalene	µg/L	0.5	13	34	***89***	12	*8*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
PAHs (Sum of total)	µg/L	0.5	23	60	***89***	22	*4*	14	19	*30*	29	***70***	<2	<2	*nc*
Phenanthrene	µg/L	0.5	3	<2	*nc*	3	*0*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Phenol	µg/L	0.5	<0.5	<2	*nc*	<0.5	*nc*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*
Pyrene	µg/L	0.5	1	<2	*nc*	1	*0*	<2	<2	*nc*	<2	*nc*	<2	<2	*nc*

Notes
mg/L - milligrams per litre
µg/L - micrograms per litre
meq/L - milliequivalents per litre
RPD - Relative Percent Differnce
- denotes not analysed
< denotes result less than the LOR
nc - not calcuable as one or more results < LOR

Table 9
Field QA/QC Results
Rinsate and Water Trip Blank Sample
Analytical Results

AECOM

			Field_ID	QC100	QC108	QC104	QC114	QC115	QC142	QC166	QC167	QC209	QC213	QC227	QC233	QC239	QC243	QC245	QC249	QC250	QC251	QC252	QC26	QC27	QC308	QC325	QC326	QC329	QC330	QC333	QC340	QC43	QC44	QC46	QC49	QC51
			Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Chem_Group	ChemName	Units	Sampled_Date	23/02/2010	24/02/2010	25/02/2010	02/03/2010	03/03/2010	04/03/2010	05/03/2010	08/03/2010	08/03/2010	07/03/2010	22/02/2010	24/02/2010	24/02/2010	25/02/2010	26/02/2010	02/03/2010	03/03/2010	04/03/2010	05/03/2010	16/02/2010	09/02/2010	27/02/2010	16/03/2010	16/03/2010	18/03/2010	19/03/2010	24/03/2010	20/03/2010	10/02/2010	11/02/2010	12/02/2010	15/02/2010	18/02/2010
Metals	Arsenic	mg/L	EQL 0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic (Filtered)	mg/L	0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001
	Barium	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Barium (Filtered)	mg/L	0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	-	0.0175	0.0195	<0.0005	<0.0005	<0.001	<0.0005	<0.001	-	-	-	<0.001
	Beryllium	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Beryllium (Filtered)	mg/L	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.001	-	-	-	<0.001
	Cadmium	mg/L	0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium (Filtered)	mg/L	0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	-	<0.0001	-	0.0546	<0.00005	<0.00005	<0.00005	<0.0002	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Calcium (Filtered)	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (III+VI)	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (III+VI) (Filtered)	mg/L	0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	-	<0.001	<0.001	-	<0.001	-	0.0002	0.0002	<0.0002	<0.0002	0.0027	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001
	Cobalt	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cobalt (Filtered)	mg/L	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	-	0.0009	0.001	<0.0001	<0.0001	<0.0002	<0.0001	<0.001	-	-	-	<0.001
	Copper	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper (Filtered)	mg/L	0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	-	0.001	0.001	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001
	Iron (Filtered)	mg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Magnesium (Filtered)	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Manganese	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Manganese (Filtered)	mg/L	0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	-	0.008	0.0079	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	-	-	-	<0.001
	Mercury	mg/L	0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury (Filtered)	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	-	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Nickel	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nickel (Filtered)	mg/L	0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	-	0.0008	0.0009	<0.0005	<0.0005	0.0011	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001
	Potassium (Filtered)	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Vanadium	mg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Vanadium (Filtered)	mg/L	0.0002	<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	-	<0.01	<0.01	-	<0.01	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.01	-	-	-	<0.01
	Zinc	mg/L	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Zinc (Filtered)	mg/L	0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	-	<0.005	-	0.004	0.005	<0.001	<0.001	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005
Lead	Lead	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lead (Filtered)	mg/L	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	-	0.0002	0.0001	<0.0001	<0.0001	<0.0002	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001
TPH	TPH C6 - C9	ug/L	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	-	-	<20	-
	TPH C10 - C14	ug/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50	-	-	<50	<50
	TPH C15 - C28	ug/L	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	-	-	<100	<100
	TPH C29-C36	ug/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50	-	-	<50	<50
	TPH+C10 - C36 (Sum of total)	ug/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50	-	-	<50	<50
BTEX	Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
	Ethylbenzene	ug/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	-	<2	<2
	Toluene	mg/L	0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	<0.005	<0.005
	Xylene (m & p)	ug/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	-	<2	<2
	Xylene (o)	ug/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	-	<2	<2
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	1,1,1-trichloroethane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	1,1,2,2-tetrachloroethane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	1,1,2-trichloroethane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	1,1-dichloroethane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	1,1-dichloroethene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	1,1-dichloropropene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	1,2,3-trichloropropane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	1,2-dibromo-3-chloropropane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	1,2-dichloroethane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	1,2-dichloropropane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	1,3-dichloropropane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	2,2-dichloropropane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Bromodichloromethane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Bromoform	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Carbon tetrachloride	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Chlorodibromomethane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Chloroethane	ug/L	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	<50	-	-	-	<50
	Chloroform	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	cis-1,2-dichloroethene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	cis-1,3-dichloropropene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Dibromomethane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Hexachlorobutadiene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	-	-	-	<5
	Trichloroethene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Tetrachloroethene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	trans-1,2-dichloroethene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	trans-1,3-dichloropropene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Vinyl chloride	ug/L	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	<50	-	-	-	<50
Halogenated Benzenes	1,2,3-trichlorobenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	1,2,4-trichlorobenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	-	-	-	<5
	1,2-dichlorobenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	-	-	-	<5
	1,3-dichlorobenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	-	-	-	<5
	1,4-dichlorobenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	-	-	-	<5
	2-chlorotoluene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	4-chlorotoluene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Bromobenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Chlorobenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
Halogenated Hydrocarbons	1,2-dibromoethane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Iodomethane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Trichlorofluoromethane	ug/L	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	<50	-	-	-	<50
Halogenated Phenols	2,4,5-trichlorophenol	ug/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,4,6-trichlorophenol	ug/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,4-dichlorophenol	ug/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-dichlorophenol	ug/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-chlorophenol	ug/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorophenol	ug/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics	Weak Acid Dissociable Cyanide	mg/L	0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Alkalinity (Hydroxide) as CaCO3	ug/L	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Alkalinity (total) as CaCO3	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ammonia as N	ug/L	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Anions Total	meq/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbonate	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cations Total	meq/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloride	mg/L	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cyanide (Free)	mg/L	0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cyanide Total	mg/L	0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ferrous Iron	mg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as N)	mg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrite (as N)	mg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrogen (Total Oxidised)	mg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	pH (Lab)	pH Units	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sodium (Filtered)	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphate	mg/L	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOC	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAH	1,2,4-trimethylbenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	1,3,5-trimethylbenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	Isopropylbenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	n-Butylbenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5
	n-propylbenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-	-	-	<5

Table 9
Field QA/QC Results
Rinsate and Water Trip Blank Sample
Analytical Results

			Field_ID	QC100	QC108	QC104	QC114	QC115	QC142	QC166	QC167	QC209	QC213	QC227	QC233	QC239	QC243	QC245	QC249	QC250	QC251	QC252	QC26	QC27	QC303	QC325	QC326	QC329	QC330	QC333	QC340	QC43	QC44	QC46	QC49	QC51
			Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
			Sampled_Date	23/02/2010	24/02/2010	25/02/2010	02/03/2010	03/03/2010	04/03/2010	05/03/2010	08/03/2010	05/03/2010	07/03/2010	22/02/2010	24/02/2010	24/02/2010	25/02/2010	26/02/2010	02/03/2010	03/03/2010	04/03/2010	05/03/2010	16/02/2010	09/02/2010	27/02/2010	16/03/2010	16/03/2010	18/03/2010	19/03/2010	24/03/2010	20/03/2010	10/02/2010	11/02/2010	12/02/2010	15/02/2010	18/02/2010
Chem_Group	ChemName	Units	EQL																																
	p-isopropyltoluene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-	-	<5
	sec-butylbenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-	-	<5
	Styrene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-	-	<5
	tert-butylbenzene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-	-	<5
PAH	7,12-dimethylbenz(a)anthracene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAH/Phenols	2,4-dimethylphenol	ug/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-methylnaphthalene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-methylphenol	ug/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-nitrophenol	ug/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-&4-methylphenol	ug/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-methylcholanthrene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-chloro-3-methylphenol	ug/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Acenaphthene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Acenaphthylene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Anthracene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benz(a)anthracene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(a) pyrene	ug/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(b)fluoranthene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(g,h,i)perylene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(k)fluoranthene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chrysene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dibenz(a,h)anthracene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fluoranthene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fluorene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Indeno(1,2,3-c,d)pyrene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Naphthalene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	<7	<7	<7	-	-	-	-	<7
	Phenanthrene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Phenol	ug/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pyrene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solvents	Methyl Ethyl Ketone	ug/L	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	-	-	-	-	<50
	2-hexanone (MBK)	ug/L	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	-	-	-	-	<50
	4-Methyl-2-pentanone	ug/L	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	-	-	-	-	<50
	Vinyl acetate	ug/L	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	-	-	-	-	<50
SVOC	2-(acetylamino) fluorene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(e)pyrene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Coronene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Perylene	ug/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VOC	Bromomethane	ug/L	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	-	-	-	-	<50
	Carbon disulfide	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-	-	<5
	Chloromethane	ug/L	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	-	-	-	-	<50
	cis-1,4-Dichloro-2-butene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-	-	<5
	Dichlorodifluoromethane	ug/L	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	-	-	-	-	<50
	Pentachloroethane	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-	-	<5
	trans-1,4-Dichloro-2-butene	ug/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-	-	<5

			Field_ID	QC52	QC59	QC60	QC65	QC80	TB300	TB301	TB302	TB303	TB304	TB305	TB307
			Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
			Sampled_Date	18/02/2010	23/02/2010	18/02/2010	17/02/2010	19/02/2010	12/03/2010	16/03/2010	16/03/2010	16/03/2010	18/03/2010	20/03/2010	24/03/2010
Chem_Group	ChemName	Units	EQL												
Metals	Arsenic	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic (Filtered)	mg/L	0.0002	-	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-
	Barium	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-
	Barium (Filtered)	mg/L	0.0005	-	<0.001	-	-	<0.001	-	-	-	-	-	-	-
	Beryllium	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-
	Beryllium (Filtered)	mg/L	0.0001	-	<0.001	-	-	<0.001	-	-	-	-	-	-	-
	Cadmium	mg/L	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium (Filtered)	mg/L	0.00005	-	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	-	-	-
	Calcium (Filtered)	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (III+VI)	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (III+VI) (Filtered)	mg/L	0.0002	-	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-
	Cobalt	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-
	Cobalt (Filtered)	mg/L	0.0001	-	<0.001	-	-	<0.001	-	-	-	-	-	-	-
	Copper	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-
	Copper (Filtered)	mg/L	0.0005	-	0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-
	Iron (Filtered)	mg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Magnesium (Filtered)	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-
	Manganese	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-
	Manganese (Filtered)	mg/L	0.0005	-	<0.001	-	-	<0.001	-	-	-	-	-	-	-
	Mercury	mg/L	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury (Filtered)	mg/L	0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	-	-	-
	Nickel	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-
	Nickel (Filtered)	mg/L	0.0005	-	<0.001	<0.001	<0.001	0.002	-	-	-	-	-	-	-
	Potassium (Filtered)	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-
	Vanadium	mg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Vanadium (Filtered)	mg/L	0.0002	-	<0.01	-	-	<0.01	-	-	-	-	-	-	-
	Zinc	mg/L	0.005	-	-	-	-	-	-	-	-	-	-	-	-
	Zinc (Filtered)	mg/L	0.001	-	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-
Lead	Lead	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-
	Lead (Filtered)	mg/L	0.0001	-	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-
TPH	TPH C6 - C9	µg/L	20	-	<20	<20	<20	<20	<20	<20	<20	-	-	-	-
	TPH C10 - C14	µg/L	50	-	<50	<50	<50	<50	-	-	-	-	-	-	-
	TPH C15 - C28	µg/L	100	-	<100	<100	<100	<100	-	-	-	-	-	-	-
	TPH C29-C36	µg/L	50	-	<50	<50	<50	<50	-	-	-	-	-	-	-
	TPH+C10 - C36 (Sum of total)	µg/L	50	-	<50	<50	<50	<50	-	-	-	-	-	-	-
BTEX	Benzene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Ethylbenzene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Toluene	mg/L	0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Xylene (m & p)	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Xylene (o)	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	1,1,1-trichloroethane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	1,1,2,2-tetrachloroethane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	1,1,2-trichloroethane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	1,1-dichloroethane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	1,1-dichloroethene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	1,1-dichloropropene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	1,2,3-trichloropropane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	1,2-dibromo-3-chloropropane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	1,2-dichloroethane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	1,2-dichloropropane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	1,3-dichloropropane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	2,2-dichloropropane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Bromodichloromethane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Bromoform	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Carbon tetrachloride	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Chlorodibromomethane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Chloroethane	µg/L	50	<50	-	-	-	-	-	<50	<50	<50	<50	<50	<50
	Chloroform	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	cis-1,2-dichloroethene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	cis-1,3-dichloropropene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Dibromomethane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Hexachlorobutadiene	µg/L	5	<5	-	-	-	-	-	-	-	<5	<5	<5	<5
	Trichloroethene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Tetrachloroethene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	trans-1,2-dichloroethene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	trans-1,3-dichloropropene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Vinyl chloride	µg/L	50	<50	-	-	-	-	-	<50	<50	<50	<50	<50	<50
Halogenated Benzenes	1,2,3-trichlorobenzene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	1,2,4-trichlorobenzene	µg/L	5	<5	-	-	-	-	-	-	-	<5	<5	<5	<5
	1,2-dichlorobenzene	µg/L	5	<5	-	-	-	-	-	-	-	<5	<5	<5	<5
	1,3-dichlorobenzene	µg/L	5	<5	-	-	-	-	-	-	-	<5	<5	<5	<5
	1,4-dichlorobenzene	µg/L	5	<5	-	-	-	-	-	-	-	<5	<5	<5	<5
	2-chlorotoluene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	4-chlorotoluene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Bromobenzene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Chlorobenzene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
Halogenated Hydrocarbons	1,2-dibromoethane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Iodomethane	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Trichlorofluoromethane	µg/L	50	<50	-	-	-	-	-	<50	<50	<50	<50	<50	<50
Halogenated Phenols	2,4,5-trichlorophenol	µg/L	1	-	-	-	-	-	-	-	-	-	-	-	-
	2,4,6-trichlorophenol	µg/L	1	-	-	-	-	-	-	-	-	-	-	-	-
	2,4-dichlorophenol	µg/L	1	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-dichlorophenol	µg/L	1	-	-	-	-	-	-	-	-	-	-	-	-
	2-chlorophenol	µg/L	1	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorophenol	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics	Weak Acid Dissociable Cyanide	mg/L	0.004	-	-	-	-	-	-	-	-	-	-	-	-
	Alkalinity (Hydroxide) as CaCO3	µg/L	1000	-	-	-	-	-	-	-	-	-	-	-	-
	Alkalinity (total) as CaCO3	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-
	Ammonia as N	µg/L	10	-	-	-	-	-	-	-	-	-	-	-	-
	Anions Total	meq/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Carbonate	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-
	Cations Total	meq/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Chloride	mg/L	0.5	-	-	-	-	-	-	-	-	-	-	-	-
	Cyanide (Free)	mg/L	0.004	-	-	-	-	-	-	-	-	-	-	-	-
	Cyanide Total	mg/L	0.004	-	-	-	-	-	-	-	-	-	-	-	-
	Ferrous Iron	mg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as N)	mg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrite (as N)	mg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrogen (Total Oxidised)	mg/L	0.01	-	-	-	-	-	-	-	-	-	-	-	-
	pH (Lab)	pH Units	0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Sodium (Filtered)	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphate	mg/L	0.5	-	-	-	-	-	-	-	-	-	-	-	-
	TOC	mg/L	1	-	-	-	-	-	-	-	-	-	-	-	-
MAH	1,2,4-trimethylbenzene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	1,3,5-trimethylbenzene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	Isopropylbenzene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	n-butylbenzene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5
	n-propylbenzene	µg/L	5	<5	-	-	-	-	-	<5	<5	<5	<5	<5	<5

Table 9
Field QA/QC Results
Rinsate and Water Trip Blank Sample
Analytical Results

AECOM

		Field_ID	QC52	QC59	QC60	QC65	QC80	TB300	TB301	TB302	TB303	TB304	TB305	TB307
		Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
		Sampled_Date	18/02/2010	28/02/2010	18/02/2010	17/02/2010	19/02/2010	12/03/2010	16/03/2010	16/03/2010	16/03/2010	18/03/2010	20/03/2010	24/03/2010
Chem_Group	ChemName	Units	EQL											
	p-isopropyltoluene	µg/L	5	<5	-	-	-	-	<5	<5	<5	<5	<5	<5
	sec-butylbenzene	µg/L	5	<5	-	-	-	-	<5	<5	<5	<5	<5	<5
	Styrene	µg/L	5	<5	-	-	-	-	<5	<5	<5	<5	<5	<5
	tert-butylbenzene	µg/L	5	<5	-	-	-	-	<5	<5	<5	<5	<5	<5
PAH	7,12-dimethylbenz(a)anthracene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
PAH/Phenols	2,4-dimethylphenol	µg/L	1	-	-	-	-	-	-	-	-	-	-	-
	2-methylnaphthalene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	2-methylphenol	µg/L	1	-	-	-	-	-	-	-	-	-	-	-
	2-nitrophenol	µg/L	1	-	-	-	-	-	-	-	-	-	-	-
	3-&4-methylphenol	µg/L	2	-	-	-	-	-	-	-	-	-	-	-
	3-methylcholanthrene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	4-chloro-3-methylphenol	µg/L	1	-	-	-	-	-	-	-	-	-	-	-
	Acenaphthene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Acenaphthylene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Anthracene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Benz(a)anthracene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Benzo(a) pyrene	µg/L	0.05	-	-	-	-	-	-	-	-	-	-	-
	Benzo(b)fluoranthene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Benzo(g,h,i)perylene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Benzo(k)fluoranthene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Chrysene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Dibenz(a,h)anthracene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Fluoranthene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Fluorene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Indeno(1,2,3-c,d)pyrene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Naphthalene	µg/L	0.1	<7	-	-	-	-	-	-	<7	<7	<7	<7
	Phenanthrene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Phenol	µg/L	1	-	-	-	-	-	-	-	-	-	-	-
	Pyrene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
Solvents	Methyl Ethyl Ketone	µg/L	50	<50	-	-	-	-	<50	<50	<50	<50	<50	<50
	2-hexanone (MBK)	µg/L	50	<50	-	-	-	-	<50	<50	<50	<50	<50	<50
	4-Methyl-2-pentanone	µg/L	50	<50	-	-	-	-	<50	<50	<50	<50	<50	<50
	Vinyl acetate	µg/L	50	<50	-	-	-	-	<50	<50	<50	<50	<50	<50
SVOC	2-(acetylamino) fluorene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Benzo(e)pyrene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Coronene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
	Perylene	µg/L	0.1	-	-	-	-	-	-	-	-	-	-	-
VOC	Bromomethane	µg/L	50	<50	-	-	-	-	<50	<50	<50	<50	<50	<50
	Carbon disulfide	µg/L	5	<5	-	-	-	-	<5	<5	<5	<5	<5	<5
	Chloromethane	µg/L	50	<50	-	-	-	-	<50	<50	<50	<50	<50	<50
	cis-1,4-Dichloro-2-butene	µg/L	5	<5	-	-	-	-	<5	<5	<5	<5	<5	<5
	Dichlorodifluoromethane	µg/L	50	<50	-	-	-	-	<50	<50	<50	<50	<50	<50
	Pentachloroethane	µg/L	5	<5	-	-	-	-	<5	<5	<5	<5	<5	<5
	trans-1,4-Dichloro-2-butene	µg/L	5	<5	-	-	-	-	<5	<5	<5	<5	<5	<5

Table 10
Field QA/QC
Soil Trip Blank Analytical Results

			Field_ID	TB01	TB02	TB03	TB05	TB06	TB07	TB08	TB09	TB10	TB11	TB12	TB13	TB14	TB14	TB15	TB16	TB17	TB18
			Sampled_Date	16/02/2010	19/02/2010	18/02/2010	23/02/2010	22/02/2010	22/02/2010	22/02/2010	22/02/2010	24/02/2010	25/02/2010	25/02/2010	25/02/2010	25/02/2010	03/03/2010	04/03/2010	05/03/2010	05/03/2010	05/03/2010
Chem_Group	**ChemName**	**Units**	**EQL**																		
BTEX	Benzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Toluene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene (m & p)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene (o)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPH	TPH C6 - C9	mg/kg	10	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-
	TPH C10 - C14	mg/kg	50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH C15 - C28	mg/kg	100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH C29-C36	mg/kg	100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH+C10 - C36 (Sum of total)	mg/kg	50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,1,1-trichloroethane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,1,2,2-tetrachloroethane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,1,2-trichloroethane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,1-dichloroethane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,1-dichloroethene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,1-dichloropropene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2,3-trichloropropane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2-dibromo-3-chloropropane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2-dichloroethane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2-dichloropropane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,3-dichloropropane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	2,2-dichloropropane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Bromodichloromethane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Bromoform	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Carbon tetrachloride	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Chlorodibromomethane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Chloroethane	mg/kg	5	-	-	-	<5	<5	<5	-	<5	<5	-	-	-	-	<5	<5	<5	<5	<5
	Chloroform	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	cis-1,2-dichloroethene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	cis-1,3-dichloropropene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Dibromomethane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorobutadiene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorocyclopentadiene	mg/kg	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2.5
	Hexachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Trichloroethene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Tetrachloroethene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	trans-1,2-dichloroethene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	trans-1,3-dichloropropene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Vinyl chloride	mg/kg	5	-	-	-	<5	<5	<5	-	<5	<5	-	-	-	-	<5	<5	<5	<5	<5
Explosives	1,3,5-Trinitrobenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	2,4-Dinitrotoluene	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
	2,6-dinitrotoluene	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
Halogenated Benzenes	1,2,3-trichlorobenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2,4,5-tetrachlorobenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	1,2,4-trichlorobenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2-dichlorobenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,3,5-Trichlorobenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	1,3-dichlorobenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,4-dichlorobenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	2-chlorotoluene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	4-chlorotoluene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Bromobenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Chlorobenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorobenzene	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
	Pentachlorobenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
Halogenated Hydrocarbons	1,2-dibromoethane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-
	Iodomethane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Trichlorofluoromethane	mg/kg	5	-	-	-	<5	<5	<5	-	<5	<5	-	-	-	-	<5	<5	<5	<5	<5
Halogenated Phenols	2,3,4,6-tetrachlorophenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	2,4,5-trichlorophenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	2,4,6-trichlorophenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	2,4-dichlorophenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	2,6-dichlorophenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	2-chlorophenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Pentachlorophenol	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
Herbicides	Diallate	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
MAH	1,2,4-trimethylbenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	1,3,5-trimethylbenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Isopropylbenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	n-butylbenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	n-propylbenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	p-isopropyltoluene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	sec-butylbenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Styrene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	tert-butylbenzene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Organochlorine Pesticides	4,4-DDE	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	a-BHC	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Aldrin	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	b-BHC	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	d-BHC	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	DDD	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	DDT	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
	Dieldrin	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Endosulfan I	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Endosulfan II	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Endosulfan sulphate	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Endrin	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	g-BHC (Lindane)	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Heptachlor	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Heptachlor epoxide	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5

Table 10
Field QA/QC
Soil Trip Blank Analytical Results

			Field_ID	TB01	TB02	TB03	TB05	TB06	TB07	TB08	TB09	TB10	TB11	TB12	TB13	TB14	TB14	TB15	TB16	TB17	TB18
			Sampled_Date	16/02/2010	19/02/2010	18/02/2010	23/02/2010	22/02/2010	22/02/2010	22/02/2010	22/02/2010	24/02/2010	25/02/2010	25/02/2010	25/02/2010	25/02/2010	03/03/2010	04/03/2010	05/03/2010	05/03/2010	05/03/2010
Chem_Group	**ChemName**	**Units**	**EQL**																		
Organophosphorous Pesticides	Chlorfenvinphos	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Chlorpyrifos	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Chlorpyrifos-methyl	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Diazinon	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Dichlorvos	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Dimethoate	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Ethion	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Ethyl methanesulfonate	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Fenthion	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Isosafrole (cis)	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Isosafrole (trans)	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Malathion	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Methyl methanesulfonate	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Prothiofos	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Safrole	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
PAH	7,12-dimethylbenz(a)anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
PAH/Phenols	2,4-dimethylphenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	2-chloronaphthalene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	2-methylnaphthalene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	2-methylphenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	2-nitrophenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	3-&4-methylphenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	3-methylcholanthrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	4-chloro-3-methylphenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Acenaphthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Acenaphthylene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Benz(a)anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Benzo(a) pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Benzo(b)&(k)fluoranthene	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
	Benzo(g,h,i)perylene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Chrysene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Fluoranthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Fluorene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Naphthalene	mg/kg	0.5	-	-	-	<5	<5	<5	-	<5	<5	-	-	-	-	<5	<5	<5	<5	<0.5
	Phenanthrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Phenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
Pesticides	Chlorobenzilate	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Pirimphos-ethyl	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
Phthalates	Bis(2-ethylhexyl) phthalate	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5
	Butyl benzyl phthalate	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Diethylphthalate	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Dimethyl phthalate	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Di-n-butyl phthalate	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Di-n-octyl phthalate	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
Solvents	Methyl Ethyl Ketone	mg/kg	5	-	-	-	<5	<5	<5	-	<5	<5	-	-	-	-	<5	<5	<5	<5	<5
	2-hexanone (MBK)	mg/kg	5	-	-	-	<5	<5	<5	-	<5	<5	-	-	-	-	<5	<5	<5	<5	<5
	4-Methyl-2-pentanone	mg/kg	5	-	-	-	<5	<5	<5	-	<5	<5	-	-	-	-	<5	<5	<5	<5	<5
	Isophorone	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Vinyl acetate	mg/kg	5	-	-	-	<5	<5	<5	-	<5	<5	-	-	-	-	<5	<5	<5	<5	<5
SVOC	2-(acetylamino) fluorene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	2-Picoline	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	3,3-Dichlorobenzidine	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	4-(dimethylamino) azobenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	4-aminobiphenyl	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	4-bromophenyl phenyl ether	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	4-chlorophenyl phenyl ether	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	4-Nitroquinoline-N-oxide	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Acetophenone	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Azobenzene	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
	Bis(2-chloroethoxy) methane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Bis(2-chloroisopropyl) ether	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Carbazole	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Dibenzofuran	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Hexachloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Methapyrilene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	N-nitrosomorpholine	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	N-nitrosopiperidine	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	N-nitrosopyrrolidine	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<1*
	Pentachloronitrobenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Phenacetin	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
VOC	Bromomethane	mg/kg	5	-	-	-	<5	<5	<5	-	<5	<5	-	-	-	-	<5	<5	<5	<5	<5
	Carbon disulfide	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Chloromethane	mg/kg	5	-	-	-	<5	<5	<5	-	<5	<5	-	-	-	-	<5	<5	<5	<5	<5
	cis-1,4-Dichloro-2-butene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	Dichlorodifluoromethane	mg/kg	5	-	-	-	<5	<5	<5	-	<5	<5	-	-	-	-	<5	<5	<5	<5	<5
	Pentachloroethane	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
	trans-1,4-Dichloro-2-butene	mg/kg	0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5

Appendix I

Permeability Test Reports

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AUSTRALIAN SOIL TESTING PTY LTD. A.B.N. 79 003 493 623
24 Bermill Street, Rockdale, NSW, 2216 P.O. Box 2014, Rockdale D.C. NSW 2216
Tel: 9597 5599, 9597 3286 Fax: 9597 3442 Email: austst@bigpond.com

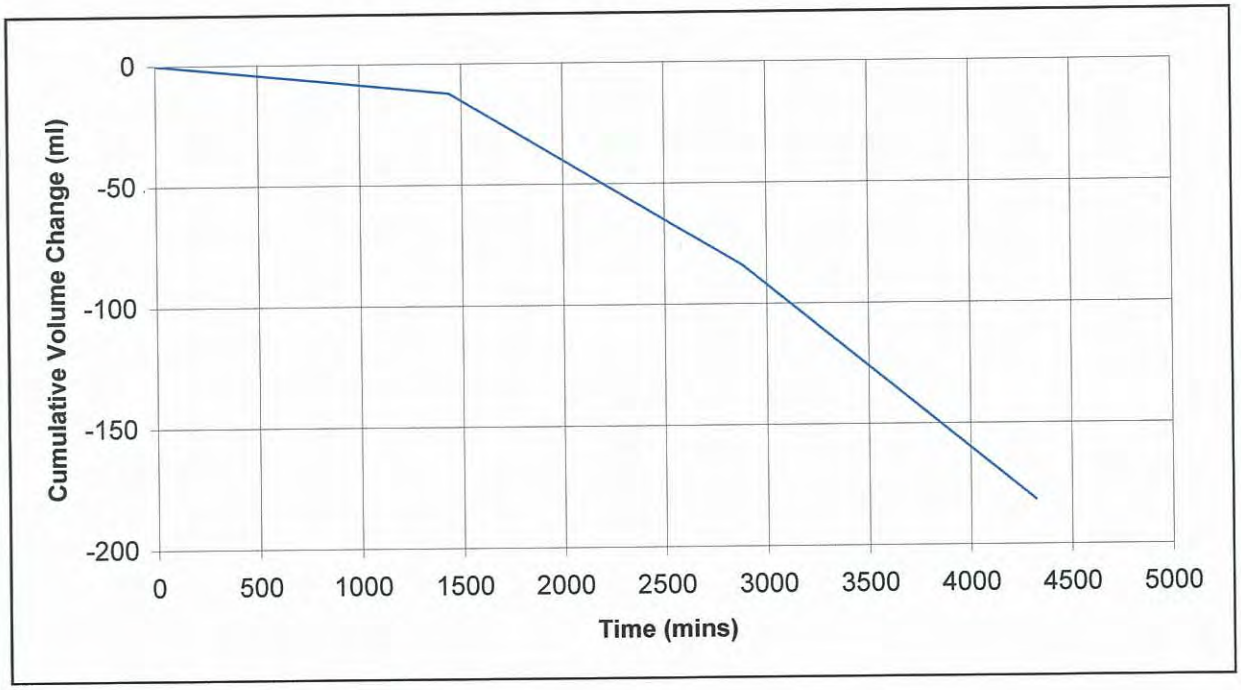
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
P O Box 726 Pymble NSW 2073

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	06.04.09
LABORATORY NUMBER:	57232	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH 36 10.5 to 10.95m		
SAMPLE DESCRIPTION:	GRAVELLY SAND: grey,fine to coarse gravel,fine to coarse sand, some clay (very dense)		



CONFINING PRESSURE (kPa):	150
BACK PRESSURE (kPa):	100
HEAD PRESSURE (kPa):	115
B' RESPONSE:	1.0
PERMEABILITY:	1.88E-08 metres/sec

Comments

TX07: issue 1: March 2007; auth CWS

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Signed: Name: C W Stabb

Title: Manager Date: 13th April 2010

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Tel: 9597 5599, 9597 3286 Fax: 9597 3442 Email: austst@bigpond.com

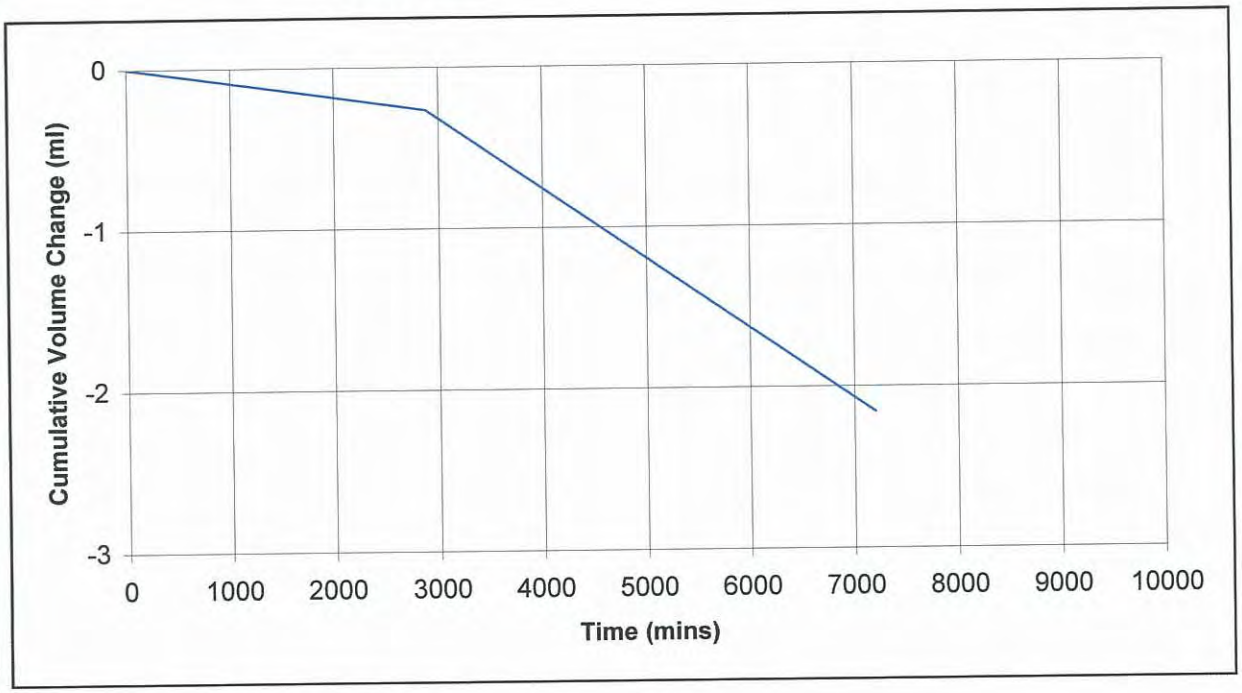
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
P O Box 726 Pymble NSW 2073

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	06.04.09
LABORATORY NUMBER:	57233	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH 35 17.5 to 17.8m		
SAMPLE DESCRIPTION:	SILTY CLAY:grey,medium plasticity,some fine to coarse sand.		



CONFINING PRESSURE (kPa):	150
BACK PRESSURE (kPa):	100
HEAD PRESSURE (kPa):	120
B' RESPONSE:	1.0
PERMEABILITY:	8.07E-11 metres/sec

Comments

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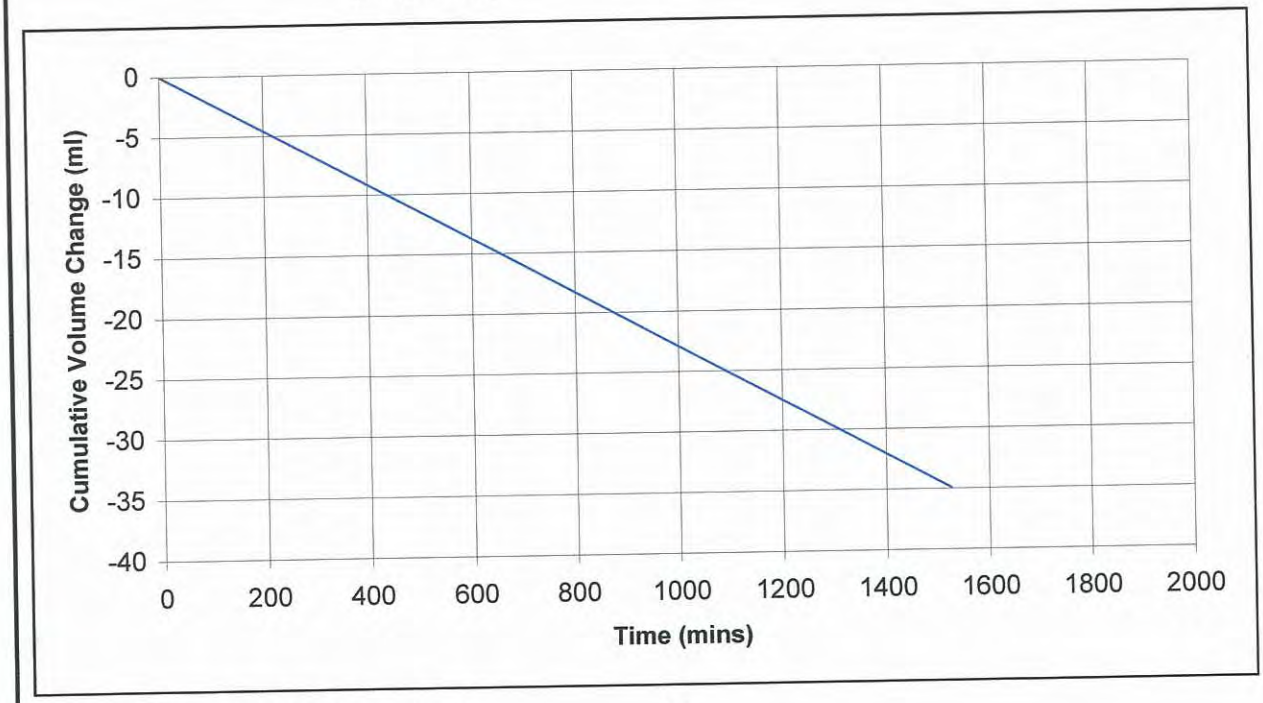
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
P O Box 726 Pymble NSW 2073

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	02.04.09
LABORATORY NUMBER:	57234	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH 39 22.0 to 22.3m		
SAMPLE DESCRIPTION:	SAND: red-brown,fine to medium, some clay (very dense)		



CONFINING PRESSURE (kPa):	150
BACK PRESSURE (kPa):	100
HEAD PRESSURE (kPa):	115
B' RESPONSE:	1.0
PERMEABILITY:	6.39E-09 metres/sec

Comments During the test some blockages occurred, the figure stated represents a reasonable Value for the material tested.

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Title: Manager Date: 13th April 2010

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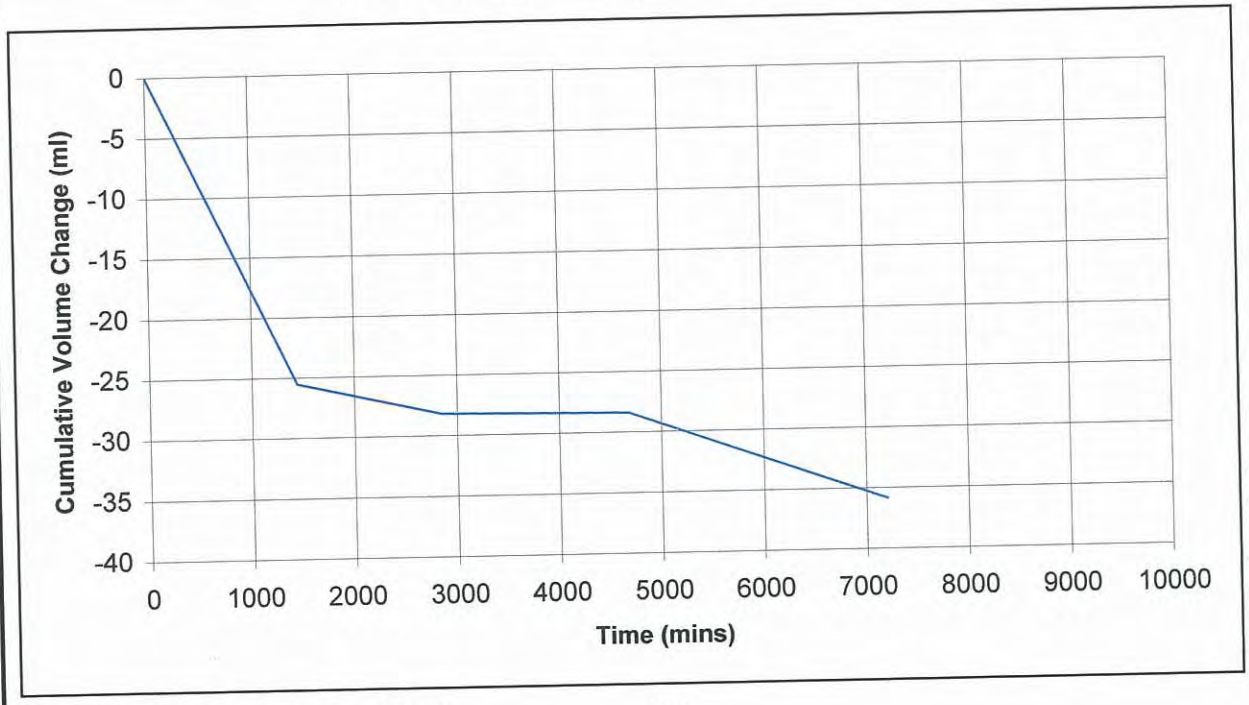
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
P O Box 726 Pymble NSW 2073

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	02.04.09
LABORATORY NUMBER:	57235	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH40 16.0 to 16.45m		
SAMPLE DESCRIPTION:	CLAYEY SAND: red-brown & grey,fine to coarse sand, low plasticity.		



CONFINING PRESSURE (kPa):	150
BACK PRESSURE (kPa):	100
HEAD PRESSURE (kPa):	110
B' RESPONSE:	1.0
PERMEABILITY:	1.29E-09 metres/sec

Comments:

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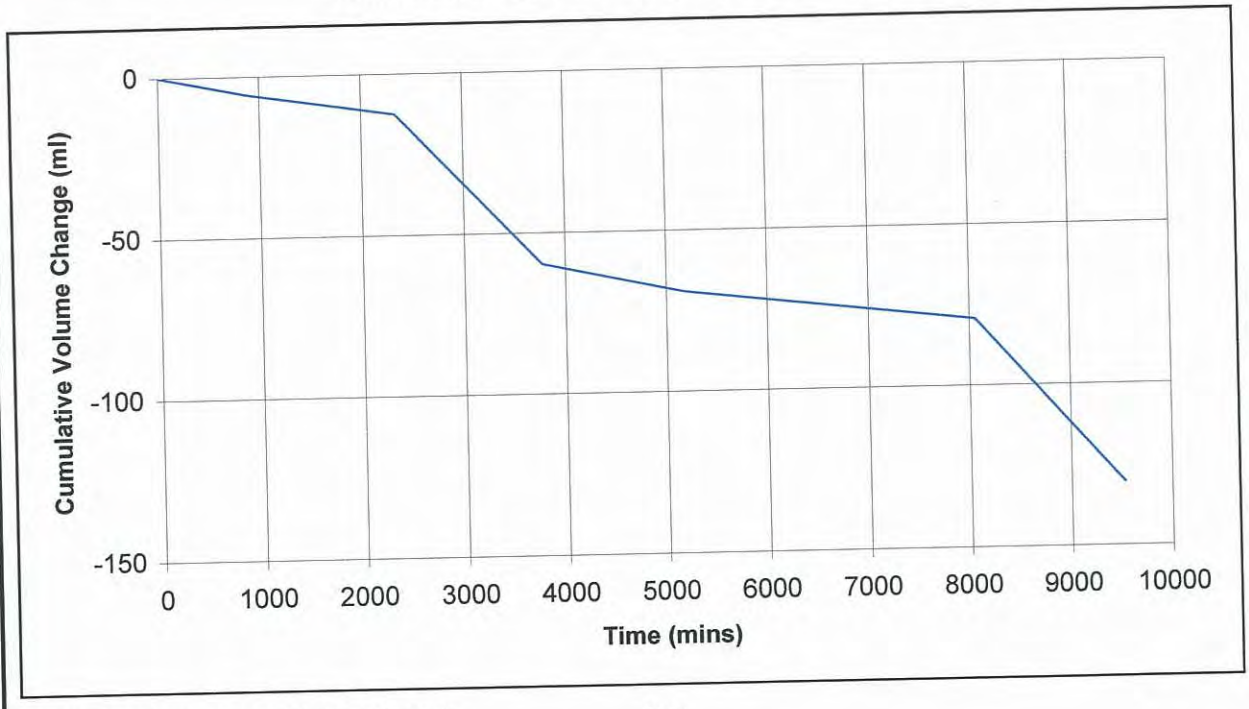
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
P O Box 726 Pymble NSW 2073

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	02.04.09
LABORATORY NUMBER:	57236	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH 41 4.5 to 5.0m		
SAMPLE DESCRIPTION:	SANDY GRAVEL: grey,fine to medium gravel, fine to coarse sand, some silt & clay of low plasticity. (Very dense)		



CONFINING PRESSURE (kPa):	150
BACK PRESSURE (kPa):	100
HEAD PRESSURE (kPa):	115
B' RESPONSE:	1.0
PERMEABILITY:	8.22E-09 metres/sec

Comments:

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Title: Manager Date: 13th April 2010

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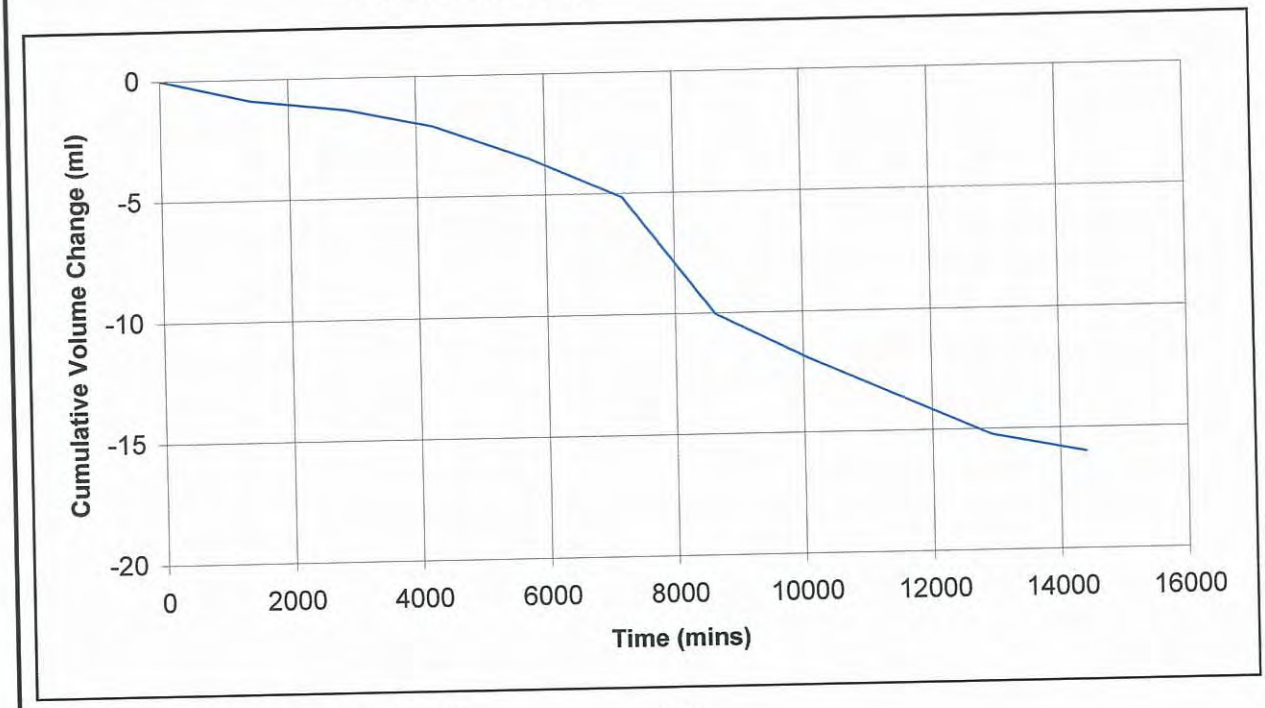
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
P O Box 726 Pymble NSW 2073

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	02.04.09
LABORATORY NUMBER:	57237	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH 47 17.0 to 17.4m		
SAMPLE DESCRIPTION:	SANDY CLAY: grey,medium plasticity, fine to medium sand.		



CONFINING PRESSURE (kPa):	150
BACK PRESSURE (kPa):	100
HEAD PRESSURE (kPa):	115
B' RESPONSE:	1.0
PERMEABILITY:	3.21E-10 metres/sec

Comments:

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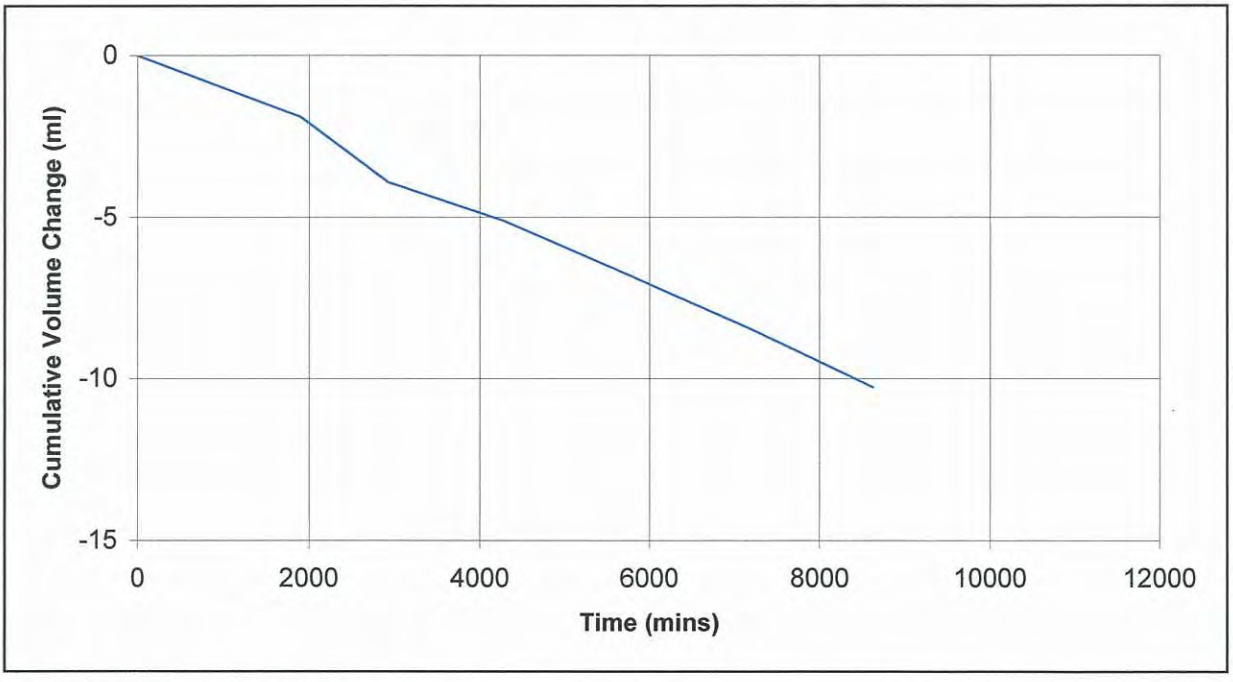
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
P O Box 726 Pymble NSW 2073

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	25/03/2010
LABORATORY NUMBER:	57238	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH57 18.0 to 18.3m		
SAMPLE DESCRIPTION:	SAND (Completetely weathered Sandstone) ;light grey, fine to medium sand, some clay.		



CONFINING PRESSURE (kPa):	150
BACK PRESSURE (kPa):	100
HEAD PRESSURE (kPa):	115
B' RESPONSE:	1.0
PERMEABILITY:	3.79E-10 metres/sec

Comments:

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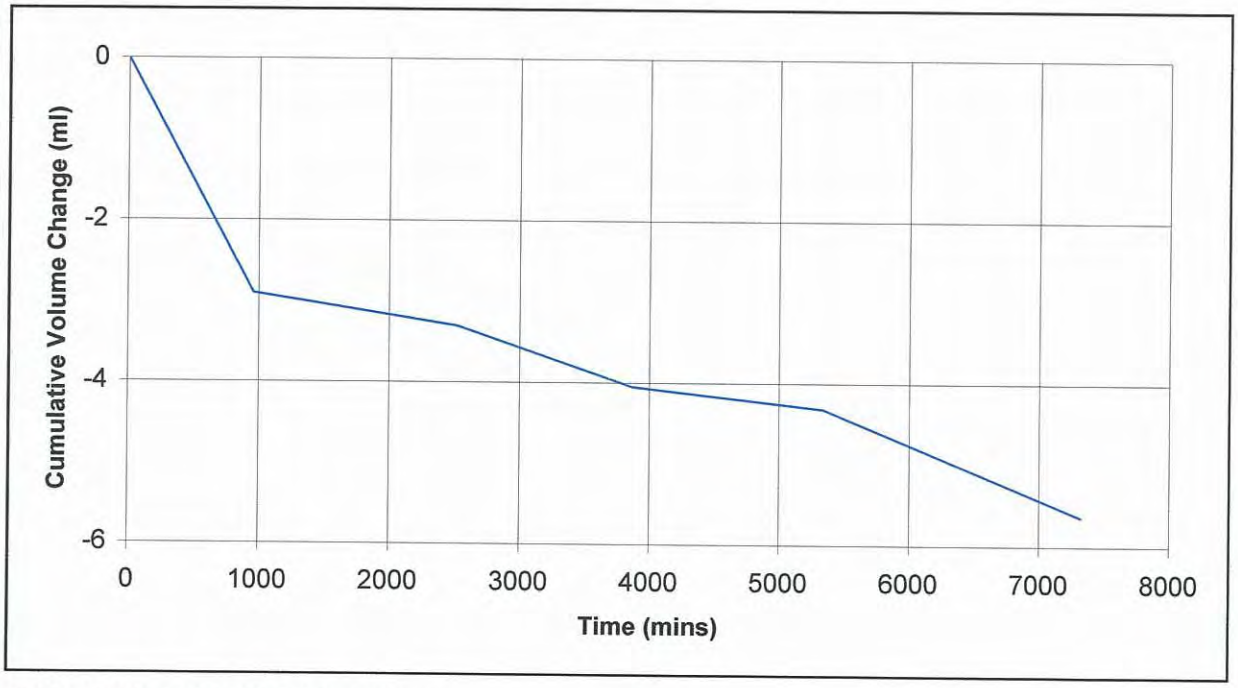
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
P O Box 726 Pymble NSW 2073

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	26/03/2010
LABORATORY NUMBER:	57239	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH60 14.5 to 14.95m		
SAMPLE DESCRIPTION:	SILTY CLAY:red-brown and grey,medium plasticity some fine to medium sand.		



CONFINING PRESSURE (kPa):	150
BACK PRESSURE (kPa):	100
HEAD PRESSURE (kPa):	120
B' RESPONSE:	1.0
PERMEABILITY:	1.45E-10 metres/sec

Comments:
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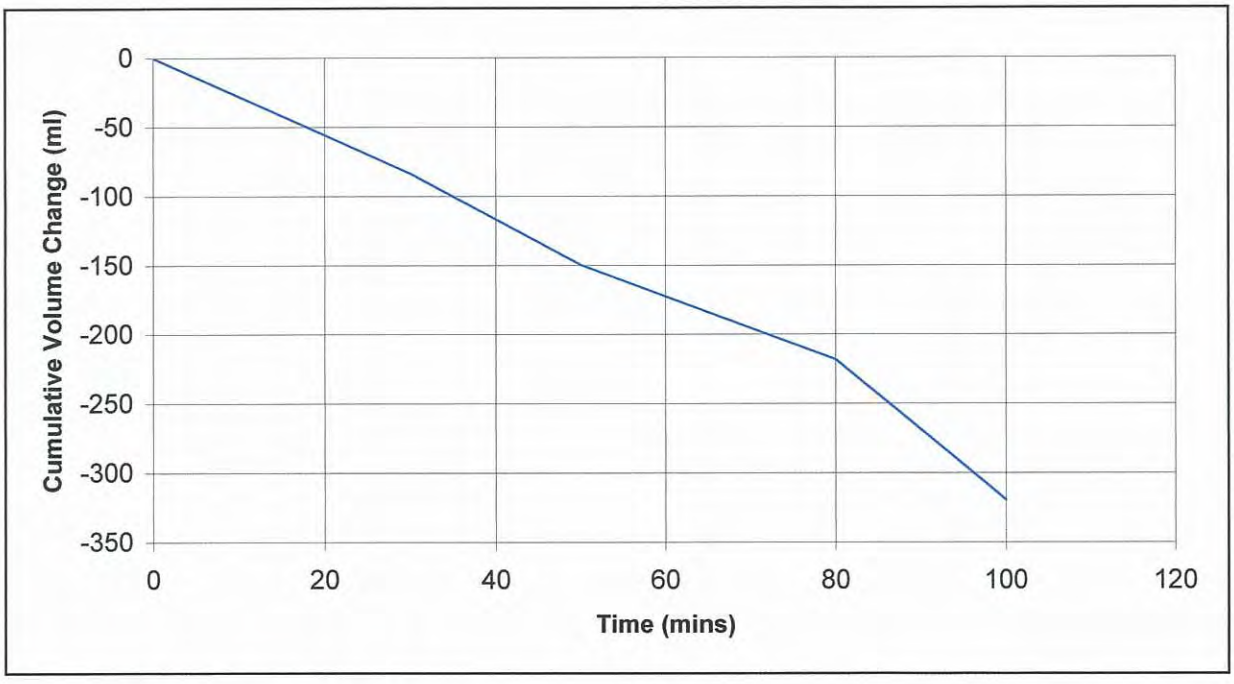
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
P O Box 726 Pymble NSW 2073

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	23/03/2010
LABORATORY NUMBER:	57240	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH71 19.2 to 19.6m		
SAMPLE DESCRIPTION:	CLAYEY SAND:red-brown & grey, fine to medium sand, low plasticity.		



CONFINING PRESSURE (kPa):	150
BACK PRESSURE (kPa):	100
HEAD PRESSURE (kPa):	120
B' RESPONSE:	1.0
PERMEABILITY:	5.27E-07 metres/sec

Comments:

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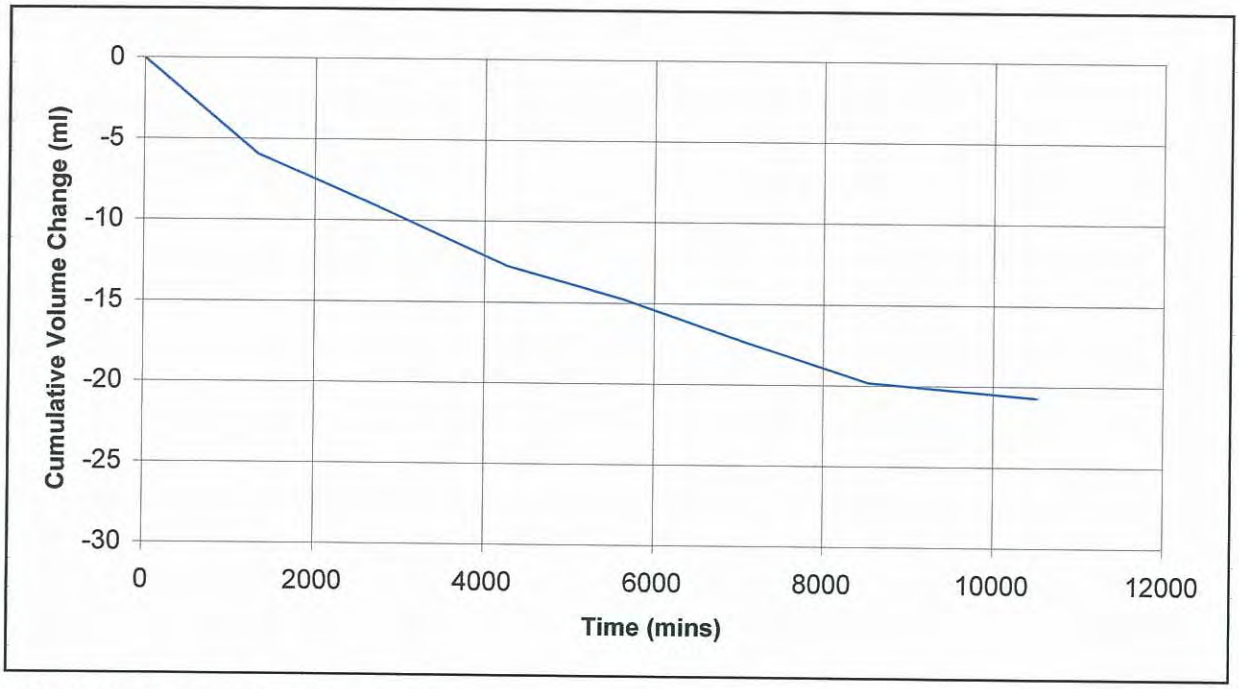
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
P O Box 726 Pymble NSW 2073

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	25/03/2010
LABORATORY NUMBER:	57241	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH72 14.5 to 14.9m		
SAMPLE DESCRIPTION:	SILTY CLAY:red-brown & grey,medium plasticity,some fine to medium sand.		



CONFINING PRESSURE (kPa):	150
BACK PRESSURE (kPa):	100
HEAD PRESSURE (kPa):	115
B' RESPONSE:	1.0
PERMEABILITY:	3.60E-10 metres/sec

Comments:

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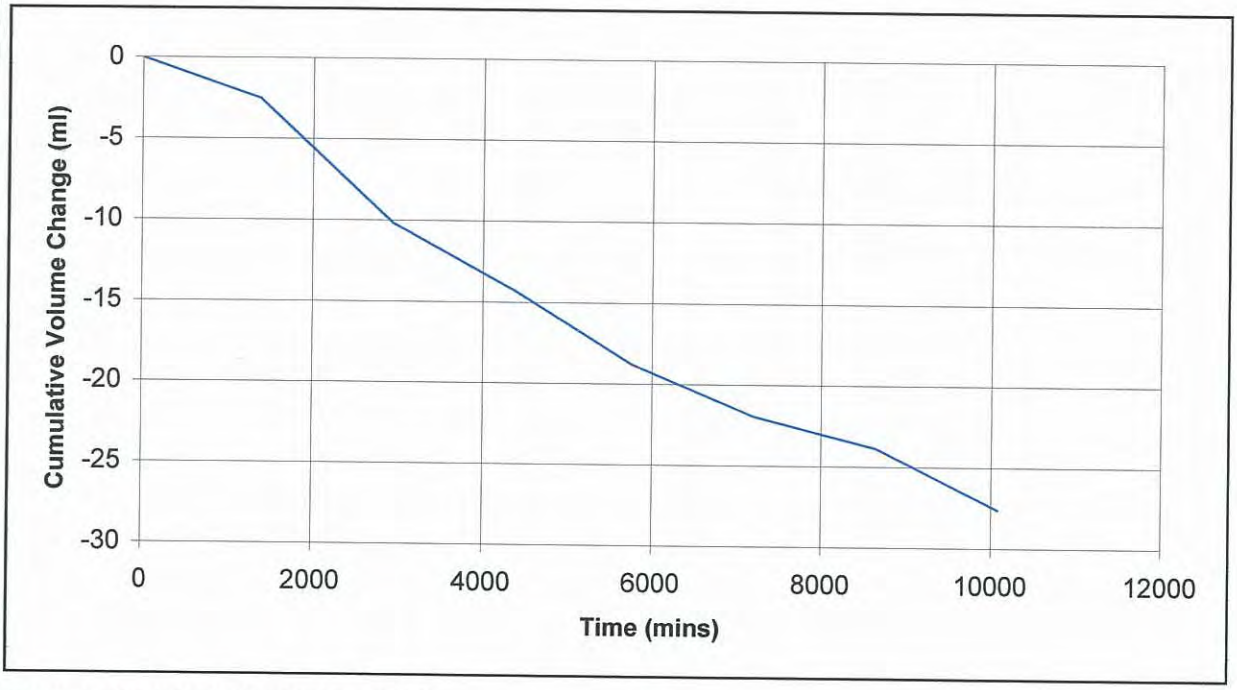
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
P O Box 726 Pymble NSW 2073

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	26/03/2010
LABORATORY NUMBER:	57242	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH73 15.0 to 15.4m		
SAMPLE DESCRIPTION:	SANDY CLAY:red-brown and grey,medium plasticity, fine to medium sand.		



CONFINING PRESSURE (kPa):	150
BACK PRESSURE (kPa):	100
HEAD PRESSURE (kPa):	110
B' RESPONSE:	1.0
PERMEABILITY:	9.99E-10 metres/sec

Comments:

TX07: issue 1: March 2007; auth CWS

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Signed: Name: C W Stabb

Title: Manager Date: 7th April 2010

AUSTRALIAN SOIL TESTING PTY LTD. A.B.N. 79 003 493 623
24 Bermill Street, Rockdale, NSW, 2216 P.O. Box 2014, Rockdale D.C. NSW 2216
Tel: 9597 5599, 9597 3286 Fax: 9597 3442 Email: austst@bigpond.com

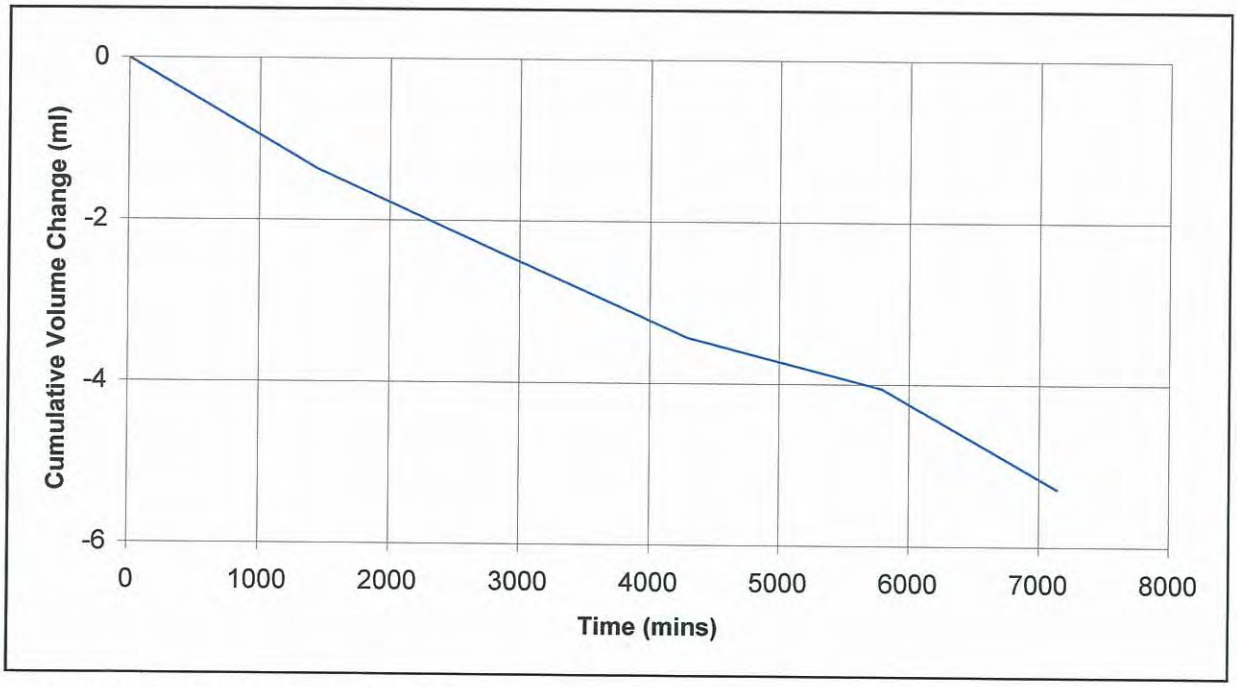
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
P O Box 726 Pymble NSW 2073

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	26/03/2010
LABORATORY NUMBER:	57243	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH74 14.0 to 14.5m		
SAMPLE DESCRIPTION:	SAND:grey & red-brown,fine to medium, some low plastic clay		



CONFINING PRESSURE (kPa):	150
BACK PRESSURE (kPa):	100
HEAD PRESSURE (kPa):	120
B' RESPONSE:	1.0
PERMEABILITY:	1.45E-10 metres/sec

Comments:

TX07: issue 1: March 2007; auth CWS

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Signed: Name: C W Stabb

Title: Manager Date: 7th April 2010

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Tel: 9597 5599, 9597 3286 Fax: 9597 3442 Email: austst@bigpond.com

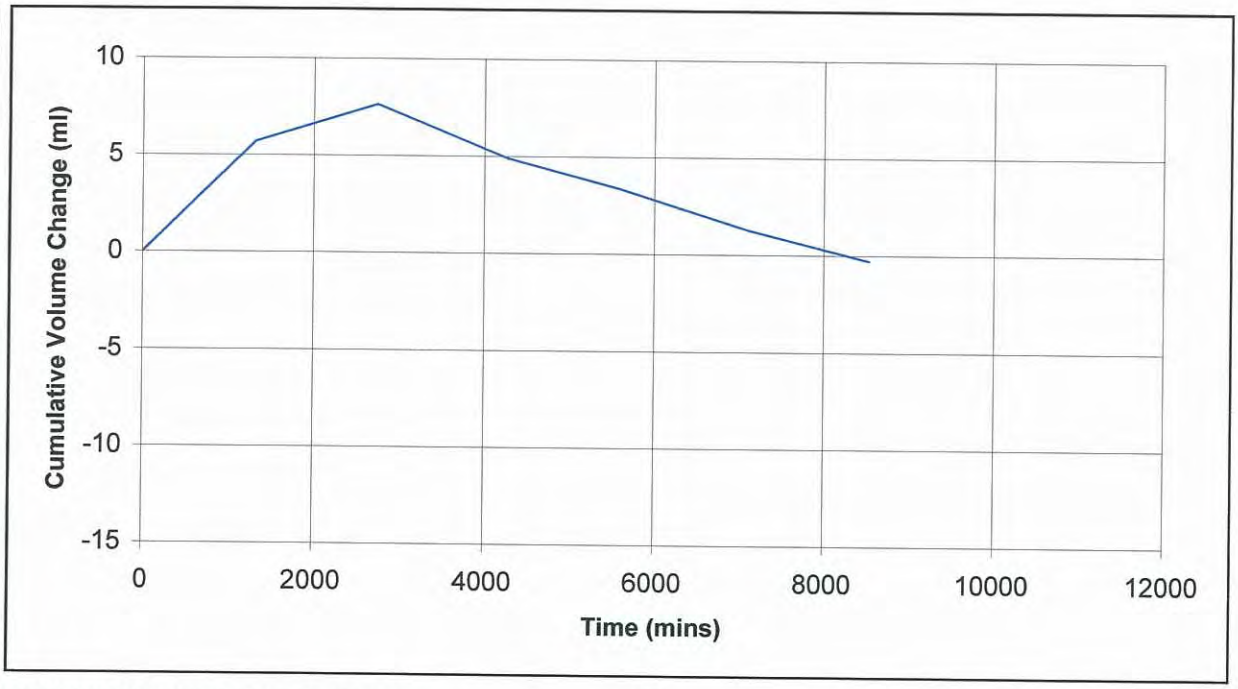
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
P O Box 726 Pymble NSW 2073

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	25/03/2010
LABORATORY NUMBER:	57244	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH75 14.5 to 14.9m		
SAMPLE DESCRIPTION:	SILTY CLAY:red-brown & grey, medium plasticity, trace of fine to medium sand.		



CONFINING PRESSURE (kPa):	150
BACK PRESSURE (kPa):	100
HEAD PRESSURE (kPa):	115
B' RESPONSE:	1.0
PERMEABILITY:	2.53E-10 metres/sec

Comments:

TX07: issue 1: March 2007; auth CWS

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Signed: Name: C W Stabb

Title: Manager Date: 7th April 2010

Appendix J

Laboratory Certificates

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CERTIFICATE OF ANALYSIS

Work Order	: **ES1004782**	Page	: 1 of 11
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303522		
C-O-C number	: ----	Date Samples Received	: 15-MAR-2010
Sampler	: KOB+KP	Issue Date	: 24-MAR-2010
Site	: BARANGAROO		
		No. of samples received	: 3
Quote number	: SY/259/09 V2	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EP074: Level of reporting raised for toluene due to ambient background levels in the laboratory.**
- **EP074: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.**
- **EP075: Particular samples required dilution prior to extraction due to matrix interferences. LOR values have been adjusted accordingly. Poor surrogate recovery due to sample matrix interferences.**
- **LCS recovery for some elements falls outside ALS Dynamic Control Limit. However, they are within the acceptance criteria based on ALS DQO. No further action is required.**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW22	MW204S	MW15	----	----
				Client sampling date / time: 15-MAR-2010 14:10	15-MAR-2010 08:30	15-MAR-2010 10:30	----	----
				ES1004782-001	ES1004782-002	ES1004782-003	----	----
EA005: pH								
pH Value	----	0.01	pH Unit	**7.24**	**7.04**	**7.09**	----	----
ED009: Anions								
Chloride	16887-00-6	0.50	mg/L	**20500**	**37.0**	**274**	----	----
Sulfate	14808-79-8	0.50	mg/L	**2220**	**22.3**	**49.5**	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**191**	**375**	**658**	----	----
Total Alkalinity as CaCO3	----	1	mg/L	**191**	**375**	**658**	----	----
ED040T: Total Major Anions								
^ Sulfur as S	----	1	mg/L	----	**11**	**18**	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**412**	**11**	**95**	----	----
Magnesium	7439-95-4	1	mg/L	**1230**	**13**	**54**	----	----
Sodium	7440-23-5	1	mg/L	**11500**	**167**	**244**	----	----
Potassium	7440-09-7	1	mg/L	**357**	**16**	**25**	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	**0.0002**	----	----
EG050F Low: Dissolved Hexavalent Chromium - Low								
Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	<0.002	<0.002	----	----
EG051G: Ferrous Iron by Discrete Analyser								
Ferrous Iron	----	0.05	mg/L	**3.56**	**0.55**	**0.84**	----	----
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Arsenic	7440-38-2	0.5	µg/L	<0.5	----	----	----	----
Barium	7440-39-3	1	µg/L	**61**	----	----	----	----
Beryllium	7440-41-7	0.1	µg/L	<0.1	----	----	----	----
Cadmium	7440-43-9	0.2	µg/L	<0.2	----	----	----	----
Chromium	7440-47-3	0.5	µg/L	<0.5	----	----	----	----
Cobalt	7440-48-4	0.2	µg/L	<0.2	----	----	----	----
Copper	7440-50-8	1	µg/L	<1	----	----	----	----
Lead	7439-92-1	0.2	µg/L	**0.2**	----	----	----	----
Manganese	7439-96-5	0.5	µg/L	**269**	----	----	----	----
Nickel	7440-02-0	0.5	µg/L	<0.5	----	----	----	----
Vanadium	7440-62-2	0.5	µg/L	<0.5	----	----	----	----
Zinc	7440-66-6	5	µg/L	**8**	----	----	----	----
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS								
Arsenic	7440-38-2	0.2	µg/L	----	**2.3**	**3.3**	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW22	MW204S	MW15	----	----
				Client sampling date / time: 15-MAR-2010 14:10	15-MAR-2010 08:30	15-MAR-2010 10:30	----	----
				ES1004782-001	ES1004782-002	ES1004782-003	----	----
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS - Continued								
Barium	7440-39-3	0.5	µg/L	----	**86.6**	**293**	----	----
Beryllium	7440-41-7	0.1	µg/L	----	<0.1	<0.1	----	----
Cadmium	7440-43-9	0.05	µg/L	----	**0.06**	**0.08**	----	----
Chromium	7440-47-3	0.2	µg/L	----	**1.3**	**0.8**	----	----
Cobalt	7440-48-4	0.1	µg/L	----	**0.8**	**0.8**	----	----
Copper	7440-50-8	0.5	µg/L	----	**5.2**	<0.5	----	----
Lead	7439-92-1	0.1	µg/L	----	**0.5**	**0.1**	----	----
Manganese	7439-96-5	0.5	µg/L	----	**55.0**	**239**	----	----
Nickel	7440-02-0	0.5	µg/L	----	**15.6**	**7.8**	----	----
Vanadium	7440-62-2	0.2	µg/L	----	**6.6**	**0.9**	----	----
Zinc	7440-66-6	1	µg/L	----	**75**	**6**	----	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	0.004	mg/L	----	<0.004	**0.005**	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	0.004	mg/L	----	<0.004	**0.011**	----	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	**2.70**	**5.36**	**37.2**	----	----
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	<0.01	**0.02**	**0.02**	----	----
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	<0.01	**0.03**	**0.04**	----	----
EK059G: NOX as N by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	**0.05**	**0.07**	----	----
EN055: Ionic Balance								
^ Total Anions	----	0.01	meq/L	**627**	**9.00**	**21.9**	----	----
^ Total Cations	----	0.01	meq/L	**632**	**9.34**	**20.4**	----	----
^ Ionic Balance	----	0.01	%	**0.37**	**1.82**	**3.62**	----	----
EP005: Total Organic Carbon (TOC)								
Total Organic Carbon	----	1	mg/L	**3**	**26**	**52**	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	1	µg/L	<1	**92**	**13100**	----	----
Toluene	108-88-3	2	µg/L	<5	**180**	**5030**	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	**60**	**3010**	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	**172**	**3920**	----	----
Styrene	100-42-5	5	µg/L	<5	**8**	<200	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	**82**	**2180**	----	----
Isopropylbenzene	98-82-8	5	µg/L	<5	<5	<200	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW22	MW204S	MW15	----	----
				Client sampling date / time	15-MAR-2010 14:10	15-MAR-2010 08:30	15-MAR-2010 10:30	----	----
Compound	CAS Number	LOR	Unit		ES1004782-001	ES1004782-002	ES1004782-003	----	----
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
n-Propylbenzene	103-65-1	5	µg/L		<5	<5	<200	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L		<5	**14**	<200	----	----
sec-Butylbenzene	135-98-8	5	µg/L		<5	<5	<200	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L		<5	**39**	**559**	----	----
tert-Butylbenzene	98-06-6	5	µg/L		<5	<5	<200	----	----
p-Isopropyltoluene	99-87-6	5	µg/L		<5	<5	<200	----	----
n-Butylbenzene	104-51-8	5	µg/L		<5	<5	<200	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	50	µg/L		<50	<50	<2000	----	----
2-Butanone (MEK)	78-93-3	50	µg/L		<50	<50	<2000	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		<50	<50	<2000	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L		<50	<50	<2000	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		<5	<5	<200	----	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	5	µg/L		<5	<5	<200	----	----
1.2-Dichloropropane	78-87-5	5	µg/L		<5	<5	<200	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		<5	<5	<200	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		<5	<5	<200	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		<5	<5	<200	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		<50	<50	<2000	----	----
Chloromethane	74-87-3	50	µg/L		<50	<50	<2000	----	----
Vinyl chloride	75-01-4	50	µg/L		<50	<50	<2000	----	----
Bromomethane	74-83-9	50	µg/L		<50	<50	<2000	----	----
Chloroethane	75-00-3	50	µg/L		<50	<50	<2000	----	----
Trichlorofluoromethane	75-69-4	50	µg/L		<50	<50	<2000	----	----
1.1-Dichloroethene	75-35-4	5	µg/L		<5	<5	<200	----	----
Iodomethane	74-88-4	5	µg/L		<5	<5	<200	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L		<5	<5	<200	----	----
1.1-Dichloroethane	75-34-3	5	µg/L		<5	<5	<200	----	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L		<5	<5	<200	----	----
1.1.1-Trichloroethane	71-55-6	5	µg/L		<5	<5	<200	----	----
1.1-Dichloropropylene	563-58-6	5	µg/L		<5	<5	<200	----	----
Carbon Tetrachloride	56-23-5	5	µg/L		<5	<5	<200	----	----
1.2-Dichloroethane	107-06-2	5	µg/L		<5	<5	<200	----	----
Trichloroethene	79-01-6	5	µg/L		<5	<5	<200	----	----
Dibromomethane	74-95-3	5	µg/L		<5	<5	<200	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW22	MW204S	MW15	----	----
				Client sampling date / time	15-MAR-2010 14:10	15-MAR-2010 08:30	15-MAR-2010 10:30	----	----
Compound	CAS Number	LOR	Unit		ES1004782-001	ES1004782-002	ES1004782-003	----	----
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1.2-Trichloroethane	79-00-5	5	µg/L		<5	<5	<200	----	----
1.3-Dichloropropane	142-28-9	5	µg/L		<5	<5	<200	----	----
Tetrachloroethene	127-18-4	5	µg/L		<5	<5	<200	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		<5	<5	<200	----	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		<5	<5	<200	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		<5	<5	<200	----	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		<5	<5	<200	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L		<5	<5	<200	----	----
Pentachloroethane	76-01-7	5	µg/L		<5	<5	<200	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		<5	<5	<200	----	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	5	µg/L		<5	<5	<200	----	----
Bromobenzene	108-86-1	5	µg/L		<5	<5	<200	----	----
2-Chlorotoluene	95-49-8	5	µg/L		<5	<5	<200	----	----
4-Chlorotoluene	106-43-4	5	µg/L		<5	<5	<200	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		<5	<5	<200	----	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		<5	<5	<200	----	----
Bromodichloromethane	75-27-4	5	µg/L		<5	<5	<200	----	----
Dibromochloromethane	124-48-1	5	µg/L		<5	<5	<200	----	----
Bromoform	75-25-2	5	µg/L		<5	<5	<200	----	----
EP075A: Phenolic Compounds									
Phenol	108-95-2	2	µg/L		<2	<9	**24**	----	----
2-Chlorophenol	95-57-8	2	µg/L		<2	<9	<9	----	----
2-Methylphenol	95-48-7	2	µg/L		<2	**36**	**267**	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L		<4	<19	**68**	----	----
2-Nitrophenol	88-75-5	2	µg/L		<2	<9	<9	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L		<2	**231**	**898**	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L		<2	<9	<9	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L		<2	<9	<9	----	----
4-Chloro-3-Methylphenol	59-50-7	2	µg/L		<2	<9	<9	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L		<2	<9	<9	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L		<2	<9	<9	----	----
Pentachlorophenol	87-86-5	4	µg/L		<4	<19	<19	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	2	µg/L		<2	**6740**	**7800**	----	----
2-Methylnaphthalene	91-57-6	2	µg/L		<2	**314**	**541**	----	----
2-Chloronaphthalene	91-58-7	2	µg/L		<2	<9	<9	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW22	MW204S	MW15	----	----
				Client sampling date / time	15-MAR-2010 14:10	15-MAR-2010 08:30	15-MAR-2010 10:30	----	----
Compound	CAS Number	LOR	Unit		ES1004782-001	ES1004782-002	ES1004782-003	----	----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthylene	208-96-8	2	µg/L		<2	**55**	**155**	----	----
Acenaphthene	83-32-9	2	µg/L		<2	**96**	**49**	----	----
Fluorene	86-73-7	2	µg/L		<2	**92**	**83**	----	----
Phenanthrene	85-01-8	2	µg/L		<2	**97**	**87**	----	----
Anthracene	120-12-7	2	µg/L		<2	<9	**18**	----	----
Fluoranthene	206-44-0	2	µg/L		<2	<9	**18**	----	----
Pyrene	129-00-0	2	µg/L		<2	<9	**16**	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L		<2	<9	<9	----	----
Benz(a)anthracene	56-55-3	2	µg/L		<2	<9	<9	----	----
Chrysene	218-01-9	2	µg/L		<2	<9	<9	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L		<4	<19	<19	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L		<2	<9	<9	----	----
Benzo(a)pyrene	50-32-8	2	µg/L		<2	<9	<9	----	----
3-Methylcholanthrene	56-49-5	2	µg/L		<2	<9	<9	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L		<2	<9	<9	----	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L		<2	<9	<9	----	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L		<2	<9	<9	----	----
^ Sum of PAHs	----	2	µg/L		<2	**7080**	**8230**	----	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	2	µg/L		<2	<9	<9	----	----
Diethyl phthalate	84-66-2	2	µg/L		<2	<9	<9	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L		<2	<9	<9	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L		<2	<9	<9	----	----
bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L		<20	<20	<20	----	----
Di-n-octylphthalate	117-84-0	2	µg/L		<2	<9	<9	----	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	2	µg/L		<2	<9	<9	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L		<2	<9	<9	----	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L		<4	<9	<9	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L		<2	<9	<9	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L		<2	<9	<9	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L		<2	<9	<9	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L		<2	<9	<9	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L		<4	<19	<19	----	----
Methapyrilene	91-80-5	2	µg/L		<2	<9	<9	----	----
EP075E: Nitroaromatics and Ketones									

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW22	MW204S	MW15	----	----
				Client sampling date / time: 15-MAR-2010 14:10	15-MAR-2010 08:30	15-MAR-2010 10:30	----	----
				ES1004782-001	ES1004782-002	ES1004782-003	----	----
EP075E: Nitroaromatics and Ketones - Continued								
2-Picoline	109-06-8	2	µg/L	<2	**69**	**129**	----	----
Acetophenone	98-86-2	2	µg/L	<2	<9	**13**	----	----
Nitrobenzene	98-95-3	2	µg/L	<2	<9	<9	----	----
Isophorone	78-59-1	2	µg/L	<2	<9	<9	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	<9	<9	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	<9	<9	----	----
1-Naphthylamine	134-32-7	2	µg/L	<2	<9	<9	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	<9	<9	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	<9	<9	----	----
Azobenzene	103-33-3	2	µg/L	<2	<9	<9	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	<9	<9	----	----
Phenacetin	62-44-2	2	µg/L	<2	<9	<9	----	----
4-Aminobiphenyl	92-67-1	2	µg/L	<2	<9	<9	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L	<2	<9	<9	----	----
Pronamide	23950-58-5	2	µg/L	<2	<9	<9	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	<9	<9	----	----
Chlorobenzilate	510-15-6	2	µg/L	<2	<9	<9	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	<9	<9	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	<9	<9	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	<9	<9	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	<9	<9	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	<9	<9	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	<9	<9	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	<9	<9	----	----
Hexachloroethane	67-72-1	2	µg/L	<2	<9	<9	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	<9	<9	----	----
Hexachloropropylene	1888-71-7	2	µg/L	<2	<9	<9	----	----
Hexachlorobutadiene	87-68-3	2	µg/L	<2	<9	<9	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	<10	<10	----	----
Pentachlorobenzene	608-93-5	2	µg/L	<2	<9	<9	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	<9	<9	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	2	µg/L	<2	**28**	**86**	----	----
4-Chloroaniline	106-47-8	2	µg/L	<2	<9	<9	----	----
2-Nitroaniline	88-74-4	4	µg/L	<4	<9	<9	----	----
3-Nitroaniline	99-09-2	4	µg/L	<4	<9	<9	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW22	MW204S	MW15	----	----
				Client sampling date / time	15-MAR-2010 14:10	15-MAR-2010 08:30	15-MAR-2010 10:30	----	----
Compound	CAS Number	LOR	Unit		ES1004782-001	ES1004782-002	ES1004782-003	----	----
EP075H: Anilines and Benzidines - Continued									
Dibenzofuran	132-64-9	2	µg/L		<2	**113**	**78**	----	----
4-Nitroaniline	100-01-6	2	µg/L		<2	<9	<9	----	----
Carbazole	86-74-8	2	µg/L		<2	**316**	**285**	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L		<2	<9	<9	----	----
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	2	µg/L		<2	<9	<9	----	----
beta-BHC	319-85-7	2	µg/L		<2	<9	<9	----	----
gamma-BHC	58-89-9	2	µg/L		<2	<9	<9	----	----
delta-BHC	319-86-8	2	µg/L		<2	<9	<9	----	----
Heptachlor	76-44-8	2	µg/L		<2	<9	<9	----	----
Aldrin	309-00-2	2	µg/L		<2	<9	<9	----	----
Heptachlor epoxide	1024-57-3	2	µg/L		<2	<9	<9	----	----
alpha-Endosulfan	959-98-8	2	µg/L		<2	<9	<9	----	----
4.4`-DDE	72-55-9	2	µg/L		<2	<9	<9	----	----
Dieldrin	60-57-1	2	µg/L		<2	<9	<9	----	----
Endrin	72-20-8	2	µg/L		<2	<9	<9	----	----
beta-Endosulfan	33213-65-9	2	µg/L		<2	<9	<9	----	----
4.4`-DDD	72-54-8	2	µg/L		<2	<9	<9	----	----
Endosulfan sulfate	1031-07-8	2	µg/L		<2	<9	<9	----	----
4.4`-DDT	50-29-3	4	µg/L		<4	<9	<9	----	----
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	2	µg/L		<2	<9	<9	----	----
Dimethoate	60-51-5	2	µg/L		<2	<9	<9	----	----
Diazinon	333-41-5	2	µg/L		<2	<9	<9	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L		<2	<9	<9	----	----
Malathion	121-75-5	2	µg/L		<2	<9	<9	----	----
Fenthion	55-38-9	2	µg/L		<2	<9	<9	----	----
Chlorpyrifos	2921-88-2	2	µg/L		<2	<9	<9	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L		<2	<9	<9	----	----
Chlorfenvinphos	470-90-6	2	µg/L		<2	<10	<10	----	----
Prothiofos	34643-46-4	2	µg/L		<2	<9	<9	----	----
Ethion	563-12-2	2	µg/L		<2	<9	<9	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	**890**	**46200**	----	----
C10 - C14 Fraction	----	50	µg/L		<50	**19600**	**41000**	----	----
C15 - C28 Fraction	----	100	µg/L		<100	**7400**	**14400**	----	----
C29 - C36 Fraction	----	50	µg/L		<50	**450**	**470**	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	**27400**	**55900**	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW22	MW204S	MW15	----	----
				Client sampling date / time: 15-MAR-2010 14:10	15-MAR-2010 08:30	15-MAR-2010 10:30	----	----
				ES1004782-001	ES1004782-002	ES1004782-003	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**109**	**98.6**	**119**	----	----
Toluene-D8	2037-26-5	0.1	%	**115**	**114**	**113**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**103**	**86.1**	**109**	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	**55.4**	**58.6**	**Not Determined**	----	----
Phenol-d6	13127-88-3	0.1	%	**31.2**	**Not Determined**	**Not Determined**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**71.8**	**94.3**	**88.4**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**64.8**	**136**	**139**	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	**81.6**	**104**	**108**	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	**72.1**	**101**	**92.9**	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	**75.3**	**124**	**115**	----	----
Anthracene-d10	1719-06-8	0.1	%	**84.7**	**128**	**118**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**83.4**	**130**	**122**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**112**	**98.7**	**113**	----	----
Toluene-D8	2037-26-5	0.1	%	**104**	**102**	**106**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**99.9**	**106**	**111**	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	21	100
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	35	114
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

QUALITY CONTROL REPORT

Work Order	: **ES1004782**	Page	: 1 of 16
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: BARANGAROO		
C-O-C number	: ----	Date Samples Received	: 15-MAR-2010
Sampler	: KOB+KP	Issue Date	: 24-MAR-2010
Order number	: 1303522		
		No. of samples received	: 3
Quote number	: SY/259/09 V2	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA005: pH (QC Lot: 1281141)									
ES1004782-001	MW22	EA005: pH Value	----	0.01	pH Unit	7.24	7.25	0.1	0% - 20%
ED009: Anions (QC Lot: 1281749)									
ES1004766-002	Anonymous	ED009: Chloride	16887-00-6	0.50	mg/L	147	142	3.4	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	122	116	4.5	0% - 20%
ES1004783-002	Anonymous	ED009: Chloride	16887-00-6	0.50	mg/L	6560	6320	3.6	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	812	843	3.7	0% - 20%
ED037P: Alkalinity by PC Titrator (QC Lot: 1285159)									
ES1004758-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	162	162	0.0	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	162	162	0.0	0% - 20%
ES1004766-003	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	112	114	1.7	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	112	114	1.7	0% - 20%
ED040T: Total Major Anions (QC Lot: 1283281)									
ES1004782-002	MW204S	ED040T: Sulfur as S	----	1	mg/L	11	11	0.0	0% - 50%
ED093F: Dissolved Major Cations (QC Lot: 1281315)									
ES1004782-001	MW22	ED093F: Calcium	7440-70-2	1	mg/L	412	385	6.9	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	1230	1160	6.1	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	11500	11300	1.8	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	357	344	3.8	0% - 20%
ES1004872-008	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	13	11	18.6	0% - 50%
		ED093F: Magnesium	7439-95-4	1	mg/L	4	4	0.0	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	12	12	0.0	0% - 50%
		ED093F: Potassium	7440-09-7	1	mg/L	2	2	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1283157)									
EB1004421-006	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1004783-005	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG050F Low: Dissolved Hexavalent Chromium - Low (QC Lot: 1286715)									
ES1004782-001	MW22	EG050F: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	0.002	0.0	No Limit
ES1004956-002	Anonymous	EG050F: Hexavalent Chromium	18540-29-9	0.002	mg/L	0.005	0.004	0.0	No Limit
EG051G: Ferrous Iron by Discrete Analyser (QC Lot: 1281036)									
ES1004782-002	MW204S	EG051G: Ferrous Iron	----	0.05	mg/L	0.55	0.55	0.0	0% - 50%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QC Lot: 1286942)									
EB1004425-001	Anonymous	EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	0.2	0.0	No Limit
		EG093A-F: Arsenic	7440-38-2	0.5	µg/L	1.3	1.5	15.4	No Limit
		EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	3.3	148	No Limit
		EG093A-F: Manganese	7439-96-5	0.5	µg/L	12.1	11.8	2.6	0% - 20%
		EG093A-F: Nickel	7440-02-0	0.5	µg/L	0.6	3.9	148	No Limit
		EG093A-F: Vanadium	7440-62-2	0.5	µg/L	1.4	1.8	25.8	No Limit
		EG093A-F: Barium	7440-39-3	1	µg/L	19	19	0.0	0% - 50%
		EG093A-F: Copper	7440-50-8	1	µg/L	2	3	0.0	No Limit
		EG093A-F: Zinc	7440-66-6	5	µg/L	11	12	0.0	No Limit
ES1004947-003	Anonymous	EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-F: Cadmium	7440-43-9	0.2	µg/L	0.6	0.5	0.0	No Limit
		EG093A-F: Cobalt	7440-48-4	0.2	µg/L	0.2	0.3	0.0	No Limit
		EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Arsenic	7440-38-2	0.5	µg/L	0.6	0.7	17.2	No Limit
		EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Manganese	7439-96-5	0.5	µg/L	41.0	42.1	2.6	0% - 20%
		EG093A-F: Nickel	7440-02-0	0.5	µg/L	11.6	12.3	5.6	0% - 20%
		EG093A-F: Vanadium	7440-62-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Barium	7440-39-3	1	µg/L	20	20	0.0	0% - 20%
		EG093A-F: Copper	7440-50-8	1	µg/L	11	12	0.0	0% - 50%
		EG093A-F: Zinc	7440-66-6	5	µg/L	6	6	0.0	No Limit
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QC Lot: 1288234)									
EB1004630-001	Anonymous	EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EG094A-F: Beryllium	7440-41-7	0.1	µg/L	0.2	0.3	0.0	No Limit
		EG094A-F: Cobalt	7440-48-4	0.1	µg/L	0.7	0.7	0.0	No Limit
		EG094A-F: Lead	7439-92-1	0.1	µg/L	0.4	0.4	0.0	No Limit
		EG094A-F: Arsenic	7440-38-2	0.2	µg/L	0.3	0.3	0.0	No Limit
		EG094A-F: Chromium	7440-47-3	0.2	µg/L	0.3	0.3	0.0	No Limit
		EG094A-F: Vanadium	7440-62-2	0.2	µg/L	<0.2	0.2	0.0	No Limit
		EG094A-F: Barium	7440-39-3	0.5	µg/L	36.3	36.0	0.9	0% - 20%
		EG094A-F: Copper	7440-50-8	0.5	µg/L	2.3	2.6	12.3	No Limit
		EG094A-F: Manganese	7439-96-5	0.5	µg/L	4.4	4.3	2.8	No Limit
		EG094A-F: Nickel	7440-02-0	0.5	µg/L	0.9	0.9	0.0	No Limit
		EG094A-F: Zinc	7440-66-6	1	µg/L	22	21	0.0	0% - 20%
EK025G: Free cyanide by Discrete Analyser (QC Lot: 1284977)									
ES1004782-002	MW204S	EK025G: Free Cyanide	----	0.004	mg/L	<0.004	0.005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1284980)									
ES1004782-002	MW204S	EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 1281683)									
ES1004782-001	MW22	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	2.70	2.69	0.4	0% - 20%
ES1004848-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	68.9	67.0	2.9	0% - 20%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 1281316)									
ES1004782-001	MW22	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1004806-005	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.01	0.0	No Limit
EK059G: NOX as N by Discrete Analyser (QC Lot: 1281682)									
ES1004782-001	MW22	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1004806-003	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.02	0.02	0.0	No Limit
EP005: Total Organic Carbon (TOC) (QC Lot: 1282647)									
ES1004722-003	Anonymous	EP005: Total Organic Carbon	----	1	mg/L	3	3	0.0	No Limit
ES1004784-001	Anonymous	EP005: Total Organic Carbon	----	1	mg/L	2	2	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1282431)									
ES1004782-001	MW22	EP074: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP074: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1282431)									
ES1004782-001	MW22	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1282431)									
ES1004782-001	MW22	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1282431)									
ES1004782-001	MW22	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074D: Fumigants (QC Lot: 1282431) - continued									
ES1004782-001	MW22	EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1282431)									
ES1004782-001	MW22	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1282431)									
ES1004782-001	MW22	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1282431)									
ES1004782-001	MW22	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074G: Trihalomethanes (QC Lot: 1282431) - continued									
ES1004782-001	MW22	EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1282432)									
ES1004782-001	MW22	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1004822-016	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
ED009: Anions (QCLot: 1281749)								
ED009: Chloride	16887-00-6	0.5	mg/L	<0.50	4 mg/L	95.6	70	130
ED009: Sulfate	14808-79-8	0.5	mg/L	<0.50	4 mg/L	79.4	70	130
ED037P: Alkalinity by PC Titrator (QCLot: 1285159)								
ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	----	200 mg/L	86.0	80.2	108
ED040T: Total Major Anions (QCLot: 1283281)								
ED040T: Sulfur as S	----	1	mg/L	<1	50 mg/L	104	91	119
ED093F: Dissolved Major Cations (QCLot: 1281315)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	103	88	110
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	# 114	90	110
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	# 70.7	81	107
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	# 85.2	89	109
EG035F: Dissolved Mercury by FIMS (QCLot: 1283157)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	104	86	116
EG050F Low: Dissolved Hexavalent Chromium - Low (QCLot: 1286715)								
EG050F: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	0.1 mg/L	99.9	----	----
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 1281036)								
EG051G: Ferrous Iron	----	0.10	mg/L	<0.10	2.00 mg/L	93.4	78.1	115
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1286942)								
EG093A-F: Arsenic	7440-38-2	0.5	µg/L	<0.5	10 µg/L	89.8	85	125
EG093A-F: Barium	7440-39-3	1	µg/L	<1	10 µg/L	92.5	81	129
EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	10 µg/L	105	80	122
EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	10 µg/L	94.2	78	116
EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	10 µg/L	93.0	86	128
EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	10 µg/L	89.7	87	127
EG093A-F: Copper	7440-50-8	1	µg/L	<1	10 µg/L	90.6	86	124
EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	10 µg/L	93.6	87	123
EG093A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	10 µg/L	# 89.8	90	122
EG093A-F: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	# 75.2	84	124
EG093A-F: Vanadium	7440-62-2	0.5	µg/L	<0.5	10 µg/L	88.2	85	123
EG093A-F: Zinc	7440-66-6	5	µg/L	<5	10 µg/L	90.2	82	128
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1288234)								
EG094A-F: Arsenic	7440-38-2	0.2	µg/L	<0.2	10 µg/L	109	81	121
EG094A-F: Barium	7440-39-3	0.5	µg/L	<0.5	10 µg/L	109	78	112

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1288234) - continued								
EG094A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	10 µg/L	98.4	70	130
EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.05	10 µg/L	95.1	70	130
EG094A-F: Chromium	7440-47-3	0.2	µg/L	<0.2	10 µg/L	104	70	130
EG094A-F: Cobalt	7440-48-4	0.1	µg/L	<0.1	10 µg/L	105	70	130
EG094A-F: Copper	7440-50-8	0.5	µg/L	<0.5	10 µg/L	104	70	130
EG094A-F: Lead	7439-92-1	0.1	µg/L	<0.1	10 µg/L	101	70	130
EG094A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	10 µg/L	102	70	130
EG094A-F: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	105	70	130
EG094A-F: Vanadium	7440-62-2	0.2	µg/L	<0.2	10 µg/L	99.0	70	130
EG094A-F: Zinc	7440-66-6	1	µg/L	<1	10 µg/L	106	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1284977)								
EK025G: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	78.6	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1284980)								
EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	86.8	70	129
EK055G: Ammonia as N by Discrete Analyser (QCLot: 1281683)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.00 mg/L	97.7	79.6	122
EK057G: Nitrite as N by Discrete Analyser (QCLot: 1281316)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.96 mg/L	103	65.1	129
EK059G: NOX as N by Discrete Analyser (QCLot: 1281682)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.96 mg/L	104	76.9	122
EP005: Total Organic Carbon (TOC) (QCLot: 1282647)								
EP005: Total Organic Carbon	----	1	mg/L	<1	10 mg/L	99.5	86.9	125
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1282431)								
EP074: Benzene	71-43-2	1	µg/L	<1	10 µg/L	101	81	119
EP074: Toluene	108-88-3	2	µg/L	<5	10 µg/L	97.1	76.5	123
EP074: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	106	80.3	119
EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	20 µg/L	108	81.1	118
EP074: Styrene	100-42-5	5	µg/L	<5	10 µg/L	106	79.9	120
EP074: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	109	82	118
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	10 µg/L	109	80.3	119
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	10 µg/L	101	75.5	122
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	10 µg/L	99.2	79.2	118
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	10 µg/L	104	76.6	121
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	10 µg/L	99.3	79.7	118
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	10 µg/L	105	77.4	120
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	10 µg/L	101	76.3	122
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	10 µg/L	102	74.4	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074B: Oxygenated Compounds (QCLot: 1282431)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	100 µg/L	65.2	61.4	134
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	100 µg/L	101	73.6	130
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	100 µg/L	78.4	74.7	129
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	100 µg/L	80.7	74.1	130
EP074C: Sulfonated Compounds (QCLot: 1282431)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	10 µg/L	84.3	72.8	127
EP074D: Fumigants (QCLot: 1282431)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	10 µg/L	98.1	72.7	124
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	10 µg/L	108	80.7	119
EP074: cis-1.3-Dichloropropylene	10061-01-5	10	µg/L	<10	10 µg/L	# 80.1	80.4	119
EP074: trans-1.3-Dichloropropylene	10061-02-6	10	µg/L	<10	10 µg/L	82.3	79.3	120
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	10 µg/L	85.4	79.1	123
EP074E: Halogenated Aliphatic Compounds (QCLot: 1282431)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	100 µg/L	74.1	60.6	138
EP074: Chloromethane	74-87-3	50	µg/L	<50	100 µg/L	90.2	67.4	130
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	100 µg/L	84.2	69.4	129
EP074: Bromomethane	74-83-9	50	µg/L	<50	100 µg/L	119	68.9	131
EP074: Chloroethane	75-00-3	50	µg/L	<50	100 µg/L	92.3	73.9	126
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	100 µg/L	82.8	71.6	128
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	10 µg/L	99.2	72.5	128
EP074: Iodomethane	74-88-4	5	µg/L	<5	10 µg/L	70.2	70.2	128
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	10 µg/L	93.1	77.4	122
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	10 µg/L	82.1	79.3	121
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	10 µg/L	85.0	79.5	121
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	10 µg/L	112	75.8	124
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	10 µg/L	# 123	77.8	121
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	10 µg/L	118	73.8	126
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	10 µg/L	113	75.5	126
EP074: Trichloroethene	79-01-6	5	µg/L	<5	10 µg/L	# 125	76.7	123
EP074: Dibromomethane	74-95-3	5	µg/L	<5	10 µg/L	124	76.1	126
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	10 µg/L	91.2	79.6	122
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	10 µg/L	98.4	79.9	122
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	10 µg/L	108	75	124
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	10 µg/L	88.6	78.9	121
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	10 µg/L	113	61.4	136
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	10 µg/L	111	70.6	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	10 µg/L	82.5	77.8	126
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	10 µg/L	94.5	74.1	128
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	10 µg/L	78.4	71.8	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1282431) - continued								
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	10 µg/L	92.6	66.4	136
EP074F: Halogenated Aromatic Compounds (QCLot: 1282431)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	10 µg/L	110	80.8	119
EP074: Bromobenzene	108-86-1	5	µg/L	<5	10 µg/L	102	79.3	119
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	10 µg/L	102	78.2	120
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	10 µg/L	105	79	119
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	10 µg/L	105	68.6	128
EP074G: Trihalomethanes (QCLot: 1282431)								
EP074: Chloroform	67-66-3	5	µg/L	<5	10 µg/L	94.3	78.2	122
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	10 µg/L	112	76.9	123
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	10 µg/L	90.2	78.5	124
EP074: Bromoform	75-25-2	5	µg/L	<5	10 µg/L	108	73.5	126
EP075A: Phenolic Compounds (QCLot: 1281636)								
EP075: Phenol	108-95-2	2	µg/L	<2	5 µg/L	48.2	25.5	64.1
EP075: 2-Chlorophenol	95-57-8	2	µg/L	<2	5 µg/L	87.6	63.1	105
EP075: 2-Methylphenol	95-48-7	2	µg/L	<2	5 µg/L	77.8	55.6	98.4
EP075: 3- & 4-Methylphenol	1319-77-3	4	µg/L	<4	10 µg/L	70.7	45	96.2
EP075: 2-Nitrophenol	88-75-5	2	µg/L	<2	5 µg/L	74.3	55.4	110
EP075: 2.4-Dimethylphenol	105-67-9	2	µg/L	<2	5 µg/L	77.8	61.7	110
EP075: 2.4-Dichlorophenol	120-83-2	2	µg/L	<2	5 µg/L	77.8	61.9	109
EP075: 2.6-Dichlorophenol	87-65-0	2	µg/L	<2	5 µg/L	81.6	61.5	108
EP075: 4-Chloro-3-Methylphenol	59-50-7	2	µg/L	<2	5 µg/L	89.0	61.4	107
EP075: 2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	5 µg/L	76.5	57.6	112
EP075: 2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	5 µg/L	76.1	58	110
EP075: Pentachlorophenol	87-86-5	4	µg/L	<4	10 µg/L	37.0	2.39	110
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1281636)								
EP075: Naphthalene	91-20-3	2	µg/L	<2	5 µg/L	94.8	61	108
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	5 µg/L	88.2	59	108
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	5 µg/L	83.5	60.6	106
EP075: Acenaphthylene	208-96-8	2	µg/L	<2	5 µg/L	82.5	64	108
EP075: Acenaphthene	83-32-9	2	µg/L	<2	5 µg/L	88.0	65	108
EP075: Fluorene	86-73-7	2	µg/L	<2	5 µg/L	87.9	65.2	107
EP075: Phenanthrene	85-01-8	2	µg/L	<2	5 µg/L	89.1	66.7	108
EP075: Anthracene	120-12-7	2	µg/L	<2	5 µg/L	88.3	65.8	108
EP075: Fluoranthene	206-44-0	2	µg/L	<2	5 µg/L	86.3	64.9	109
EP075: Pyrene	129-00-0	2	µg/L	<2	5 µg/L	87.4	60.1	111
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	5 µg/L	63.1	59.7	110
EP075: Benz(a)anthracene	56-55-3	2	µg/L	<2	5 µg/L	85.7	62.2	112

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1281636) - continued								
EP075: Chrysene	218-01-9	2	µg/L	<2	5 µg/L	84.0	59.3	114
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	10 µg/L	76.4	60.1	111
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	5 µg/L	78.9	49.8	107
EP075: Benzo(a)pyrene	50-32-8	2	µg/L	<2	5 µg/L	72.0	59.2	112
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	5 µg/L	# 59.9	60.1	110
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	5 µg/L	64.9	59.6	110
EP075: Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	5 µg/L	63.2	57.2	109
EP075: Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	5 µg/L	64.1	60.6	110
EP075C: Phthalate Esters (QCLot: 1281636)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	5 µg/L	88.5	64.3	112
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	5 µg/L	94.8	67.3	111
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	5 µg/L	96.5	68.4	122
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	5 µg/L	91.7	61.2	114
EP075: bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	<20	5 µg/L	77.6	72.8	135
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	5 µg/L	95.0	62.1	115
EP075D: Nitrosamines (QCLot: 1281636)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	5 µg/L	86.9	39.5	95.9
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	5 µg/L	96.2	60.6	113
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	5 µg/L	66.9	23.7	82.1
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	5 µg/L	# 100	35.4	86.2
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	5 µg/L	105	63.5	108
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	5 µg/L	87.2	61.7	107
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	5 µg/L	103	62.5	108
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	10 µg/L	90.9	64.6	112
EP075: Methapyrilene	91-80-5	2	µg/L	<2	5 µg/L	47.8	4.21	94
EP075E: Nitroaromatics and Ketones (QCLot: 1281636)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	5 µg/L	36.4	11.4	100
EP075: Acetophenone	98-86-2	2	µg/L	<2	5 µg/L	93.0	68.3	112
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	5 µg/L	96.3	68.3	112
EP075: Isophorone	78-59-1	2	µg/L	<2	5 µg/L	97.2	67.6	111
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	5 µg/L	81.7	64.4	113
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	5 µg/L	83.4	59.5	109
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	5 µg/L	91.6	46.8	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	5 µg/L	13.3	8.93	98.7
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	5 µg/L	76.0	58.3	106
EP075: Azobenzene	103-33-3	2	µg/L	<2	5 µg/L	97.9	66	112
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	5 µg/L	78.4	39	105

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 1281636) - continued								
EP075: Phenacetin	62-44-2	2	µg/L	<2	5 µg/L	68.5	57.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	5 µg/L	100	60.1	112
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	5 µg/L	90.8	59	109
EP075: Pronamide	23950-58-5	2	µg/L	<2	5 µg/L	87.9	62.7	109
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	5 µg/L	75.9	59.4	108
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	5 µg/L	83.8	57.7	110
EP075F: Haloethers (QCLot: 1281636)								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	5 µg/L	93.0	69.1	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	5 µg/L	87.7	66.2	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	5 µg/L	88.1	64.7	109
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	5 µg/L	83.9	61.6	108
EP075G: Chlorinated Hydrocarbons (QCLot: 1281636)								
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	5 µg/L	88.2	39.1	113
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	5 µg/L	92.0	42	114
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	5 µg/L	90.9	41.3	112
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	5 µg/L	89.7	31	114
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	5 µg/L	86.8	42.9	115
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	5 µg/L	57.0	23.8	111
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	5 µg/L	91.8	37.4	116
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	5 µg/L	88.8	1.88	105
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	5 µg/L	87.2	64.5	107
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	5 µg/L	85.8	65.7	110
EP075H: Anilines and Benzidines (QCLot: 1281636)								
EP075: Aniline	62-53-3	2	µg/L	<2	5 µg/L	# 95.1	10.9	89.7
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	5 µg/L	# 114	44.4	106
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	5 µg/L	79.4	60.9	110
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	5 µg/L	83.2	51.5	96.9
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	5 µg/L	87.1	65.3	108
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	5 µg/L	78.2	48.9	99.5
EP075: Carbazole	86-74-8	2	µg/L	<2	5 µg/L	90.0	64.3	107
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	5 µg/L	68.4	60.3	119
EP075I: Organochlorine Pesticides (QCLot: 1281636)								
EP075: alpha-BHC	319-84-6	2	µg/L	<2	5 µg/L	95.1	64.3	110
EP075: beta-BHC	319-85-7	2	µg/L	<2	5 µg/L	96.8	59	110
EP075: gamma-BHC	58-89-9	2	µg/L	<2	5 µg/L	96.0	63.7	112
EP075: delta-BHC	319-86-8	2	µg/L	<2	5 µg/L	101	60.2	113
EP075: Heptachlor	76-44-8	2	µg/L	<2	5 µg/L	82.4	57.9	108
EP075: Aldrin	309-00-2	2	µg/L	<2	5 µg/L	96.1	57	113

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075I: Organochlorine Pesticides (QCLot: 1281636) - continued								
EP075: Heptachlor epoxide	1024-57-3	2	µg/L	<2	5 µg/L	85.4	60.3	112
EP075: alpha-Endosulfan	959-98-8	2	µg/L	<2	5 µg/L	108	52.5	115
EP075: 4.4`-DDE	72-55-9	2	µg/L	<2	5 µg/L	98.3	64.1	111
EP075: Dieldrin	60-57-1	2	µg/L	<2	5 µg/L	94.6	65	113
EP075: Endrin	72-20-8	2	µg/L	<2	5 µg/L	75.3	51.1	112
EP075: beta-Endosulfan	33213-65-9	2	µg/L	<2	5 µg/L	96.9	60.4	111
EP075: 4.4`-DDD	72-54-8	2	µg/L	<2	5 µg/L	96.0	59.8	115
EP075: Endosulfan sulfate	1031-07-8	2	µg/L	<2	5 µg/L	108	52.8	114
EP075: 4.4`-DDT	50-29-3	4	µg/L	<4	5 µg/L	70.3	41.3	114
EP075J: Organophosphorus Pesticides (QCLot: 1281636)								
EP075: Dichlorvos	62-73-7	2	µg/L	<2	5 µg/L	62.4	52	118
EP075: Dimethoate	60-51-5	2	µg/L	<2	5 µg/L	71.9	46.8	114
EP075: Diazinon	333-41-5	2	µg/L	<2	5 µg/L	77.2	54	116
EP075: Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	5 µg/L	86.4	54.1	116
EP075: Malathion	121-75-5	2	µg/L	<2	5 µg/L	93.7	57.6	118
EP075: Fenthion	55-38-9	2	µg/L	<2	5 µg/L	85.0	50.1	117
EP075: Chlorpyrifos	2921-88-2	2	µg/L	<2	5 µg/L	92.8	59.2	113
EP075: Pirimphos-ethyl	23505-41-1	2	µg/L	<2	5 µg/L	79.0	52.6	115
EP075: Chlorfenvinphos	470-90-6	2	µg/L	<2	6 µg/L	59.4	44.6	95.8
EP075: Prothiofos	34643-46-4	2	µg/L	<2	5 µg/L	91.0	56.8	116
EP075: Ethion	563-12-2	2	µg/L	<2	5 µg/L	92.3	48.6	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1281634)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	95.0	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	85.0	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	79.5	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1282432)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	109	75	127

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED009: Anions (QCLot: 1281749)							
ES1004766-002	Anonymous	ED009: Chloride	16887-00-6	4 mg/L	# Not Determined	70	130
		ED009: Sulfate	14808-79-8	4 mg/L	# Not Determined	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1283157)							
EB1004421-006	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	115	70	130
EG050F Low: Dissolved Hexavalent Chromium - Low (QCLot: 1286715)							
ES1004782-001	MW22	EG050F: Hexavalent Chromium	18540-29-9	0.25 mg/L	97.7	70	130
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 1281036)							
ES1004782-002	MW204S	EG051G: Ferrous Iron	----	1.00 mg/L	95.3	70	130
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1286942)							
EB1004425-001	Anonymous	EG093A-F: Arsenic	7440-38-2	50 µg/L	79.4	70	130
		EG093A-F: Barium	7440-39-3	50 µg/L	88.6	70	130
		EG093A-F: Beryllium	7440-41-7	50 µg/L	91.1	70	130
		EG093A-F: Cadmium	7440-43-9	12.5 µg/L	85.5	70	130
		EG093A-F: Chromium	7440-47-3	50 µg/L	70.7	70	130
		EG093A-F: Cobalt	7440-48-4	50 µg/L	79.5	70	130
		EG093A-F: Copper	7440-50-8	50 µg/L	80.5	70	130
		EG093A-F: Lead	7439-92-1	50 µg/L	84.4	70	130
		EG093A-F: Manganese	7439-96-5	50 µg/L	79.5	70	130
		EG093A-F: Nickel	7440-02-0	50 µg/L	71.4	70	130
		EG093A-F: Vanadium	7440-62-2	50 µg/L	78.4	70	130
		EG093A-F: Zinc	7440-66-6	50 µg/L	78.3	70	130
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1288234)							
EB1004630-001	Anonymous	EG094A-F: Arsenic	7440-38-2	50 µg/L	115	70	130
		EG094A-F: Barium	7440-39-3	50 µg/L	120	70	130
		EG094A-F: Beryllium	7440-41-7	50 µg/L	101	70	130
		EG094A-F: Cadmium	7440-43-9	12.5 µg/L	100	70	130
		EG094A-F: Chromium	7440-47-3	50 µg/L	109	70	130
		EG094A-F: Cobalt	7440-48-4	50 µg/L	109	70	130
		EG094A-F: Copper	7440-50-8	50 µg/L	110	70	130
		EG094A-F: Lead	7439-92-1	50 µg/L	109	70	130
		EG094A-F: Manganese	7439-96-5	50 µg/L	107	70	130
		EG094A-F: Nickel	7440-02-0	50 µg/L	108	70	130
		EG094A-F: Vanadium	7440-62-2	50 µg/L	109	70	130
		EG094A-F: Zinc	7440-66-6	50 µg/L	122	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
				Concentration	MS	Low	High
EK025G: Free cyanide by Discrete Analyser (QCLot: 1284977)							
ES1004782-002	MW204S	EK025G: Free Cyanide	----	0.2 mg/L	90.1	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1284980)							
ES1004782-002	MW204S	EK028G: Weak Acid Dissociable Cyanide	----	0.2 mg/L	91.6	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 1281683)							
ES1004782-001	MW22	EK055G: Ammonia as N	7664-41-7	1.00 mg/L	99.5	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 1281316)							
ES1004782-001	MW22	EK057G: Nitrite as N	----	0.60 mg/L	111	70	130
EK059G: NOX as N by Discrete Analyser (QCLot: 1281682)							
ES1004782-001	MW22	EK059G: Nitrite + Nitrate as N	----	0.60 mg/L	110	70	130
EP005: Total Organic Carbon (TOC) (QCLot: 1282647)							
ES1004722-004	Anonymous	EP005: Total Organic Carbon	----	100 mg/L	91.3	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1282431)							
ES1004782-001	MW22	EP074: Benzene	71-43-2	25 µg/L	115	70	130
		EP074: Toluene	108-88-3	25 µg/L	99.4	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1282431)							
ES1004782-001	MW22	EP074: 1.1-Dichloroethene	75-35-4	25 µg/L	113	70	130
		EP074: Trichloroethene	79-01-6	25 µg/L	112	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1282431)							
ES1004782-001	MW22	EP074: Chlorobenzene	108-90-7	25 µg/L	116	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1282432)							
ES1004782-001	MW22	EP080: C6 - C9 Fraction	----	250 µg/L	112	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1004782**	Page	: 1 of 12
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
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Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: BARANGAROO		
C-O-C number	: ----	Date Samples Received	: 15-MAR-2010
Sampler	: KOB+KP	Issue Date	: 24-MAR-2010
Order number	: 1303522		
		No. of samples received	: 3
Quote number	: SY/259/09 V2	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **WATER**

Evaluation: ✗ = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA005: pH							
Clear Plastic Bottle - Natural							
MW22, MW204S, MW15	**15-MAR-2010**	**----**	----	----	**16-MAR-2010**	15-MAR-2010	✗
ED009: Anions							
Clear Plastic Bottle - Natural							
MW22, MW204S, MW15	**15-MAR-2010**	**----**	----	----	**17-MAR-2010**	12-APR-2010	✓
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**19-MAR-2010**	29-MAR-2010	✓
ED040T: Total Major Anions							
Clear Plastic Bottle - Natural							
MW204S, MW15	**15-MAR-2010**	**18-MAR-2010**	12-APR-2010	✓	**18-MAR-2010**	12-APR-2010	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Natural							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**17-MAR-2010**	22-MAR-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**19-MAR-2010**	12-APR-2010	✓
EG050F Low: Dissolved Hexavalent Chromium - Low							
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW22, MW204S, MW15	**15-MAR-2010**	**----**	----	----	**22-MAR-2010**	12-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG051G: Ferrous Iron by Discrete Analyser							
Clear Plastic Bottle - HCl - Filtered							
MW22, MW204S, MW15	**15-MAR-2010**	**----**	----	----	**16-MAR-2010**	22-MAR-2010	✓
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW22	**15-MAR-2010**	**22-MAR-2010**	11-SEP-2010	✓	**22-MAR-2010**	11-SEP-2010	✓
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW204S, MW15	**15-MAR-2010**	**24-MAR-2010**	11-SEP-2010	✓	**24-MAR-2010**	11-SEP-2010	✓
EK025G: Free cyanide by Discrete Analyser							
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW204S, MW15	**15-MAR-2010**	**19-MAR-2010**	29-MAR-2010	✓	**19-MAR-2010**	29-MAR-2010	✓
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW204S, MW15	**15-MAR-2010**	**19-MAR-2010**	29-MAR-2010	✓	**19-MAR-2010**	29-MAR-2010	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulphuric Acid							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**17-MAR-2010**	12-APR-2010	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**16-MAR-2010**	17-MAR-2010	✓
EK059G: NOX as N by Discrete Analyser							
Clear Plastic Bottle - Sulphuric Acid							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**17-MAR-2010**	12-APR-2010	✓
EP005: Total Organic Carbon (TOC)							
Amber TOC Vial - Sulphuric Acid							
MW22, MW204S, MW15	**15-MAR-2010**	**----**	----	----	**17-MAR-2010**	12-APR-2010	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - HCl							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**17-MAR-2010**	29-MAR-2010	✓
EP074B: Oxygenated Compounds							
Amber VOC Vial - HCl							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**17-MAR-2010**	29-MAR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074C: Sulfonated Compounds							
Amber VOC Vial - HCl							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**17-MAR-2010**	29-MAR-2010	✓
EP074D: Fumigants							
Amber VOC Vial - HCl							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**17-MAR-2010**	29-MAR-2010	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - HCl							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**17-MAR-2010**	29-MAR-2010	✓
EP074F: Halogenated Aromatic Compounds							
Amber VOC Vial - HCl							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**17-MAR-2010**	29-MAR-2010	✓
EP074G: Trihalomethanes							
Amber VOC Vial - HCl							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**17-MAR-2010**	29-MAR-2010	✓
EP075A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved							
MW22, MW204S, MW15	**15-MAR-2010**	**17-MAR-2010**	22-MAR-2010	✓	**19-MAR-2010**	26-APR-2010	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
MW22, MW204S, MW15	**15-MAR-2010**	**17-MAR-2010**	22-MAR-2010	✓	**19-MAR-2010**	26-APR-2010	✓
EP075C: Phthalate Esters							
Amber Glass Bottle - Unpreserved							
MW22, MW204S, MW15	**15-MAR-2010**	**17-MAR-2010**	22-MAR-2010	✓	**19-MAR-2010**	26-APR-2010	✓
EP075D: Nitrosamines							
Amber Glass Bottle - Unpreserved							
MW22, MW204S, MW15	**15-MAR-2010**	**17-MAR-2010**	22-MAR-2010	✓	**19-MAR-2010**	26-APR-2010	✓
EP075E: Nitroaromatics and Ketones							
Amber Glass Bottle - Unpreserved							
MW22, MW204S, MW15	**15-MAR-2010**	**17-MAR-2010**	22-MAR-2010	✓	**19-MAR-2010**	26-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075F: Haloethers							
Amber Glass Bottle - Unpreserved							
MW22, MW204S, MW15	**15-MAR-2010**	**17-MAR-2010**	22-MAR-2010	✓	**19-MAR-2010**	26-APR-2010	✓
EP075G: Chlorinated Hydrocarbons							
Amber Glass Bottle - Unpreserved							
MW22, MW204S, MW15	**15-MAR-2010**	**17-MAR-2010**	22-MAR-2010	✓	**19-MAR-2010**	26-APR-2010	✓
EP075H: Anilines and Benzidines							
Amber Glass Bottle - Unpreserved							
MW22, MW204S, MW15	**15-MAR-2010**	**17-MAR-2010**	22-MAR-2010	✓	**19-MAR-2010**	26-APR-2010	✓
EP075I: Organochlorine Pesticides							
Amber Glass Bottle - Unpreserved							
MW22, MW204S, MW15	**15-MAR-2010**	**17-MAR-2010**	22-MAR-2010	✓	**19-MAR-2010**	26-APR-2010	✓
EP075J: Organophosphorus Pesticides							
Amber Glass Bottle - Unpreserved							
MW22, MW204S, MW15	**15-MAR-2010**	**17-MAR-2010**	22-MAR-2010	✓	**19-MAR-2010**	26-APR-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved							
MW22, MW204S, MW15	**15-MAR-2010**	**17-MAR-2010**	22-MAR-2010	✓	**18-MAR-2010**	26-APR-2010	✓
Amber VOC Vial - HCl							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**17-MAR-2010**	29-MAR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ammonia as N by Discrete analyser	EK055G	2	10	**20.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	2	17	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	2	17	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	7	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ferrous Iron by Discrete Analyser	EG051G	1	8	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	7	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	2	**50.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	2	13	**15.4**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH	EA005	1	9	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	2	13	**15.4**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	9	**22.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	6	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	9	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ammonia as N by Discrete analyser	EK055G	1	10	**10.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ferrous Iron by Discrete Analyser	EG051G	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	2	**50.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
TPH Volatiles/BTEX	EP080	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	10	**10.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ferrous Iron by Discrete Analyser	EG051G	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	2	**50.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	10	**10.0**	**5.0**	✓	ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	7	**14.3**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	15	**6.7**	**5.0**	✓	ALS QCS3 requirement
Ferrous Iron by Discrete Analyser	EG051G	1	8	**12.5**	**5.0**	✓	ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	7	**14.3**	**5.0**	✓	ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Total Organic Carbon	EP005	1	13	**7.7**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	9	**11.1**	**5.0**	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	6	**16.7**	**5.0**	✓	ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	9	**11.1**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH	EA005	WATER	APHA 21st ed. 4500 H+ B. pH of water samples is determined by ISE either manually or by automated pH meter. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Standard Anions	* ED009	WATER	APHA 21st ed., 4110. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Alkalinity by PC Titrator	ED037-P	WATER	APHA 21st ed., 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Major Anions - Total	ED040T	WATER	APHA 21st ed., 3120 Samples are digested by USEPA 3005 prior to analysis. Sulfur content is determined by ICP/AES and reported as Sulfate after conversion by gravimetric factor.
Major Cations - Dissolved	ED093F	WATER	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises the 0.45um filtered sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Hexavalent Chromium - Low Level	EG050F Low	WATER	APHA 21st ed., 3500 Cr-B. Samples are 0.45 um filtered prior to analysis. Hexavalent chromium is determined on filtered water sample as received by pH adjustment and colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Ferrous Iron by Discrete Analyser	EG051G	WATER	APHA 21st ed., 3500 Fe-B. A colorimetric determination based on the reaction between phenanthroline and ferrous iron at pH 3.2-3.3 to form an orange-red complex that is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	WATER	APHA 21st ed., 3125; USEPA SW846 - 6020 Samples are 0.45 um filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	WATER	APHA 21st ed., 3125; USEPA SW846 - 6020 Samples are 0.45 um filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Free CN by Discrete Analyser	EK025G	WATER	APHA 21st ed., 4500-CN-C&N Free Cyanide is determined on samples after distillation using a pyridine-barbituric acid colouring reagent followed with an Discrete Analyser finish. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Analytical Methods	Method	Matrix	Method Descriptions
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	WATER	APHA 21st ed., 4500-CN-C&N WAD Cyanide is determined from aqueous solutions after distillation with acetic acid. The resultant distillate is then captured in a caustic absorber solution followed by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Ammonia as N by Discrete analyser	EK055G	WATER	APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrite as N by Discrete Analyser	EK057G	WATER	APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrate as N by Discrete Analyser	EK058G	WATER	APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a cadmium reduction column followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Cadmium Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Ionic Balance by IC PCT and ICPAES	EN055 - IC ED009	WATER	APHA 21st Ed. 1030F. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Organic Carbon	EP005	WATER	APHA 21st ed., 5310 B, The automated TOC analyzer determines Total and Inorganic Carbon by IR cell. TOC is calculated as the difference. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Volatile Organic Compounds	EP074	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Semivolatile Organic Compounds	EP075	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Free Cyanide	EK025-PR	WATER	APHA 21st ed., 4500 CN- C&N. The sample is distilled at natural pH. The CN is trapped in a caustic solution, and quanitified by colourimetry on FIA. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Weak Acid Dissociable Cyanide	EK028-PR	WATER	APHA 21st ed., 4500 CN- I&N. The sample is distilled with Acetic acid, selectively releasing the weakly bound metal cyanides as HCN. The CN is trapped in a caustic solution, and quanitified by colourimetry on FIA. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
ED093F: Dissolved Major Cations	1484079-002	----	**Magnesium**	7439-95-4	114 %	90-110%	**Recovery greater than upper control limit**
ED093F: Dissolved Major Cations	1484079-002	----	**Sodium**	7440-23-5	70.7 %	81-107%	**Recovery less than lower control limit**
ED093F: Dissolved Major Cations	1484079-002	----	**Potassium**	7440-09-7	85.2 %	89-109%	**Recovery less than lower control limit**
EG093F: Dissolved Metals in Saline Water by ORC-ICP	1490793-003	----	**Manganese**	7439-96-5	89.8 %	90-122%	**Recovery less than lower control limit**
EG093F: Dissolved Metals in Saline Water by ORC-ICP	1490793-003	----	**Nickel**	7440-02-0	75.2 %	84-124%	**Recovery less than lower control limit**
EP074D: Fumigants	1485342-002	----	**cis-1.3-Dichloropropylene**	10061-01-5	80.1 %	80.4-119%	**Recovery less than lower control limit**
EP074E: Halogenated Aliphatic Compounds	1485342-002	----	**1.1-Dichloropropylene**	563-58-6	123 %	77.8-121%	**Recovery greater than upper control limit**
EP074E: Halogenated Aliphatic Compounds	1485342-002	----	**Trichloroethene**	79-01-6	125 %	76.7-123%	**Recovery greater than upper control limit**
EP075B: Polynuclear Aromatic Hydrocarbons	1484522-016	----	**3-Methylcholanthrene**	56-49-5	59.9 %	60.1-110%	**Recovery less than lower control limit**
EP075D: Nitrosamines	1484522-016	----	**N-Nitrosomorpholine**	59-89-2	100 %	35.4-86.2%	**Recovery greater than upper control limit**
EP075H: Anilines and Benzidines	1484522-016	----	**Aniline**	62-53-3	95.1 %	10.9-89.7%	**Recovery greater than upper control limit**
EP075H: Anilines and Benzidines	1484522-016	----	**4-Chloroaniline**	106-47-8	114 %	44.4-106%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
ED009: Anions	ES1004766-002	Anonymous	**Chloride**	16887-00-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
ED009: Anions	ES1004766-002	Anonymous	**Sulfate**	14808-79-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP074S: VOC Surrogates	ES1004782-001	MW22	**Toluene-D8**	2037-26-5	115 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1004782-003	MW15	**Toluene-D8**	2037-26-5	113 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1004782-002	MW204S	**Toluene-D8**	2037-26-5	114 %	88-110 %	**Recovery greater than upper data quality objective**
EP075S: Acid Extractable Surrogates	ES1004782-003	MW15	**2-Fluorophenol**	367-12-4	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1004782-003	MW15	**Phenol-d6**	13127-88-3	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1004782-002	MW204S	**Phenol-d6**	13127-88-3	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1004782-003	MW15	**2.4.6-Tribromophenol**	118-79-6	139 %	10-123 %	**Recovery greater than upper data quality objective**
EP075S: Acid Extractable Surrogates	ES1004782-002	MW204S	**2.4.6-Tribromophenol**	118-79-6	136 %	10-123 %	**Recovery greater than upper data quality objective**
EP075T: Base/Neutral Extractable Surrogates	ES1004782-002	MW204S	**2-Fluorobiphenyl**	321-60-8	124 %	43-116 %	**Recovery greater than upper data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **WATER**

Method	*Extraction / Preparation*			*Analysis*		
Container / Client Sample ID(s)	*Date extracted*	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EA005: pH						
Clear Plastic Bottle - Natural						
MW22, MW204S, MW15	----	----	----	16-MAR-2010	15-MAR-2010	**1**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1004782**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014	Page	: 1 of 3
Order number	: 1303522		
C-O-C number	: ----	Quote number	: ES2009HLAENV0366 (SY/526/09)
Site	: BARANGAROO		
Sampler	: KOB+KP	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 15-MAR-2010	Issue Date	: 17-MAR-2010 15:17
Client Requested Due Date	: 22-MAR-2010	Scheduled Reporting Date	: **22-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 6.3'C - Ice present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 3
Sercurity Seal	: Intact.	No. of samples analysed	: 3

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Breaches in recommended extraction / analysis holding times may occur. Please contact ALS for further information (Jacob Waugh).**
- **TPH C6-C9 added as per Anthony Davis 17/03/10.**
- **Appropriately preserved bottle not supplied for Cr6+ analysis, lab will subsample from natural bottle provided.**
- **pH analysis should be conducted within 6 hours of sampling.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EA005: pH pH	WATER - ED040T Total Major Anions	WATER - EG035F Dissolved Mercury by FIMS	WATER - EG050F LL Dissolved Hexavalent Chromium-Low Level (0.0001mg/L)	WATER - EG051G Ferrous Iron by Discrete Analyser	WATER - EG093A-F Dissolved metals in saline water by ORC-ICPMS	WATER - EK025G Free CN By Discrete Analyser	WATER - EK028G Weak Acid Dissociable Cyanide By Discrete Analyser
ES1004782-001	15-MAR-2010 14:10	MW22	✓		✓	✓	✓	✓		
ES1004782-002	15-MAR-2010 08:30	MW204S	✓	✓	✓	✓	✓	✓	✓	✓
ES1004782-003	15-MAR-2010 10:30	MW15	✓	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EK055G Ammonia as N By Discrete Analyser	WATER - EK058G Nitrate as N by Discrete Analyser	WATER - EN055 - IC ED009 Ionic Balance (IC)	WATER - EP005 Total Organic Carbon (TOC)	WATER - EP071(SV-TPH-WD) Total Petroleum Hydrocarbons (TPH)	WATER - EP071/80 (TPH-WD-BTEX-WA) TPH Volatiles/BTEX (Standard LOR)	WATER - NT-01 Major Cations (Ca, Mg, Na, K)	WATER - NT-02 (IC) Major Anions (Cl, SO4, Alkalinity)
ES1004782-001	15-MAR-2010 14:10	MW22	✓	✓	✓	✓	✓	✓	✓	✓
ES1004782-002	15-MAR-2010 08:30	MW204S	✓	✓	✓	✓	✓	✓	✓	✓
ES1004782-003	15-MAR-2010 10:30	MW15	✓	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - W-23 SVOC/VOC
ES1004782-001	15-MAR-2010 14:10	MW22	✓
ES1004782-002	15-MAR-2010 08:30	MW204S	✓
ES1004782-003	15-MAR-2010 10:30	MW15	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

Updated COC received 16/3/10 9:30am

BATCH 2 – BLOCKS 4&5

* 5x 40ML vials (HCl + H_2SO_4) + 1x500ML amber + 1x1L plastic + 1x 250ML plastic (NaOH + $Cd(NO_3)_2$) + 2x125ML plastic (Nitric Acid) + 1x 250ML plastic (H_2SO_4) + 1x 250ML plastic

Form:

Chain of Custody & Analysis Request Form

AECOM

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email: anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-526-09 V2

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303522
Sample collected by: KOB + KP
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____ days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format:	☐ Yes	☐ No	☐ N/A

8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: add	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals	M12 ultra trace	TPH C10–C36	SVOC (standard)	VOC	Free Cyanide	Total Cyanide	Cr VI (Chromium)	Mangi. Cations	Total Sulfur	Dissolved Fe	Nitrate	Ammonia	Total Organic Carbon	Ion Balance	Remarks & comments
1	MW22	15/3/10	14 10		X				X		SEE	X	X	X	X	X				X	X		X	X	X	X	X	
2	MW204S	15/3/10	0830		X				X		ABOVE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	MW15	15/3/10	1030		X				X		* ↑	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Relinquished By:
Name: Anthony Davis Date: 15/3/10
of: Time:

Received by:
Name: Date:
of: Time:

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipr	
Samples received chilled?	Yes/No/NA	Consignment No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipr	
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Environmental Division
Sydney
Work Order
ES1004782

Telephone : +61-2-8784 8555

Environment

Printed copies of this document are uncontrolled

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1004956**	Page	: 1 of 20
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 17-MAR-2010
Sampler	: ----	Issue Date	: 29-MAR-2010
Site	: ----		
		No. of samples received	: 8
Quote number	: SY/259/09 V2	No. of samples analysed	: 7

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EK025G : FCN : Repeated result confirmed that the sample is positive for the analysis.**
- **EP074: Level of Reporting raised for toluene due to ambient background levels in the laboratory.**
- **EP074: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.**
- **EP075: Particular samples required dilution prior to extraction due to matrix interferences. LOR values have been adjusted accordingly. Poor surrogate recovery due to sample matrix interferences.**
- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**
- **LCS recovery for some elements falls outside ALS Dynamic Control Limit. However, they are within the acceptance criteria based on ALS DQO. No further action is required.**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW200	MW209	MW198	QC323	TB302
				Client sampling date / time: 16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00
				ES1004956-001	ES1004956-002	ES1004956-003	ES1004956-005	ES1004956-006
EA005: pH								
pH Value	----	0.01	pH Unit	**6.55**	**7.10**	**6.13**	----	----
ED009: Anions								
Chloride	16887-00-6	0.50	mg/L	**2090**	**18500**	**2030**	**2010**	----
Sulfate	14808-79-8	0.50	mg/L	**200**	**1900**	**221**	**216**	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**365**	**280**	**274**	**271**	----
Total Alkalinity as CaCO3	----	1	mg/L	**365**	**280**	**274**	**271**	----
ED040T: Total Major Anions								
^ Sulfur as S	----	1	mg/L	**123**	**645**	**124**	**121**	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**130**	**383**	**163**	**163**	----
Magnesium	7439-95-4	1	mg/L	**159**	**1110**	**113**	**112**	----
Sodium	7440-23-5	1	mg/L	**1120**	**10300**	**1160**	**1150**	----
Potassium	7440-09-7	1	mg/L	**65**	**353**	**50**	**50**	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	**0.0002**	<0.0001	<0.0001	<0.0001	----
EG050F Low: Dissolved Hexavalent Chromium - Low								
Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	**0.005**	<0.002	<0.002	----
EG051G: Ferrous Iron by Discrete Analyser								
Ferrous Iron	----	0.05	mg/L	**9.58**	**9.52**	**15.0**	**14.6**	----
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Arsenic	7440-38-2	0.5	µg/L	----	**2.9**	----	----	----
Barium	7440-39-3	1	µg/L	----	**83**	----	----	----
Beryllium	7440-41-7	0.1	µg/L	----	**0.2**	----	----	----
Cadmium	7440-43-9	0.2	µg/L	----	**0.4**	----	----	----
Chromium	7440-47-3	0.5	µg/L	----	**10.2**	----	----	----
Cobalt	7440-48-4	0.2	µg/L	----	**1.3**	----	----	----
Copper	7440-50-8	1	µg/L	----	<1	----	----	----
Lead	7439-92-1	0.2	µg/L	----	**17.6**	----	----	----
Manganese	7439-96-5	0.5	µg/L	----	**49.2**	----	----	----
Nickel	7440-02-0	0.5	µg/L	----	**20.6**	----	----	----
Vanadium	7440-62-2	0.5	µg/L	----	**22.8**	----	----	----
Zinc	7440-66-6	5	µg/L	----	**613**	----	----	----
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS								
Arsenic	7440-38-2	0.2	µg/L	**3.4**	----	**3.5**	**3.6**	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW200	MW209	MW198	QC323	TB302
				Client sampling date / time: 16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00
				ES1004956-001	ES1004956-002	ES1004956-003	ES1004956-005	ES1004956-006
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS - Continued								
Barium	7440-39-3	0.5	µg/L	**91.8**	----	**71.4**	**68.5**	----
Beryllium	7440-41-7	0.1	µg/L	<0.1	----	<0.1	<0.1	----
Cadmium	7440-43-9	0.05	µg/L	**0.27**	----	**0.05**	<0.05	----
Chromium	7440-47-3	0.2	µg/L	**0.5**	----	**2.5**	**2.4**	----
Cobalt	7440-48-4	0.1	µg/L	**1.2**	----	**2.9**	**2.8**	----
Copper	7440-50-8	0.5	µg/L	<0.5	----	<0.5	<0.5	----
Lead	7439-92-1	0.1	µg/L	**0.1**	----	<0.1	<0.1	----
Manganese	7439-96-5	0.5	µg/L	**617**	----	**408**	**395**	----
Nickel	7440-02-0	0.5	µg/L	**13.7**	----	**81.4**	**82.1**	----
Vanadium	7440-62-2	0.2	µg/L	**1.8**	----	**1.0**	**0.9**	----
Zinc	7440-66-6	1	µg/L	**6**	----	**113**	**116**	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	0.004	mg/L	**0.007**	<0.004	<0.004	<0.004	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	0.004	mg/L	**0.004**	<0.004	<0.004	<0.004	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	<0.01	**7.48**	**27.4**	**28.2**	----
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	**0.05**	<0.01	<0.01	<0.01	----
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	**3.40**	**0.10**	<0.01	<0.01	----
EK059G: NOX as N by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**3.44**	**0.10**	<0.01	<0.01	----
EN055: Ionic Balance								
^ Total Anions	----	0.01	meq/L	**70.5**	**567**	**67.4**	**66.5**	----
^ Total Cations	----	0.01	meq/L	**70.0**	**568**	**69.0**	**68.8**	----
^ Ionic Balance	----	0.01	%	**0.36**	**0.12**	**1.20**	**1.67**	----
EP005: Total Organic Carbon (TOC)								
Total Organic Carbon	----	1	mg/L	**112**	**9**	**9**	**7**	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	1	µg/L	**16200**	**772**	<1	<1	<1
Toluene	108-88-3	2	µg/L	**1820**	**48**	<5	<5	<5
Ethylbenzene	100-41-4	2	µg/L	**686**	**149**	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	**1800**	**76**	<2	<2	<2
Styrene	100-42-5	5	µg/L	<200	<20	<5	<5	<5
ortho-Xylene	95-47-6	2	µg/L	**536**	**104**	<2	<2	<2
Isopropylbenzene	98-82-8	5	µg/L	<200	<20	<5	<5	<5

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW200	MW209	MW198	QC323	TB302
				Client sampling date / time: 16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00
				ES1004956-001	ES1004956-002	ES1004956-003	ES1004956-005	ES1004956-006
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
n-Propylbenzene	103-65-1	5	µg/L	<200	<20	<5	<5	<5
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<200	<20	<5	<5	<5
sec-Butylbenzene	135-98-8	5	µg/L	<200	<20	<5	<5	<5
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	**201**	**36**	<5	<5	<5
tert-Butylbenzene	98-06-6	5	µg/L	<200	<20	<5	<5	<5
p-Isopropyltoluene	99-87-6	5	µg/L	<200	<20	<5	<5	<5
n-Butylbenzene	104-51-8	5	µg/L	<200	<20	<5	<5	<5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	<2000	<200	<50	<50	<50
2-Butanone (MEK)	78-93-3	50	µg/L	<2000	<200	<50	<50	<50
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<2000	<200	<50	<50	<50
2-Hexanone (MBK)	591-78-6	50	µg/L	<2000	<200	<50	<50	<50
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	<200	<20	<5	<5	<5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	<200	<20	<5	<5	<5
1.2-Dichloropropane	78-87-5	5	µg/L	<200	<20	<5	<5	<5
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<200	<20	<5	<5	<5
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<200	<20	<5	<5	<5
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<200	<20	<5	<5	<5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<2000	<200	<50	<50	<50
Chloromethane	74-87-3	50	µg/L	<2000	<200	<50	<50	<50
Vinyl chloride	75-01-4	50	µg/L	<2000	<200	<50	<50	<50
Bromomethane	74-83-9	50	µg/L	<2000	<200	<50	<50	<50
Chloroethane	75-00-3	50	µg/L	<2000	<200	<50	<50	<50
Trichlorofluoromethane	75-69-4	50	µg/L	<2000	<200	<50	<50	<50
1.1-Dichloroethene	75-35-4	5	µg/L	<200	<20	<5	<5	<5
Iodomethane	74-88-4	5	µg/L	<200	<20	<5	<5	<5
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<200	<20	<5	<5	<5
1.1-Dichloroethane	75-34-3	5	µg/L	<200	<20	<5	<5	<5
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<200	<20	<5	<5	<5
1.1.1-Trichloroethane	71-55-6	5	µg/L	<200	<20	<5	<5	<5
1.1-Dichloropropylene	563-58-6	5	µg/L	<200	<20	<5	<5	<5
Carbon Tetrachloride	56-23-5	5	µg/L	<200	<20	<5	<5	<5
1.2-Dichloroethane	107-06-2	5	µg/L	<200	<20	<5	<5	<5
Trichloroethene	79-01-6	5	µg/L	<200	<20	<5	<5	<5
Dibromomethane	74-95-3	5	µg/L	<200	<20	<5	<5	<5

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW200	MW209	MW198	QC323	TB302
				Client sampling date / time: 16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00
				ES1004956-001	ES1004956-002	ES1004956-003	ES1004956-005	ES1004956-006
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.2-Trichloroethane	79-00-5	5	µg/L	<200	<20	<5	<5	<5
1.3-Dichloropropane	142-28-9	5	µg/L	<200	<20	<5	<5	<5
Tetrachloroethene	127-18-4	5	µg/L	<200	<20	<5	<5	<5
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<200	<20	<5	<5	<5
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<200	<20	<5	<5	<5
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<200	<20	<5	<5	<5
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<200	<20	<5	<5	<5
1.2.3-Trichloropropane	96-18-4	5	µg/L	<200	<20	<5	<5	<5
Pentachloroethane	76-01-7	5	µg/L	<200	<20	<5	<5	<5
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<200	<20	<5	<5	<5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<200	<20	<5	<5	<5
Bromobenzene	108-86-1	5	µg/L	<200	<20	<5	<5	<5
2-Chlorotoluene	95-49-8	5	µg/L	<200	<20	<5	<5	<5
4-Chlorotoluene	106-43-4	5	µg/L	<200	<20	<5	<5	<5
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<200	<20	<5	<5	<5
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<200	<20	<5	<5	<5
Bromodichloromethane	75-27-4	5	µg/L	<200	<20	<5	<5	<5
Dibromochloromethane	124-48-1	5	µg/L	<200	<20	<5	<5	<5
Bromoform	75-25-2	5	µg/L	<200	<20	<5	<5	<5
EP075A: Phenolic Compounds								
Phenol	108-95-2	2	µg/L	**300**	<2	<2	<2	----
2-Chlorophenol	95-57-8	2	µg/L	<9	<2	<2	<2	----
2-Methylphenol	95-48-7	2	µg/L	**4770**	**6**	<2	<2	----
3- & 4-Methylphenol	1319-77-3	4	µg/L	**2270**	<4	<4	<4	----
2-Nitrophenol	88-75-5	2	µg/L	<9	<2	<2	<2	----
2.4-Dimethylphenol	105-67-9	2	µg/L	**12200**	**10**	<2	<2	----
2.4-Dichlorophenol	120-83-2	2	µg/L	<9	<2	<2	<2	----
2.6-Dichlorophenol	87-65-0	2	µg/L	<9	<2	<2	<2	----
4-Chloro-3-Methylphenol	59-50-7	2	µg/L	<9	<2	<2	<2	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L	<9	<2	<2	<2	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L	<9	<2	<2	<2	----
Pentachlorophenol	87-86-5	4	µg/L	<19	<4	<4	<4	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	2	µg/L	**7950**	**677**	<2	<2	----
2-Methylnaphthalene	91-57-6	2	µg/L	**209**	**14**	<2	<2	----
2-Chloronaphthalene	91-58-7	2	µg/L	<9	<2	<2	<2	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW200	MW209	MW198	QC323	TB302
				Client sampling date / time: 16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00
				ES1004956-001	ES1004956-002	ES1004956-003	ES1004956-005	ES1004956-006
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthylene	208-96-8	2	µg/L	**40**	**26**	**12**	**16**	----
Acenaphthene	83-32-9	2	µg/L	**15**	**7**	**2**	**3**	----
Fluorene	86-73-7	2	µg/L	**11**	**10**	<2	<2	----
Phenanthrene	85-01-8	2	µg/L	**12**	**14**	<2	<2	----
Anthracene	120-12-7	2	µg/L	<9	**4**	<2	<2	----
Fluoranthene	206-44-0	2	µg/L	<9	**4**	<2	<2	----
Pyrene	129-00-0	2	µg/L	<9	**6**	<2	<2	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<9	<2	<2	<2	----
Benz(a)anthracene	56-55-3	2	µg/L	<9	**2**	<2	<2	----
Chrysene	218-01-9	2	µg/L	<9	<2	<2	<2	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<19	<4	<4	<4	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<9	<2	<2	<2	----
Benzo(a)pyrene	50-32-8	2	µg/L	<9	**3**	<2	<2	----
3-Methylcholanthrene	56-49-5	2	µg/L	<9	<2	<2	<2	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<9	<2	<2	<2	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L	<9	<2	<2	<2	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L	<9	<2	<2	<2	----
^ Sum of PAHs	----	2	µg/L	**8030**	**753**	**14**	**19**	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	2	µg/L	<9	<2	<2	<2	----
Diethyl phthalate	84-66-2	2	µg/L	<9	<2	<2	<2	----
Di-n-butyl phthalate	84-74-2	2	µg/L	<9	<2	<2	<2	----
Butyl benzyl phthalate	85-68-7	2	µg/L	<9	<2	<2	<2	----
bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	**20**	**20**	<20	**20**	----
Di-n-octylphthalate	117-84-0	2	µg/L	<9	<2	<2	<2	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<9	<2	<2	<2	----
N-Nitrosodiethylamine	55-18-5	2	µg/L	<9	<2	<2	<2	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L	<9	<4	<4	<4	----
N-Nitrosomorpholine	59-89-2	2	µg/L	<9	<2	<2	<2	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<9	<2	<2	<2	----
N-Nitrosopiperidine	100-75-4	2	µg/L	<9	<2	<2	<2	----
N-Nitrosodibutylamine	924-16-3	2	µg/L	<9	<2	<2	<2	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<19	<4	<4	<4	----
Methapyrilene	91-80-5	2	µg/L	<9	<2	<2	<2	----
EP075E: Nitroaromatics and Ketones								

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW200	MW209	MW198	QC323	TB302
				Client sampling date / time: 16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00
				ES1004956-001	ES1004956-002	ES1004956-003	ES1004956-005	ES1004956-006
EP075E: Nitroaromatics and Ketones - Continued								
2-Picoline	109-06-8	2	µg/L	<9	<2	<2	**5**	----
Acetophenone	98-86-2	2	µg/L	<9	<2	<2	<2	----
Nitrobenzene	98-95-3	2	µg/L	<9	<2	<2	<2	----
Isophorone	78-59-1	2	µg/L	<9	<2	<2	<2	----
2.6-Dinitrotoluene	606-20-2	4	µg/L	<9	<4	<4	<4	----
2.4-Dinitrotoluene	121-14-2	4	µg/L	<9	<4	<4	<4	----
1-Naphthylamine	134-32-7	2	µg/L	**91**	<2	<2	<2	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<9	<2	<2	<2	----
5-Nitro-o-toluidine	99-55-8	2	µg/L	<9	<2	<2	<2	----
Azobenzene	103-33-3	2	µg/L	<9	<2	<2	<2	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<9	<2	<2	<2	----
Phenacetin	62-44-2	2	µg/L	<9	<2	<2	<2	----
4-Aminobiphenyl	92-67-1	2	µg/L	<9	<2	<2	<2	----
Pentachloronitrobenzene	82-68-8	2	µg/L	<9	<2	<2	<2	----
Pronamide	23950-58-5	2	µg/L	<9	<2	<2	<2	----
Dimethylaminoazobenzene	60-11-7	2	µg/L	<9	<2	<2	<2	----
Chlorobenzilate	510-15-6	2	µg/L	<9	<2	<2	<2	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<9	<2	<2	<2	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<9	<2	<2	<2	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<9	<2	<2	<2	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<9	<2	<2	<2	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	2	µg/L	<9	<2	<2	<2	----
1.4-Dichlorobenzene	106-46-7	2	µg/L	<9	<2	<2	<2	----
1.2-Dichlorobenzene	95-50-1	2	µg/L	<9	<2	<2	<2	----
Hexachloroethane	67-72-1	2	µg/L	<9	<2	<2	<2	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<9	<2	<2	<2	----
Hexachloropropylene	1888-71-7	2	µg/L	<9	<2	<2	<2	----
Hexachlorobutadiene	87-68-3	2	µg/L	<9	<2	<2	<2	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	<10	<10	<10	----
Pentachlorobenzene	608-93-5	2	µg/L	<9	<2	<2	<2	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<9	<4	<4	<4	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	2	µg/L	**212**	<2	<2	<2	----
4-Chloroaniline	106-47-8	2	µg/L	<9	<2	<2	<2	----
2-Nitroaniline	88-74-4	4	µg/L	<9	<4	<4	<4	----
3-Nitroaniline	99-09-2	4	µg/L	<9	<4	<4	<4	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW200	MW209	MW198	QC323	TB302
				Client sampling date / time: 16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00
				ES1004956-001	ES1004956-002	ES1004956-003	ES1004956-005	ES1004956-006
EP075H: Anilines and Benzidines - Continued								
Dibenzofuran	132-64-9	2	µg/L	**25**	**3**	<2	<2	----
4-Nitroaniline	100-01-6	2	µg/L	<9	<2	<2	<2	----
Carbazole	86-74-8	2	µg/L	**34**	**4**	<2	<2	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<9	<2	<2	<2	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	2	µg/L	<9	<2	<2	<2	----
beta-BHC	319-85-7	2	µg/L	<9	<2	<2	<2	----
gamma-BHC	58-89-9	2	µg/L	<9	<2	<2	<2	----
delta-BHC	319-86-8	2	µg/L	<9	<2	<2	<2	----
Heptachlor	76-44-8	2	µg/L	<9	<2	<2	<2	----
Aldrin	309-00-2	2	µg/L	<9	<2	<2	<2	----
Heptachlor epoxide	1024-57-3	2	µg/L	<9	<2	<2	<2	----
alpha-Endosulfan	959-98-8	2	µg/L	<9	<2	<2	<2	----
4.4`-DDE	72-55-9	2	µg/L	<9	<2	<2	<2	----
Dieldrin	60-57-1	2	µg/L	<9	<2	<2	<2	----
Endrin	72-20-8	2	µg/L	<9	<2	<2	<2	----
beta-Endosulfan	33213-65-9	2	µg/L	<9	<2	<2	<2	----
4.4`-DDD	72-54-8	2	µg/L	<9	<2	<2	<2	----
Endosulfan sulfate	1031-07-8	2	µg/L	<9	<2	<2	<2	----
4.4`-DDT	50-29-3	4	µg/L	<9	<4	<4	<4	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	2	µg/L	<9	<2	<2	<2	----
Dimethoate	60-51-5	2	µg/L	<9	<2	<2	<2	----
Diazinon	333-41-5	2	µg/L	<9	<2	<2	<2	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L	<9	<2	<2	<2	----
Malathion	121-75-5	2	µg/L	<9	<2	<2	<2	----
Fenthion	55-38-9	2	µg/L	<9	<2	<2	<2	----
Chlorpyrifos	2921-88-2	2	µg/L	<9	<2	<2	<2	----
Pirimphos-ethyl	23505-41-1	2	µg/L	<9	<2	<2	<2	----
Chlorfenvinphos	470-90-6	2	µg/L	<10	<2	<2	<2	----
Prothiofos	34643-46-4	2	µg/L	<9	<2	<2	<2	----
Ethion	563-12-2	2	µg/L	<9	<2	<2	<2	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	**22400**	**1380**	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L	**100000**	**2230**	**120**	**160**	----
C15 - C28 Fraction	----	100	µg/L	**22500**	**1000**	**590**	**690**	----
C29 - C36 Fraction	----	50	µg/L	**150**	**160**	<50	<50	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	**123000**	**3390**	**710**	**850**	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW200	MW209	MW198	QC323	TB302
				Client sampling date / time: 16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00
				ES1004956-001	ES1004956-002	ES1004956-003	ES1004956-005	ES1004956-006
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	103	101	103	106	102
Toluene-D8	2037-26-5	0.1	%	119	94.7	112	120	106
4-Bromofluorobenzene	460-00-4	0.1	%	107	102	103	109	101
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	Not Determined	79.6	43.5	53.3	----
Phenol-d6	13127-88-3	0.1	%	Not Determined	33.9	22.3	28.4	----
2-Chlorophenol-D4	93951-73-6	0.1	%	Not Determined	79.6	60.5	78.7	----
2.4.6-Tribromophenol	118-79-6	0.1	%	Not Determined	103	74.9	103	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	66.7	93.3	66.1	87.2	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	55.4	78.1	59.6	80.6	----
2-Fluorobiphenyl	321-60-8	0.1	%	Not Determined	83.6	68.4	92.8	----
Anthracene-d10	1719-06-8	0.1	%	72.1	90.1	68.9	91.5	----
4-Terphenyl-d14	1718-51-0	0.1	%	57.6	88.4	68.1	90.8	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	113	114	113	117	112
Toluene-D8	2037-26-5	0.1	%	112	117	105	112	100
4-Bromofluorobenzene	460-00-4	0.1	%	111	117	107	112	105

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC326	MW210	----	----	----
				Client sampling date / time: 16-MAR-2010 15:00	16-MAR-2010 15:00	----	----	----
				ES1004956-007	ES1004956-008	----	----	----
EA005: pH								
pH Value	----	0.01	pH Unit	----	**6.50**	----	----	----
ED009: Anions								
Chloride	16887-00-6	0.50	mg/L	----	**17500**	----	----	----
Sulfate	14808-79-8	0.50	mg/L	----	**1130**	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	**299**	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	----	**299**	----	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	----	**474**	----	----	----
Magnesium	7439-95-4	1	mg/L	----	**1110**	----	----	----
Sodium	7440-23-5	1	mg/L	----	**10000**	----	----	----
Potassium	7440-09-7	1	mg/L	----	**260**	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	**0.0001**	----	----	----
EG050F Low: Dissolved Hexavalent Chromium - Low								
Hexavalent Chromium	18540-29-9	0.002	mg/L	----	<0.002	----	----	----
EG051G: Ferrous Iron by Discrete Analyser								
Ferrous Iron	----	0.05	mg/L	----	**62.0**	----	----	----
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Arsenic	7440-38-2	0.5	µg/L	----	**1.4**	----	----	----
Barium	7440-39-3	1	µg/L	----	**81**	----	----	----
Beryllium	7440-41-7	0.1	µg/L	----	<0.1	----	----	----
Cadmium	7440-43-9	0.2	µg/L	----	<0.2	----	----	----
Chromium	7440-47-3	0.5	µg/L	----	<0.5	----	----	----
Cobalt	7440-48-4	0.2	µg/L	----	**0.4**	----	----	----
Copper	7440-50-8	1	µg/L	----	<1	----	----	----
Lead	7439-92-1	0.2	µg/L	----	<0.2	----	----	----
Manganese	7439-96-5	0.5	µg/L	----	**1620**	----	----	----
Nickel	7440-02-0	0.5	µg/L	----	**17.0**	----	----	----
Vanadium	7440-62-2	0.5	µg/L	----	**0.7**	----	----	----
Zinc	7440-66-6	5	µg/L	----	**14**	----	----	----
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS								
Arsenic	7440-38-2	0.2	µg/L	<0.2	----	----	----	----
Barium	7440-39-3	0.5	µg/L	**19.5**	----	----	----	----
Beryllium	7440-41-7	0.1	µg/L	<0.1	----	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC326	MW210	----	----	----
				Client sampling date / time: 16-MAR-2010 15:00	16-MAR-2010 15:00	----	----	----
				ES1004956-007	ES1004956-008	----	----	----
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS - Continued								
Cadmium	7440-43-9	0.05	µg/L	<0.05	----	----	----	----
Chromium	7440-47-3	0.2	µg/L	**0.2**	----	----	----	----
Cobalt	7440-48-4	0.1	µg/L	**1.0**	----	----	----	----
Copper	7440-50-8	0.5	µg/L	**1.0**	----	----	----	----
Lead	7439-92-1	0.1	µg/L	**0.1**	----	----	----	----
Manganese	7439-96-5	0.5	µg/L	**7.9**	----	----	----	----
Nickel	7440-02-0	0.5	µg/L	**0.9**	----	----	----	----
Vanadium	7440-62-2	0.2	µg/L	<0.2	----	----	----	----
Zinc	7440-66-6	1	µg/L	**5**	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	----	**5.24**	----	----	----
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	----	<0.01	----	----	----
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	----	**0.09**	----	----	----
EK059G: NOX as N by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	----	**0.09**	----	----	----
EN055: Ionic Balance								
^ Total Anions	----	0.01	meq/L	----	**522**	----	----	----
^ Total Cations	----	0.01	meq/L	----	**558**	----	----	----
^ Ionic Balance	----	0.01	%	----	**3.25**	----	----	----
EP005: Total Organic Carbon (TOC)								
Total Organic Carbon	----	1	mg/L	----	**5**	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	1	µg/L	<1	**12**	----	----	----
Toluene	108-88-3	2	µg/L	<5	<5	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	**8**	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	**3**	----	----	----
Styrene	100-42-5	5	µg/L	<5	<5	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	**3**	----	----	----
Isopropylbenzene	98-82-8	5	µg/L	<5	<5	----	----	----
n-Propylbenzene	103-65-1	5	µg/L	<5	<5	----	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	----	----	----
sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	----	----	----
tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	----	----	----
p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	QC326	MW210	----	----	----
				Client sampling date / time	16-MAR-2010 15:00	16-MAR-2010 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1004956-007	ES1004956-008	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
n-Butylbenzene	104-51-8	5	µg/L		<5	<5	----	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	50	µg/L		<50	<50	----	----	----
2-Butanone (MEK)	78-93-3	50	µg/L		<50	<50	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		<50	<50	----	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L		<50	<50	----	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		<5	<5	----	----	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	5	µg/L		<5	<5	----	----	----
1.2-Dichloropropane	78-87-5	5	µg/L		<5	<5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		<5	<5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		<5	<5	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		<5	<5	----	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		<50	<50	----	----	----
Chloromethane	74-87-3	50	µg/L		<50	<50	----	----	----
Vinyl chloride	75-01-4	50	µg/L		<50	<50	----	----	----
Bromomethane	74-83-9	50	µg/L		<50	<50	----	----	----
Chloroethane	75-00-3	50	µg/L		<50	<50	----	----	----
Trichlorofluoromethane	75-69-4	50	µg/L		<50	<50	----	----	----
1.1-Dichloroethene	75-35-4	5	µg/L		<5	<5	----	----	----
Iodomethane	74-88-4	5	µg/L		<5	<5	----	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L		<5	<5	----	----	----
1.1-Dichloroethane	75-34-3	5	µg/L		<5	<5	----	----	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L		<5	<5	----	----	----
1.1.1-Trichloroethane	71-55-6	5	µg/L		<5	<5	----	----	----
1.1-Dichloropropylene	563-58-6	5	µg/L		<5	<5	----	----	----
Carbon Tetrachloride	56-23-5	5	µg/L		<5	<5	----	----	----
1.2-Dichloroethane	107-06-2	5	µg/L		<5	<5	----	----	----
Trichloroethene	79-01-6	5	µg/L		<5	<5	----	----	----
Dibromomethane	74-95-3	5	µg/L		<5	<5	----	----	----
1.1.2-Trichloroethane	79-00-5	5	µg/L		<5	<5	----	----	----
1.3-Dichloropropane	142-28-9	5	µg/L		<5	<5	----	----	----
Tetrachloroethene	127-18-4	5	µg/L		<5	<5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		<5	<5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		<5	<5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		<5	<5	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC326	MW210	----	----	----
				Client sampling date / time: 16-MAR-2010 15:00	16-MAR-2010 15:00	----	----	----
				ES1004956-007	ES1004956-008	----	----	----
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	----	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	----	----	----
Pentachloroethane	76-01-7	5	µg/L	<5	<5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	<5	----	----	----
Bromobenzene	108-86-1	5	µg/L	<5	<5	----	----	----
2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	----	----	----
4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<5	<5	----	----	----
Bromodichloromethane	75-27-4	5	µg/L	<5	<5	----	----	----
Dibromochloromethane	124-48-1	5	µg/L	<5	<5	----	----	----
Bromoform	75-25-2	5	µg/L	<5	<5	----	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	2	µg/L	----	<2	----	----	----
2-Chlorophenol	95-57-8	2	µg/L	----	<2	----	----	----
2-Methylphenol	95-48-7	2	µg/L	----	<2	----	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L	----	<4	----	----	----
2-Nitrophenol	88-75-5	2	µg/L	----	<2	----	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L	----	<2	----	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L	----	<2	----	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L	----	<2	----	----	----
4-Chloro-3-Methylphenol	59-50-7	2	µg/L	----	<2	----	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L	----	<2	----	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L	----	<2	----	----	----
Pentachlorophenol	87-86-5	4	µg/L	----	<4	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	2	µg/L	----	**6**	----	----	----
2-Methylnaphthalene	91-57-6	2	µg/L	----	<2	----	----	----
2-Chloronaphthalene	91-58-7	2	µg/L	----	<2	----	----	----
Acenaphthylene	208-96-8	2	µg/L	----	**12**	----	----	----
Acenaphthene	83-32-9	2	µg/L	----	**7**	----	----	----
Fluorene	86-73-7	2	µg/L	----	<2	----	----	----
Phenanthrene	85-01-8	2	µg/L	----	**5**	----	----	----
Anthracene	120-12-7	2	µg/L	----	**2**	----	----	----
Fluoranthene	206-44-0	2	µg/L	----	**6**	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	QC326	MW210	----	----	----
				Client sampling date / time	16-MAR-2010 15:00	16-MAR-2010 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1004956-007	ES1004956-008	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	2	µg/L		----	**4**	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L		----	<2	----	----	----
Benz(a)anthracene	56-55-3	2	µg/L		----	<2	----	----	----
Chrysene	218-01-9	2	µg/L		----	<2	----	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L		----	<4	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L		----	<2	----	----	----
Benzo(a)pyrene	50-32-8	2	µg/L		----	<2	----	----	----
3-Methylcholanthrene	56-49-5	2	µg/L		----	<2	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L		----	<2	----	----	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L		----	<2	----	----	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L		----	<2	----	----	----
^ Sum of PAHs	----	2	µg/L		----	**42**	----	----	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	2	µg/L		----	<2	----	----	----
Diethyl phthalate	84-66-2	2	µg/L		----	<2	----	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L		----	<2	----	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L		----	<2	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L		----	**30**	----	----	----
Di-n-octylphthalate	117-84-0	2	µg/L		----	<2	----	----	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	2	µg/L		----	<2	----	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L		----	<2	----	----	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L		----	<4	----	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L		----	<2	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L		----	<2	----	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L		----	<2	----	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L		----	<2	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L		----	<4	----	----	----
Methapyrilene	91-80-5	2	µg/L		----	<2	----	----	----
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	2	µg/L		----	<2	----	----	----
Acetophenone	98-86-2	2	µg/L		----	<2	----	----	----
Nitrobenzene	98-95-3	2	µg/L		----	<2	----	----	----
Isophorone	78-59-1	2	µg/L		----	<2	----	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L		----	<4	----	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L		----	<4	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	QC326	MW210	----	----	----
				Client sampling date / time	16-MAR-2010 15:00	16-MAR-2010 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1004956-007	ES1004956-008	----	----	----
EP075E: Nitroaromatics and Ketones - Continued									
1-Naphthylamine	134-32-7	2	µg/L		----	<2	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L		----	<2	----	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L		----	<2	----	----	----
Azobenzene	103-33-3	2	µg/L		----	<2	----	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L		----	<2	----	----	----
Phenacetin	62-44-2	2	µg/L		----	<2	----	----	----
4-Aminobiphenyl	92-67-1	2	µg/L		----	<2	----	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L		----	<2	----	----	----
Pronamide	23950-58-5	2	µg/L		----	<2	----	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L		----	<2	----	----	----
Chlorobenzilate	510-15-6	2	µg/L		----	<2	----	----	----
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	2	µg/L		----	<2	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L		----	<2	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L		----	<2	----	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L		----	<2	----	----	----
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	2	µg/L		----	<2	----	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L		----	<2	----	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L		----	<2	----	----	----
Hexachloroethane	67-72-1	2	µg/L		----	<2	----	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L		----	<2	----	----	----
Hexachloropropylene	1888-71-7	2	µg/L		----	<2	----	----	----
Hexachlorobutadiene	87-68-3	2	µg/L		----	<2	----	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L		----	<10	----	----	----
Pentachlorobenzene	608-93-5	2	µg/L		----	<2	----	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L		----	<4	----	----	----
EP075H: Anilines and Benzidines									
Aniline	62-53-3	2	µg/L		----	<2	----	----	----
4-Chloroaniline	106-47-8	2	µg/L		----	<2	----	----	----
2-Nitroaniline	88-74-4	4	µg/L		----	<4	----	----	----
3-Nitroaniline	99-09-2	4	µg/L		----	<4	----	----	----
Dibenzofuran	132-64-9	2	µg/L		----	3	----	----	----
4-Nitroaniline	100-01-6	2	µg/L		----	<2	----	----	----
Carbazole	86-74-8	2	µg/L		----	2	----	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L		----	<2	----	----	----
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	2	µg/L		----	<2	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	QC326	MW210	----	----	----
				Client sampling date / time	16-MAR-2010 15:00	16-MAR-2010 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1004956-007	ES1004956-008	----	----	----
EP075I: Organochlorine Pesticides - Continued									
beta-BHC	319-85-7	2	µg/L		----	<2	----	----	----
gamma-BHC	58-89-9	2	µg/L		----	<2	----	----	----
delta-BHC	319-86-8	2	µg/L		----	<2	----	----	----
Heptachlor	76-44-8	2	µg/L		----	<2	----	----	----
Aldrin	309-00-2	2	µg/L		----	<2	----	----	----
Heptachlor epoxide	1024-57-3	2	µg/L		----	<2	----	----	----
alpha-Endosulfan	959-98-8	2	µg/L		----	<2	----	----	----
4.4`-DDE	72-55-9	2	µg/L		----	<2	----	----	----
Dieldrin	60-57-1	2	µg/L		----	<2	----	----	----
Endrin	72-20-8	2	µg/L		----	<2	----	----	----
beta-Endosulfan	33213-65-9	2	µg/L		----	<2	----	----	----
4.4`-DDD	72-54-8	2	µg/L		----	<2	----	----	----
Endosulfan sulfate	1031-07-8	2	µg/L		----	<2	----	----	----
4.4`-DDT	50-29-3	4	µg/L		----	<4	----	----	----
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	2	µg/L		----	<2	----	----	----
Dimethoate	60-51-5	2	µg/L		----	<2	----	----	----
Diazinon	333-41-5	2	µg/L		----	<2	----	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L		----	<2	----	----	----
Malathion	121-75-5	2	µg/L		----	<2	----	----	----
Fenthion	55-38-9	2	µg/L		----	<2	----	----	----
Chlorpyrifos	2921-88-2	2	µg/L		----	<2	----	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L		----	<2	----	----	----
Chlorfenvinphos	470-90-6	2	µg/L		----	<2	----	----	----
Prothiofos	34643-46-4	2	µg/L		----	<2	----	----	----
Ethion	563-12-2	2	µg/L		----	<2	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	**30**	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	**210**	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	**730**	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	**940**	----	----	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**97.8**	**103**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**104**	**109**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**100**	**103**	----	----	----
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.1	%		----	**47.7**	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC326	MW210	----	----	----
				Client sampling date / time: 16-MAR-2010 15:00	16-MAR-2010 15:00	----	----	----
				ES1004956-007	ES1004956-008	----	----	----
EP075S: Acid Extractable Surrogates - Continued								
Phenol-d6	13127-88-3	0.1	%	----	**24.3**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**62.9**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**83.7**	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	**69.7**	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	**63.6**	----	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	----	**72.5**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**72.0**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**70.2**	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**108**	**113**	----	----	----
Toluene-D8	2037-26-5	0.1	%	**98.1**	**103**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**104**	**107**	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	21	100
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	35	114
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **ES1004956**	Page	: 1 of 20
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-MAR-2010
Sampler	: ----	Issue Date	: 29-MAR-2010
Order number	: 1303951		
		No. of samples received	: 8
Quote number	: SY/259/09 V2	No. of samples analysed	: 7

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA005: pH (QC Lot: 1283879)									
ES1004839-001	Anonymous	EA005: pH Value	----	0.01	pH Unit	6.70	6.71	0.1	0% - 20%
ES1004972-003	Anonymous	EA005: pH Value	----	0.01	pH Unit	8.95	8.95	0.0	0% - 20%
ED009: Anions (QC Lot: 1284907)									
ES1004529-007	Anonymous	ED009: Chloride	16887-00-6	0.50	mg/L	37.0	39.3	6.1	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	15.7	16.8	6.6	0% - 20%
ES1004908-002	Anonymous	ED009: Chloride	16887-00-6	0.50	mg/L	74.8	74.8	0.07	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	<0.50	<0.50	0.0	No Limit
ED009: Anions (QC Lot: 1284908)									
ES1004956-002	MW209	ED009: Chloride	16887-00-6	0.50	mg/L	18500	18500	0.02	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	1900	1620	15.9	0% - 20%
ES1004990-006	Anonymous	ED009: Chloride	16887-00-6	0.50	mg/L	46.8	46.6	0.4	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	9.95	9.91	0.5	0% - 50%
ED037P: Alkalinity by PC Titrator (QC Lot: 1287060)									
ES1004844-003	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	<1	<1	0.0	No Limit
ES1004908-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	229	232	1.3	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	229	232	1.3	0% - 20%
ED040T: Total Major Anions (QC Lot: 1286938)									
ES1004956-001	MW200	ED040T: Sulfur as S	----	1	mg/L	123	120	2.2	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 1283870)									
ES1004956-001	MW200	ED093F: Calcium	7440-70-2	1	mg/L	130	126	2.8	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	159	155	2.2	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	1120	1110	1.3	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	65	64	1.6	0% - 20%
ES1004972-001	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	4	3	0.0	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	2	2	0.0	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	614	649	5.5	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	4	4	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1285498)									
EB1004717-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG035F: Dissolved Mercury by FIMS (QC Lot: 1285498) - continued									
ES1004994-004	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1286770)									
ES1005126-002	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1005151-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG050F Low: Dissolved Hexavalent Chromium - Low (QC Lot: 1286715)									
ES1004782-001	Anonymous	EG050F: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	0.002	0.0	No Limit
ES1004956-002	MW209	EG050F: Hexavalent Chromium	18540-29-9	0.002	mg/L	0.005	0.004	0.0	No Limit
EG051G: Ferrous Iron by Discrete Analyser (QC Lot: 1284489)									
ES1004994-001	Anonymous	EG051G: Ferrous Iron	----	0.05	mg/L	<0.05	<0.05	0.0	No Limit
ES1005001-007	Anonymous	EG051G: Ferrous Iron	----	0.05	mg/L	1.96	1.98	0.9	0% - 20%
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QC Lot: 1286942)									
EB1004425-001	Anonymous	EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	0.2	0.0	No Limit
		EG093A-F: Arsenic	7440-38-2	0.5	µg/L	1.3	1.5	15.4	No Limit
		EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	3.3	148	No Limit
		EG093A-F: Manganese	7439-96-5	0.5	µg/L	12.1	11.8	2.6	0% - 20%
		EG093A-F: Nickel	7440-02-0	0.5	µg/L	0.6	3.9	148	No Limit
		EG093A-F: Vanadium	7440-62-2	0.5	µg/L	1.4	1.8	25.8	No Limit
		EG093A-F: Barium	7440-39-3	1	µg/L	19	19	0.0	0% - 50%
		EG093A-F: Copper	7440-50-8	1	µg/L	2	3	0.0	No Limit
		EG093A-F: Zinc	7440-66-6	5	µg/L	11	12	0.0	No Limit
ES1004947-003	Anonymous	EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-F: Cadmium	7440-43-9	0.2	µg/L	0.6	0.5	0.0	No Limit
		EG093A-F: Cobalt	7440-48-4	0.2	µg/L	0.2	0.3	0.0	No Limit
		EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Arsenic	7440-38-2	0.5	µg/L	0.6	0.7	17.2	No Limit
		EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Manganese	7439-96-5	0.5	µg/L	41.0	42.1	2.6	0% - 20%
		EG093A-F: Nickel	7440-02-0	0.5	µg/L	11.6	12.3	5.6	0% - 20%
		EG093A-F: Vanadium	7440-62-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Barium	7440-39-3	1	µg/L	20	20	0.0	0% - 20%
		EG093A-F: Copper	7440-50-8	1	µg/L	11	12	0.0	0% - 50%
		EG093A-F: Zinc	7440-66-6	5	µg/L	6	6	0.0	No Limit
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QC Lot: 1288244)									
EB1004762-001	Anonymous	EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EG094A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG094A-F: Lead	7439-92-1	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QC Lot: 1288244) - continued									
EB1004762-001	Anonymous	EG094A-F: Arsenic	7440-38-2	0.2	µg/L	0.7	0.8	0.0	No Limit
		EG094A-F: Chromium	7440-47-3	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG094A-F: Vanadium	7440-62-2	0.2	µg/L	0.3	0.3	0.0	No Limit
		EG094A-F: Barium	7440-39-3	0.5	µg/L	64.8	65.7	1.4	0% - 20%
		EG094A-F: Copper	7440-50-8	0.5	µg/L	2.7	2.7	0.0	No Limit
		EG094A-F: Manganese	7439-96-5	0.5	µg/L	282	293	3.8	0% - 20%
		EG094A-F: Nickel	7440-02-0	0.5	µg/L	4.9	5.1	2.6	0% - 50%
		EG094A-F: Zinc	7440-66-6	1	µg/L	5	2	63.2	No Limit
EB1004762-011	Anonymous	EG094A-F: Cadmium	7440-43-9	0.05	µg/L	0.07	0.06	0.0	No Limit
		EG094A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG094A-F: Lead	7439-92-1	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG094A-F: Arsenic	7440-38-2	0.2	µg/L	0.6	0.7	0.0	No Limit
		EG094A-F: Chromium	7440-47-3	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG094A-F: Vanadium	7440-62-2	0.2	µg/L	0.5	0.5	0.0	No Limit
		EG094A-F: Barium	7440-39-3	0.5	µg/L	56.2	55.3	1.6	0% - 20%
		EG094A-F: Copper	7440-50-8	0.5	µg/L	0.8	0.8	0.0	No Limit
		EG094A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	0.5	0.0	No Limit
		EG094A-F: Nickel	7440-02-0	0.5	µg/L	1.3	1.4	0.0	No Limit
		EG094A-F: Zinc	7440-66-6	1	µg/L	1	<1	0.0	No Limit
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QC Lot: 1288246)									
ES1004956-005	QC323	EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EG094A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG094A-F: Cobalt	7440-48-4	0.1	µg/L	2.8	2.8	0.0	0% - 20%
		EG094A-F: Lead	7439-92-1	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG094A-F: Arsenic	7440-38-2	0.2	µg/L	3.6	3.4	4.3	0% - 50%
		EG094A-F: Chromium	7440-47-3	0.2	µg/L	2.4	2.4	0.0	0% - 50%
		EG094A-F: Vanadium	7440-62-2	0.2	µg/L	0.9	1.0	0.0	No Limit
		EG094A-F: Barium	7440-39-3	0.5	µg/L	68.5	72.1	5.0	0% - 20%
		EG094A-F: Copper	7440-50-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG094A-F: Manganese	7439-96-5	0.5	µg/L	395	401	1.5	0% - 20%
		EG094A-F: Nickel	7440-02-0	0.5	µg/L	82.1	81.7	0.5	0% - 20%
		EG094A-F: Zinc	7440-66-6	1	µg/L	116	115	1.0	0% - 20%
EK025G: Free cyanide by Discrete Analyser (QC Lot: 1287103)									
ES1004947-002	Anonymous	EK025G: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1287108)									
ES1004900-003	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
ES1004947-006	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 1284080)									
ES1004956-001	MW200	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 1284080) - continued									
ES1004972-007	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.66	0.62	6.7	0% - 20%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 1283871)									
ES1004975-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	0.16	0.17	7.1	0% - 50%
ES1004956-003	MW198	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: NOX as N by Discrete Analyser (QC Lot: 1284079)									
ES1004908-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.22	0.22	0.0	0% - 20%
ES1004956-005	QC323	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EP005: Total Organic Carbon (TOC) (QC Lot: 1284359)									
EP1001463-007	Anonymous	EP005: Total Organic Carbon	----	1	mg/L	644	660	2.4	0% - 20%
ES1004956-002	MW209	EP005: Total Organic Carbon	----	1	mg/L	9	8	11.8	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1286157)									
ES1004947-001	Anonymous	EP074: Benzene	71-43-2	1	µg/L	7	7	0.0	No Limit
		EP074: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	2	µg/L	2	2	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
ES1004947-007	Anonymous	EP074: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP074: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1286157) - continued									
ES1004947-007	Anonymous	EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1286157)									
ES1004947-001	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
ES1004947-007	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1286157)									
ES1004947-001	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
ES1004947-007	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1286157)									
ES1004947-001	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
ES1004947-007	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1286157)									
ES1004947-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1286157) - continued									
ES1004947-001	Anonymous	EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
ES1004947-007	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1286157) - continued									
ES1004947-007	Anonymous	EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1286157)									
ES1004947-001	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
ES1004947-007	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1286157)									
ES1004947-001	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
ES1004947-007	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1286159)									
ES1004947-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	20	20	0.0	No Limit
ES1004947-007	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
ED009: Anions (QCLot: 1284907)								
ED009: Chloride	16887-00-6	0.5	mg/L	<0.50	4 mg/L	94.8	70	130
ED009: Sulfate	14808-79-8	0.5	mg/L	<0.50	4 mg/L	95.5	70	130
ED009: Anions (QCLot: 1284908)								
ED009: Chloride	16887-00-6	0.5	mg/L	<0.50	4 mg/L	94.6	70	130
ED009: Sulfate	14808-79-8	0.5	mg/L	<0.50	4 mg/L	82.4	70	130
ED037P: Alkalinity by PC Titrator (QCLot: 1287060)								
ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	----	200 mg/L	82.4	80.2	108
ED040T: Total Major Anions (QCLot: 1286938)								
ED040T: Sulfur as S	----	1	mg/L	<1	50 mg/L	106	91	119
ED093F: Dissolved Major Cations (QCLot: 1283870)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	97.7	88	110
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	102	90	110
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	84.7	81	107
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	90.8	89	109
EG035F: Dissolved Mercury by FIMS (QCLot: 1285498)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	98.7	86	116
EG035F: Dissolved Mercury by FIMS (QCLot: 1286770)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	96.9	86	116
EG050F Low: Dissolved Hexavalent Chromium - Low (QCLot: 1286715)								
EG050F: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	0.1 mg/L	99.9	70	130
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 1284489)								
EG051G: Ferrous Iron	----	0.10	mg/L	<0.10	2.00 mg/L	91.2	78.1	115
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1286942)								
EG093A-F: Arsenic	7440-38-2	0.5	µg/L	<0.5	10 µg/L	89.8	85	125
EG093A-F: Barium	7440-39-3	1	µg/L	<1	10 µg/L	92.5	81	129
EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	10 µg/L	105	80	122
EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	10 µg/L	94.2	78	116
EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	10 µg/L	93.0	86	128
EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	10 µg/L	89.7	87	127
EG093A-F: Copper	7440-50-8	1	µg/L	<1	10 µg/L	90.6	86	124
EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	10 µg/L	93.6	87	123
EG093A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	10 µg/L	# 89.8	90	122
EG093A-F: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	# 75.2	84	124

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1286942) - continued								
EG093A-F: Vanadium	7440-62-2	0.5	µg/L	<0.5	10 µg/L	88.2	85	123
EG093A-F: Zinc	7440-66-6	5	µg/L	<5	10 µg/L	90.2	82	128
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1288244)								
EG094A-F: Arsenic	7440-38-2	0.2	µg/L	<0.2	10 µg/L	109	81	121
EG094A-F: Barium	7440-39-3	0.5	µg/L	<0.5	10 µg/L	103	78	112
EG094A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	10 µg/L	108	70	130
EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.05	10 µg/L	99.1	70	130
EG094A-F: Chromium	7440-47-3	0.2	µg/L	<0.2	10 µg/L	99.4	70	130
EG094A-F: Copper	7440-50-8	0.5	µg/L	<0.5	10 µg/L	101	70	130
EG094A-F: Lead	7439-92-1	0.1	µg/L	<0.1	10 µg/L	112	70	130
EG094A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	10 µg/L	108	70	130
EG094A-F: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	101	70	130
EG094A-F: Vanadium	7440-62-2	0.2	µg/L	<0.2	10 µg/L	98.3	70	130
EG094A-F: Zinc	7440-66-6	1	µg/L	<1	10 µg/L	107	70	130
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1288246)								
EG094A-F: Arsenic	7440-38-2	0.2	µg/L	<0.2	10 µg/L	109	81	121
EG094A-F: Barium	7440-39-3	0.5	µg/L	<0.5	10 µg/L	105	78	112
EG094A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	10 µg/L	104	70	130
EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.05	10 µg/L	101	70	130
EG094A-F: Chromium	7440-47-3	0.2	µg/L	<0.2	10 µg/L	102	70	130
EG094A-F: Cobalt	7440-48-4	0.1	µg/L	<0.1	10 µg/L	93.8	70	130
EG094A-F: Copper	7440-50-8	0.5	µg/L	<0.5	10 µg/L	103	70	130
EG094A-F: Lead	7439-92-1	0.1	µg/L	<0.1	10 µg/L	106	70	130
EG094A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	10 µg/L	108	70	130
EG094A-F: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	103	70	130
EG094A-F: Vanadium	7440-62-2	0.2	µg/L	<0.2	10 µg/L	100	70	130
EG094A-F: Zinc	7440-66-6	1	µg/L	<1	10 µg/L	106	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1287103)								
EK025G: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	93.6	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1287108)								
EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	76.2	70	129
EK055G: Ammonia as N by Discrete Analyser (QCLot: 1284080)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.00 mg/L	103	79.6	122
EK057G: Nitrite as N by Discrete Analyser (QCLot: 1283871)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.96 mg/L	112	65.1	129
EK059G: NOX as N by Discrete Analyser (QCLot: 1284079)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.96 mg/L	101	76.9	122
EP005: Total Organic Carbon (TOC) (QCLot: 1284359)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP005: Total Organic Carbon (TOC) (QCLot: 1284359) - continued								
EP005: Total Organic Carbon	----	1	mg/L	<1	10 mg/L	113	86.9	125
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1286157)								
EP074: Benzene	71-43-2	1	µg/L	<1	10 µg/L	92.6	81	119
EP074: Toluene	108-88-3	2	µg/L	<5	10 µg/L	93.7	76.5	123
EP074: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	91.4	80.3	119
EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	20 µg/L	93.8	81.1	118
EP074: Styrene	100-42-5	5	µg/L	<5	10 µg/L	91.8	79.9	120
EP074: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	93.8	82	118
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	10 µg/L	92.4	80.3	119
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	10 µg/L	90.9	75.5	122
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	10 µg/L	89.2	79.2	118
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	10 µg/L	90.5	76.6	121
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	10 µg/L	92.0	79.7	118
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	10 µg/L	91.8	77.4	120
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	10 µg/L	89.2	76.3	122
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	10 µg/L	87.9	74.4	123
EP074B: Oxygenated Compounds (QCLot: 1286157)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	100 µg/L	78.3	61.4	134
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	100 µg/L	122	73.6	130
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	100 µg/L	102	74.7	129
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	100 µg/L	101	74.1	130
EP074C: Sulfonated Compounds (QCLot: 1286157)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	10 µg/L	84.5	72.8	127
EP074D: Fumigants (QCLot: 1286157)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	10 µg/L	84.0	72.7	124
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	10 µg/L	95.9	80.7	119
EP074: cis-1.3-Dichloropropylene	10061-01-5	10	µg/L	<10	10 µg/L	85.2	80.4	119
EP074: trans-1.3-Dichloropropylene	10061-02-6	10	µg/L	<10	10 µg/L	80.9	79.3	120
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	10 µg/L	91.1	79.1	123
EP074E: Halogenated Aliphatic Compounds (QCLot: 1286157)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	100 µg/L	87.9	60.6	138
EP074: Chloromethane	74-87-3	50	µg/L	<50	100 µg/L	80.7	67.4	130
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	100 µg/L	78.8	69.4	129
EP074: Bromomethane	74-83-9	50	µg/L	<50	100 µg/L	101	68.9	131
EP074: Chloroethane	75-00-3	50	µg/L	<50	100 µg/L	95.3	73.9	126
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	100 µg/L	85.0	71.6	128
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	10 µg/L	84.4	72.5	128

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1286157) - continued								
EP074: Iodomethane	74-88-4	5	µg/L	<5	10 µg/L	81.4	70.2	128
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	10 µg/L	90.4	77.4	122
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	10 µg/L	91.3	79.3	121
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	10 µg/L	92.7	79.5	121
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	10 µg/L	84.0	75.8	124
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	10 µg/L	91.2	77.8	121
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	10 µg/L	96.7	73.8	126
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	10 µg/L	100	75.5	126
EP074: Trichloroethene	79-01-6	5	µg/L	<5	10 µg/L	91.2	76.7	123
EP074: Dibromomethane	74-95-3	5	µg/L	<5	10 µg/L	97.3	76.1	126
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	10 µg/L	98.8	79.6	122
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	10 µg/L	101	79.9	122
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	10 µg/L	95.6	75	124
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	10 µg/L	93.8	78.9	121
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	10 µg/L	104	61.4	136
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	10 µg/L	86.1	70.6	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	10 µg/L	97.1	77.8	126
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	10 µg/L	100	74.1	128
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	10 µg/L	78.9	71.8	126
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	10 µg/L	102	66.4	136
EP074F: Halogenated Aromatic Compounds (QCLot: 1286157)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	10 µg/L	92.5	80.8	119
EP074: Bromobenzene	108-86-1	5	µg/L	<5	10 µg/L	92.6	79.3	119
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	10 µg/L	92.4	78.2	120
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	10 µg/L	93.3	79	119
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	10 µg/L	116	68.6	128
EP074G: Trihalomethanes (QCLot: 1286157)								
EP074: Chloroform	67-66-3	5	µg/L	<5	10 µg/L	92.0	78.2	122
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	10 µg/L	82.8	76.9	123
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	10 µg/L	98.0	78.5	124
EP074: Bromoform	75-25-2	5	µg/L	<5	10 µg/L	97.1	73.5	126
EP075A: Phenolic Compounds (QCLot: 1287026)								
EP075: Phenol	108-95-2	2	µg/L	<2	5 µg/L	46.2	25.5	64.1
EP075: 2-Chlorophenol	95-57-8	2	µg/L	<2	5 µg/L	100	63.1	105
EP075: 2-Methylphenol	95-48-7	2	µg/L	<2	5 µg/L	91.3	55.6	98.4
EP075: 3- & 4-Methylphenol	1319-77-3	4	µg/L	<4	10 µg/L	77.1	45	96.2
EP075: 2-Nitrophenol	88-75-5	2	µg/L	<2	5 µg/L	92.8	55.4	110
EP075: 2.4-Dimethylphenol	105-67-9	2	µg/L	<2	5 µg/L	102	61.7	110
EP075: 2.4-Dichlorophenol	120-83-2	2	µg/L	<2	5 µg/L	84.5	61.9	109

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075A: Phenolic Compounds (QCLot: 1287026) - continued								
EP075: 2.6-Dichlorophenol	87-65-0	2	µg/L	<2	5 µg/L	96.8	61.5	108
EP075: 4-Chloro-3-Methylphenol	59-50-7	2	µg/L	<2	5 µg/L	102	61.4	107
EP075: 2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	5 µg/L	99.8	57.6	112
EP075: 2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	5 µg/L	94.0	58	110
EP075: Pentachlorophenol	87-86-5	4	µg/L	<4	10 µg/L	35.8	2.39	110
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1287026)								
EP075: Naphthalene	91-20-3	2	µg/L	<2	5 µg/L	103	61	108
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	5 µg/L	103	59	108
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	5 µg/L	93.9	60.6	106
EP075: Acenaphthylene	208-96-8	2	µg/L	<2	5 µg/L	101	64	108
EP075: Acenaphthene	83-32-9	2	µg/L	<2	5 µg/L	87.0	65	108
EP075: Fluorene	86-73-7	2	µg/L	<2	5 µg/L	80.9	65.2	107
EP075: Phenanthrene	85-01-8	2	µg/L	<2	5 µg/L	91.8	66.7	108
EP075: Anthracene	120-12-7	2	µg/L	<2	5 µg/L	89.2	65.8	108
EP075: Fluoranthene	206-44-0	2	µg/L	<2	5 µg/L	88.9	64.9	109
EP075: Pyrene	129-00-0	2	µg/L	<2	5 µg/L	89.7	60.1	111
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	5 µg/L	85.8	59.7	110
EP075: Benz(a)anthracene	56-55-3	2	µg/L	<2	5 µg/L	83.8	62.2	112
EP075: Chrysene	218-01-9	2	µg/L	<2	5 µg/L	87.6	59.3	114
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	10 µg/L	101	60.1	111
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	5 µg/L	# 110	49.8	107
EP075: Benzo(a)pyrene	50-32-8	2	µg/L	<2	5 µg/L	112	59.2	112
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	5 µg/L	94.1	60.1	110
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	5 µg/L	89.2	59.6	110
EP075: Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	5 µg/L	84.4	57.2	109
EP075: Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	5 µg/L	93.9	60.6	110
EP075C: Phthalate Esters (QCLot: 1287026)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	5 µg/L	101	64.3	112
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	5 µg/L	91.0	67.3	111
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	5 µg/L	99.2	68.4	122
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	5 µg/L	90.3	61.2	114
EP075: bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	<20	5 µg/L	# 68.1	72.8	135
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	5 µg/L	110	62.1	115
EP075D: Nitrosamines (QCLot: 1287026)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	5 µg/L	84.2	39.5	95.9
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	5 µg/L	95.9	60.6	113
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	5 µg/L	53.5	23.7	82.1
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	5 µg/L	70.8	35.4	86.2

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075D: Nitrosamines (QCLot: 1287026) - continued								
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	5 µg/L	94.9	63.5	108
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	5 µg/L	95.5	61.7	107
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	5 µg/L	98.7	62.5	108
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	10 µg/L	81.5	64.6	112
EP075: Methapyrilene	91-80-5	2	µg/L	<2	5 µg/L	90.0	4.21	94
EP075E: Nitroaromatics and Ketones (QCLot: 1287026)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	5 µg/L	77.5	11.4	100
EP075: Acetophenone	98-86-2	2	µg/L	<2	5 µg/L	93.2	68.3	112
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	5 µg/L	102	68.3	112
EP075: Isophorone	78-59-1	2	µg/L	<2	5 µg/L	104	67.6	111
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	5 µg/L	99.1	64.4	113
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	5 µg/L	78.5	59.5	109
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	5 µg/L	# 33.2	46.8	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	5 µg/L	51.2	8.93	98.7
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	5 µg/L	98.2	58.3	106
EP075: Azobenzene	103-33-3	2	µg/L	<2	5 µg/L	90.6	66	112
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	5 µg/L	79.0	39	105
EP075: Phenacetin	62-44-2	2	µg/L	<2	5 µg/L	78.3	57.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	5 µg/L	101	60.1	112
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	5 µg/L	85.1	59	109
EP075: Pronamide	23950-58-5	2	µg/L	<2	5 µg/L	91.9	62.7	109
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	5 µg/L	84.8	59.4	108
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	5 µg/L	89.2	57.7	110
EP075F: Haloethers (QCLot: 1287026)								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	5 µg/L	95.4	69.1	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	5 µg/L	95.9	66.2	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	5 µg/L	80.7	64.7	109
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	5 µg/L	85.7	61.6	108
EP075G: Chlorinated Hydrocarbons (QCLot: 1287026)								
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	5 µg/L	100	39.1	113
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	5 µg/L	98.9	42	114
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	5 µg/L	98.3	41.3	112
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	5 µg/L	100	31	114
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	5 µg/L	98.1	42.9	115
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	5 µg/L	104	23.8	111
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	5 µg/L	106	37.4	116
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	5 µg/L	99.0	1.88	105
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	5 µg/L	85.1	64.5	107

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075G: Chlorinated Hydrocarbons (QCLot: 1287026) - continued								
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	5 µg/L	86.7	65.7	110
EP075H: Anilines and Benzidines (QCLot: 1287026)								
EP075: Aniline	62-53-3	2	µg/L	<2	5 µg/L	# 92.5	10.9	89.7
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	5 µg/L	94.6	44.4	106
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	5 µg/L	95.3	60.9	110
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	5 µg/L	92.5	51.5	96.9
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	5 µg/L	83.1	65.3	108
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	5 µg/L	88.6	48.9	99.5
EP075: Carbazole	86-74-8	2	µg/L	<2	5 µg/L	96.3	64.3	107
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	5 µg/L	103	60.3	119
EP075I: Organochlorine Pesticides (QCLot: 1287026)								
EP075: alpha-BHC	319-84-6	2	µg/L	<2	5 µg/L	89.2	64.3	110
EP075: beta-BHC	319-85-7	2	µg/L	<2	5 µg/L	76.9	59	110
EP075: gamma-BHC	58-89-9	2	µg/L	<2	5 µg/L	88.5	63.7	112
EP075: delta-BHC	319-86-8	2	µg/L	<2	5 µg/L	101	60.2	113
EP075: Heptachlor	76-44-8	2	µg/L	<2	5 µg/L	91.0	57.9	108
EP075: Aldrin	309-00-2	2	µg/L	<2	5 µg/L	94.8	57	113
EP075: Heptachlor epoxide	1024-57-3	2	µg/L	<2	5 µg/L	93.3	60.3	112
EP075: alpha-Endosulfan	959-98-8	2	µg/L	<2	5 µg/L	110	52.5	115
EP075: 4.4`-DDE	72-55-9	2	µg/L	<2	5 µg/L	89.2	64.1	111
EP075: Dieldrin	60-57-1	2	µg/L	<2	5 µg/L	98.5	65	113
EP075: Endrin	72-20-8	2	µg/L	<2	5 µg/L	90.5	51.1	112
EP075: beta-Endosulfan	33213-65-9	2	µg/L	<2	5 µg/L	94.6	60.4	111
EP075: 4.4`-DDD	72-54-8	2	µg/L	<2	5 µg/L	94.5	59.8	115
EP075: Endosulfan sulfate	1031-07-8	2	µg/L	<2	5 µg/L	109	52.8	114
EP075: 4.4`-DDT	50-29-3	4	µg/L	<4	5 µg/L	91.1	41.3	114
EP075J: Organophosphorus Pesticides (QCLot: 1287026)								
EP075: Dichlorvos	62-73-7	2	µg/L	<2	5 µg/L	107	52	118
EP075: Dimethoate	60-51-5	2	µg/L	<2	5 µg/L	93.6	46.8	114
EP075: Diazinon	333-41-5	2	µg/L	<2	5 µg/L	114	54	116
EP075: Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	5 µg/L	93.7	54.1	116
EP075: Malathion	121-75-5	2	µg/L	<2	5 µg/L	110	57.6	118
EP075: Fenthion	55-38-9	2	µg/L	<2	5 µg/L	92.4	50.1	117
EP075: Chlorpyrifos	2921-88-2	2	µg/L	<2	5 µg/L	87.5	59.2	113
EP075: Pirimphos-ethyl	23505-41-1	2	µg/L	<2	5 µg/L	88.9	52.6	115
EP075: Chlorfenvinphos	470-90-6	2	µg/L	<2	6 µg/L	69.4	44.6	95.8
EP075: Prothiofos	34643-46-4	2	µg/L	<2	5 µg/L	84.3	56.8	116
EP075: Ethion	563-12-2	2	µg/L	<2	5 µg/L	85.3	48.6	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1286159)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1286159) - continued								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	90.3	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1287025)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	75.0	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	92.5	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	70.5	62.7	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED009: Anions (QCLot: 1284907)							
ES1004529-007	Anonymous	ED009: Chloride	16887-00-6	4 mg/L	# Not Determined	70	130
		ED009: Sulfate	14808-79-8	4 mg/L	94.9	70	130
ED009: Anions (QCLot: 1284908)							
ES1004956-002	MW209	ED009: Chloride	16887-00-6	4 mg/L	# Not Determined	70	130
		ED009: Sulfate	14808-79-8	4 mg/L	# Not Determined	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1285498)							
ES1004956-002	MW209	EG035F: Mercury	7439-97-6	0.0100 mg/L	96.1	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1286770)							
ES1005126-001	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	80.1	70	130
EG050F Low: Dissolved Hexavalent Chromium - Low (QCLot: 1286715)							
ES1004782-001	Anonymous	EG050F: Hexavalent Chromium	18540-29-9	0.25 mg/L	97.7	70	130
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 1284489)							
ES1004994-001	Anonymous	EG051G: Ferrous Iron	----	1.00 mg/L	101	70	130
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1286942)							
EB1004425-001	Anonymous	EG093A-F: Arsenic	7440-38-2	50 µg/L	79.4	70	130
		EG093A-F: Barium	7440-39-3	50 µg/L	88.6	70	130
		EG093A-F: Beryllium	7440-41-7	50 µg/L	91.1	70	130
		EG093A-F: Cadmium	7440-43-9	12.5 µg/L	85.5	70	130
		EG093A-F: Chromium	7440-47-3	50 µg/L	70.7	70	130
		EG093A-F: Cobalt	7440-48-4	50 µg/L	79.5	70	130
		EG093A-F: Copper	7440-50-8	50 µg/L	80.5	70	130
		EG093A-F: Lead	7439-92-1	50 µg/L	84.4	70	130
		EG093A-F: Manganese	7439-96-5	50 µg/L	79.5	70	130
		EG093A-F: Nickel	7440-02-0	50 µg/L	71.4	70	130
		EG093A-F: Vanadium	7440-62-2	50 µg/L	78.4	70	130
		EG093A-F: Zinc	7440-66-6	50 µg/L	78.3	70	130
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1288244)							
EB1004762-001	Anonymous	EG094A-F: Arsenic	7440-38-2	50 µg/L	117	70	130
		EG094A-F: Barium	7440-39-3	50 µg/L	112	70	130
		EG094A-F: Beryllium	7440-41-7	50 µg/L	106	70	130
		EG094A-F: Cadmium	7440-43-9	12.5 µg/L	98.8	70	130
		EG094A-F: Chromium	7440-47-3	50 µg/L	100	70	130
		EG094A-F: Copper	7440-50-8	50 µg/L	102	70	130
		EG094A-F: Lead	7439-92-1	50 µg/L	106	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1288244) - continued							
EB1004762-001	Anonymous	EG094A-F: Manganese	7439-96-5	50 µg/L	# Not Determined	70	130
		EG094A-F: Nickel	7440-02-0	50 µg/L	102	70	130
		EG094A-F: Vanadium	7440-62-2	50 µg/L	105	70	130
		EG094A-F: Zinc	7440-66-6	50 µg/L	106	70	130
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1288246)							
ES1004956-005	QC323	EG094A-F: Arsenic	7440-38-2	50 µg/L	119	70	130
		EG094A-F: Barium	7440-39-3	50 µg/L	128	70	130
		EG094A-F: Beryllium	7440-41-7	50 µg/L	110	70	130
		EG094A-F: Cadmium	7440-43-9	12.5 µg/L	105	70	130
		EG094A-F: Chromium	7440-47-3	50 µg/L	99.9	70	130
		EG094A-F: Cobalt	7440-48-4	50 µg/L	104	70	130
		EG094A-F: Copper	7440-50-8	50 µg/L	102	70	130
		EG094A-F: Lead	7439-92-1	50 µg/L	122	70	130
		EG094A-F: Manganese	7439-96-5	50 µg/L	# Not Determined	70	130
		EG094A-F: Nickel	7440-02-0	50 µg/L	99.2	70	130
		EG094A-F: Vanadium	7440-62-2	50 µg/L	105	70	130
		EG094A-F: Zinc	7440-66-6	50 µg/L	71.6	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1287103)							
ES1004947-002	Anonymous	EK025G: Free Cyanide	----	0.2 mg/L	89.2	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1287108)							
ES1004900-003	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	0.2 mg/L	80.6	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 1284080)							
ES1004956-001	MW200	EK055G: Ammonia as N	7664-41-7	1.00 mg/L	78.6	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 1283871)							
ES1004975-001	Anonymous	EK057G: Nitrite as N	----	0.60 mg/L	112	70	130
EK059G: NOX as N by Discrete Analyser (QCLot: 1284079)							
ES1004908-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.60 mg/L	94.7	70	130
EP005: Total Organic Carbon (TOC) (QCLot: 1284359)							
EP1001463-008	Anonymous	EP005: Total Organic Carbon	----	100 mg/L	# Not Determined	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1286157)							
ES1004947-001	Anonymous	EP074: Benzene	71-43-2	25 µg/L	111	70	130
		EP074: Toluene	108-88-3	25 µg/L	111	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1286157)							
ES1004947-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	25 µg/L	122	70	130
		EP074: Trichloroethene	79-01-6	25 µg/L	111	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1286157)							

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP074F: Halogenated Aromatic Compounds (QCLot: 1286157) - continued							
ES1004947-001	Anonymous	EP074: Chlorobenzene	108-90-7	25 µg/L	121	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1286159)							
ES1004947-001	Anonymous	EP080: C6 - C9 Fraction	----	250 µg/L	121	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1004956**	Page	: 1 of 14
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
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Project	: S4150014 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-MAR-2010
Sampler	: ----	Issue Date	: 29-MAR-2010
Order number	: 1303951		
		No. of samples received	: 8
Quote number	: SY/259/09 V2	No. of samples analysed	: 7

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **WATER**

Evaluation: ✗ = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA005: pH							
Clear Plastic Bottle - Natural							
MW200, MW209, MW198, MW210	**16-MAR-2010**	**----**	----	----	**18-MAR-2010**	16-MAR-2010	✗
ED009: Anions							
Clear Plastic Bottle - Natural							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**----**	----	----	**20-MAR-2010**	13-APR-2010	✓
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**---**	---	----	**22-MAR-2010**	30-MAR-2010	✓
ED040T: Total Major Anions							
Clear Plastic Bottle - Natural							
MW200, MW209, MW198, QC323	**16-MAR-2010**	**22-MAR-2010**	13-APR-2010	✓	**23-MAR-2010**	13-APR-2010	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Natural							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**---**	---	----	**20-MAR-2010**	23-MAR-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**---**	---	----	**22-MAR-2010**	13-APR-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
QC326	**16-MAR-2010**	**---**	---	----	**23-MAR-2010**	13-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG050F Low: Dissolved Hexavalent Chromium - Low							
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**----**	----	----	**22-MAR-2010**	13-APR-2010	✓
EG051G: Ferrous Iron by Discrete Analyser							
Clear Plastic Bottle - HCl							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**----**	----	----	**18-MAR-2010**	17-MAR-2010	×
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW209, MW210	**16-MAR-2010**	**22-MAR-2010**	12-SEP-2010	✓	**22-MAR-2010**	12-SEP-2010	✓
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW200, MW198, QC323, QC326	**16-MAR-2010**	**24-MAR-2010**	12-SEP-2010	✓	**24-MAR-2010**	12-SEP-2010	✓
EK025G: Free cyanide by Discrete Analyser							
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW200, MW209, MW198, QC323	**16-MAR-2010**	**22-MAR-2010**	30-MAR-2010	✓	**22-MAR-2010**	30-MAR-2010	✓
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW200, MW209, MW198, QC323	**16-MAR-2010**	**22-MAR-2010**	30-MAR-2010	✓	**22-MAR-2010**	30-MAR-2010	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulphuric Acid							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**---**	---	----	**18-MAR-2010**	13-APR-2010	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**---**	---	----	**17-MAR-2010**	18-MAR-2010	✓
EK059G: NOX as N by Discrete Analyser							
Clear Plastic Bottle - Sulphuric Acid							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**---**	---	----	**18-MAR-2010**	13-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP005: Total Organic Carbon (TOC)							
Amber TOC Vial - Sulphuric Acid							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**----**	----	----	**18-MAR-2010**	13-APR-2010	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - HCl							
MW200, MW209, MW198, QC323, TB302, QC326, MW210	**16-MAR-2010**	**---**	---	----	**19-MAR-2010**	30-MAR-2010	✓
EP074B: Oxygenated Compounds							
Amber VOC Vial - HCl							
MW200, MW209, MW198, QC323, TB302, QC326, MW210	**16-MAR-2010**	**---**	---	----	**19-MAR-2010**	30-MAR-2010	✓
EP074C: Sulfonated Compounds							
Amber VOC Vial - HCl							
MW200, MW209, MW198, QC323, TB302, QC326, MW210	**16-MAR-2010**	**---**	---	----	**19-MAR-2010**	30-MAR-2010	✓
EP074D: Fumigants							
Amber VOC Vial - HCl							
MW200, MW209, MW198, QC323, TB302, QC326, MW210	**16-MAR-2010**	**---**	---	----	**19-MAR-2010**	30-MAR-2010	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - HCl							
MW200, MW209, MW198, QC323, TB302, QC326, MW210	**16-MAR-2010**	**---**	---	----	**19-MAR-2010**	30-MAR-2010	✓
EP074F: Halogenated Aromatic Compounds							
Amber VOC Vial - HCl							
MW200, MW209, MW198, QC323, TB302, QC326, MW210	**16-MAR-2010**	**---**	---	----	**19-MAR-2010**	30-MAR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074G: Trihalomethanes							
Amber VOC Vial - HCl							
MW200, MW209, MW198, QC323, TB302, QC326, MW210	**16-MAR-2010**	**---**	---	----	**19-MAR-2010**	30-MAR-2010	✓
EP075A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**22-MAR-2010**	23-MAR-2010	✓	**23-MAR-2010**	01-MAY-2010	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**22-MAR-2010**	23-MAR-2010	✓	**23-MAR-2010**	01-MAY-2010	✓
EP075C: Phthalate Esters							
Amber Glass Bottle - Unpreserved							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**22-MAR-2010**	23-MAR-2010	✓	**23-MAR-2010**	01-MAY-2010	✓
EP075D: Nitrosamines							
Amber Glass Bottle - Unpreserved							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**22-MAR-2010**	23-MAR-2010	✓	**23-MAR-2010**	01-MAY-2010	✓
EP075E: Nitroaromatics and Ketones							
Amber Glass Bottle - Unpreserved							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**22-MAR-2010**	23-MAR-2010	✓	**23-MAR-2010**	01-MAY-2010	✓
EP075F: Haloethers							
Amber Glass Bottle - Unpreserved							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**22-MAR-2010**	23-MAR-2010	✓	**23-MAR-2010**	01-MAY-2010	✓
EP075G: Chlorinated Hydrocarbons							
Amber Glass Bottle - Unpreserved							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**22-MAR-2010**	23-MAR-2010	✓	**23-MAR-2010**	01-MAY-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075H: Anilines and Benzidines							
Amber Glass Bottle - Unpreserved							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**22-MAR-2010**	23-MAR-2010	✓	**23-MAR-2010**	01-MAY-2010	✓
EP075I: Organochlorine Pesticides							
Amber Glass Bottle - Unpreserved							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**22-MAR-2010**	23-MAR-2010	✓	**23-MAR-2010**	01-MAY-2010	✓
EP075J: Organophosphorus Pesticides							
Amber Glass Bottle - Unpreserved							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**22-MAR-2010**	23-MAR-2010	✓	**23-MAR-2010**	01-MAY-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved							
MW200, MW209, MW198, QC323, QC326, MW210	**16-MAR-2010**	**22-MAR-2010**	23-MAR-2010	✓	**23-MAR-2010**	01-MAY-2010	✓
Amber VOC Vial - HCl							
MW200, MW209, MW198, QC323, TB302, QC326, MW210	**16-MAR-2010**	**---**	---	----	**19-MAR-2010**	30-MAR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ammonia as N by Discrete analyser	EK055G	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	2	17	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	4	30	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	3	22	**13.6**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	2	17	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ferrous Iron by Discrete Analyser	EG051G	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	9	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	6	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	2	16	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	18	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	14	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH	EA005	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	4	40	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	16	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	2	30	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	2	22	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ferrous Iron by Discrete Analyser	EG051G	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
TPH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	2	30	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	2	22	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ferrous Iron by Discrete Analyser	EG051G	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	2	30	**6.7**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	2	22	**9.1**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Ferrous Iron by Discrete Analyser	EG051G	1	11	**9.1**	**5.0**	✓	ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	9	**11.1**	**5.0**	✓	ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	18	**5.6**	**5.0**	✓	ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	14	**7.1**	**5.0**	✓	ALS QCS3 requirement
Standard Anions	ED009	2	40	**5.0**	**5.0**	✓	ALS QCS3 requirement
Total Organic Carbon	EP005	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	15	**6.7**	**5.0**	✓	ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH	EA005	WATER	APHA 21st ed. 4500 H+ B. pH of water samples is determined by ISE either manually or by automated pH meter. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Standard Anions	* ED009	WATER	APHA 21st ed., 4110. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Alkalinity by PC Titrator	ED037-P	WATER	APHA 21st ed., 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Major Anions - Total	ED040T	WATER	APHA 21st ed., 3120 Samples are digested by USEPA 3005 prior to analysis. Sulfur content is determined by ICP/AES and reported as Sulfate after conversion by gravimetric factor.
Major Cations - Dissolved	ED093F	WATER	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises the 0.45um filtered sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Hexavalent Chromium - Low Level	EG050F Low	WATER	APHA 21st ed., 3500 Cr-B. Samples are 0.45 um filtered prior to analysis. Hexavalent chromium is determined on filtered water sample as received by pH adjustment and colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Ferrous Iron by Discrete Analyser	EG051G	WATER	APHA 21st ed., 3500 Fe-B. A colorimetric determination based on the reaction between phenanthroline and ferrous iron at pH 3.2-3.3 to form an orange-red complex that is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	WATER	APHA 21st ed., 3125; USEPA SW846 - 6020 Samples are 0.45 um filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	WATER	APHA 21st ed., 3125; USEPA SW846 - 6020 Samples are 0.45 um filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Free CN by Discrete Analyser	EK025G	WATER	APHA 21st ed., 4500-CN-C&N Free Cyanide is determined on samples after distillation using a pyridine-barbituric acid colouring reagent followed with an Discrete Analyser finish. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Analytical Methods	Method	Matrix	Method Descriptions
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	WATER	APHA 21st ed., 4500-CN-C&N WAD Cyanide is determined from aqueous solutions after distillation with acetic acid. The resultant distillate is then captured in a caustic absorber solution followed by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Ammonia as N by Discrete analyser	EK055G	WATER	APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrite as N by Discrete Analyser	EK057G	WATER	APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrate as N by Discrete Analyser	EK058G	WATER	APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a cadmium reduction column followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Cadmium Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Ionic Balance by IC PCT and ICPAES	EN055 - IC ED009	WATER	APHA 21st Ed. 1030F. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Organic Carbon	EP005	WATER	APHA 21st ed., 5310 B, The automated TOC analyzer determines Total and Inorganic Carbon by IR cell. TOC is calculated as the difference. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Volatile Organic Compounds	EP074	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Semivolatile Organic Compounds	EP075	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Free Cyanide	EK025-PR	WATER	APHA 21st ed., 4500 CN- C&N. The sample is distilled at natural pH. The CN is trapped in a caustic solution, and quanitified by colourimetry on FIA. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Weak Acid Dissociable Cyanide	EK028-PR	WATER	APHA 21st ed., 4500 CN- I&N. The sample is distilled with Acetic acid, selectively releasing the weakly bound metal cyanides as HCN. The CN is trapped in a caustic solution, and quanitified by colourimetry on FIA. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG093F: Dissolved Metals in Saline Water by ORC-ICP	1490793-003	----	**Manganese**	7439-96-5	89.8 %	90-122%	**Recovery less than lower control limit**
EG093F: Dissolved Metals in Saline Water by ORC-ICP	1490793-003	----	**Nickel**	7440-02-0	75.2 %	84-124%	**Recovery less than lower control limit**
EP075B: Polynuclear Aromatic Hydrocarbons	1490853-010	----	**7.12-Dimethylbenz(a)anthracene**	57-97-6	110 %	49.8-107%	**Recovery greater than upper control limit**
EP075C: Phthalate Esters	1490853-010	----	**bis(2-ethylhexyl) phthalate**	117-81-7	68.1 %	72.8-135%	**Recovery less than lower control limit**
EP075E: Nitroaromatics and Ketones	1490853-010	----	**1-Naphthylamine**	134-32-7	33.2 %	46.8-102%	**Recovery less than lower control limit**
EP075H: Anilines and Benzidines	1490853-010	----	**Aniline**	62-53-3	92.5 %	10.9-89.7%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
ED009: Anions	ES1004529-007	Anonymous	**Chloride**	16887-00-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
ED009: Anions	ES1004956-002	MW209	**Chloride**	16887-00-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
ED009: Anions	ES1004956-002	MW209	**Sulfate**	14808-79-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG094F: Dissolved Metals in Fresh Water by ORC-ICPI	ES1004956-005	QC323	**Manganese**	7439-96-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG094F: Dissolved Metals in Fresh Water by ORC-ICPI	EB1004762-001	Anonymous	**Manganese**	7439-96-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP005: Total Organic Carbon (TOC)	EP1001463-008	Anonymous	**Total Organic Carbon**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **WATER**

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP074S: VOC Surrogates	ES1004956-001	MW200	**Toluene-D8**	2037-26-5	119 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1004956-003	MW198	**Toluene-D8**	2037-26-5	112 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1004956-005	QC323	**Toluene-D8**	2037-26-5	120 %	88-110 %	**Recovery greater than upper data quality objective**
EP075S: Acid Extractable Surrogates	ES1004956-001	MW200	**2-Fluorophenol**	367-12-4	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1004956-001	MW200	**Phenol-d6**	13127-88-3	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1004956-001	MW200	**2-Chlorophenol-D4**	93951-73-6	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1004956-001	MW200	**2.4.6-Tribromophenol**	118-79-6	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075T: Base/Neutral Extractable Surrogates	ES1004956-001	MW200	**2-Fluorobiphenyl**	321-60-8	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP080S: TPH(V)/BTEX Surrogates	ES1004956-002	MW209	**Toluene-D8**	2037-26-5	117 %	88-110 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1004956-001	MW200	**Toluene-D8**	2037-26-5	112 %	88-110 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1004956-005	QC323	**Toluene-D8**	2037-26-5	112 %	88-110 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1004956-002	MW209	**4-Bromofluorobenzene**	460-00-4	117 %	86-115 %	**Recovery greater than upper data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **WATER**

Method / **Container** / Client Sample ID(s)	*Extraction / Preparation*			*Analysis*		
	Date extracted	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EA005: pH						
Clear Plastic Bottle - Natural						
MW200, MW209, MW198, MW210	----	----	----	18-MAR-2010	16-MAR-2010	**2**
EG051G: Ferrous Iron by Discrete Analyser						

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EG051G: Ferrous Iron by Discrete Analyser - Analysis Holding Time Compliance						
Clear Plastic Bottle - HCl						
MW200, MW209, MW198, QC323, MW210	----	----	----	18-MAR-2010	17-MAR-2010	**1**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

Updated COC received 17/3 10:45

Form: Batch 2 - Declaration Area

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09

Project Name: Barangaroo
Project Number: s4150014
Purchase Order Number: 1303951

Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications: * Bottles include 1 X 1L plastic, 1x 500ml Amber, 2xHCL vials, 2 x H2SO4 vials, 1 x TOC vial, 1 x ultra trace metals, 1 x ferrous iron, 1 x 250 ml Cn, 1 x 250 ml purple

	(Tick) Yes	No	N/A
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐	☐	☐
2. Fast TAT Guarantee Required?	☐	☐	☐
3. Is any sediment layer present in waters to be excluded from extractions?	☐	☐	☐
4. Special storage requirements?	☐	☐	☑
5. Preservation requirement ☐ Fax ☐ Hard copy ☑ Email	☐	☐	☐
6. Other requirements?	☐	☐	☐

7. Report Format: 8. Project Manager: tel:

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	Ice	other	Container (No. & type)	pH	Metals (M13 ultra trace)	Free Cyanide	WAD Cyanide	Cr VI (ultra trace)	TPH C10-C36	SVOC (standard level)	SVOC (ultra trace)	VOCs	Total Sulfur	Dissolved Iron	Nitrate	Ammonia	Total Organic Carbon	Minor Anions	Major Cations & Anions	Remarks & comments
1	MW200	16/03/2010			X		X	X	X		*	X	X	X	X	X	X	X		X	X	X	X	X	X		X	
2	MW209	16/03/2010			X		X	X	X		*	X	X	X	X	X	X	X		X	X	X	X	X	X		X	
3	MW198	16/03/2010			X		X	X	X		*	X	X	X	X	X	X	X		X	X	X	X	X	X		X	
4	QC322	16/03/2010			X		X	X	X		*																	Rinsate
5	QC323	16/03/2010			X		X	X	X		*		X	X	X	X	X	X		X	X	X	X	X	X		X	
*	QC324	16/03/2010			X		X	X	X		*		X	X	X	X	X	X		X	X	X	X	X	X		X	Please forward to laboratory with COC
6	TB302	16/03/2010			X		X	X	X		2 x vials						X				X							
7	QC326	16/03/2010			X		X	X	X		*		X				X				X							Rinsate
8	MW210	16/03/2010			X		X	X	X		*	X	X			X	X	X		X		X	X	X	X		X	

Environmental Division
Sydney
Work Order
ES1004956

Received by:
Date:
Name: Frank Date: 17-3-10
Time:
of: ALS Time: 10:45

Received by:
Date:
Name: Date:
Time:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment ☐	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment ☐	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1004994**	Page	: 1 of 15
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 17-MAR-2010
Sampler	: KP	Issue Date	: 26-MAR-2010
Site	: Barangaroo		
		No. of samples received	: 4
Quote number	: SY/259/09 V2	No. of samples analysed	: 4

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EP074: Level of Reporting raised for toluene due to ambient background levels in the laboratory.**
- **EP075: Insufficient sample has been provided for standard analysis. Where applicable LOR values have been adjusted accordingly.**
- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW62	MW58	MW56	QC237	----
				Client sampling date / time: [17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	----
				ES1004994-001	ES1004994-002	ES1004994-003	ES1004994-004	----
EA005: pH								
pH Value	----	0.01	pH Unit	**8.16**	**5.95**	**5.06**	**5.81**	----
ED009: Anions								
Chloride	16887-00-6	0.50	mg/L	**13700**	**14900**	----	**15000**	----
Fluoride	16984-48-8	0.02	mg/L	<0.02	<0.02	----	<0.02	----
Sulfate	14808-79-8	0.50	mg/L	**434**	**270**	----	**289**	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	----	<1	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	----	<1	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**96**	**744**	----	**726**	----
Total Alkalinity as CaCO3	----	1	mg/L	**96**	**744**	----	**726**	----
ED040T: Total Major Anions								
^ Sulfur as S	----	1	mg/L	**250**	**169**	----	**172**	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**936**	**309**	----	**319**	----
Magnesium	7439-95-4	1	mg/L	**372**	**742**	----	**749**	----
Sodium	7440-23-5	1	mg/L	**8090**	**8840**	----	**9100**	----
Potassium	7440-09-7	1	mg/L	**324**	**306**	----	**318**	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	**0.0001**	<0.0001	----
EG050F Low: Dissolved Hexavalent Chromium - Low								
Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	<0.002	<0.002	**0.006**	----
EG051G: Ferrous Iron by Discrete Analyser								
Ferrous Iron	----	0.05	mg/L	<0.05	**7.84**	----	**7.96**	----
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Arsenic	7440-38-2	0.5	µg/L	**0.6**	**2.4**	**2.5**	**1.8**	----
Barium	7440-39-3	1	µg/L	**492**	**1850**	**464**	**1470**	----
Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	**1.3**	<0.1	----
Cadmium	7440-43-9	0.2	µg/L	<0.2	**3.4**	**1.7**	**3.3**	----
Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	<0.5	**0.8**	----
Cobalt	7440-48-4	0.2	µg/L	**0.2**	**1.0**	**34.2**	**1.0**	----
Copper	7440-50-8	1	µg/L	<1	<1	**17**	<1	----
Lead	7439-92-1	0.2	µg/L	<0.2	**1.2**	**20.0**	**1.5**	----
Manganese	7439-96-5	0.5	µg/L	**89.1**	**226**	**714**	**208**	----
Nickel	7440-02-0	0.5	µg/L	<0.5	**104**	**78.1**	**97.0**	----
Vanadium	7440-62-2	0.5	µg/L	**0.9**	**2.4**	**0.7**	**1.8**	----
Zinc	7440-66-6	5	µg/L	**12**	**89**	**191**	**86**	----
EK025G: Free cyanide by Discrete Analyser								

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW62	MW58	MW56	QC237	----
				Client sampling date / time	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	----
Compound	CAS Number	LOR	Unit		ES1004994-001	ES1004994-002	ES1004994-003	ES1004994-004	----
EK025G: Free cyanide by Discrete Analyser - Continued									
Free Cyanide	----	0.004	mg/L		<0.004	<0.004	<0.004	<0.004	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser									
Weak Acid Dissociable Cyanide	----	0.004	mg/L		**0.008**	<0.004	<0.004	<0.004	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**8.47**	**13.6**	----	**13.8**	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	<0.01	----	<0.01	----
EK058G: Nitrate as N by Discrete Analyser									
^ Nitrate as N	14797-55-8	0.01	mg/L		**0.03**	**0.06**	----	**0.06**	----
EK059G: NOX as N by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.03**	**0.06**	----	**0.06**	----
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	----	0.01	mg/L		**0.28**	**0.27**	----	**0.27**	----
EN055: Ionic Balance									
^ Total Anions	----	0.01	meq/L		**398**	**441**	----	**445**	----
^ Total Cations	----	0.01	meq/L		**438**	**469**	----	**481**	----
^ Ionic Balance	----	0.01	%		**4.74**	**3.06**	----	**3.89**	----
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	1	mg/L		**15**	**15**	**9**	**15**	----
EP074A: Monocyclic Aromatic Hydrocarbons									
Benzene	71-43-2	1	µg/L		<1	<1	**378**	<1	----
Toluene	108-88-3	2	µg/L		<5	<5	**473**	<5	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	**20**	<2	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	**189**	<2	----
Styrene	100-42-5	5	µg/L		<5	<5	**54**	<5	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	**66**	<2	----
Isopropylbenzene	98-82-8	5	µg/L		<5	<5	<5	<5	----
n-Propylbenzene	103-65-1	5	µg/L		<5	<5	<5	<5	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L		<5	<5	**11**	<5	----
sec-Butylbenzene	135-98-8	5	µg/L		<5	<5	<5	<5	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L		<5	<5	**27**	<5	----
tert-Butylbenzene	98-06-6	5	µg/L		<5	<5	<5	<5	----
p-Isopropyltoluene	99-87-6	5	µg/L		<5	<5	<5	<5	----
n-Butylbenzene	104-51-8	5	µg/L		<5	<5	<5	<5	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	50	µg/L		<50	<50	<50	<50	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW62	MW58	MW56	QC237	----
				Client sampling date / time	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	----
Compound	CAS Number	LOR	Unit		ES1004994-001	ES1004994-002	ES1004994-003	ES1004994-004	----
EP074B: Oxygenated Compounds - Continued									
2-Butanone (MEK)	78-93-3	50	µg/L		<50	<50	<50	<50	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		<50	<50	<50	<50	----
2-Hexanone (MBK)	591-78-6	50	µg/L		<50	<50	<50	<50	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		<5	<5	<5	<5	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	5	µg/L		<5	<5	<5	<5	----
1.2-Dichloropropane	78-87-5	5	µg/L		<5	<5	<5	<5	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		<5	<5	<5	<5	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		<5	<5	<5	<5	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		<5	<5	<5	<5	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		<50	<50	<50	<50	----
Chloromethane	74-87-3	50	µg/L		<50	<50	<50	<50	----
Vinyl chloride	75-01-4	50	µg/L		<50	<50	<50	<50	----
Bromomethane	74-83-9	50	µg/L		<50	<50	<50	<50	----
Chloroethane	75-00-3	50	µg/L		<50	<50	<50	<50	----
Trichlorofluoromethane	75-69-4	50	µg/L		<50	<50	<50	<50	----
1.1-Dichloroethene	75-35-4	5	µg/L		<5	<5	<5	<5	----
Iodomethane	74-88-4	5	µg/L		<5	<5	<5	<5	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L		<5	<5	<5	<5	----
1.1-Dichloroethane	75-34-3	5	µg/L		<5	<5	<5	<5	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L		<5	<5	<5	<5	----
1.1.1-Trichloroethane	71-55-6	5	µg/L		<5	<5	<5	<5	----
1.1-Dichloropropylene	563-58-6	5	µg/L		<5	<5	<5	<5	----
Carbon Tetrachloride	56-23-5	5	µg/L		<5	<5	<5	<5	----
1.2-Dichloroethane	107-06-2	5	µg/L		<5	<5	<5	<5	----
Trichloroethene	79-01-6	5	µg/L		<5	<5	<5	<5	----
Dibromomethane	74-95-3	5	µg/L		<5	<5	<5	<5	----
1.1.2-Trichloroethane	79-00-5	5	µg/L		<5	<5	<5	<5	----
1.3-Dichloropropane	142-28-9	5	µg/L		<5	<5	<5	<5	----
Tetrachloroethene	127-18-4	5	µg/L		<5	<5	<5	<5	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		<5	<5	<5	<5	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		<5	<5	<5	<5	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		<5	<5	<5	<5	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		<5	<5	<5	<5	----
1.2.3-Trichloropropane	96-18-4	5	µg/L		<5	<5	<5	<5	----
Pentachloroethane	76-01-7	5	µg/L		<5	<5	<5	<5	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW62	MW58	MW56	QC237	----
				Client sampling date / time	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	----
Compound	CAS Number	LOR	Unit		ES1004994-001	ES1004994-002	ES1004994-003	ES1004994-004	----
EP074E: Halogenated Aliphatic Compounds - Continued									
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		<5	<5	<5	<5	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	5	µg/L		<5	<5	<5	<5	----
Bromobenzene	108-86-1	5	µg/L		<5	<5	<5	<5	----
2-Chlorotoluene	95-49-8	5	µg/L		<5	<5	<5	<5	----
4-Chlorotoluene	106-43-4	5	µg/L		<5	<5	<5	<5	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		<5	<5	<5	<5	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		<5	<5	<5	<5	----
Bromodichloromethane	75-27-4	5	µg/L		<5	<5	<5	<5	----
Dibromochloromethane	124-48-1	5	µg/L		<5	<5	<5	<5	----
Bromoform	75-25-2	5	µg/L		<5	<5	<5	<5	----
EP075A: Phenolic Compounds									
Phenol	108-95-2	0.5	µg/L		<0.9	----	<0.9	----	----
Phenol	108-95-2	2	µg/L		----	<2	----	<2	----
2-Chlorophenol	95-57-8	0.3	µg/L		<0.6	----	<0.6	----	----
2-Chlorophenol	95-57-8	2	µg/L		----	<2	----	<2	----
2-Methylphenol	95-48-7	0.5	µg/L		<0.9	----	<0.9	----	----
2-Methylphenol	95-48-7	2	µg/L		----	<2	----	<2	----
3- & 4-Methylphenol	1319-77-3	0.5	µg/L		<2	----	<2	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L		----	<4	----	<4	----
2-Nitrophenol	88-75-5	0.5	µg/L		<0.9	----	<0.9	----	----
2-Nitrophenol	88-75-5	2	µg/L		----	<2	----	<2	----
2.4-Dimethylphenol	105-67-9	0.5	µg/L		<0.9	----	<0.9	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L		----	<2	----	<2	----
2.4-Dichlorophenol	120-83-2	0.3	µg/L		<0.6	----	<0.6	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L		----	<2	----	<2	----
2.6-Dichlorophenol	87-65-0	0.3	µg/L		<0.6	----	<0.6	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L		----	<2	----	<2	----
4-Chloro-3-Methylphenol	59-50-7	0.3	µg/L		<0.6	----	<0.6	----	----
4-Chloro-3-Methylphenol	59-50-7	2	µg/L		----	<2	----	<2	----
2.4.6-Trichlorophenol	88-06-2	0.3	µg/L		<0.6	----	<0.6	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L		----	<2	----	<2	----
2.4.5-Trichlorophenol	95-95-4	0.3	µg/L		<0.6	----	<0.6	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L		----	<2	----	<2	----
Pentachlorophenol	87-86-5	0.6	µg/L		<1	----	<1	----	----
Pentachlorophenol	87-86-5	4	µg/L		----	<4	----	<4	----
EP075B: Polynuclear Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW62	MW58	MW56	QC237	----
				Client sampling date / time	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	----
Compound	CAS Number	LOR	Unit		ES1004994-001	ES1004994-002	ES1004994-003	ES1004994-004	----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	0.5	µg/L		**7**	----	<0.9	----	----
Naphthalene	91-20-3	2	µg/L		----	<2	----	<2	----
2-Methylnaphthalene	91-57-6	0.5	µg/L		**2**	----	<0.9	----	----
2-Methylnaphthalene	91-57-6	2	µg/L		----	<2	----	<2	----
2-Chloronaphthalene	91-58-7	0.5	µg/L		<0.9	----	<0.9	----	----
2-Chloronaphthalene	91-58-7	2	µg/L		----	<2	----	<2	----
Acenaphthylene	208-96-8	0.5	µg/L		<0.9	----	<0.9	----	----
Acenaphthylene	208-96-8	2	µg/L		----	<2	----	<2	----
Acenaphthene	83-32-9	0.5	µg/L		**1**	----	<0.9	----	----
Acenaphthene	83-32-9	2	µg/L		----	<2	----	<2	----
Fluorene	86-73-7	0.5	µg/L		**1**	----	<0.9	----	----
Fluorene	86-73-7	2	µg/L		----	<2	----	<2	----
Phenanthrene	85-01-8	0.5	µg/L		**4**	----	<0.9	----	----
Phenanthrene	85-01-8	2	µg/L		----	<2	----	<2	----
Anthracene	120-12-7	0.5	µg/L		**1**	----	<0.9	----	----
Anthracene	120-12-7	2	µg/L		----	<2	----	<2	----
Fluoranthene	206-44-0	0.5	µg/L		**2**	----	<0.9	----	----
Fluoranthene	206-44-0	2	µg/L		----	<2	----	<2	----
Pyrene	129-00-0	0.5	µg/L		**2**	----	<0.9	----	----
Pyrene	129-00-0	2	µg/L		----	<2	----	<2	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	µg/L		<0.9	----	<0.9	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L		----	<2	----	<2	----
Benz(a)anthracene	56-55-3	0.5	µg/L		<0.9	----	<0.9	----	----
Benz(a)anthracene	56-55-3	2	µg/L		----	<2	----	<2	----
Chrysene	218-01-9	0.5	µg/L		<0.9	----	<0.9	----	----
Chrysene	218-01-9	2	µg/L		----	<2	----	<2	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L		----	<4	----	<4	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	µg/L		<2	----	<2	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	µg/L		<0.9	----	<0.9	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L		----	<2	----	<2	----
Benzo(a)pyrene	50-32-8	0.3	µg/L		**0.7**	----	<0.6	----	----
Benzo(a)pyrene	50-32-8	2	µg/L		----	<2	----	<2	----
3-Methylcholanthrene	56-49-5	0.5	µg/L		<0.9	----	<0.9	----	----
3-Methylcholanthrene	56-49-5	2	µg/L		----	<2	----	<2	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	µg/L		<0.9	----	<0.9	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L		----	<2	----	<2	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW62	MW58	MW56	QC237	----
				Client sampling date / time	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	----
Compound	CAS Number	LOR	Unit		ES1004994-001	ES1004994-002	ES1004994-003	ES1004994-004	----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Dibenz(a.h)anthracene	53-70-3	0.5	µg/L		<0.9	----	<0.9	----	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L		----	<2	----	<2	----
Benzo(g.h.i)perylene	191-24-2	0.5	µg/L		<0.9	----	<0.9	----	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L		----	<2	----	<2	----
^ Sum of PAHs	----	0.5	µg/L		19	----	<0.9	----	----
^ Sum of PAHs	----	2	µg/L		----	<2	----	<2	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	µg/L		<0.9	----	<0.9	----	----
Dimethyl phthalate	131-11-3	2	µg/L		----	<2	----	<2	----
Diethyl phthalate	84-66-2	0.5	µg/L		<0.9	----	<0.9	----	----
Diethyl phthalate	84-66-2	2	µg/L		----	<2	----	<2	----
Di-n-butyl phthalate	84-74-2	2	µg/L		<2	<2	<2	<2	----
Butyl benzyl phthalate	85-68-7	2	µg/L		<2	<2	<2	<2	----
bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L		<20	<20	<20	<20	----
Di-n-octylphthalate	117-84-0	0.5	µg/L		<0.9	----	<0.9	----	----
Di-n-octylphthalate	117-84-0	2	µg/L		----	<2	----	<2	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	µg/L		<0.9	----	<0.9	----	----
N-Nitrosomethylethylamine	10595-95-6	2	µg/L		----	<2	----	<2	----
N-Nitrosodiethylamine	55-18-5	0.5	µg/L		<0.9	----	<0.9	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L		----	<2	----	<2	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L		----	<4	----	<4	----
N-Nitrosopyrrolidine	930-55-2	1	µg/L		<1	----	<1	----	----
N-Nitrosomorpholine	59-89-2	0.5	µg/L		<0.9	----	<0.9	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L		----	<2	----	<2	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	µg/L		<0.9	----	<0.9	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L		----	<2	----	<2	----
N-Nitrosopiperidine	100-75-4	0.5	µg/L		<0.9	----	<0.9	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L		----	<2	----	<2	----
N-Nitrosodibutylamine	924-16-3	0.5	µg/L		<0.9	----	<0.9	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L		----	<2	----	<2	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L		----	<4	----	<4	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1	µg/L		<2	----	<2	----	----
Methapyrilene	91-80-5	0.5	µg/L		<0.9	----	<0.9	----	----
Methapyrilene	91-80-5	2	µg/L		----	<2	----	<2	----
EP075E: Nitroaromatics and Ketones									

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW62	MW58	MW56	QC237	----
				Client sampling date / time	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	----
Compound	CAS Number	LOR	Unit		ES1004994-001	ES1004994-002	ES1004994-003	ES1004994-004	----
EP075E: Nitroaromatics and Ketones - Continued									
2-Picoline	109-06-8	0.5	µg/L		<0.9	----	<0.9	----	----
2-Picoline	109-06-8	2	µg/L		----	<2	----	<2	----
Acetophenone	98-86-2	0.5	µg/L		<0.9	----	<0.9	----	----
Acetophenone	98-86-2	2	µg/L		----	<2	----	<2	----
Nitrobenzene	98-95-3	0.5	µg/L		<0.9	----	<0.9	----	----
Nitrobenzene	98-95-3	2	µg/L		----	<2	----	<2	----
Isophorone	78-59-1	0.5	µg/L		<0.9	----	<0.9	----	----
Isophorone	78-59-1	2	µg/L		----	<2	----	<2	----
2.6-Dinitrotoluene	606-20-2	4	µg/L		----	<4	----	<4	----
2.6-Dinitrotoluene	606-20-2	1	µg/L		<1	----	<1	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L		----	<4	----	<4	----
2.4-Dinitrotoluene	121-14-2	1	µg/L		<1	----	<1	----	----
1-Naphthylamine	134-32-7	0.5	µg/L		<0.9	----	<0.9	----	----
1-Naphthylamine	134-32-7	2	µg/L		----	<2	----	<2	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	µg/L		<0.9	----	<0.9	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L		----	<2	----	<2	----
5-Nitro-o-toluidine	99-55-8	0.5	µg/L		<0.9	----	<0.9	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L		----	<2	----	<2	----
Azobenzene	103-33-3	0.5	µg/L		<0.9	----	<0.9	----	----
Azobenzene	103-33-3	2	µg/L		----	<2	----	<2	----
1.3.5-Trinitrobenzene	99-35-4	0.5	µg/L		<0.9	----	<0.9	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L		----	<2	----	<2	----
Phenacetin	62-44-2	0.5	µg/L		<0.9	----	<0.9	----	----
Phenacetin	62-44-2	2	µg/L		----	<2	----	<2	----
4-Aminobiphenyl	92-67-1	0.5	µg/L		<0.9	----	<0.9	----	----
4-Aminobiphenyl	92-67-1	2	µg/L		----	<2	----	<2	----
Pentachloronitrobenzene	82-68-8	0.5	µg/L		<0.9	----	<0.9	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L		----	<2	----	<2	----
Pronamide	23950-58-5	0.5	µg/L		<0.9	----	<0.9	----	----
Pronamide	23950-58-5	2	µg/L		----	<2	----	<2	----
Dimethylaminoazobenzene	60-11-7	0.5	µg/L		<0.9	----	<0.9	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L		----	<2	----	<2	----
Chlorobenzilate	510-15-6	0.5	µg/L		<0.9	----	<0.9	----	----
Chlorobenzilate	510-15-6	2	µg/L		----	<2	----	<2	----
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	µg/L		<0.9	----	<0.9	----	----
Bis(2-chloroethyl) ether	111-44-4	2	µg/L		----	<2	----	<2	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	µg/L		<0.9	----	<0.9	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW62	MW58	MW56	QC237	----
				Client sampling date / time: [17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	----
				ES1004994-001	ES1004994-002	ES1004994-003	ES1004994-004	----
EP075F: Haloethers - Continued								
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	----	<2	----	<2	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	µg/L	<0.9	----	<0.9	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	----	<2	----	<2	----
4-Bromophenyl phenyl ether	101-55-3	0.5	µg/L	<0.9	----	<0.9	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	----	<2	----	<2	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	µg/L	<0.9	----	<0.9	----	----
1.3-Dichlorobenzene	541-73-1	2	µg/L	----	<2	----	<2	----
1.4-Dichlorobenzene	106-46-7	0.5	µg/L	<0.9	----	<0.9	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L	----	<2	----	<2	----
1.2-Dichlorobenzene	95-50-1	0.5	µg/L	<0.9	----	<0.9	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L	----	<2	----	<2	----
Hexachloroethane	67-72-1	0.5	µg/L	<0.9	----	<0.9	----	----
Hexachloroethane	67-72-1	2	µg/L	----	<2	----	<2	----
1.2.4-Trichlorobenzene	120-82-1	0.5	µg/L	<0.9	----	<0.9	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	----	<2	----	<2	----
Hexachloropropylene	1888-71-7	0.5	µg/L	<0.9	----	<0.9	----	----
Hexachloropropylene	1888-71-7	2	µg/L	----	<2	----	<2	----
Hexachlorobutadiene	87-68-3	0.5	µg/L	<0.9	----	<0.9	----	----
Hexachlorobutadiene	87-68-3	2	µg/L	----	<2	----	<2	----
Hexachlorocyclopentadiene	77-47-4	0.5	µg/L	<0.9	----	<0.9	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L	----	<10	----	<10	----
Pentachlorobenzene	608-93-5	0.5	µg/L	<0.9	----	<0.9	----	----
Pentachlorobenzene	608-93-5	2	µg/L	----	<2	----	<2	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.9	----	<0.9	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	----	<4	----	<4	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	µg/L	<0.9	----	<0.9	----	----
Aniline	62-53-3	2	µg/L	----	<2	----	<2	----
4-Chloroaniline	106-47-8	0.5	µg/L	<0.9	----	<0.9	----	----
4-Chloroaniline	106-47-8	2	µg/L	----	<2	----	<2	----
2-Nitroaniline	88-74-4	4	µg/L	----	<4	----	<4	----
2-Nitroaniline	88-74-4	1	µg/L	<1	----	<1	----	----
3-Nitroaniline	99-09-2	4	µg/L	----	<4	----	<4	----
3-Nitroaniline	99-09-2	1	µg/L	<1	----	<1	----	----
Dibenzofuran	132-64-9	0.5	µg/L	**1**	----	<0.9	----	----
Dibenzofuran	132-64-9	2	µg/L	----	<2	----	<2	----
4-Nitroaniline	100-01-6	0.5	µg/L	<0.9	----	<0.9	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW62	MW58	MW56	QC237	----
				Client sampling date / time	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	----
Compound	CAS Number	LOR	Unit		ES1004994-001	ES1004994-002	ES1004994-003	ES1004994-004	----
EP075H: Anilines and Benzidines - Continued									
4-Nitroaniline	100-01-6	2	µg/L		----	<2	----	<2	----
Carbazole	86-74-8	0.5	µg/L		4	----	<0.9	----	----
Carbazole	86-74-8	2	µg/L		----	<2	----	<2	----
3.3`-Dichlorobenzidine	91-94-1	0.5	µg/L		<0.9	----	<0.9	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L		----	<2	----	<2	----
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.3	µg/L		<0.6	----	<0.6	----	----
alpha-BHC	319-84-6	2	µg/L		----	<2	----	<2	----
beta-BHC	319-85-7	0.3	µg/L		<0.6	----	<0.6	----	----
beta-BHC	319-85-7	2	µg/L		----	<2	----	<2	----
gamma-BHC	58-89-9	0.3	µg/L		<0.6	----	<0.6	----	----
gamma-BHC	58-89-9	2	µg/L		----	<2	----	<2	----
delta-BHC	319-86-8	0.3	µg/L		<0.6	----	<0.6	----	----
delta-BHC	319-86-8	2	µg/L		----	<2	----	<2	----
Heptachlor	76-44-8	0.3	µg/L		<0.6	----	<0.6	----	----
Heptachlor	76-44-8	2	µg/L		----	<2	----	<2	----
Aldrin	309-00-2	0.3	µg/L		<0.6	----	<0.6	----	----
Aldrin	309-00-2	2	µg/L		----	<2	----	<2	----
Heptachlor epoxide	1024-57-3	0.3	µg/L		<0.6	----	<0.6	----	----
Heptachlor epoxide	1024-57-3	2	µg/L		----	<2	----	<2	----
alpha-Endosulfan	959-98-8	0.3	µg/L		<0.6	----	<0.6	----	----
alpha-Endosulfan	959-98-8	2	µg/L		----	<2	----	<2	----
4.4`-DDE	72-55-9	0.3	µg/L		<0.6	----	<0.6	----	----
4.4`-DDE	72-55-9	2	µg/L		----	<2	----	<2	----
Dieldrin	60-57-1	0.3	µg/L		<0.6	----	<0.6	----	----
Dieldrin	60-57-1	2	µg/L		----	<2	----	<2	----
Endrin	72-20-8	0.3	µg/L		<0.6	----	<0.6	----	----
Endrin	72-20-8	2	µg/L		----	<2	----	<2	----
beta-Endosulfan	33213-65-9	0.3	µg/L		<0.6	----	<0.6	----	----
beta-Endosulfan	33213-65-9	2	µg/L		----	<2	----	<2	----
4.4`-DDD	72-54-8	0.3	µg/L		<0.6	----	<0.6	----	----
4.4`-DDD	72-54-8	2	µg/L		----	<2	----	<2	----
Endosulfan sulfate	1031-07-8	0.3	µg/L		<0.6	----	<0.6	----	----
Endosulfan sulfate	1031-07-8	2	µg/L		----	<2	----	<2	----
4.4`-DDT	50-29-3	0.6	µg/L		<0.9	----	<0.9	----	----
4.4`-DDT	50-29-3	4	µg/L		----	<4	----	<4	----
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.3	µg/L		<0.6	----	<0.6	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW62	MW58	MW56	QC237	----
				Client sampling date / time: [17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	----
				ES1004994-001	ES1004994-002	ES1004994-003	ES1004994-004	----
EP075J: Organophosphorus Pesticides - Continued								
Dichlorvos	62-73-7	2	µg/L	----	<2	----	<2	----
Dimethoate	60-51-5	0.3	µg/L	<0.6	----	<0.6	----	----
Dimethoate	60-51-5	2	µg/L	----	<2	----	<2	----
Diazinon	333-41-5	0.3	µg/L	<0.6	----	<0.6	----	----
Diazinon	333-41-5	2	µg/L	----	<2	----	<2	----
Chlorpyrifos-methyl	5598-13-0	0.3	µg/L	<0.6	----	<0.6	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L	----	<2	----	<2	----
Malathion	121-75-5	0.3	µg/L	<0.6	----	<0.6	----	----
Malathion	121-75-5	2	µg/L	----	<2	----	<2	----
Fenthion	55-38-9	0.3	µg/L	<0.6	----	<0.6	----	----
Fenthion	55-38-9	2	µg/L	----	<2	----	<2	----
Chlorpyrifos	2921-88-2	0.3	µg/L	<0.6	----	<0.6	----	----
Chlorpyrifos	2921-88-2	2	µg/L	----	<2	----	<2	----
Pirimphos-ethyl	23505-41-1	0.3	µg/L	<0.6	----	<0.6	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L	----	<2	----	<2	----
Chlorfenvinphos	470-90-6	0.3	µg/L	<0.6	----	<0.6	----	----
Chlorfenvinphos	470-90-6	2	µg/L	----	<2	----	<2	----
Prothiofos	34643-46-4	0.3	µg/L	<0.6	----	<0.6	----	----
Prothiofos	34643-46-4	2	µg/L	----	<2	----	<2	----
Ethion	563-12-2	0.3	µg/L	<0.6	----	<0.6	----	----
Ethion	563-12-2	2	µg/L	----	<2	----	<2	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	**1460**	<20	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	**440**	<50	----
C15 - C28 Fraction	----	100	µg/L	**1260**	<100	**920**	<100	----
C29 - C36 Fraction	----	50	µg/L	**200**	<50	<50	<50	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	**1460**	<50	**1360**	<50	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**94.7**	**89.0**	**85.1**	**89.7**	----
Toluene-D8	2037-26-5	0.1	%	**102**	**103**	**110**	**101**	----
4-Bromofluorobenzene	460-00-4	0.1	%	**92.1**	**98.7**	**105**	**91.3**	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	**95.0**	**92.5**	**79.5**	**95.1**	----
Phenol-d6	13127-88-3	0.1	%	**43.8**	**44.7**	**32.0**	**41.9**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**95.9**	**98.7**	**77.0**	**88.7**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**120**	**130**	**85.5**	**114**	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	**103**	**105**	**84.2**	**92.8**	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW62	MW58	MW56	QC237	----
				Client sampling date / time	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	[17-MAR-2010]	----
Compound	CAS Number	LOR	Unit		ES1004994-001	ES1004994-002	ES1004994-003	ES1004994-004	----
EP075T: Base/Neutral Extractable Surrogates - Continued									
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%		81.2	89.0	72.4	82.5	----
2-Fluorobiphenyl	321-60-8	0.1	%		107	112	84.8	97.3	----
Anthracene-d10	1719-06-8	0.1	%		122	122	93.7	110	----
4-Terphenyl-d14	1718-51-0	0.1	%		122	124	93.9	110	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		84.2	91.5	106	107	----
Toluene-D8	2037-26-5	0.1	%		99.8	101	106	98.2	----
4-Bromofluorobenzene	460-00-4	0.1	%		88.4	90.3	110	95.8	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	21	100
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	35	114
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

QUALITY CONTROL REPORT

Work Order	: **ES1004994**	Page	: 1 of 17
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: Barangaroo		
C-O-C number	: ----	Date Samples Received	: 17-MAR-2010
Sampler	: KP	Issue Date	: 26-MAR-2010
Order number	: 1303951		
		No. of samples received	: 4
Quote number	: SY/259/09 V2	No. of samples analysed	: 4

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA005: pH (QC Lot: 1283880)									
ES1004988-002	Anonymous	EA005: pH Value	----	0.01	pH Unit	7.72	7.73	0.1	0% - 20%
ES1004994-001	MW62	EA005: pH Value	----	0.01	pH Unit	8.16	8.17	0.1	0% - 20%
ED009: Anions (QC Lot: 1284909)									
ES1004990-016	Anonymous	ED009: Fluoride	16984-48-8	0.02	mg/L	1.47	1.46	0.0	0% - 20%
		ED009: Chloride	16887-00-6	0.50	mg/L	55.2	54.9	0.6	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	9.93	9.86	0.8	0% - 50%
ES1005015-004	Anonymous	ED009: Fluoride	16984-48-8	0.02	mg/L	1.25	1.25	0.0	0% - 20%
		ED009: Chloride	16887-00-6	0.50	mg/L	11.9	12.0	0.6	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	4.21	4.23	0.4	No Limit
ED037P: Alkalinity by PC Titrator (QC Lot: 1288475)									
ES1004906-006	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	273	272	0.4	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	273	272	0.4	0% - 20%
ES1004991-007	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	84	89	5.2	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	84	89	5.2	0% - 20%
ED040T: Total Major Anions (QC Lot: 1286938)									
ES1004956-001	Anonymous	ED040T: Sulfur as S	----	1	mg/L	123	120	2.2	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 1284175)									
ES1004908-002	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	3	4	26.9	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	11	13	21.8	0% - 50%
		ED093F: Sodium	7440-23-5	1	mg/L	46	48	5.4	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	3	3	0.0	No Limit
ES1004991-001	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	8	8	0.0	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	22	22	0.0	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	143	145	1.4	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	8	8	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1285498)									
EB1004717-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1004994-004	QC237	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG050F Low: Dissolved Hexavalent Chromium - Low (QC Lot: 1286715)									
ES1004782-001	Anonymous	EG050F: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	0.002	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG050F Low: Dissolved Hexavalent Chromium - Low (QC Lot: 1286715) - continued									
ES1004956-002	Anonymous	EG050F: Hexavalent Chromium	18540-29-9	0.002	mg/L	0.005	0.004	0.0	No Limit
EG051G: Ferrous Iron by Discrete Analyser (QC Lot: 1284489)									
ES1004994-001	MW62	EG051G: Ferrous Iron	----	0.05	mg/L	<0.05	<0.05	0.0	No Limit
ES1005001-007	Anonymous	EG051G: Ferrous Iron	----	0.05	mg/L	1.96	1.98	0.9	0% - 20%
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QC Lot: 1286942)									
EB1004425-001	Anonymous	EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	0.2	0.0	No Limit
		EG093A-F: Arsenic	7440-38-2	0.5	µg/L	1.3	1.5	15.4	No Limit
		EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	3.3	148	No Limit
		EG093A-F: Manganese	7439-96-5	0.5	µg/L	12.1	11.8	2.6	0% - 20%
		EG093A-F: Nickel	7440-02-0	0.5	µg/L	0.6	3.9	148	No Limit
		EG093A-F: Vanadium	7440-62-2	0.5	µg/L	1.4	1.8	25.8	No Limit
		EG093A-F: Barium	7440-39-3	1	µg/L	19	19	0.0	0% - 50%
		EG093A-F: Copper	7440-50-8	1	µg/L	2	3	0.0	No Limit
		EG093A-F: Zinc	7440-66-6	5	µg/L	11	12	0.0	No Limit
ES1004947-003	Anonymous	EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-F: Cadmium	7440-43-9	0.2	µg/L	0.6	0.5	0.0	No Limit
		EG093A-F: Cobalt	7440-48-4	0.2	µg/L	0.2	0.3	0.0	No Limit
		EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Arsenic	7440-38-2	0.5	µg/L	0.6	0.7	17.2	No Limit
		EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Manganese	7439-96-5	0.5	µg/L	41.0	42.1	2.6	0% - 20%
		EG093A-F: Nickel	7440-02-0	0.5	µg/L	11.6	12.3	5.6	0% - 20%
		EG093A-F: Vanadium	7440-62-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Barium	7440-39-3	1	µg/L	20	20	0.0	0% - 20%
		EG093A-F: Copper	7440-50-8	1	µg/L	11	12	0.0	0% - 50%
		EG093A-F: Zinc	7440-66-6	5	µg/L	6	6	0.0	No Limit
EK025G: Free cyanide by Discrete Analyser (QC Lot: 1288182)									
ES1004994-001	MW62	EK025G: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
ES1005272-008	Anonymous	EK025G: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1288184)									
ES1004994-001	MW62	EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	0.008	0.012	34.3	No Limit
ES1005272-008	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 1284082)									
ES1004991-006	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1005038-005	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	4.74	4.84	2.1	0% - 20%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 1284176)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 1284176) - continued									
ES1004908-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1005038-003	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: NOX as N by Discrete Analyser (QC Lot: 1284081)									
ES1004988-002	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	2.73	2.74	0.0	0% - 20%
ES1004991-008	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.04	0.04	0.0	No Limit
EK071G: Reactive Phosphorus as P by discrete analyser (QC Lot: 1284177)									
ES1004991-002	Anonymous	EK071G: Reactive Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1004991-005	Anonymous	EK071G: Reactive Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EP005: Total Organic Carbon (TOC) (QC Lot: 1284359)									
EP1001463-007	Anonymous	EP005: Total Organic Carbon	----	1	mg/L	644	660	2.4	0% - 20%
ES1004956-002	Anonymous	EP005: Total Organic Carbon	----	1	mg/L	9	8	11.8	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1288732)									
ES1005126-001	Anonymous	EP074: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP074: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
ES1005126-002	Anonymous	EP074: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP074: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1288732) - continued									
ES1005126-002	Anonymous	EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1288732)									
ES1005126-001	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
ES1005126-002	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1288732)									
ES1005126-001	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
ES1005126-002	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1288732)									
ES1005126-001	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
ES1005126-002	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1288732)									
ES1005126-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1288732) - continued									
ES1005126-001	Anonymous	EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
ES1005126-002	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1288732) - continued									
ES1005126-002	Anonymous	EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1288732)									
ES1005126-001	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
ES1005126-002	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1288732)									
ES1005126-001	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
ES1005126-002	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1288733)									
ES1005126-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1005126-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
ED009: Anions (QCLot: 1284909)								
ED009: Chloride	16887-00-6	0.5	mg/L	<0.50	4 mg/L	94.6	70	130
ED009: Fluoride	16984-48-8	0.02	mg/L	<0.02	4 mg/L	96.4	70	130
ED009: Sulfate	14808-79-8	0.5	mg/L	<0.50	4 mg/L	81.8	70	130
ED037P: Alkalinity by PC Titrator (QCLot: 1288475)								
ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	----	200 mg/L	86.0	80.2	108
ED040T: Total Major Anions (QCLot: 1286938)								
ED040T: Sulfur as S	----	1	mg/L	<1	50 mg/L	106	91	119
ED093F: Dissolved Major Cations (QCLot: 1284175)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	93.4	88	110
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	97.6	90	110
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	86.1	81	107
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	95.4	89	109
EG035F: Dissolved Mercury by FIMS (QCLot: 1285498)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	98.7	86	116
EG050F Low: Dissolved Hexavalent Chromium - Low (QCLot: 1286715)								
EG050F: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	0.1 mg/L	99.9	70	130
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 1284489)								
EG051G: Ferrous Iron	----	0.10	mg/L	<0.10	2.00 mg/L	91.2	78.1	115
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1286942)								
EG093A-F: Arsenic	7440-38-2	0.5	µg/L	<0.5	10 µg/L	89.8	85	125
EG093A-F: Barium	7440-39-3	1	µg/L	<1	10 µg/L	92.5	81	129
EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	10 µg/L	105	80	122
EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	10 µg/L	94.2	78	116
EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	10 µg/L	93.0	86	128
EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	10 µg/L	89.7	87	127
EG093A-F: Copper	7440-50-8	1	µg/L	<1	10 µg/L	90.6	86	124
EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	10 µg/L	93.6	87	123
EG093A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	10 µg/L	# 89.8	90	122
EG093A-F: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	# 75.2	84	124
EG093A-F: Vanadium	7440-62-2	0.5	µg/L	<0.5	10 µg/L	88.2	85	123
EG093A-F: Zinc	7440-66-6	5	µg/L	<5	10 µg/L	90.2	82	128
EK025G: Free cyanide by Discrete Analyser (QCLot: 1288182)								
EK025G: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	83.9	70	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1288184)								
EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	74.6	70	129
EK055G: Ammonia as N by Discrete Analyser (QCLot: 1284082)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.00 mg/L	103	79.6	122
EK057G: Nitrite as N by Discrete Analyser (QCLot: 1284176)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.96 mg/L	101	65.1	129
EK059G: NOX as N by Discrete Analyser (QCLot: 1284081)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.96 mg/L	102	76.9	122
EK071G: Reactive Phosphorus as P by discrete analyser (QCLot: 1284177)								
EK071G: Reactive Phosphorus as P	----	0.01	mg/L	<0.01	0.50 mg/L	104	83.8	122
EP005: Total Organic Carbon (TOC) (QCLot: 1284359)								
EP005: Total Organic Carbon	----	1	mg/L	<1	10 mg/L	113	86.9	125
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1288732)								
EP074: Benzene	71-43-2	1	µg/L	<1	10 µg/L	96.7	81	119
EP074: Toluene	108-88-3	2	µg/L	<5	10 µg/L	81.0	76.5	123
EP074: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	93.2	80.3	119
EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	20 µg/L	94.0	81.1	118
EP074: Styrene	100-42-5	5	µg/L	<5	10 µg/L	91.9	79.9	120
EP074: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	96.0	82	118
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	10 µg/L	90.4	80.3	119
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	10 µg/L	84.9	75.5	122
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	10 µg/L	83.8	79.2	118
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	10 µg/L	86.1	76.6	121
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	10 µg/L	84.3	79.7	118
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	10 µg/L	83.2	77.4	120
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	10 µg/L	82.8	76.3	122
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	10 µg/L	82.4	74.4	123
EP074B: Oxygenated Compounds (QCLot: 1288732)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	100 µg/L	102	61.4	134
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	100 µg/L	123	73.6	130
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	100 µg/L	116	74.7	129
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	100 µg/L	121	74.1	130
EP074C: Sulfonated Compounds (QCLot: 1288732)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	10 µg/L	82.5	72.8	127
EP074D: Fumigants (QCLot: 1288732)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	10 µg/L	78.3	72.7	124
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	10 µg/L	96.9	80.7	119
EP074: cis-1.3-Dichloropropylene	10061-01-5	10	µg/L	<10	10 µg/L	82.1	80.4	119

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074D: Fumigants (QCLot: 1288732) - continued								
EP074: trans-1.3-Dichloropropylene	10061-02-6	10	µg/L	<10	10 µg/L	85.0	79.3	120
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	10 µg/L	93.4	79.1	123
EP074E: Halogenated Aliphatic Compounds (QCLot: 1288732)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	100 µg/L	63.2	60.6	138
EP074: Chloromethane	74-87-3	50	µg/L	<50	100 µg/L	86.2	67.4	130
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	100 µg/L	99.2	69.4	129
EP074: Bromomethane	74-83-9	50	µg/L	<50	100 µg/L	111	68.9	131
EP074: Chloroethane	75-00-3	50	µg/L	<50	100 µg/L	95.2	73.9	126
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	100 µg/L	114	71.6	128
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	10 µg/L	88.4	72.5	128
EP074: Iodomethane	74-88-4	5	µg/L	<5	10 µg/L	81.4	70.2	128
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	10 µg/L	88.9	77.4	122
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	10 µg/L	104	79.3	121
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	10 µg/L	106	79.5	121
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	10 µg/L	84.2	75.8	124
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	10 µg/L	88.3	77.8	121
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	10 µg/L	89.4	73.8	126
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	10 µg/L	101	75.5	126
EP074: Trichloroethene	79-01-6	5	µg/L	<5	10 µg/L	98.0	76.7	123
EP074: Dibromomethane	74-95-3	5	µg/L	<5	10 µg/L	99.3	76.1	126
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	10 µg/L	117	79.6	122
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	10 µg/L	112	79.9	122
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	10 µg/L	83.8	75	124
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	10 µg/L	82.2	78.9	121
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	10 µg/L	95.8	61.4	136
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	10 µg/L	101	70.6	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	10 µg/L	104	77.8	126
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	10 µg/L	105	74.1	128
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	10 µg/L	88.8	71.8	126
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	10 µg/L	93.6	66.4	136
EP074F: Halogenated Aromatic Compounds (QCLot: 1288732)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	10 µg/L	101	80.8	119
EP074: Bromobenzene	108-86-1	5	µg/L	<5	10 µg/L	94.0	79.3	119
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	10 µg/L	93.7	78.2	120
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	10 µg/L	86.1	79	119
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	10 µg/L	94.2	68.6	128
EP074G: Trihalomethanes (QCLot: 1288732)								
EP074: Chloroform	67-66-3	5	µg/L	<5	10 µg/L	119	78.2	122
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	10 µg/L	92.7	76.9	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074G: Trihalomethanes (QCLot: 1288732) - continued								
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	10 µg/L	94.8	78.5	124
EP074: Bromoform	75-25-2	5	µg/L	<5	10 µg/L	101	73.5	126
EP075A: Phenolic Compounds (QCLot: 1288737)								
EP075: Phenol	108-95-2	2	µg/L	<2	5 µg/L	43.1	25.5	64.1
EP075: 2-Chlorophenol	95-57-8	2	µg/L	<2	5 µg/L	78.5	63.1	105
EP075: 2-Methylphenol	95-48-7	2	µg/L	<2	5 µg/L	68.2	55.6	98.4
EP075: 3- & 4-Methylphenol	1319-77-3	4	µg/L	<4	10 µg/L	68.3	45	96.2
EP075: 2-Nitrophenol	88-75-5	2	µg/L	<2	5 µg/L	70.6	55.4	110
EP075: 2.4-Dimethylphenol	105-67-9	2	µg/L	<2	5 µg/L	# 58.8	61.7	110
EP075: 2.4-Dichlorophenol	120-83-2	2	µg/L	<2	5 µg/L	74.2	61.9	109
EP075: 2.6-Dichlorophenol	87-65-0	2	µg/L	<2	5 µg/L	78.5	61.5	108
EP075: 4-Chloro-3-Methylphenol	59-50-7	2	µg/L	<2	5 µg/L	76.4	61.4	107
EP075: 2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	5 µg/L	77.0	57.6	112
EP075: 2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	5 µg/L	71.8	58	110
EP075: Pentachlorophenol	87-86-5	4	µg/L	<4	10 µg/L	42.8	2.39	110
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1288737)								
EP075: Naphthalene	91-20-3	2	µg/L	<2	5 µg/L	74.9	61	108
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	5 µg/L	78.4	59	108
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	5 µg/L	69.2	60.6	106
EP075: Acenaphthylene	208-96-8	2	µg/L	<2	5 µg/L	76.0	64	108
EP075: Acenaphthene	83-32-9	2	µg/L	<2	5 µg/L	77.2	65	108
EP075: Fluorene	86-73-7	2	µg/L	<2	5 µg/L	70.3	65.2	107
EP075: Phenanthrene	85-01-8	2	µg/L	<2	5 µg/L	82.0	66.7	108
EP075: Anthracene	120-12-7	2	µg/L	<2	5 µg/L	81.7	65.8	108
EP075: Fluoranthene	206-44-0	2	µg/L	<2	5 µg/L	77.8	64.9	109
EP075: Pyrene	129-00-0	2	µg/L	<2	5 µg/L	81.9	60.1	111
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	5 µg/L	74.8	59.7	110
EP075: Benz(a)anthracene	56-55-3	2	µg/L	<2	5 µg/L	79.4	62.2	112
EP075: Chrysene	218-01-9	2	µg/L	<2	5 µg/L	78.1	59.3	114
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	10 µg/L	76.5	60.1	111
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	5 µg/L	76.4	49.8	107
EP075: Benzo(a)pyrene	50-32-8	2	µg/L	<2	5 µg/L	85.9	59.2	112
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	5 µg/L	75.7	60.1	110
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	5 µg/L	68.3	59.6	110
EP075: Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	5 µg/L	64.5	57.2	109
EP075: Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	5 µg/L	71.4	60.6	110
EP075C: Phthalate Esters (QCLot: 1288737)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	5 µg/L	80.2	64.3	112

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075C: Phthalate Esters (QCLot: 1288737) - continued								
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	5 µg/L	81.3	67.3	111
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	5 µg/L	105	68.4	122
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	5 µg/L	82.0	61.2	114
EP075: bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	<20	5 µg/L	115	72.8	135
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	5 µg/L	87.7	62.1	115
EP075D: Nitrosamines (QCLot: 1288737)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	5 µg/L	62.4	39.5	95.9
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	5 µg/L	89.3	60.6	113
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	5 µg/L	71.5	23.7	82.1
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	5 µg/L	73.5	35.4	86.2
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	5 µg/L	81.9	63.5	108
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	5 µg/L	82.5	61.7	107
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	5 µg/L	90.1	62.5	108
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	10 µg/L	82.9	64.6	112
EP075: Methapyrilene	91-80-5	2	µg/L	<2	5 µg/L	64.2	4.21	94
EP075E: Nitroaromatics and Ketones (QCLot: 1288737)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	5 µg/L	44.0	11.4	100
EP075: Acetophenone	98-86-2	2	µg/L	<2	5 µg/L	77.2	68.3	112
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	5 µg/L	82.0	68.3	112
EP075: Isophorone	78-59-1	2	µg/L	<2	5 µg/L	84.2	67.6	111
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	5 µg/L	78.6	64.4	113
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	5 µg/L	75.0	59.5	109
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	5 µg/L	67.7	46.8	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	5 µg/L	56.8	8.93	98.7
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	5 µg/L	# 115	58.3	106
EP075: Azobenzene	103-33-3	2	µg/L	<2	5 µg/L	81.5	66	112
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	5 µg/L	105	39	105
EP075: Phenacetin	62-44-2	2	µg/L	<2	5 µg/L	75.6	57.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	5 µg/L	# 112	60.1	112
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	5 µg/L	78.7	59	109
EP075: Pronamide	23950-58-5	2	µg/L	<2	5 µg/L	78.2	62.7	109
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	5 µg/L	79.4	59.4	108
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	5 µg/L	88.7	57.7	110
EP075F: Haloethers (QCLot: 1288737)								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	5 µg/L	88.3	69.1	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	5 µg/L	77.4	66.2	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	5 µg/L	71.4	64.7	109
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	5 µg/L	75.2	61.6	108

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075G: Chlorinated Hydrocarbons (QCLot: 1288737)								
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	5 µg/L	65.8	39.1	113
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	5 µg/L	66.0	42	114
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	5 µg/L	65.9	41.3	112
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	5 µg/L	64.8	31	114
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	5 µg/L	66.4	42.9	115
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	5 µg/L	65.4	23.8	111
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	5 µg/L	67.9	37.4	116
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	5 µg/L	77.7	1.88	105
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	5 µg/L	77.7	64.5	107
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	5 µg/L	79.0	65.7	110
EP075H: Anilines and Benzidines (QCLot: 1288737)								
EP075: Aniline	62-53-3	2	µg/L	<2	5 µg/L	73.2	10.9	89.7
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	5 µg/L	90.1	44.4	106
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	5 µg/L	77.5	60.9	110
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	5 µg/L	94.4	51.5	96.9
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	5 µg/L	74.9	65.3	108
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	5 µg/L	96.6	48.9	99.5
EP075: Carbazole	86-74-8	2	µg/L	<2	5 µg/L	# 114	64.3	107
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	5 µg/L	62.9	60.3	119
EP075I: Organochlorine Pesticides (QCLot: 1288737)								
EP075: alpha-BHC	319-84-6	2	µg/L	<2	5 µg/L	81.5	64.3	110
EP075: beta-BHC	319-85-7	2	µg/L	<2	5 µg/L	69.1	59	110
EP075: gamma-BHC	58-89-9	2	µg/L	<2	5 µg/L	82.9	63.7	112
EP075: delta-BHC	319-86-8	2	µg/L	<2	5 µg/L	87.8	60.2	113
EP075: Heptachlor	76-44-8	2	µg/L	<2	5 µg/L	81.9	57.9	108
EP075: Aldrin	309-00-2	2	µg/L	<2	5 µg/L	86.0	57	113
EP075: Heptachlor epoxide	1024-57-3	2	µg/L	<2	5 µg/L	82.4	60.3	112
EP075: alpha-Endosulfan	959-98-8	2	µg/L	<2	5 µg/L	109	52.5	115
EP075: 4.4`-DDE	72-55-9	2	µg/L	<2	5 µg/L	85.8	64.1	111
EP075: Dieldrin	60-57-1	2	µg/L	<2	5 µg/L	87.4	65	113
EP075: Endrin	72-20-8	2	µg/L	<2	5 µg/L	80.0	51.1	112
EP075: beta-Endosulfan	33213-65-9	2	µg/L	<2	5 µg/L	82.4	60.4	111
EP075: 4.4`-DDD	72-54-8	2	µg/L	<2	5 µg/L	82.9	59.8	115
EP075: Endosulfan sulfate	1031-07-8	2	µg/L	<2	5 µg/L	# 115	52.8	114
EP075: 4.4`-DDT	50-29-3	4	µg/L	<4	5 µg/L	85.7	41.3	114
EP075J: Organophosphorus Pesticides (QCLot: 1288737)								
EP075: Dichlorvos	62-73-7	2	µg/L	<2	5 µg/L	77.4	52	118
EP075: Dimethoate	60-51-5	2	µg/L	<2	5 µg/L	86.1	46.8	114
EP075: Diazinon	333-41-5	2	µg/L	<2	5 µg/L	103	54	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075J: Organophosphorus Pesticides (QCLot: 1288737) - continued								
EP075: Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	5 µg/L	86.8	54.1	116
EP075: Malathion	121-75-5	2	µg/L	<2	5 µg/L	91.6	57.6	118
EP075: Fenthion	55-38-9	2	µg/L	<2	5 µg/L	83.6	50.1	117
EP075: Chlorpyrifos	2921-88-2	2	µg/L	<2	5 µg/L	84.0	59.2	113
EP075: Pirimphos-ethyl	23505-41-1	2	µg/L	<2	5 µg/L	68.0	52.6	115
EP075: Chlorfenvinphos	470-90-6	2	µg/L	<2	6 µg/L	76.0	44.6	95.8
EP075: Prothiofos	34643-46-4	2	µg/L	<2	5 µg/L	78.1	56.8	116
EP075: Ethion	563-12-2	2	µg/L	<2	5 µg/L	94.4	48.6	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1288733)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	99.4	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1288738)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	84.0	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	111	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	89.0	62.7	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED009: Anions (QCLot: 1284909)							
ES1004990-016	Anonymous	ED009: Chloride	16887-00-6	4 mg/L	# Not Determined	70	130
		ED009: Fluoride	16984-48-8	0.2 mg/L	# Not Determined	70	130
		ED009: Sulfate	14808-79-8	4 mg/L	118	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1285498)							
ES1004956-002	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	96.1	70	130
EG050F Low: Dissolved Hexavalent Chromium - Low (QCLot: 1286715)							
ES1004782-001	Anonymous	EG050F: Hexavalent Chromium	18540-29-9	0.25 mg/L	97.7	70	130
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 1284489)							
ES1004994-001	MW62	EG051G: Ferrous Iron	----	1.00 mg/L	101	70	130
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1286942)							
EB1004425-001	Anonymous	EG093A-F: Arsenic	7440-38-2	50 µg/L	79.4	70	130
		EG093A-F: Barium	7440-39-3	50 µg/L	88.6	70	130
		EG093A-F: Beryllium	7440-41-7	50 µg/L	91.1	70	130
		EG093A-F: Cadmium	7440-43-9	12.5 µg/L	85.5	70	130
		EG093A-F: Chromium	7440-47-3	50 µg/L	70.7	70	130
		EG093A-F: Cobalt	7440-48-4	50 µg/L	79.5	70	130
		EG093A-F: Copper	7440-50-8	50 µg/L	80.5	70	130
		EG093A-F: Lead	7439-92-1	50 µg/L	84.4	70	130
		EG093A-F: Manganese	7439-96-5	50 µg/L	79.5	70	130
		EG093A-F: Nickel	7440-02-0	50 µg/L	71.4	70	130
		EG093A-F: Vanadium	7440-62-2	50 µg/L	78.4	70	130
		EG093A-F: Zinc	7440-66-6	50 µg/L	78.3	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1288182)							
ES1004994-001	MW62	EK025G: Free Cyanide	----	0.2 mg/L	104	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1288184)							
ES1004994-001	MW62	EK028G: Weak Acid Dissociable Cyanide	----	0.2 mg/L	81.2	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 1284082)							
ES1004991-006	Anonymous	EK055G: Ammonia as N	7664-41-7	1.00 mg/L	96.1	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 1284176)							
ES1004908-001	Anonymous	EK057G: Nitrite as N	----	0.60 mg/L	96.3	70	130
EK059G: NOX as N by Discrete Analyser (QCLot: 1284081)							
ES1004988-002	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.6 mg/L	# Not Determined	70	130
EK071G: Reactive Phosphorus as P by discrete analyser (QCLot: 1284177)							

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: Spike Recovery (%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EK071G: Reactive Phosphorus as P by discrete analyser (QCLot: 1284177) - continued							
ES1004991-002	Anonymous	EK071G: Reactive Phosphorus as P	----	0.50 mg/L	101	70	130
EP005: Total Organic Carbon (TOC) (QCLot: 1284359)							
EP1001463-008	Anonymous	EP005: Total Organic Carbon	----	100 mg/L	# Not Determined	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1288732)							
ES1005126-001	Anonymous	EP074: Benzene	71-43-2	25 µg/L	102	70	130
		EP074: Toluene	108-88-3	25 µg/L	128	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1288732)							
ES1005126-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	25 µg/L	103	70	130
		EP074: Trichloroethene	79-01-6	25 µg/L	106	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1288732)							
ES1005126-001	Anonymous	EP074: Chlorobenzene	108-90-7	25 µg/L	113	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1288733)							
ES1005126-001	Anonymous	EP080: C6 - C9 Fraction	----	250 µg/L	116	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1004994**	Page	: 1 of 12
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: Barangaroo		
C-O-C number	: ----	Date Samples Received	: 17-MAR-2010
Sampler	: KP	Issue Date	: 26-MAR-2010
Order number	: 1303951		
		No. of samples received	: 4
Quote number	: SY/259/09 V2	No. of samples analysed	: 4

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non-volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA005: pH							
Clear Plastic Bottle - Natural							
MW62, MW58, MW56, QC237	**17-MAR-2010**	**----**	----	----	**18-MAR-2010**	17-MAR-2010	×
ED009: Anions							
Clear Plastic Bottle - Natural							
MW62, MW58, QC237	**17-MAR-2010**	**----**	----	----	**20-MAR-2010**	14-APR-2010	✓
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural							
MW62, MW58, QC237	**17-MAR-2010**	**---**	---	----	**23-MAR-2010**	31-MAR-2010	✓
ED040T: Total Major Anions							
Clear Plastic Bottle - Natural							
MW62, MW58, QC237	**17-MAR-2010**	**22-MAR-2010**	---	----	**23-MAR-2010**	14-APR-2010	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Natural							
MW62, MW58, QC237	**17-MAR-2010**	**---**	---	----	**19-MAR-2010**	24-MAR-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW62, MW58, MW56, QC237	**17-MAR-2010**	**---**	---	----	**22-MAR-2010**	14-APR-2010	✓
EG050F Low: Dissolved Hexavalent Chromium - Low							
Clear Plastic Bottle - Natural							
MW62, MW58, MW56, QC237	**17-MAR-2010**	**----**	----	----	**22-MAR-2010**	18-MAR-2010	×

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG051G: Ferrous Iron by Discrete Analyser							
Clear Plastic Bottle - HCl - Filtered							
MW62, MW58, QC237	**17-MAR-2010**	**----**	----	----	**18-MAR-2010**	24-MAR-2010	✓
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW62, MW58, MW56, QC237	**17-MAR-2010**	**22-MAR-2010**	---	----	**22-MAR-2010**	13-SEP-2010	✓
EK025G: Free cyanide by Discrete Analyser							
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW62, MW58, MW56, QC237	**17-MAR-2010**	**23-MAR-2010**	31-MAR-2010	✓	**23-MAR-2010**	31-MAR-2010	✓
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW62, MW58, MW56, QC237	**17-MAR-2010**	**23-MAR-2010**	31-MAR-2010	✓	**23-MAR-2010**	31-MAR-2010	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulphuric Acid							
MW62, MW58, QC237	**17-MAR-2010**	**---**	---	----	**18-MAR-2010**	14-APR-2010	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural							
MW62, MW58, QC237	**17-MAR-2010**	**---**	---	----	**18-MAR-2010**	19-MAR-2010	✓
EK059G: NOX as N by Discrete Analyser							
Clear Plastic Bottle - Sulphuric Acid							
MW62, MW58, QC237	**17-MAR-2010**	**---**	---	----	**18-MAR-2010**	14-APR-2010	✓
EK071G: Reactive Phosphorus as P by discrete analyser							
Clear Plastic Bottle - Natural							
MW62, MW58, QC237	**17-MAR-2010**	**---**	---	----	**18-MAR-2010**	19-MAR-2010	✓
EP005: Total Organic Carbon (TOC)							
Amber TOC Vial - Sulphuric Acid							
MW62, MW58, MW56, QC237	**17-MAR-2010**	**----**	----	----	**18-MAR-2010**	14-APR-2010	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - HCl							
MW62, MW58, MW56, QC237	**17-MAR-2010**	**---**	---	----	**23-MAR-2010**	31-MAR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074B: Oxygenated Compounds								
Amber VOC Vial - HCl								
MW62,	MW58,	**17-MAR-2010**	**---**	---	----	**23-MAR-2010**	31-MAR-2010	✓
MW56,	QC237							
EP074C: Sulfonated Compounds								
Amber VOC Vial - HCl								
MW62,	MW58,	**17-MAR-2010**	**---**	---	----	**23-MAR-2010**	31-MAR-2010	✓
MW56,	QC237							
EP074D: Fumigants								
Amber VOC Vial - HCl								
MW62,	MW58,	**17-MAR-2010**	**---**	---	----	**23-MAR-2010**	31-MAR-2010	✓
MW56,	QC237							
EP074E: Halogenated Aliphatic Compounds								
Amber VOC Vial - HCl								
MW62,	MW58,	**17-MAR-2010**	**---**	---	----	**23-MAR-2010**	31-MAR-2010	✓
MW56,	QC237							
EP074F: Halogenated Aromatic Compounds								
Amber VOC Vial - HCl								
MW62,	MW58,	**17-MAR-2010**	**---**	---	----	**23-MAR-2010**	31-MAR-2010	✓
MW56,	QC237							
EP074G: Trihalomethanes								
Amber VOC Vial - HCl								
MW62,	MW58,	**17-MAR-2010**	**---**	---	----	**23-MAR-2010**	31-MAR-2010	✓
MW56,	QC237							
EP075A: Phenolic Compounds								
Amber Glass Bottle - Unpreserved								
MW62,	MW58,	**17-MAR-2010**	**23-MAR-2010**	24-MAR-2010	✓	**24-MAR-2010**	02-MAY-2010	✓
MW56,	QC237							
EP075B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved								
MW62,	MW58,	**17-MAR-2010**	**23-MAR-2010**	24-MAR-2010	✓	**24-MAR-2010**	02-MAY-2010	✓
MW56,	QC237							
EP075C: Phthalate Esters								
Amber Glass Bottle - Unpreserved								
MW62,	MW58,	**17-MAR-2010**	**23-MAR-2010**	24-MAR-2010	✓	**24-MAR-2010**	02-MAY-2010	✓
MW56,	QC237							
EP075D: Nitrosamines								
Amber Glass Bottle - Unpreserved								
MW62,	MW58,	**17-MAR-2010**	**23-MAR-2010**	24-MAR-2010	✓	**24-MAR-2010**	02-MAY-2010	✓
MW56,	QC237							

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075E: Nitroaromatics and Ketones								
Amber Glass Bottle - Unpreserved								
MW62,	MW58,	**17-MAR-2010**	**23-MAR-2010**	24-MAR-2010	✓	**24-MAR-2010**	02-MAY-2010	✓
MW56,	QC237							
EP075F: Haloethers								
Amber Glass Bottle - Unpreserved								
MW62,	MW58,	**17-MAR-2010**	**23-MAR-2010**	24-MAR-2010	✓	**24-MAR-2010**	02-MAY-2010	✓
MW56,	QC237							
EP075G: Chlorinated Hydrocarbons								
Amber Glass Bottle - Unpreserved								
MW62,	MW58,	**17-MAR-2010**	**23-MAR-2010**	24-MAR-2010	✓	**24-MAR-2010**	02-MAY-2010	✓
MW56,	QC237							
EP075H: Anilines and Benzidines								
Amber Glass Bottle - Unpreserved								
MW62,	MW58,	**17-MAR-2010**	**23-MAR-2010**	24-MAR-2010	✓	**24-MAR-2010**	02-MAY-2010	✓
MW56,	QC237							
EP075I: Organochlorine Pesticides								
Amber Glass Bottle - Unpreserved								
MW62,	MW58,	**17-MAR-2010**	**23-MAR-2010**	24-MAR-2010	✓	**24-MAR-2010**	02-MAY-2010	✓
MW56,	QC237							
EP075J: Organophosphorus Pesticides								
Amber Glass Bottle - Unpreserved								
MW62,	MW58,	**17-MAR-2010**	**23-MAR-2010**	24-MAR-2010	✓	**24-MAR-2010**	02-MAY-2010	✓
MW56,	QC237							
EP080/071: Total Petroleum Hydrocarbons								
Amber Glass Bottle - Unpreserved								
MW62,	MW58,	**17-MAR-2010**	**23-MAR-2010**	24-MAR-2010	✓	**24-MAR-2010**	02-MAY-2010	✓
MW56,	QC237							
Amber VOC Vial - HCl								
MW62,	MW58,	**17-MAR-2010**	**---**	---	----	**23-MAR-2010**	31-MAR-2010	✓
MW56,	QC237							

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ammonia as N by Discrete analyser	EK055G	2	13	**15.4**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	2	17	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	2	17	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ferrous Iron by Discrete Analyser	EG051G	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	2	14	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	6	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH	EA005	2	14	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	2	16	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	19	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	2	18	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	2	12	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ammonia as N by Discrete analyser	EK055G	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ferrous Iron by Discrete Analyser	EG051G	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
TPH Volatiles/BTEX	EP080	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ferrous Iron by Discrete Analyser	EG051G	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	13	**7.7**	**5.0**	✓	ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	11	**9.1**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Ferrous Iron by Discrete Analyser	EG051G	1	11	**9.1**	**5.0**	✓	ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	14	**7.1**	**5.0**	✓	ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	15	**6.7**	**5.0**	✓	ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	16	**6.3**	**5.0**	✓	ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Total Organic Carbon	EP005	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	19	**5.3**	**5.0**	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	18	**5.6**	**5.0**	✓	ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	12	**8.3**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH	EA005	WATER	APHA 21st ed. 4500 H+ B. pH of water samples is determined by ISE either manually or by automated pH meter. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Standard Anions	* ED009	WATER	APHA 21st ed., 4110. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Alkalinity by PC Titrator	ED037-P	WATER	APHA 21st ed., 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Major Anions - Total	ED040T	WATER	APHA 21st ed., 3120 Samples are digested by USEPA 3005 prior to analysis. Sulfur content is determined by ICP/AES and reported as Sulfate after conversion by gravimetric factor.
Major Cations - Dissolved	ED093F	WATER	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises the 0.45um filtered sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Hexavalent Chromium - Low Level	EG050F Low	WATER	APHA 21st ed., 3500 Cr-B. Samples are 0.45 um filtered prior to analysis. Hexavalent chromium is determined on filtered water sample as received by pH adjustment and colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Ferrous Iron by Discrete Analyser	EG051G	WATER	APHA 21st ed., 3500 Fe-B. A colorimetric determination based on the reaction between phenanthroline and ferrous iron at pH 3.2-3.3 to form an orange-red complex that is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	WATER	APHA 21st ed., 3125; USEPA SW846 - 6020 Samples are 0.45 um filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Free CN by Discrete Analyser	EK025G	WATER	APHA 21st ed., 4500-CN-C&N Free Cyanide is determined on samples after distillation using a pyridine-barbituric acid colouring reagent followed with an Discrete Analyser finish. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	WATER	APHA 21st ed., 4500-CN-C&N WAD Cyanide is determined from aqueous solutions after distillation with acetic acid. The resultant distillate is then captured in a caustic absorber solution followed by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Analytical Methods	Method	Matrix	Method Descriptions
Ammonia as N by Discrete analyser	EK055G	WATER	APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrite as N by Discrete Analyser	EK057G	WATER	APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrate as N by Discrete Analyser	EK058G	WATER	APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a cadmium reduction column followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Cadmium Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Reactive Phosphorus as P-By Discrete Analyser	EK071G	WATER	APHA 21st ed., 4500-P F Ammonium molybdate and potassium antimonyl tartrate reacts in acid medium with othophosphate to form a heteropoly acid -phosphomolybdic acid - which is reduced to intensely coloured molybdenum blue by ascorbic acid. Quantification is by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Ionic Balance by IC PCT and ICPAES	EN055 - IC ED009	WATER	APHA 21st Ed. 1030F. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Organic Carbon	EP005	WATER	APHA 21st ed., 5310 B, The automated TOC analyzer determines Total and Inorganic Carbon by IR cell. TOC is calculated as the difference. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Volatile Organic Compounds	EP074	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Semivolatile Organic Compounds	EP075	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Free Cyanide	EK025-PR	WATER	APHA 21st ed., 4500 CN- C&N. The sample is distilled at natural pH. The CN is trapped in a caustic solution, and quanitified by colourimetry on FIA. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Weak Acid Dissociable Cyanide	EK028-PR	WATER	APHA 21st ed., 4500 CN- I&N. The sample is distilled with Acetic acid, selectively releasing the weakly bound metal cyanides as HCN. The CN is trapped in a caustic solution, and quanitified by colourimetry on FIA. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG093F: Dissolved Metals in Saline Water by ORC-ICP	1490793-003	----	**Manganese**	7439-96-5	89.8 %	90-122%	**Recovery less than lower control limit**
EG093F: Dissolved Metals in Saline Water by ORC-ICP	1490793-003	----	**Nickel**	7440-02-0	75.2 %	84-124%	**Recovery less than lower control limit**
EP075A: Phenolic Compounds	1492961-002	----	**2.4-Dimethylphenol**	105-67-9	58.8 %	61.7-110%	**Recovery less than lower control limit**
EP075E: Nitroaromatics and Ketones	1492961-002	----	**5-Nitro-o-toluidine**	99-55-8	115 %	58.3-106%	**Recovery greater than upper control limit**
EP075E: Nitroaromatics and Ketones	1492961-002	----	**4-Aminobiphenyl**	92-67-1	112 %	60.1-112%	**Recovery greater than upper control limit**
EP075H: Anilines and Benzidines	1492961-002	----	**Carbazole**	86-74-8	114 %	64.3-107%	**Recovery greater than upper control limit**
EP075I: Organochlorine Pesticides	1492961-002	----	**Endosulfan sulfate**	1031-07-8	115 %	52.8-114%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
ED009: Anions	ES1004990-016	Anonymous	**Chloride**	16887-00-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
ED009: Anions	ES1004990-016	Anonymous	**Fluoride**	16984-48-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK059G: NOX as N by Discrete Analyser	ES1004988-002	Anonymous	**Nitrite + Nitrate as N**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP005: Total Organic Carbon (TOC)	EP1001463-008	Anonymous	**Total Organic Carbon**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP074S: VOC Surrogates	ES1004994-003	MW56	**Toluene-D8**	2037-26-5	110 %	88-110 %	**Recovery greater than upper data quality objective**
EP075S: Acid Extractable Surrogates	ES1004994-002	MW58	**2.4.6-Tribromophenol**	118-79-6	130 %	10-123 %	**Recovery greater than upper data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **WATER**

Method	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)	Date extracted	Due for extraction	**Days overdue**	Date analysed	Due for analysis	**Days overdue**
EA005: pH						
Clear Plastic Bottle - Natural						
MW62, MW58, MW56, QC237	----	----	----	18-MAR-2010	17-MAR-2010	**1**
EG050F Low: Dissolved Hexavalent Chromium - Low						
Clear Plastic Bottle - Natural						
MW62, MW58, MW56, QC237	----	----	----	22-MAR-2010	18-MAR-2010	**4**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1004994**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014	Page	: 1 of 3
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: Barangaroo		
Sampler	: KP	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 17-MAR-2010	Issue Date	: 19-MAR-2010 09:45
Client Requested Due Date	: 25-MAR-2010	Scheduled Reporting Date	: **25-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 8.1'C - Ice present
No. of coolers/boxes	: 2 HARD	No. of samples received	: 4
Sercurity Seal	: Intact.	No. of samples analysed	: 4

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Breaches in recommended extraction / analysis holding times may occur. Please contact ALS for further information (Jacob Waugh).**
- **Appropriately preserved bottle not supplied for Cr6+ analysis, lab will subsample from natural bottle provided.**
- **pH analysis should be conducted within 6 hours of sampling.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EA005: pH pH	WATER - ED040T Total Major Anions	WATER - EG035F Dissolved Mercury by FIMS	WATER - EG050F Low Dissolved hexavelent Chromium - Low Level	WATER - EG051G Ferrous Iron by Discrete Analyser	WATER - EG093A-F Dissolved metals in saline water by ORC-ICPMS	WATER - EK025G Free CN By Discrete Analyser	WATER - EK028G Weak Acid Dissociable Cyanide By Discrete Analyser
ES1004994-001	[17-MAR-2010]	MW62	✓	✓	✓	✓	✓	✓	✓	✓
ES1004994-002	[17-MAR-2010]	MW58	✓	✓	✓	✓	✓	✓	✓	✓
ES1004994-003	[17-MAR-2010]	MW56	✓		✓	✓		✓	✓	✓
ES1004994-004	[17-MAR-2010]	QC237	✓	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EK055G Ammonia as N By Discrete Analyser	WATER - EN055 - IC ED009 Ionic Balance (IC)	WATER - EP005 Total Organic Carbon (TOC)	WATER - EP074 (water) Volatile Organic Compounds	WATER - EP075 (WC) SVOC at WC LOR	WATER - NT-01 Major Cations (Ca, Mg, Na, K)	WATER - NT-02 (IC) Major Anions (Cl, SO4, Alkalinity)	WATER - NT-03 (IC) Minor Anions (Nitrite, Nitrate, Fluoride, Reactive-P)
ES1004994-001	[17-MAR-2010]	MW62	✓	✓	✓	✓	✓	✓	✓	✓
ES1004994-002	[17-MAR-2010]	MW58	✓	✓	✓			✓	✓	✓
ES1004994-003	[17-MAR-2010]	MW56			✓	✓	✓			
ES1004994-004	[17-MAR-2010]	QC237	✓	✓	✓			✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - TPH TPH (fractions)	WATER - W-23 SVOC/VOC
ES1004994-001	[17-MAR-2010]	MW62	✓	
ES1004994-002	[17-MAR-2010]	MW58	✓	✓
ES1004994-003	[17-MAR-2010]	MW56	✓	
ES1004994-004	[17-MAR-2010]	QC237	✓	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

Form: Declaration Area

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email: anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09

Project Name: Barangaroo
Project Number: s4150014
Purchase Order Number: 1303951

Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications: * Bottles include 1 X 1L plastic, 1x 500ml Amber, 2xHCL vials, 2 x H2SO4 vials, 1 x TOC vial, 1 x ultra trace metals, 1 x ferrous iron, 1 x 250 ml Cn, 1 x 250 ml purple

	(Tick) Yes	No	N/A
1. Urgent TAT required? (please circle: 24hr 48hr _____days)			
2. Fast TAT Guarantee Required?	☐	☐	☐
3. Is any sediment layer present in waters to be excluded from extractions?	☐	☐	☐
4. Special storage requirements?	☐	☐	☑
5. Preservation requirements ☐ Fax ☐ Hard copy ☑ Email	☐	☐	☐
6. Other requirements?	☐	☐	☐

7. Report Format: 8. Project Manager: tel:

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	pH	Metals (M13 ultra trace)	Free Cyanide	WAD Cyanide	Cr VI (ultra trace)	TPH C6-C36	SVOC (standard level)	SVOC (ultra trace)	VOCs	Total Sulfur	Dissolved Iron	Nitrate	Ammonia	Total Organic Carbon	Minor Cations and Anions	Minor Anions	Remarks & comments
1	MW62	17/03/2010			X		X	X	X		*	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	
2	MW58	17/03/2010			X		X	X	X		*	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	
3	MW56	17/03/2010			X		X	X	X		*	X	X	X	X	X	X		X	X					X			
4	QC237	17/03/2010			X		X	X	X		*	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	

Relinquished By:
Name: Anthoyhn Davis
Date: 17 Mar 2010
Time:
of:

Received by:
Name: FADI
Date: 17/3/10
Time: 8pm
of: ALS

Relinquished By:
Name:
Date:
Time:
of:

Received by:
Name:
Date:
Time:
of:

Received in good condition?	Yes/No/NA	Method of	
Samples received chilled?	Yes/No/NA	Consignm	
	Yes/No/NA	Transport	
Received in good condition?	Yes/No/NA	Method of	
Samples received chilled?	Yes/No/NA	Consignm	
	Yes/No/NA	Transport	

Environmental Division
Sydney
Work Order
ES1004994

Telephone : +61-2-8784 8555

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ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1005244**	Page	: 1 of 32
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 19-MAR-2010
Sampler	: KP/KO	Issue Date	: 29-MAR-2010
Site	: ----		
		No. of samples received	: 14
Quote number	: SY/259/09 V2	No. of samples analysed	: 13

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG020A-F: LOR raised for Chromium due to matrix interference.**
- **EK055G LOR raised for Ammonia on the sample ID (MW52, MW45) due to sample matrix..**
- **EP074/EP080: Sample MW205 results invalidated due to sample matrix not suitable for volatile analysis.**
- **EP074: Level of Reporting raised for toluene due to ambient background levels in the laboratory.**
- **EP075: Particular samples required dilution prior to extraction due to matrix interferences. LOR values have been adjusted accordingly. Surrogate was not determined due to sample matrix interferences.**
- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**
- **EP080/EP074: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW68 Client sampling date / time: 18-MAR-2010 15:00 ES1005244-001	MW74 18-MAR-2010 15:00 ES1005244-002	MW54 19-MAR-2010 15:00 ES1005244-003	MW52 19-MAR-2010 15:00 ES1005244-004	MW45 19-MAR-2010 15:00 ES1005244-005
EA005: pH								
pH Value	----	0.01	pH Unit	**6.88**	**6.37**	**6.39**	**6.90**	**6.25**
ED009: Anions								
Chloride	16887-00-6	0.50	mg/L	**13400**	----	**36.5**	**17900**	**17000**
Fluoride	16984-48-8	0.02	mg/L	**0.65**	----	**0.40**	**1.09**	**0.40**
Sulfate	14808-79-8	0.50	mg/L	**1440**	----	**103**	**2510**	**2100**
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**375**	----	**744**	**133**	**44**
Total Alkalinity as CaCO3	----	1	mg/L	**375**	----	**744**	**133**	**44**
ED040T: Total Major Anions								
^ Sulfur as S	----	1	mg/L	**487**	----	**33**	**863**	**588**
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**460**	----	**92**	**487**	**588**
Magnesium	7439-95-4	1	mg/L	**714**	----	**40**	**1210**	**1120**
Sodium	7440-23-5	1	mg/L	**7650**	----	**180**	**11300**	**9850**
Potassium	7440-09-7	1	mg/L	**260**	----	**23**	**429**	**259**
EG020F: Dissolved Metals by ICP-MS								
Iron	7439-89-6	0.05	mg/L	**5.21**	----	**5.74**	<0.50	**187**
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	**0.0001**	<0.0001	<0.0001
EG050 Low: Total Hexavalent Chromium - Low								
Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	**0.010**	**0.019**	**0.003**	<0.002
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Arsenic	7440-38-2	0.5	µg/L	**0.6**	**1.0**	----	**2.1**	**1.1**
Barium	7440-39-3	1	µg/L	**217**	**179**	----	**74**	**62**
Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	----	<0.1	**0.1**
Cadmium	7440-43-9	0.2	µg/L	<0.2	**1.0**	----	<0.2	**11.5**
Chromium	7440-47-3	0.5	µg/L	<0.5	**0.6**	----	<0.5	<0.5
Cobalt	7440-48-4	0.2	µg/L	**0.4**	**0.3**	----	**1.3**	**8.0**
Copper	7440-50-8	1	µg/L	<1	<1	----	<1	<1
Lead	7439-92-1	0.2	µg/L	**0.7**	<0.2	----	**0.3**	**0.2**
Manganese	7439-96-5	0.5	µg/L	**469**	**251**	----	**679**	**4890**
Nickel	7440-02-0	0.5	µg/L	**1.7**	**17.1**	----	**6.7**	**36.0**
Vanadium	7440-62-2	0.5	µg/L	**1.4**	**1.8**	----	**1.5**	<0.5
Zinc	7440-66-6	5	µg/L	**14**	**18**	----	**16**	**14**
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS								

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW68	MW74	MW54	MW52	MW45
				Client sampling date / time: 18-MAR-2010 15:00	18-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00
				ES1005244-001	ES1005244-002	ES1005244-003	ES1005244-004	ES1005244-005
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS - Continued								
Arsenic	7440-38-2	0.2	µg/L	----	----	**5.4**	----	----
Barium	7440-39-3	0.5	µg/L	----	----	**136**	----	----
Beryllium	7440-41-7	0.1	µg/L	----	----	<0.1	----	----
Cadmium	7440-43-9	0.05	µg/L	----	----	<0.05	----	----
Chromium	7440-47-3	0.2	µg/L	----	----	**1.0**	----	----
Cobalt	7440-48-4	0.1	µg/L	----	----	**6.0**	----	----
Copper	7440-50-8	0.5	µg/L	----	----	<0.5	----	----
Lead	7439-92-1	0.1	µg/L	----	----	**0.2**	----	----
Manganese	7439-96-5	0.5	µg/L	----	----	**509**	----	----
Nickel	7440-02-0	0.5	µg/L	----	----	**72.6**	----	----
Vanadium	7440-62-2	0.2	µg/L	----	----	**1.9**	----	----
Zinc	7440-66-6	1	µg/L	----	----	**65**	----	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	0.004	mg/L	<0.004	<0.004	<0.004	**0.007**	<0.004
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	<0.004	**0.008**	<0.004
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	**5.46**	----	**10.8**	<0.10	<0.10
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	**0.01**	----	<0.01	**0.02**	<0.01
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	**0.05**	----	<0.01	**0.10**	**0.03**
EK059G: NOX as N by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.06**	----	<0.01	**0.12**	**0.03**
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	----	0.01	mg/L	**0.08**	----	**0.29**	**0.07**	<0.01
EN055: Ionic Balance								
^ Total Anions	----	0.01	meq/L	**417**	----	**18.0**	**560**	**524**
^ Total Cations	----	0.01	meq/L	**421**	----	**16.4**	**626**	**556**
^ Ionic Balance	----	0.01	%	**0.44**	----	**4.93**	**5.56**	**3.03**
EP005: Total Organic Carbon (TOC)								
Total Organic Carbon	----	1	mg/L	**6**	**6**	**40**	**4**	**3**
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	1	µg/L	<1	<1	**621**	<1	<1
Toluene	108-88-3	2	µg/L	<5	<5	**502**	<5	<5
Ethylbenzene	100-41-4	2	µg/L	<2	<2	**206**	<2	<2

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW68	MW74	MW54	MW52	MW45
				Client sampling date / time: 18-MAR-2010 15:00	18-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00
				ES1005244-001	ES1005244-002	ES1005244-003	ES1005244-004	ES1005244-005
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	**626**	<2	<2
Styrene	100-42-5	5	µg/L	<5	<5	**72**	<5	<5
ortho-Xylene	95-47-6	2	µg/L	<2	<2	**328**	<2	<2
Isopropylbenzene	98-82-8	5	µg/L	<5	<5	<10	<5	<5
n-Propylbenzene	103-65-1	5	µg/L	<5	<5	<10	<5	<5
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	**59**	<5	<5
sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	<10	<5	<5
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	**153**	<5	<5
tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	<10	<5	<5
p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	<10	<5	<5
n-Butylbenzene	104-51-8	5	µg/L	<5	<5	<10	<5	<5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	<50	<50	<100	<50	<50
2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	<100	<50	<50
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	<100	<50	<50
2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	<100	<50	<50
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	<5	<5	<10	<5	<5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	<10	<5	<5
1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	<10	<5	<5
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	<10	<5	<5
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	<10	<5	<5
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	<10	<5	<5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	<100	<50	<50
Chloromethane	74-87-3	50	µg/L	<50	<50	<100	<50	<50
Vinyl chloride	75-01-4	50	µg/L	<50	<50	<100	<50	<50
Bromomethane	74-83-9	50	µg/L	<50	<50	<100	<50	<50
Chloroethane	75-00-3	50	µg/L	<50	<50	<100	<50	<50
Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	<100	<50	<50
1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	<10	<5	<5
Iodomethane	74-88-4	5	µg/L	<5	<5	<10	<5	<5
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	<10	<5	<5
1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	<10	<5	<5
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	<10	<5	<5
1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	<10	<5	<5
1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	<10	<5	<5

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW68 Client sampling date / time: 18-MAR-2010 15:00 ES1005244-001	MW74 18-MAR-2010 15:00 ES1005244-002	MW54 19-MAR-2010 15:00 ES1005244-003	MW52 19-MAR-2010 15:00 ES1005244-004	MW45 19-MAR-2010 15:00 ES1005244-005
EP074E: Halogenated Aliphatic Compounds - Continued								
Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	<10	<5	<5
1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	<10	<5	<5
Trichloroethene	79-01-6	5	µg/L	<5	<5	<10	<5	<5
Dibromomethane	74-95-3	5	µg/L	<5	<5	<10	<5	<5
1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	<10	<5	<5
1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	<10	<5	<5
Tetrachloroethene	127-18-4	5	µg/L	<5	<5	<10	<5	<5
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	<10	<5	<5
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	<10	<5	<5
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	<10	<5	<5
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	<10	<5	<5
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	<10	<5	<5
Pentachloroethane	76-01-7	5	µg/L	<5	<5	<10	<5	<5
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	<10	<5	<5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	<5	<10	<5	<5
Bromobenzene	108-86-1	5	µg/L	<5	<5	<10	<5	<5
2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	<10	<5	<5
4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	<10	<5	<5
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	<10	<5	<5
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<5	<5	<10	<5	<5
Bromodichloromethane	75-27-4	5	µg/L	<5	<5	<10	<5	<5
Dibromochloromethane	124-48-1	5	µg/L	<5	<5	<10	<5	<5
Bromoform	75-25-2	5	µg/L	<5	<5	<10	<5	<5
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	µg/L	<0.9	<0.9	----	----	----
Phenol	108-95-2	2	µg/L	----	----	**6**	<2	<2
2-Chlorophenol	95-57-8	0.3	µg/L	<0.9	<0.9	----	----	----
2-Chlorophenol	95-57-8	2	µg/L	----	----	<2	<2	<2
2-Methylphenol	95-48-7	0.5	µg/L	<0.9	<0.9	----	----	----
2-Methylphenol	95-48-7	2	µg/L	----	----	**83**	<2	<2
3- & 4-Methylphenol	1319-77-3	0.5	µg/L	<2	<2	----	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L	----	----	**24**	<4	<4
2-Nitrophenol	88-75-5	0.5	µg/L	<0.9	<0.9	----	----	----
2-Nitrophenol	88-75-5	2	µg/L	----	----	<2	<2	<2
2.4-Dimethylphenol	105-67-9	0.5	µg/L	<0.9	<0.9	----	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L	----	----	**439**	<2	<2

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW68	MW74	MW54	MW52	MW45
				Client sampling date / time: 18-MAR-2010 15:00	18-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00
				ES1005244-001	ES1005244-002	ES1005244-003	ES1005244-004	ES1005244-005
EP075A: Phenolic Compounds - Continued								
2.4-Dichlorophenol	120-83-2	0.3	µg/L	<0.9	<0.9	----	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L	----	----	<2	<2	<2
2.6-Dichlorophenol	87-65-0	0.3	µg/L	<0.9	<0.9	----	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L	----	----	<2	<2	<2
4-Chloro-3-Methylphenol	59-50-7	0.3	µg/L	<0.9	<0.9	----	----	----
4-Chloro-3-Methylphenol	59-50-7	2	µg/L	----	----	<2	<2	<2
2.4.6-Trichlorophenol	88-06-2	0.3	µg/L	<0.9	<0.9	----	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L	----	----	<2	<2	<2
2.4.5-Trichlorophenol	95-95-4	0.3	µg/L	<0.9	<0.9	----	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L	----	----	<2	<2	<2
Pentachlorophenol	87-86-5	0.6	µg/L	<2	<2	----	----	----
Pentachlorophenol	87-86-5	4	µg/L	----	----	<4	<4	<4
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	µg/L	**3**	**4**	----	----	----
Naphthalene	91-20-3	2	µg/L	----	----	**8640**	**4**	**8**
2-Methylnaphthalene	91-57-6	0.5	µg/L	<0.9	**1**	----	----	----
2-Methylnaphthalene	91-57-6	2	µg/L	----	----	**294**	<2	<2
2-Chloronaphthalene	91-58-7	0.5	µg/L	<0.9	<0.9	----	----	----
2-Chloronaphthalene	91-58-7	2	µg/L	----	----	<2	<2	<2
Acenaphthylene	208-96-8	0.5	µg/L	<0.9	<0.9	----	----	----
Acenaphthylene	208-96-8	2	µg/L	----	----	**113**	<2	<2
Acenaphthene	83-32-9	0.5	µg/L	<0.9	**1**	----	----	----
Acenaphthene	83-32-9	2	µg/L	----	----	**72**	<2	<2
Fluorene	86-73-7	0.5	µg/L	<0.9	**1**	----	----	----
Fluorene	86-73-7	2	µg/L	----	----	**92**	<2	<2
Phenanthrene	85-01-8	0.5	µg/L	**1**	**4**	----	----	----
Phenanthrene	85-01-8	2	µg/L	----	----	**98**	<2	<2
Anthracene	120-12-7	0.5	µg/L	<0.9	**1**	----	----	----
Anthracene	120-12-7	2	µg/L	----	----	**19**	<2	<2
Fluoranthene	206-44-0	0.5	µg/L	<0.9	**3**	----	----	----
Fluoranthene	206-44-0	2	µg/L	----	----	**19**	**4**	<2
Pyrene	129-00-0	0.5	µg/L	<0.9	**3**	----	----	----
Pyrene	129-00-0	2	µg/L	----	----	**14**	**4**	<2
N-2-Fluorenyl Acetamide	53-96-3	0.5	µg/L	<0.9	<0.9	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	----	----	<2	<2	<2
Benz(a)anthracene	56-55-3	0.5	µg/L	<0.9	**1**	----	----	----
Benz(a)anthracene	56-55-3	2	µg/L	----	----	**3**	<2	<2
Chrysene	218-01-9	0.5	µg/L	<0.9	<0.9	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW68	MW74	MW54	MW52	MW45
				Client sampling date / time: 18-MAR-2010 15:00	18-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00
				ES1005244-001	ES1005244-002	ES1005244-003	ES1005244-004	ES1005244-005
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	2	µg/L	----	----	**2**	<2	<2
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	----	----	<4	<4	<4
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	µg/L	<2	<2	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	µg/L	<0.9	<0.9	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	----	----	<2	<2	<2
Benzo(a)pyrene	50-32-8	0.3	µg/L	<0.9	<0.9	----	----	----
Benzo(a)pyrene	50-32-8	2	µg/L	----	----	<2	<2	<2
3-Methylcholanthrene	56-49-5	0.5	µg/L	<0.9	<0.9	----	----	----
3-Methylcholanthrene	56-49-5	2	µg/L	----	----	<2	<2	<2
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	µg/L	<0.9	<0.9	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	----	----	<2	<2	<2
Dibenz(a.h)anthracene	53-70-3	0.5	µg/L	<0.9	<0.9	----	----	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L	----	----	<2	<2	<2
Benzo(g.h.i)perylene	191-24-2	0.5	µg/L	<0.9	<0.9	----	----	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L	----	----	<2	<2	<2
^ Sum of PAHs	----	0.5	µg/L	**4**	**18**	----	----	----
^ Sum of PAHs	----	2	µg/L	----	----	**9070**	**12**	**8**
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	µg/L	<0.9	<0.9	----	----	----
Dimethyl phthalate	131-11-3	2	µg/L	----	----	<2	<2	<2
Diethyl phthalate	84-66-2	0.5	µg/L	<0.9	<0.9	----	----	----
Diethyl phthalate	84-66-2	2	µg/L	----	----	<2	<2	<2
Di-n-butyl phthalate	84-74-2	2	µg/L	<2	<2	<2	<2	<2
Butyl benzyl phthalate	85-68-7	2	µg/L	<2	<2	<2	<2	<2
bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	<20	<20	<20	<20	<20
Di-n-octylphthalate	117-84-0	0.5	µg/L	<0.9	<0.9	----	----	----
Di-n-octylphthalate	117-84-0	2	µg/L	----	----	<2	<2	<2
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	µg/L	<0.9	<0.9	----	----	----
N-Nitrosomethylethylamine	10595-95-6	2	µg/L	----	----	<2	<2	<2
N-Nitrosodiethylamine	55-18-5	0.5	µg/L	<0.9	<0.9	----	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L	----	----	<2	<2	<2
N-Nitrosopyrrolidine	930-55-2	4	µg/L	----	----	<4	<4	<4
N-Nitrosopyrrolidine	930-55-2	1	µg/L	<1	<1	----	----	----
N-Nitrosomorpholine	59-89-2	0.5	µg/L	<0.9	<0.9	----	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L	----	----	<2	<2	<2

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW68	MW74	MW54	MW52	MW45
				Client sampling date / time: 18-MAR-2010 15:00	18-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00
				ES1005244-001	ES1005244-002	ES1005244-003	ES1005244-004	ES1005244-005
EP075D: Nitrosamines - Continued								
N-Nitrosodi-n-propylamine	621-64-7	0.5	µg/L	<0.9	<0.9	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	----	----	<2	<2	<2
N-Nitrosopiperidine	100-75-4	0.5	µg/L	<0.9	<0.9	----	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L	----	----	<2	<2	<2
N-Nitrosodibutylamine	924-16-3	0.5	µg/L	<0.9	<0.9	----	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L	----	----	<2	<2	<2
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	----	----	<4	<4	<4
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1	µg/L	<2	<2	----	----	----
Methapyrilene	91-80-5	0.5	µg/L	<0.9	<0.9	----	----	----
Methapyrilene	91-80-5	2	µg/L	----	----	<2	<2	<2
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	µg/L	<0.9	<0.9	----	----	----
2-Picoline	109-06-8	2	µg/L	----	----	**21**	<2	<2
Acetophenone	98-86-2	0.5	µg/L	<0.9	<0.9	----	----	----
Acetophenone	98-86-2	2	µg/L	----	----	<2	<2	<2
Nitrobenzene	98-95-3	0.5	µg/L	<0.9	<0.9	----	----	----
Nitrobenzene	98-95-3	2	µg/L	----	----	<2	<2	<2
Isophorone	78-59-1	0.5	µg/L	<0.9	<0.9	----	----	----
Isophorone	78-59-1	2	µg/L	----	----	<2	<2	<2
2.6-Dinitrotoluene	606-20-2	4	µg/L	----	----	<4	<4	<4
2.6-Dinitrotoluene	606-20-2	1	µg/L	<1	<1	----	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L	----	----	<4	<4	<4
2.4-Dinitrotoluene	121-14-2	1	µg/L	<1	<1	----	----	----
1-Naphthylamine	134-32-7	0.5	µg/L	<0.9	<0.9	----	----	----
1-Naphthylamine	134-32-7	2	µg/L	----	----	<2	<2	<2
4-Nitroquinoline-N-oxide	56-57-5	0.5	µg/L	<0.9	<0.9	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	----	----	<2	<2	<2
5-Nitro-o-toluidine	99-55-8	0.5	µg/L	<0.9	<0.9	----	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L	----	----	<2	<2	<2
Azobenzene	103-33-3	0.5	µg/L	<0.9	<0.9	----	----	----
Azobenzene	103-33-3	2	µg/L	----	----	<2	<2	<2
1.3.5-Trinitrobenzene	99-35-4	0.5	µg/L	<0.9	<0.9	----	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	----	----	<2	<2	<2
Phenacetin	62-44-2	0.5	µg/L	<0.9	<0.9	----	----	----
Phenacetin	62-44-2	2	µg/L	----	----	<2	<2	<2
4-Aminobiphenyl	92-67-1	0.5	µg/L	<0.9	<0.9	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW68	MW74	MW54	MW52	MW45
				Client sampling date / time: 18-MAR-2010 15:00	18-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00
				ES1005244-001	ES1005244-002	ES1005244-003	ES1005244-004	ES1005244-005
EP075E: Nitroaromatics and Ketones - Continued								
4-Aminobiphenyl	92-67-1	2	µg/L	----	----	<2	<2	<2
Pentachloronitrobenzene	82-68-8	0.5	µg/L	<0.9	<0.9	----	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L	----	----	<2	<2	<2
Pronamide	23950-58-5	0.5	µg/L	<0.9	<0.9	----	----	----
Pronamide	23950-58-5	2	µg/L	----	----	<2	<2	<2
Dimethylaminoazobenzene	60-11-7	0.5	µg/L	<0.9	<0.9	----	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L	----	----	<2	<2	<2
Chlorobenzilate	510-15-6	0.5	µg/L	<0.9	<0.9	----	----	----
Chlorobenzilate	510-15-6	2	µg/L	----	----	<2	<2	<2
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	µg/L	<0.9	<0.9	----	----	----
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	----	----	<2	<2	<2
Bis(2-chloroethoxy) methane	111-91-1	0.5	µg/L	<0.9	<0.9	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	----	----	<2	<2	<2
4-Chlorophenyl phenyl ether	7005-72-3	0.5	µg/L	<0.9	<0.9	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	----	----	<2	<2	<2
4-Bromophenyl phenyl ether	101-55-3	0.5	µg/L	<0.9	<0.9	----	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	----	----	<2	<2	<2
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	µg/L	<0.9	<0.9	----	----	----
1.3-Dichlorobenzene	541-73-1	2	µg/L	----	----	<2	<2	<2
1.4-Dichlorobenzene	106-46-7	0.5	µg/L	<0.9	<0.9	----	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L	----	----	<2	<2	<2
1.2-Dichlorobenzene	95-50-1	0.5	µg/L	<0.9	<0.9	----	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L	----	----	<2	<2	<2
Hexachloroethane	67-72-1	0.5	µg/L	<0.9	<0.9	----	----	----
Hexachloroethane	67-72-1	2	µg/L	----	----	<2	<2	<2
1.2.4-Trichlorobenzene	120-82-1	0.5	µg/L	<0.9	<0.9	----	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	----	----	<2	<2	<2
Hexachloropropylene	1888-71-7	0.5	µg/L	<0.9	<0.9	----	----	----
Hexachloropropylene	1888-71-7	2	µg/L	----	----	<2	<2	<2
Hexachlorobutadiene	87-68-3	0.5	µg/L	<0.9	<0.9	----	----	----
Hexachlorobutadiene	87-68-3	2	µg/L	----	----	<2	<2	<2
Hexachlorocyclopentadiene	77-47-4	0.5	µg/L	<0.9	<0.9	----	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L	----	----	<10	<10	<10
Pentachlorobenzene	608-93-5	0.5	µg/L	<0.9	<0.9	----	----	----
Pentachlorobenzene	608-93-5	2	µg/L	----	----	<2	<2	<2
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.9	<0.9	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW68	MW74	MW54	MW52	MW45
				Client sampling date / time: 18-MAR-2010 15:00	18-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00
				ES1005244-001	ES1005244-002	ES1005244-003	ES1005244-004	ES1005244-005
EP075G: Chlorinated Hydrocarbons - Continued								
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	----	----	<4	<4	<4
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	µg/L	<0.9	<0.9	----	----	----
Aniline	62-53-3	2	µg/L	----	----	**24**	<2	<2
4-Chloroaniline	106-47-8	0.5	µg/L	<0.9	<0.9	----	----	----
4-Chloroaniline	106-47-8	2	µg/L	----	----	<2	<2	<2
2-Nitroaniline	88-74-4	4	µg/L	----	----	<4	<4	<4
2-Nitroaniline	88-74-4	1	µg/L	<1	<1	----	----	----
3-Nitroaniline	99-09-2	4	µg/L	----	----	<4	<4	<4
3-Nitroaniline	99-09-2	1	µg/L	<1	<1	----	----	----
Dibenzofuran	132-64-9	0.5	µg/L	<0.9	<0.9	----	----	----
Dibenzofuran	132-64-9	2	µg/L	----	----	**100**	<2	<2
4-Nitroaniline	100-01-6	0.5	µg/L	<0.9	<0.9	----	----	----
4-Nitroaniline	100-01-6	2	µg/L	----	----	<2	<2	<2
Carbazole	86-74-8	0.5	µg/L	<0.9	**1**	----	----	----
Carbazole	86-74-8	2	µg/L	----	----	**326**	<2	<2
3.3`-Dichlorobenzidine	91-94-1	0.5	µg/L	<0.9	<0.9	----	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L	----	----	<2	<2	<2
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.3	µg/L	<0.9	<0.9	----	----	----
alpha-BHC	319-84-6	2	µg/L	----	----	<2	<2	<2
beta-BHC	319-85-7	0.3	µg/L	<0.9	<0.9	----	----	----
beta-BHC	319-85-7	2	µg/L	----	----	<2	<2	<2
gamma-BHC	58-89-9	0.3	µg/L	<0.9	<0.9	----	----	----
gamma-BHC	58-89-9	2	µg/L	----	----	<2	<2	<2
delta-BHC	319-86-8	0.3	µg/L	<0.9	<0.9	----	----	----
delta-BHC	319-86-8	2	µg/L	----	----	<2	<2	<2
Heptachlor	76-44-8	0.3	µg/L	<0.9	<0.9	----	----	----
Heptachlor	76-44-8	2	µg/L	----	----	<2	<2	<2
Aldrin	309-00-2	0.3	µg/L	<0.9	<0.9	----	----	----
Aldrin	309-00-2	2	µg/L	----	----	<2	<2	<2
Heptachlor epoxide	1024-57-3	0.3	µg/L	<0.9	<0.9	----	----	----
Heptachlor epoxide	1024-57-3	2	µg/L	----	----	<2	<2	<2
alpha-Endosulfan	959-98-8	0.3	µg/L	<0.9	<0.9	----	----	----
alpha-Endosulfan	959-98-8	2	µg/L	----	----	<2	<2	<2
4.4`-DDE	72-55-9	0.3	µg/L	<0.9	<0.9	----	----	----
4.4`-DDE	72-55-9	2	µg/L	----	----	<2	<2	<2
Dieldrin	60-57-1	0.3	µg/L	<0.9	<0.9	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW68	MW74	MW54	MW52	MW45
				Client sampling date / time: 18-MAR-2010 15:00	18-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00
				ES1005244-001	ES1005244-002	ES1005244-003	ES1005244-004	ES1005244-005
EP075I: Organochlorine Pesticides - Continued								
Dieldrin	60-57-1	2	µg/L	----	----	<2	<2	<2
Endrin	72-20-8	0.3	µg/L	<0.9	<0.9	----	----	----
Endrin	72-20-8	2	µg/L	----	----	<2	<2	<2
beta-Endosulfan	33213-65-9	0.3	µg/L	<0.9	<0.9	----	----	----
beta-Endosulfan	33213-65-9	2	µg/L	----	----	<2	<2	<2
4.4`-DDD	72-54-8	0.3	µg/L	<0.9	<0.9	----	----	----
4.4`-DDD	72-54-8	2	µg/L	----	----	<2	<2	<2
Endosulfan sulfate	1031-07-8	0.3	µg/L	<0.9	<0.9	----	----	----
Endosulfan sulfate	1031-07-8	2	µg/L	----	----	<2	<2	<2
4.4`-DDT	50-29-3	0.6	µg/L	<0.9	<0.9	----	----	----
4.4`-DDT	50-29-3	4	µg/L	----	----	<4	<4	<4
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.3	µg/L	<0.9	<0.9	----	----	----
Dichlorvos	62-73-7	2	µg/L	----	----	<2	<2	<2
Dimethoate	60-51-5	0.3	µg/L	<0.9	<0.9	----	----	----
Dimethoate	60-51-5	2	µg/L	----	----	<2	<2	<2
Diazinon	333-41-5	0.3	µg/L	<0.9	<0.9	----	----	----
Diazinon	333-41-5	2	µg/L	----	----	<2	<2	<2
Chlorpyrifos-methyl	5598-13-0	0.3	µg/L	<0.9	<0.9	----	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L	----	----	<2	<2	<2
Malathion	121-75-5	0.3	µg/L	<0.9	<0.9	----	----	----
Malathion	121-75-5	2	µg/L	----	----	<2	<2	<2
Fenthion	55-38-9	0.3	µg/L	<0.9	<0.9	----	----	----
Fenthion	55-38-9	2	µg/L	----	----	<2	<2	<2
Chlorpyrifos	2921-88-2	0.3	µg/L	<0.9	<0.9	----	----	----
Chlorpyrifos	2921-88-2	2	µg/L	----	----	<2	<2	<2
Pirimphos-ethyl	23505-41-1	0.3	µg/L	<0.9	<0.9	----	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L	----	----	<2	<2	<2
Chlorfenvinphos	470-90-6	0.3	µg/L	<1	<1	----	----	----
Chlorfenvinphos	470-90-6	2	µg/L	----	----	<2	<2	<2
Prothiofos	34643-46-4	0.3	µg/L	<0.9	<0.9	----	----	----
Prothiofos	34643-46-4	2	µg/L	----	----	<2	<2	<2
Ethion	563-12-2	0.3	µg/L	<0.9	<0.9	----	----	----
Ethion	563-12-2	2	µg/L	----	----	<2	<2	<2
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.3	µg/L	<0.9	<0.9	----	----	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.3	µg/L	<2	<2	----	----	----
Methanesulfonate methyl	66-27-3	0.3	µg/L	<0.9	<0.9	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW68	MW74	MW54	MW52	MW45
				Client sampling date / time: 18-MAR-2010 15:00	18-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00
				ES1005244-001	ES1005244-002	ES1005244-003	ES1005244-004	ES1005244-005
EP075K: Miscellaneous Compounds - Continued								
Methanesulfonate ethyl	62-50-0	0.3	µg/L	<0.9	<0.9	----	----	----
cis-Isosafrole	17627-76-8	0.3	µg/L	<0.9	<0.9	----	----	----
trans-Isosafrole	4043-71-4	0.3	µg/L	<0.9	<0.9	----	----	----
Safrole	94-59-7	0.3	µg/L	<0.9	<0.9	----	----	----
Diallate	2303-16-4	0.3	µg/L	<0.9	<0.9	----	----	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.3	µg/L	<0.9	<0.9	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	**3730**	<20	<20
C10 - C14 Fraction	----	50	µg/L	<50	<50	**28000**	<50	<50
C15 - C28 Fraction	----	100	µg/L	<100	**280**	**10900**	<100	<100
C29 - C36 Fraction	----	50	µg/L	<50	**140**	**400**	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	**420**	**39300**	<50	<50
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**93.9**	**95.9**	**111**	**93.0**	**101**
Toluene-D8	2037-26-5	0.1	%	**116**	**96.9**	**108**	**110**	**112**
4-Bromofluorobenzene	460-00-4	0.1	%	**104**	**114**	**99.8**	**105**	**110**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	**62.1**	**66.8**	**71.4**	**31.1**	**57.4**
Phenol-d6	13127-88-3	0.1	%	**33.4**	**37.7**	**27.0**	**16.3**	**32.7**
2-Chlorophenol-D4	93951-73-6	0.1	%	**73.4**	**79.9**	**62.2**	**37.8**	**73.0**
2.4.6-Tribromophenol	118-79-6	0.1	%	**78.0**	**82.2**	**99.1**	**38.8**	**84.2**
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	**84.1**	**91.4**	**67.7**	**41.7**	**84.2**
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	**65.9**	**71.6**	**55.8**	**32.2**	**67.0**
2-Fluorobiphenyl	321-60-8	0.1	%	**68.6**	**74.4**	**61.1**	**36.0**	**70.7**
Anthracene-d10	1719-06-8	0.1	%	**76.3**	**82.6**	**63.7**	**41.3**	**79.1**
4-Terphenyl-d14	1718-51-0	0.1	%	**88.7**	**95.3**	**70.7**	**46.4**	**92.2**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**105**	**107**	**111**	**104**	**113**
Toluene-D8	2037-26-5	0.1	%	**102**	**120**	**94.5**	**111**	**118**
4-Bromofluorobenzene	460-00-4	0.1	%	**101**	**109**	**101**	**103**	**107**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW206	QC329	QC328	QC330	TB304
				Client sampling date / time: 19-MAR-2010 15:00	18-MAR-2010 15:00	17-MAR-2010 15:00	19-MAR-2010 15:00	18-MAR-2010 15:00
				ES1005244-006	ES1005244-007	ES1005244-008	ES1005244-009	ES1005244-010
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	----	<0.0001	<0.0001	<0.0001	----
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS								
Arsenic	7440-38-2	0.2	µg/L	----	<0.2	<0.2	<0.2	----
Barium	7440-39-3	0.5	µg/L	----	<0.5	**0.5**	<0.5	----
Beryllium	7440-41-7	0.1	µg/L	----	<0.1	<0.1	<0.1	----
Cadmium	7440-43-9	0.05	µg/L	----	<0.05	<0.05	<0.05	----
Chromium	7440-47-3	0.2	µg/L	----	<0.2	**0.4**	<0.2	----
Cobalt	7440-48-4	0.1	µg/L	----	<0.1	<0.1	<0.1	----
Copper	7440-50-8	0.5	µg/L	----	<0.5	<0.5	<0.5	----
Lead	7439-92-1	0.1	µg/L	----	<0.1	**0.3**	<0.1	----
Manganese	7439-96-5	0.5	µg/L	----	<0.5	**0.6**	<0.5	----
Nickel	7440-02-0	0.5	µg/L	----	<0.5	<0.5	<0.5	----
Vanadium	7440-62-2	0.2	µg/L	----	<0.2	<0.2	<0.2	----
Zinc	7440-66-6	1	µg/L	----	<1	**9**	<1	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	1	µg/L	**5450**	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	**101**	<5	<5	<5	<5
Ethylbenzene	100-41-4	2	µg/L	**1250**	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	**1230**	<2	<2	<2	<2
Styrene	100-42-5	5	µg/L	**167**	<5	<5	<5	<5
ortho-Xylene	95-47-6	2	µg/L	**1540**	<2	<2	<2	<2
Isopropylbenzene	98-82-8	5	µg/L	**30**	<5	<5	<5	<5
n-Propylbenzene	103-65-1	5	µg/L	**44**	<5	<5	<5	<5
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	**210**	<5	<5	<5	<5
sec-Butylbenzene	135-98-8	5	µg/L	<20	<5	<5	<5	<5
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	**920**	<5	<5	<5	<5
tert-Butylbenzene	98-06-6	5	µg/L	<20	<5	<5	<5	<5
p-Isopropyltoluene	99-87-6	5	µg/L	<20	<5	<5	<5	<5
n-Butylbenzene	104-51-8	5	µg/L	<20	<5	<5	<5	<5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	<200	<50	<50	<50	<50
2-Butanone (MEK)	78-93-3	50	µg/L	<200	<50	<50	<50	<50
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<200	<50	<50	<50	<50
2-Hexanone (MBK)	591-78-6	50	µg/L	<200	<50	<50	<50	<50
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	<20	<5	<5	<5	<5
EP074D: Fumigants								

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW206 Client sampling date / time: 19-MAR-2010 15:00 ES1005244-006	QC329 18-MAR-2010 15:00 ES1005244-007	QC328 17-MAR-2010 15:00 ES1005244-008	QC330 19-MAR-2010 15:00 ES1005244-009	TB304 18-MAR-2010 15:00 ES1005244-010
EP074D: Fumigants - Continued								
2.2-Dichloropropane	594-20-7	5	µg/L	<20	<5	<5	<5	<5
1.2-Dichloropropane	78-87-5	5	µg/L	<20	<5	<5	<5	<5
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<20	<5	<5	<5	<5
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<20	<5	<5	<5	<5
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<20	<5	<5	<5	<5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<200	<50	<50	<50	<50
Chloromethane	74-87-3	50	µg/L	<200	<50	<50	<50	<50
Vinyl chloride	75-01-4	50	µg/L	<200	<50	<50	<50	<50
Bromomethane	74-83-9	50	µg/L	<200	<50	<50	<50	<50
Chloroethane	75-00-3	50	µg/L	<200	<50	<50	<50	<50
Trichlorofluoromethane	75-69-4	50	µg/L	<200	<50	<50	<50	<50
1.1-Dichloroethene	75-35-4	5	µg/L	<20	<5	<5	<5	<5
Iodomethane	74-88-4	5	µg/L	<20	<5	<5	<5	<5
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<20	<5	<5	<5	<5
1.1-Dichloroethane	75-34-3	5	µg/L	<20	<5	<5	<5	<5
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<20	<5	<5	<5	<5
1.1.1-Trichloroethane	71-55-6	5	µg/L	<20	<5	<5	<5	<5
1.1-Dichloropropylene	563-58-6	5	µg/L	<20	<5	<5	<5	<5
Carbon Tetrachloride	56-23-5	5	µg/L	<20	<5	<5	<5	<5
1.2-Dichloroethane	107-06-2	5	µg/L	<20	<5	<5	<5	<5
Trichloroethene	79-01-6	5	µg/L	<20	<5	<5	<5	<5
Dibromomethane	74-95-3	5	µg/L	<20	<5	<5	<5	<5
1.1.2-Trichloroethane	79-00-5	5	µg/L	<20	<5	<5	<5	<5
1.3-Dichloropropane	142-28-9	5	µg/L	<20	<5	<5	<5	<5
Tetrachloroethene	127-18-4	5	µg/L	<20	<5	<5	<5	<5
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<20	<5	<5	<5	<5
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<20	<5	<5	<5	<5
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<20	<5	<5	<5	<5
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<20	<5	<5	<5	<5
1.2.3-Trichloropropane	96-18-4	5	µg/L	<20	<5	<5	<5	<5
Pentachloroethane	76-01-7	5	µg/L	<20	<5	<5	<5	<5
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<20	<5	<5	<5	<5
Hexachlorobutadiene	87-68-3	5	µg/L	----	<5	<5	<5	<5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<20	<5	<5	<5	<5
Bromobenzene	108-86-1	5	µg/L	<20	<5	<5	<5	<5
2-Chlorotoluene	95-49-8	5	µg/L	<20	<5	<5	<5	<5

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW206	QC329	QC328	QC330	TB304
				Client sampling date / time: 19-MAR-2010 15:00	18-MAR-2010 15:00	17-MAR-2010 15:00	19-MAR-2010 15:00	18-MAR-2010 15:00
				ES1005244-006	ES1005244-007	ES1005244-008	ES1005244-009	ES1005244-010
EP074F: Halogenated Aromatic Compounds - Continued								
4-Chlorotoluene	106-43-4	5	µg/L	<20	<5	<5	<5	<5
1.3-Dichlorobenzene	541-73-1	5	µg/L	----	<5	<5	<5	<5
1.4-Dichlorobenzene	106-46-7	5	µg/L	----	<5	<5	<5	<5
1.2-Dichlorobenzene	95-50-1	5	µg/L	----	<5	<5	<5	<5
1.2.4-Trichlorobenzene	120-82-1	5	µg/L	----	<5	<5	<5	<5
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<20	<5	<5	<5	<5
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<20	<5	<5	<5	<5
Bromodichloromethane	75-27-4	5	µg/L	<20	<5	<5	<5	<5
Dibromochloromethane	124-48-1	5	µg/L	<20	<5	<5	<5	<5
Bromoform	75-25-2	5	µg/L	<20	<5	<5	<5	<5
EP074H: Naphthalene								
Naphthalene	91-20-3	7	µg/L	----	<7	<7	<7	<7
EP075A: Phenolic Compounds								
Phenol	108-95-2	2	µg/L	<47	----	----	----	----
2-Chlorophenol	95-57-8	2	µg/L	<47	----	----	----	----
2-Methylphenol	95-48-7	2	µg/L	<47	----	----	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L	<94	----	----	----	----
2-Nitrophenol	88-75-5	2	µg/L	<47	----	----	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L	<47	----	----	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L	<47	----	----	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L	<47	----	----	----	----
4-Chloro-3-Methylphenol	59-50-7	2	µg/L	<47	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L	<47	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L	<47	----	----	----	----
Pentachlorophenol	87-86-5	4	µg/L	<94	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	2	µg/L	**10600**	----	----	----	----
2-Methylnaphthalene	91-57-6	2	µg/L	**4040**	----	----	----	----
2-Chloronaphthalene	91-58-7	2	µg/L	<47	----	----	----	----
Acenaphthylene	208-96-8	2	µg/L	**1380**	----	----	----	----
Acenaphthene	83-32-9	2	µg/L	**274**	----	----	----	----
Fluorene	86-73-7	2	µg/L	**1030**	----	----	----	----
Phenanthrene	85-01-8	2	µg/L	**2840**	----	----	----	----
Anthracene	120-12-7	2	µg/L	**680**	----	----	----	----
Fluoranthene	206-44-0	2	µg/L	**1250**	----	----	----	----
Pyrene	129-00-0	2	µg/L	**1520**	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<47	----	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW206 Client sampling date / time: 19-MAR-2010 15:00 ES1005244-006	QC329 18-MAR-2010 15:00 ES1005244-007	QC328 17-MAR-2010 15:00 ES1005244-008	QC330 19-MAR-2010 15:00 ES1005244-009	TB304 18-MAR-2010 15:00 ES1005244-010
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Benz(a)anthracene	56-55-3	2	µg/L	**592**	----	----	----	----
Chrysene	218-01-9	2	µg/L	**462**	----	----	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	**362**	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<47	----	----	----	----
Benzo(a)pyrene	50-32-8	2	µg/L	**299**	----	----	----	----
3-Methylcholanthrene	56-49-5	2	µg/L	<47	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	**81**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L	<47	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L	**89**	----	----	----	----
^ Sum of PAHs	----	2	µg/L	**21400**	----	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	2	µg/L	<47	----	----	----	----
Diethyl phthalate	84-66-2	2	µg/L	<47	----	----	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L	<47	----	----	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L	<47	----	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	<50	----	----	----	----
Di-n-octylphthalate	117-84-0	2	µg/L	<47	----	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<47	----	----	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L	<47	----	----	----	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L	<47	----	----	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L	<47	----	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<47	----	----	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L	<47	----	----	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L	<47	----	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<94	----	----	----	----
Methapyrilene	91-80-5	2	µg/L	<47	----	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	2	µg/L	<47	----	----	----	----
Acetophenone	98-86-2	2	µg/L	<47	----	----	----	----
Nitrobenzene	98-95-3	2	µg/L	<47	----	----	----	----
Isophorone	78-59-1	2	µg/L	<47	----	----	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L	<47	----	----	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L	<47	----	----	----	----
1-Naphthylamine	134-32-7	2	µg/L	<47	----	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<47	----	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW206	QC329	QC328	QC330	TB304
				Client sampling date / time: 19-MAR-2010 15:00	18-MAR-2010 15:00	17-MAR-2010 15:00	19-MAR-2010 15:00	18-MAR-2010 15:00
				ES1005244-006	ES1005244-007	ES1005244-008	ES1005244-009	ES1005244-010
EP075E: Nitroaromatics and Ketones - Continued								
5-Nitro-o-toluidine	99-55-8	2	µg/L	<47	----	----	----	----
Azobenzene	103-33-3	2	µg/L	<47	----	----	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<47	----	----	----	----
Phenacetin	62-44-2	2	µg/L	<47	----	----	----	----
4-Aminobiphenyl	92-67-1	2	µg/L	<47	----	----	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L	<47	----	----	----	----
Pronamide	23950-58-5	2	µg/L	<47	----	----	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L	<47	----	----	----	----
Chlorobenzilate	510-15-6	2	µg/L	<47	----	----	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<47	----	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<47	----	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<47	----	----	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<47	----	----	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	2	µg/L	<47	----	----	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L	<47	----	----	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L	<47	----	----	----	----
Hexachloroethane	67-72-1	2	µg/L	<47	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<47	----	----	----	----
Hexachloropropylene	1888-71-7	2	µg/L	<47	----	----	----	----
Hexachlorobutadiene	87-68-3	2	µg/L	<47	----	----	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<50	----	----	----	----
Pentachlorobenzene	608-93-5	2	µg/L	<47	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<47	----	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	2	µg/L	<47	----	----	----	----
4-Chloroaniline	106-47-8	2	µg/L	<47	----	----	----	----
2-Nitroaniline	88-74-4	4	µg/L	<47	----	----	----	----
3-Nitroaniline	99-09-2	4	µg/L	<47	----	----	----	----
Dibenzofuran	132-64-9	2	µg/L	**344**	----	----	----	----
4-Nitroaniline	100-01-6	2	µg/L	<47	----	----	----	----
Carbazole	86-74-8	2	µg/L	**68**	----	----	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<47	----	----	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	2	µg/L	<47	----	----	----	----
beta-BHC	319-85-7	2	µg/L	<47	----	----	----	----
gamma-BHC	58-89-9	2	µg/L	<47	----	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW206	QC329	QC328	QC330	TB304
				Client sampling date / time: 19-MAR-2010 15:00	18-MAR-2010 15:00	17-MAR-2010 15:00	19-MAR-2010 15:00	18-MAR-2010 15:00
				ES1005244-006	ES1005244-007	ES1005244-008	ES1005244-009	ES1005244-010
EP075I: Organochlorine Pesticides - Continued								
delta-BHC	319-86-8	2	µg/L	<47	----	----	----	----
Heptachlor	76-44-8	2	µg/L	<47	----	----	----	----
Aldrin	309-00-2	2	µg/L	<47	----	----	----	----
Heptachlor epoxide	1024-57-3	2	µg/L	<47	----	----	----	----
alpha-Endosulfan	959-98-8	2	µg/L	<47	----	----	----	----
4.4`-DDE	72-55-9	2	µg/L	<47	----	----	----	----
Dieldrin	60-57-1	2	µg/L	<47	----	----	----	----
Endrin	72-20-8	2	µg/L	<47	----	----	----	----
beta-Endosulfan	33213-65-9	2	µg/L	<47	----	----	----	----
4.4`-DDD	72-54-8	2	µg/L	<47	----	----	----	----
Endosulfan sulfate	1031-07-8	2	µg/L	<47	----	----	----	----
4.4`-DDT	50-29-3	4	µg/L	<47	----	----	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	2	µg/L	<47	----	----	----	----
Dimethoate	60-51-5	2	µg/L	<47	----	----	----	----
Diazinon	333-41-5	2	µg/L	<47	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L	<47	----	----	----	----
Malathion	121-75-5	2	µg/L	<47	----	----	----	----
Fenthion	55-38-9	2	µg/L	<47	----	----	----	----
Chlorpyrifos	2921-88-2	2	µg/L	<47	----	----	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L	<47	----	----	----	----
Chlorfenvinphos	470-90-6	2	µg/L	<52	----	----	----	----
Prothiofos	34643-46-4	2	µg/L	<47	----	----	----	----
Ethion	563-12-2	2	µg/L	<47	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	**13300**	<20	<20	<20	----
C10 - C14 Fraction	----	50	µg/L	**68000**	<50	<50	<50	----
C15 - C28 Fraction	----	100	µg/L	**70600**	<100	<100	<100	----
C29 - C36 Fraction	----	50	µg/L	**14800**	<50	<50	<50	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	**153000**	<50	<50	<50	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**101**	**104**	**85.7**	**120**	**87.5**
Toluene-D8	2037-26-5	0.1	%	**95.4**	**112**	**111**	**112**	**109**
4-Bromofluorobenzene	460-00-4	0.1	%	**110**	**108**	**103**	**111**	**96.2**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	**Not Determined**	----	----	----	----
Phenol-d6	13127-88-3	0.1	%	**Not Determined**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**Not Determined**	----	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW206	QC329	QC328	QC330	TB304
				Client sampling date / time: 19-MAR-2010 15:00	18-MAR-2010 15:00	17-MAR-2010 15:00	19-MAR-2010 15:00	18-MAR-2010 15:00
				ES1005244-006	ES1005244-007	ES1005244-008	ES1005244-009	ES1005244-010
EP075S: Acid Extractable Surrogates - Continued								
2.4.6-Tribromophenol	118-79-6	0.1	%	**Not Determined**	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	**Not Determined**	----	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	**Not Determined**	----	----	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	**Not Determined**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**Not Determined**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**Not Determined**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**91.1**	**116**	**108**	**120**	----
Toluene-D8	2037-26-5	0.1	%	**91.9**	**98.5**	**97.5**	**107**	----
4-Bromofluorobenzene	460-00-4	0.1	%	**94.0**	**106**	**83.9**	**88.7**	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: TB303	MW205	MW60	----	----
				Client sampling date / time: 16-MAR-2010 15:00	17-MAR-2010 15:00	18-MAR-2010 15:00	----	----
				ES1005244-011	ES1005244-012	ES1005244-013	----	----
EA005: pH								
pH Value	----	0.01	pH Unit	----	----	**4.50**	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	----	----	<0.0001	----	----
EG050 Low: Total Hexavalent Chromium - Low								
Hexavalent Chromium	18540-29-9	0.002	mg/L	----	----	**0.011**	----	----
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Arsenic	7440-38-2	0.5	µg/L	----	----	**4.5**	----	----
Barium	7440-39-3	1	µg/L	----	----	**94**	----	----
Beryllium	7440-41-7	0.1	µg/L	----	----	**2.1**	----	----
Cadmium	7440-43-9	0.2	µg/L	----	----	**0.8**	----	----
Chromium	7440-47-3	0.5	µg/L	----	----	**2.1**	----	----
Cobalt	7440-48-4	0.2	µg/L	----	----	**56.6**	----	----
Copper	7440-50-8	1	µg/L	----	----	**32**	----	----
Lead	7439-92-1	0.2	µg/L	----	----	**36.2**	----	----
Manganese	7439-96-5	0.5	µg/L	----	----	**984**	----	----
Nickel	7440-02-0	0.5	µg/L	----	----	**148**	----	----
Vanadium	7440-62-2	0.5	µg/L	----	----	**2.1**	----	----
Zinc	7440-66-6	5	µg/L	----	----	**591**	----	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	0.004	mg/L	----	----	<0.004	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	0.004	mg/L	----	----	<0.004	----	----
EP005: Total Organic Carbon (TOC)								
Total Organic Carbon	----	1	mg/L	----	----	**18**	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	1	µg/L	<1	----	**1380**	----	----
Toluene	108-88-3	2	µg/L	<5	----	**969**	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	**34**	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	**313**	----	----
Styrene	100-42-5	5	µg/L	<5	----	**160**	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	**148**	----	----
Isopropylbenzene	98-82-8	5	µg/L	<5	----	<20	----	----
n-Propylbenzene	103-65-1	5	µg/L	<5	----	<20	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	----	<20	----	----
sec-Butylbenzene	135-98-8	5	µg/L	<5	----	<20	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	----	**37**	----	----
tert-Butylbenzene	98-06-6	5	µg/L	<5	----	<20	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID	TB303	MW205	MW60	----	----
				Client sampling date / time	16-MAR-2010 15:00	17-MAR-2010 15:00	18-MAR-2010 15:00	----	----
					ES1005244-011	ES1005244-012	ES1005244-013	----	----
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
p-Isopropyltoluene	99-87-6	5	µg/L		<5	----	<20	----	----
n-Butylbenzene	104-51-8	5	µg/L		<5	----	<20	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	50	µg/L		<50	----	<200	----	----
2-Butanone (MEK)	78-93-3	50	µg/L		<50	----	<200	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		<50	----	<200	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L		<50	----	<200	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		<5	----	<20	----	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	5	µg/L		<5	----	<20	----	----
1.2-Dichloropropane	78-87-5	5	µg/L		<5	----	<20	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		<5	----	<20	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		<5	----	<20	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		<5	----	<20	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		<50	----	<200	----	----
Chloromethane	74-87-3	50	µg/L		<50	----	<200	----	----
Vinyl chloride	75-01-4	50	µg/L		<50	----	<200	----	----
Bromomethane	74-83-9	50	µg/L		<50	----	<200	----	----
Chloroethane	75-00-3	50	µg/L		<50	----	<200	----	----
Trichlorofluoromethane	75-69-4	50	µg/L		<50	----	<200	----	----
1.1-Dichloroethene	75-35-4	5	µg/L		<5	----	<20	----	----
Iodomethane	74-88-4	5	µg/L		<5	----	<20	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L		<5	----	<20	----	----
1.1-Dichloroethane	75-34-3	5	µg/L		<5	----	<20	----	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L		<5	----	<20	----	----
1.1.1-Trichloroethane	71-55-6	5	µg/L		<5	----	<20	----	----
1.1-Dichloropropylene	563-58-6	5	µg/L		<5	----	<20	----	----
Carbon Tetrachloride	56-23-5	5	µg/L		<5	----	<20	----	----
1.2-Dichloroethane	107-06-2	5	µg/L		<5	----	<20	----	----
Trichloroethene	79-01-6	5	µg/L		<5	----	<20	----	----
Dibromomethane	74-95-3	5	µg/L		<5	----	<20	----	----
1.1.2-Trichloroethane	79-00-5	5	µg/L		<5	----	<20	----	----
1.3-Dichloropropane	142-28-9	5	µg/L		<5	----	<20	----	----
Tetrachloroethene	127-18-4	5	µg/L		<5	----	<20	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		<5	----	<20	----	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		<5	----	<20	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: TB303	MW205	MW60	----	----
				Client sampling date / time: 16-MAR-2010 15:00	17-MAR-2010 15:00	18-MAR-2010 15:00	----	----
				ES1005244-011	ES1005244-012	ES1005244-013	----	----
EP074E: Halogenated Aliphatic Compounds - Continued								
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	----	<20	----	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	----	<20	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	----	<20	----	----
Pentachloroethane	76-01-7	5	µg/L	<5	----	<20	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	----	<20	----	----
Hexachlorobutadiene	87-68-3	5	µg/L	<5	----	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	----	<20	----	----
Bromobenzene	108-86-1	5	µg/L	<5	----	<20	----	----
2-Chlorotoluene	95-49-8	5	µg/L	<5	----	<20	----	----
4-Chlorotoluene	106-43-4	5	µg/L	<5	----	<20	----	----
1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	----	----	----	----
1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	----	----	----	----
1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	----	----	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	----	<20	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<5	----	<20	----	----
Bromodichloromethane	75-27-4	5	µg/L	<5	----	<20	----	----
Dibromochloromethane	124-48-1	5	µg/L	<5	----	<20	----	----
Bromoform	75-25-2	5	µg/L	<5	----	<20	----	----
EP074H: Naphthalene								
Naphthalene	91-20-3	7	µg/L	<7	----	----	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	µg/L	----	----	**29**	----	----
Phenol	108-95-2	2	µg/L	----	**503**	----	----	----
2-Chlorophenol	95-57-8	0.3	µg/L	----	----	<0.9	----	----
2-Chlorophenol	95-57-8	2	µg/L	----	<74	----	----	----
2-Methylphenol	95-48-7	0.5	µg/L	----	----	**390**	----	----
2-Methylphenol	95-48-7	2	µg/L	----	**2840**	----	----	----
3- & 4-Methylphenol	1319-77-3	0.5	µg/L	----	----	**305**	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L	----	**2830**	----	----	----
2-Nitrophenol	88-75-5	0.5	µg/L	----	----	<0.9	----	----
2-Nitrophenol	88-75-5	2	µg/L	----	<74	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	µg/L	----	----	**2260**	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L	----	**11600**	----	----	----
2.4-Dichlorophenol	120-83-2	0.3	µg/L	----	----	<0.9	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L	----	<74	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: TB303	MW205	MW60	----	----
				Client sampling date / time: 16-MAR-2010 15:00	17-MAR-2010 15:00	18-MAR-2010 15:00	----	----
				ES1005244-011	ES1005244-012	ES1005244-013	----	----
EP075A: Phenolic Compounds - Continued								
2.6-Dichlorophenol	87-65-0	0.3	µg/L	----	----	<0.9	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L	----	<74	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.3	µg/L	----	----	<0.9	----	----
4-Chloro-3-Methylphenol	59-50-7	2	µg/L	----	<74	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.3	µg/L	----	----	<0.9	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L	----	<74	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.3	µg/L	----	----	<0.9	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L	----	<74	----	----	----
Pentachlorophenol	87-86-5	0.6	µg/L	----	----	<2	----	----
Pentachlorophenol	87-86-5	4	µg/L	----	<147	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	µg/L	----	----	**1500**	----	----
Naphthalene	91-20-3	2	µg/L	----	**283000**	----	----	----
2-Methylnaphthalene	91-57-6	0.5	µg/L	----	----	**71**	----	----
2-Methylnaphthalene	91-57-6	2	µg/L	----	**105000**	----	----	----
2-Chloronaphthalene	91-58-7	0.5	µg/L	----	----	<0.9	----	----
2-Chloronaphthalene	91-58-7	2	µg/L	----	<74	----	----	----
Acenaphthylene	208-96-8	0.5	µg/L	----	----	**20**	----	----
Acenaphthylene	208-96-8	2	µg/L	----	**43200**	----	----	----
Acenaphthene	83-32-9	0.5	µg/L	----	----	**5**	----	----
Acenaphthene	83-32-9	2	µg/L	----	**4480**	----	----	----
Fluorene	86-73-7	0.5	µg/L	----	----	**14**	----	----
Fluorene	86-73-7	2	µg/L	----	**21100**	----	----	----
Phenanthrene	85-01-8	0.5	µg/L	----	----	**12**	----	----
Phenanthrene	85-01-8	2	µg/L	----	**74100**	----	----	----
Anthracene	120-12-7	0.5	µg/L	----	----	**2**	----	----
Anthracene	120-12-7	2	µg/L	----	**15400**	----	----	----
Fluoranthene	206-44-0	0.5	µg/L	----	----	**3**	----	----
Fluoranthene	206-44-0	2	µg/L	----	**25200**	----	----	----
Pyrene	129-00-0	0.5	µg/L	----	----	**2**	----	----
Pyrene	129-00-0	2	µg/L	----	**27900**	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	µg/L	----	----	<0.9	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	----	<74	----	----	----
Benz(a)anthracene	56-55-3	0.5	µg/L	----	----	<0.9	----	----
Benz(a)anthracene	56-55-3	2	µg/L	----	**12600**	----	----	----
Chrysene	218-01-9	0.5	µg/L	----	----	<0.9	----	----
Chrysene	218-01-9	2	µg/L	----	**9780**	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: TB303	MW205	MW60	----	----
				Client sampling date / time: 16-MAR-2010 15:00	17-MAR-2010 15:00	18-MAR-2010 15:00	----	----
				ES1005244-011	ES1005244-012	ES1005244-013	----	----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	----	**9860**	----	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	µg/L	----	----	<2	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	µg/L	----	----	<0.9	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	----	<74	----	----	----
Benzo(a)pyrene	50-32-8	0.3	µg/L	----	----	<0.9	----	----
Benzo(a)pyrene	50-32-8	2	µg/L	----	**9260**	----	----	----
3-Methylcholanthrene	56-49-5	0.5	µg/L	----	----	<0.9	----	----
3-Methylcholanthrene	56-49-5	2	µg/L	----	**131**	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	µg/L	----	----	<0.9	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	----	**1910**	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	µg/L	----	----	<0.9	----	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L	----	**728**	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	µg/L	----	----	<0.9	----	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L	----	**1910**	----	----	----
^ Sum of PAHs	----	0.5	µg/L	----	----	**1560**	----	----
^ Sum of PAHs	----	2	µg/L	----	**540000**	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	µg/L	----	----	<0.9	----	----
Dimethyl phthalate	131-11-3	2	µg/L	----	<74	----	----	----
Diethyl phthalate	84-66-2	0.5	µg/L	----	----	<0.9	----	----
Diethyl phthalate	84-66-2	2	µg/L	----	<74	----	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L	----	<74	<2	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L	----	<74	<2	----	----
bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	----	<70	**20**	----	----
Di-n-octylphthalate	117-84-0	0.5	µg/L	----	----	<0.9	----	----
Di-n-octylphthalate	117-84-0	2	µg/L	----	<74	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	µg/L	----	----	<0.9	----	----
N-Nitrosomethylethylamine	10595-95-6	2	µg/L	----	<74	----	----	----
N-Nitrosodiethylamine	55-18-5	0.5	µg/L	----	----	<0.9	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L	----	<74	----	----	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L	----	<74	----	----	----
N-Nitrosopyrrolidine	930-55-2	1	µg/L	----	----	<1	----	----
N-Nitrosomorpholine	59-89-2	0.5	µg/L	----	----	<0.9	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L	----	<74	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	µg/L	----	----	<0.9	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: TB303	MW205	MW60	----	----
				Client sampling date / time: 16-MAR-2010 15:00	17-MAR-2010 15:00	18-MAR-2010 15:00	----	----
				ES1005244-011	ES1005244-012	ES1005244-013	----	----
EP075D: Nitrosamines - Continued								
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	----	<74	----	----	----
N-Nitrosopiperidine	100-75-4	0.5	µg/L	----	----	<0.9	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L	----	<74	----	----	----
N-Nitrosodibutylamine	924-16-3	0.5	µg/L	----	----	<0.9	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L	----	<74	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	----	<147	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1	µg/L	----	----	<2	----	----
Methapyrilene	91-80-5	0.5	µg/L	----	----	<0.9	----	----
Methapyrilene	91-80-5	2	µg/L	----	<74	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	µg/L	----	----	<0.9	----	----
2-Picoline	109-06-8	2	µg/L	----	<74	----	----	----
Acetophenone	98-86-2	0.5	µg/L	----	----	<0.9	----	----
Acetophenone	98-86-2	2	µg/L	----	<74	----	----	----
Nitrobenzene	98-95-3	0.5	µg/L	----	----	<0.9	----	----
Nitrobenzene	98-95-3	2	µg/L	----	<74	----	----	----
Isophorone	78-59-1	0.5	µg/L	----	----	<0.9	----	----
Isophorone	78-59-1	2	µg/L	----	<74	----	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L	----	<74	----	----	----
2.6-Dinitrotoluene	606-20-2	1	µg/L	----	----	<1	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L	----	<74	----	----	----
2.4-Dinitrotoluene	121-14-2	1	µg/L	----	----	<1	----	----
1-Naphthylamine	134-32-7	0.5	µg/L	----	----	<0.9	----	----
1-Naphthylamine	134-32-7	2	µg/L	----	<74	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	µg/L	----	----	<0.9	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	----	<74	----	----	----
5-Nitro-o-toluidine	99-55-8	0.5	µg/L	----	----	<0.9	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L	----	<74	----	----	----
Azobenzene	103-33-3	0.5	µg/L	----	----	<0.9	----	----
Azobenzene	103-33-3	2	µg/L	----	<74	----	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	µg/L	----	----	<0.9	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	----	<74	----	----	----
Phenacetin	62-44-2	0.5	µg/L	----	----	<0.9	----	----
Phenacetin	62-44-2	2	µg/L	----	<74	----	----	----
4-Aminobiphenyl	92-67-1	0.5	µg/L	----	----	<0.9	----	----
4-Aminobiphenyl	92-67-1	2	µg/L	----	<74	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: TB303	MW205	MW60	----	----
				Client sampling date / time: 16-MAR-2010 15:00	17-MAR-2010 15:00	18-MAR-2010 15:00	----	----
				ES1005244-011	ES1005244-012	ES1005244-013	----	----
EP075E: Nitroaromatics and Ketones - Continued								
Pentachloronitrobenzene	82-68-8	0.5	µg/L	----	----	<0.9	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L	----	<74	----	----	----
Pronamide	23950-58-5	0.5	µg/L	----	----	<0.9	----	----
Pronamide	23950-58-5	2	µg/L	----	<74	----	----	----
Dimethylaminoazobenzene	60-11-7	0.5	µg/L	----	----	<0.9	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L	----	<74	----	----	----
Chlorobenzilate	510-15-6	0.5	µg/L	----	----	<0.9	----	----
Chlorobenzilate	510-15-6	2	µg/L	----	<74	----	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	µg/L	----	----	<0.9	----	----
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	----	<74	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	µg/L	----	----	<0.9	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	----	<74	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	µg/L	----	----	<0.9	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	----	<74	----	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	µg/L	----	----	<0.9	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	----	<74	----	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	µg/L	----	----	<0.9	----	----
1.3-Dichlorobenzene	541-73-1	2	µg/L	----	<74	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	µg/L	----	----	<0.9	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L	----	<74	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	µg/L	----	----	<0.9	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L	----	<74	----	----	----
Hexachloroethane	67-72-1	0.5	µg/L	----	----	<0.9	----	----
Hexachloroethane	67-72-1	2	µg/L	----	<74	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	µg/L	----	----	<0.9	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	----	<74	----	----	----
Hexachloropropylene	1888-71-7	0.5	µg/L	----	----	<0.9	----	----
Hexachloropropylene	1888-71-7	2	µg/L	----	<74	----	----	----
Hexachlorobutadiene	87-68-3	0.5	µg/L	----	----	<0.9	----	----
Hexachlorobutadiene	87-68-3	2	µg/L	----	<74	----	----	----
Hexachlorocyclopentadiene	77-47-4	0.5	µg/L	----	----	<0.9	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L	----	<70	----	----	----
Pentachlorobenzene	608-93-5	0.5	µg/L	----	----	<0.9	----	----
Pentachlorobenzene	608-93-5	2	µg/L	----	<74	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	----	----	<0.9	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	----	<74	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: TB303	MW205	MW60	----	----
				Client sampling date / time: 16-MAR-2010 15:00	17-MAR-2010 15:00	18-MAR-2010 15:00	----	----
				ES1005244-011	ES1005244-012	ES1005244-013	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	µg/L	----	----	<0.9	----	----
Aniline	62-53-3	2	µg/L	----	<74	----	----	----
4-Chloroaniline	106-47-8	0.5	µg/L	----	----	<0.9	----	----
4-Chloroaniline	106-47-8	2	µg/L	----	<74	----	----	----
2-Nitroaniline	88-74-4	4	µg/L	----	<74	----	----	----
2-Nitroaniline	88-74-4	1	µg/L	----	----	<1	----	----
3-Nitroaniline	99-09-2	4	µg/L	----	<74	----	----	----
3-Nitroaniline	99-09-2	1	µg/L	----	----	<1	----	----
Dibenzofuran	132-64-9	0.5	µg/L	----	----	**14**	----	----
Dibenzofuran	132-64-9	2	µg/L	----	**10200**	----	----	----
4-Nitroaniline	100-01-6	0.5	µg/L	----	----	<0.9	----	----
4-Nitroaniline	100-01-6	2	µg/L	----	<74	----	----	----
Carbazole	86-74-8	0.5	µg/L	----	----	**63**	----	----
Carbazole	86-74-8	2	µg/L	----	**4600**	----	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	µg/L	----	----	<0.9	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L	----	<74	----	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.3	µg/L	----	----	<0.9	----	----
alpha-BHC	319-84-6	2	µg/L	----	<74	----	----	----
beta-BHC	319-85-7	0.3	µg/L	----	----	<0.9	----	----
beta-BHC	319-85-7	2	µg/L	----	<74	----	----	----
gamma-BHC	58-89-9	0.3	µg/L	----	----	<0.9	----	----
gamma-BHC	58-89-9	2	µg/L	----	<74	----	----	----
delta-BHC	319-86-8	0.3	µg/L	----	----	<0.9	----	----
delta-BHC	319-86-8	2	µg/L	----	<74	----	----	----
Heptachlor	76-44-8	0.3	µg/L	----	----	<0.9	----	----
Heptachlor	76-44-8	2	µg/L	----	<74	----	----	----
Aldrin	309-00-2	0.3	µg/L	----	----	<0.9	----	----
Aldrin	309-00-2	2	µg/L	----	<74	----	----	----
Heptachlor epoxide	1024-57-3	0.3	µg/L	----	----	<0.9	----	----
Heptachlor epoxide	1024-57-3	2	µg/L	----	<74	----	----	----
alpha-Endosulfan	959-98-8	0.3	µg/L	----	----	<0.9	----	----
alpha-Endosulfan	959-98-8	2	µg/L	----	<74	----	----	----
4.4`-DDE	72-55-9	0.3	µg/L	----	----	<0.9	----	----
4.4`-DDE	72-55-9	2	µg/L	----	<74	----	----	----
Dieldrin	60-57-1	0.3	µg/L	----	----	<0.9	----	----
Dieldrin	60-57-1	2	µg/L	----	<74	----	----	----
Endrin	72-20-8	0.3	µg/L	----	----	<0.9	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: TB303	MW205	MW60	----	----
				Client sampling date / time: 16-MAR-2010 15:00	17-MAR-2010 15:00	18-MAR-2010 15:00	----	----
				ES1005244-011	ES1005244-012	ES1005244-013	----	----
EP075I: Organochlorine Pesticides - Continued								
Endrin	72-20-8	2	µg/L	----	<74	----	----	----
beta-Endosulfan	33213-65-9	0.3	µg/L	----	----	<0.9	----	----
beta-Endosulfan	33213-65-9	2	µg/L	----	<74	----	----	----
4.4`-DDD	72-54-8	0.3	µg/L	----	----	<0.9	----	----
4.4`-DDD	72-54-8	2	µg/L	----	<74	----	----	----
Endosulfan sulfate	1031-07-8	0.3	µg/L	----	----	<0.9	----	----
Endosulfan sulfate	1031-07-8	2	µg/L	----	<74	----	----	----
4.4`-DDT	50-29-3	0.6	µg/L	----	----	<0.9	----	----
4.4`-DDT	50-29-3	4	µg/L	----	<74	----	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.3	µg/L	----	----	<0.9	----	----
Dichlorvos	62-73-7	2	µg/L	----	<74	----	----	----
Dimethoate	60-51-5	0.3	µg/L	----	----	<0.9	----	----
Dimethoate	60-51-5	2	µg/L	----	<74	----	----	----
Diazinon	333-41-5	0.3	µg/L	----	----	<0.9	----	----
Diazinon	333-41-5	2	µg/L	----	<74	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.3	µg/L	----	----	<0.9	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L	----	<74	----	----	----
Malathion	121-75-5	0.3	µg/L	----	----	<0.9	----	----
Malathion	121-75-5	2	µg/L	----	<74	----	----	----
Fenthion	55-38-9	0.3	µg/L	----	----	<0.9	----	----
Fenthion	55-38-9	2	µg/L	----	<74	----	----	----
Chlorpyrifos	2921-88-2	0.3	µg/L	----	----	<0.9	----	----
Chlorpyrifos	2921-88-2	2	µg/L	----	<74	----	----	----
Pirimphos-ethyl	23505-41-1	0.3	µg/L	----	----	<0.9	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L	----	<74	----	----	----
Chlorfenvinphos	470-90-6	0.3	µg/L	----	----	<1	----	----
Chlorfenvinphos	470-90-6	2	µg/L	----	<81	----	----	----
Prothiofos	34643-46-4	0.3	µg/L	----	----	<0.9	----	----
Prothiofos	34643-46-4	2	µg/L	----	<74	----	----	----
Ethion	563-12-2	0.3	µg/L	----	----	<0.9	----	----
Ethion	563-12-2	2	µg/L	----	<74	----	----	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.3	µg/L	----	----	<0.9	----	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.3	µg/L	----	----	<2	----	----
Methanesulfonate methyl	66-27-3	0.3	µg/L	----	----	<0.9	----	----
Methanesulfonate ethyl	62-50-0	0.3	µg/L	----	----	<0.9	----	----
cis-Isosafrole	17627-76-8	0.3	µg/L	----	----	<0.9	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: TB303	MW205	MW60	----	----
				Client sampling date / time: 16-MAR-2010 15:00	17-MAR-2010 15:00	18-MAR-2010 15:00	----	----
				ES1005244-011	ES1005244-012	ES1005244-013	----	----
EP075K: Miscellaneous Compounds - Continued								
trans-Isosafrole	4043-71-4	0.3	µg/L	----	----	<0.9	----	----
Safrole	94-59-7	0.3	µg/L	----	----	<0.9	----	----
Diallate	2303-16-4	0.3	µg/L	----	----	<0.9	----	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.3	µg/L	----	----	<0.9	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	----	----	**4360**	----	----
C10 - C14 Fraction	----	50	µg/L	----	**1730000**	**18500**	----	----
C15 - C28 Fraction	----	100	µg/L	----	**1520000**	**2630**	----	----
C29 - C36 Fraction	----	50	µg/L	----	**332000**	**120**	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	----	**3580000**	**21200**	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**109**	----	**101**	----	----
Toluene-D8	2037-26-5	0.1	%	**114**	----	**104**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**100**	----	**98.8**	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	**Not Determined**	**105**	----	----
Phenol-d6	13127-88-3	0.1	%	----	**Not Determined**	**39.2**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**Not Determined**	**70.6**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**Not Determined**	**104**	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	**Not Determined**	**86.1**	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	**Not Determined**	**61.9**	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	----	**Not Determined**	**51.0**	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**Not Determined**	**72.8**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**Not Determined**	**84.5**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	**101**	----	----
Toluene-D8	2037-26-5	0.1	%	----	----	**91.2**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	**99.7**	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	21	100
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	35	114
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

QUALITY CONTROL REPORT

Work Order	: **ES1005244**	Page	: 1 of 19
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 19-MAR-2010
Sampler	: KP/KO	Issue Date	: 29-MAR-2010
Order number	: 1303951		
		No. of samples received	: 14
Quote number	: SY/259/09 V2	No. of samples analysed	: 13

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA005: pH (QC Lot: 1288921)									
ES1005244-001	MW68	EA005: pH Value	----	0.01	pH Unit	6.88	6.87	0.1	0% - 20%
ED009: Anions (QC Lot: 1289109)									
EM1002851-001	Anonymous	ED009: Fluoride	16984-48-8	0.02	mg/L	0.49	0.40	19.6	0% - 20%
		ED009: Chloride	16887-00-6	0.50	mg/L	262	263	0.7	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	650	652	0.2	0% - 20%
ES1005217-001	Anonymous	ED009: Fluoride	16984-48-8	0.02	mg/L	<0.02	<0.02	0.0	No Limit
		ED009: Chloride	16887-00-6	0.50	mg/L	41.0	41.2	0.3	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	2.01	1.92	4.4	No Limit
ED037P: Alkalinity by PC Titrator (QC Lot: 1291695)									
ES1005124-024	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	97	100	3.3	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	97	100	3.3	0% - 20%
ES1005244-005	MW45	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	44	45	3.0	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	44	45	3.0	0% - 20%
ED040T: Total Major Anions (QC Lot: 1289708)									
ES1005244-001	MW68	ED040T: Sulfur as S	----	1	mg/L	487	461	5.5	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 1288890)									
ES1005244-001	MW68	ED093F: Calcium	7440-70-2	1	mg/L	460	499	8.1	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	714	773	7.9	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	7650	7980	4.3	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	260	263	1.5	0% - 20%
ES1005250-007	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	305	313	2.4	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	319	329	3.0	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	3220	3320	3.0	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	91	91	0.0	0% - 20%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1288806)									
ES1005214-004	Anonymous	EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	<0.05	0.0	No Limit
ES1005250-002	Anonymous	EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.50	<0.50	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1288805)									
ES1005214-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1005244-007	QC329	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG050 Low: Total Hexavalent Chromium - Low (QC Lot: 1293180)									
ES1005244-001	MW68	EG050: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	<0.002	0.0	No Limit
ES1005391-004	Anonymous	EG050: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	<0.002	0.0	No Limit
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QC Lot: 1291411)									
ES1005244-001	MW68	EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Cobalt	7440-48-4	0.2	µg/L	0.4	0.4	0.0	No Limit
		EG093A-F: Lead	7439-92-1	0.2	µg/L	0.7	<0.2	113	No Limit
		EG093A-F: Arsenic	7440-38-2	0.5	µg/L	0.6	0.8	20.5	No Limit
		EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Manganese	7439-96-5	0.5	µg/L	469	472	0.7	0% - 20%
		EG093A-F: Nickel	7440-02-0	0.5	µg/L	1.7	1.4	15.2	No Limit
		EG093A-F: Vanadium	7440-62-2	0.5	µg/L	1.4	1.3	0.0	No Limit
		EG093A-F: Barium	7440-39-3	1	µg/L	217	222	2.7	0% - 20%
		EG093A-F: Copper	7440-50-8	1	µg/L	<1	<1	0.0	No Limit
		EG093A-F: Zinc	7440-66-6	5	µg/L	14	10	25.2	No Limit
ES1005365-013	Anonymous	EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Arsenic	7440-38-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Nickel	7440-02-0	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Vanadium	7440-62-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Barium	7440-39-3	1	µg/L	<1	<1	0.0	No Limit
		EG093A-F: Copper	7440-50-8	1	µg/L	<1	<1	0.0	No Limit
		EG093A-F: Zinc	7440-66-6	5	µg/L	<5	5	0.0	No Limit
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QC Lot: 1294843)									
ES1005244-003	MW54	EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EG094A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG094A-F: Cobalt	7440-48-4	0.1	µg/L	6.0	6.1	0.0	0% - 20%
		EG094A-F: Lead	7439-92-1	0.1	µg/L	0.2	0.2	0.0	No Limit
		EG094A-F: Arsenic	7440-38-2	0.2	µg/L	5.4	5.3	2.3	0% - 20%
		EG094A-F: Chromium	7440-47-3	0.2	µg/L	1.0	1.2	21.6	No Limit
		EG094A-F: Vanadium	7440-62-2	0.2	µg/L	1.9	1.9	0.0	No Limit
		EG094A-F: Barium	7440-39-3	0.5	µg/L	136	136	0.2	0% - 20%
		EG094A-F: Copper	7440-50-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG094A-F: Manganese	7439-96-5	0.5	µg/L	509	513	0.8	0% - 20%
		EG094A-F: Nickel	7440-02-0	0.5	µg/L	72.6	72.4	0.2	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QC Lot: 1294843) - continued									
ES1005244-003	MW54	EG094A-F: Zinc	7440-66-6	1	µg/L	65	64	2.0	0% - 20%
EK025G: Free cyanide by Discrete Analyser (QC Lot: 1289696)									
ES1005244-001	MW68	EK025G: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1289823)									
ES1005244-001	MW68	EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.004	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 1288930)									
ES1005244-001	MW68	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	5.46	5.16	5.5	0% - 20%
ES1005356-003	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.10	<0.10	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 1288888)									
ES1005244-001	MW68	EK057G: Nitrite as N	----	0.01	mg/L	0.01	0.01	0.0	No Limit
ES1005334-003	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: NOX as N by Discrete Analyser (QC Lot: 1288929)									
ES1005244-001	MW68	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.06	0.05	0.0	No Limit
ES1005337-006	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.16	0.17	9.1	0% - 50%
EK071G: Reactive Phosphorus as P by discrete analyser (QC Lot: 1288889)									
ES1005244-001	MW68	EK071G: Reactive Phosphorus as P	----	0.01	mg/L	0.08	0.08	0.0	No Limit
EP005: Total Organic Carbon (TOC) (QC Lot: 1291535)									
ES1005244-001	MW68	EP005: Total Organic Carbon	----	1	mg/L	6	5	0.0	No Limit
ES1005390-001	Anonymous	EP005: Total Organic Carbon	----	1	mg/L	<1	<1	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1292925)									
ES1005244-001	MW68	EP074: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP074: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
ES1005244-009	QC330	EP074: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP074: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1292925) - continued									
ES1005244-009	QC330	EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1292925)									
ES1005244-001	MW68	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
ES1005244-009	QC330	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1292925)									
ES1005244-001	MW68	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
ES1005244-009	QC330	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1292925)									
ES1005244-001	MW68	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
ES1005244-009	QC330	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1292925)									
ES1005244-001	MW68	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1292925) - continued									
ES1005244-001	MW68	EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
ES1005244-009	QC330	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1292925) - continued									
ES1005244-009	QC330	EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1292925)									
ES1005244-001	MW68	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
ES1005244-009	QC330	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1292925)									
ES1005244-001	MW68	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
ES1005244-009	QC330	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074G: Trihalomethanes (QC Lot: 1292925) - continued									
ES1005244-009	QC330	EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
EP074H: Naphthalene (QC Lot: 1292925)									
ES1005244-001	MW68	EP074: Naphthalene	91-20-3	7	µg/L	<7	<7	0.0	No Limit
ES1005244-009	QC330	EP074: Naphthalene	91-20-3	7	µg/L	<7	<7	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1292926)									
ES1005244-001	MW68	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1005244-009	QC330	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
ED009: Anions (QCLot: 1289109)								
ED009: Chloride	16887-00-6	0.5	mg/L	<0.50	4 mg/L	93.9	70	130
ED009: Fluoride	16984-48-8	0.02	mg/L	<0.02	4 mg/L	97.0	70	130
ED009: Sulfate	14808-79-8	0.5	mg/L	<0.50	4 mg/L	90.0	70	130
ED037P: Alkalinity by PC Titrator (QCLot: 1291695)								
ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	----	200 mg/L	83.4	80.2	108
ED040T: Total Major Anions (QCLot: 1289708)								
ED040T: Sulfur as S	----	1	mg/L	<1	50 mg/L	93.7	91	119
ED093F: Dissolved Major Cations (QCLot: 1288890)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	97.0	88	110
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	98.6	90	110
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	86.6	81	107
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	96.6	89	109
EG020F: Dissolved Metals by ICP-MS (QCLot: 1288806)								
EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	0.5 mg/L	85.6	84	114
EG035F: Dissolved Mercury by FIMS (QCLot: 1288805)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	101	86	116
EG050 Low: Total Hexavalent Chromium - Low (QCLot: 1293180)								
EG050: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	0.10 mg/L	100	70	130
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1291411)								
EG093A-F: Arsenic	7440-38-2	0.5	µg/L	<0.5	10 µg/L	98.1	85	125
EG093A-F: Barium	7440-39-3	1	µg/L	<1	10 µg/L	105	81	129
EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	10 µg/L	102	80	122
EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	10 µg/L	92.3	78	116
EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	10 µg/L	109	86	128
EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	10 µg/L	104	87	127
EG093A-F: Copper	7440-50-8	1	µg/L	<1	10 µg/L	108	86	124
EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	10 µg/L	106	87	123
EG093A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	10 µg/L	98.2	90	122
EG093A-F: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	100	84	124
EG093A-F: Vanadium	7440-62-2	0.5	µg/L	<0.5	10 µg/L	96.6	85	123
EG093A-F: Zinc	7440-66-6	5	µg/L	<5	10 µg/L	108	82	128
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1294843)								
EG094A-F: Arsenic	7440-38-2	0.2	µg/L	<0.2	10 µg/L	104	81	121

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1294843) - continued								
EG094A-F: Barium	7440-39-3	0.5	µg/L	<0.5	10 µg/L	104	78	112
EG094A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	10 µg/L	127	70	130
EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.05	10 µg/L	95.8	70	130
EG094A-F: Chromium	7440-47-3	0.2	µg/L	<0.2	10 µg/L	97.9	70	130
EG094A-F: Cobalt	7440-48-4	0.1	µg/L	<0.1	10 µg/L	93.8	70	130
EG094A-F: Copper	7440-50-8	0.5	µg/L	<0.5	10 µg/L	90.0	70	130
EG094A-F: Lead	7439-92-1	0.1	µg/L	<0.1	10 µg/L	99.9	70	130
EG094A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	10 µg/L	104	70	130
EG094A-F: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	88.9	70	130
EG094A-F: Vanadium	7440-62-2	0.2	µg/L	<0.2	10 µg/L	96.6	70	130
EG094A-F: Zinc	7440-66-6	1	µg/L	<1	10 µg/L	97.8	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1289696)								
EK025G: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	93.6	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1289823)								
EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	87.2	70	129
EK055G: Ammonia as N by Discrete Analyser (QCLot: 1288930)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.00 mg/L	94.0	79.6	122
EK057G: Nitrite as N by Discrete Analyser (QCLot: 1288888)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.96 mg/L	86.9	65.1	129
EK059G: NOX as N by Discrete Analyser (QCLot: 1288929)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.96 mg/L	108	76.9	122
EK071G: Reactive Phosphorus as P by discrete analyser (QCLot: 1288889)								
EK071G: Reactive Phosphorus as P	----	0.01	mg/L	<0.01	0.50 mg/L	109	83.8	122
EP005: Total Organic Carbon (TOC) (QCLot: 1291535)								
EP005: Total Organic Carbon	----	1	mg/L	<1	10 mg/L	107	86.9	125
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1292925)								
EP074: Benzene	71-43-2	1	µg/L	<1	10 µg/L	95.4	81	119
EP074: Toluene	108-88-3	2	µg/L	<5	10 µg/L	114	76.5	123
EP074: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	90.8	80.3	119
EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	20 µg/L	103	81.1	118
EP074: Styrene	100-42-5	5	µg/L	<5	10 µg/L	89.1	79.9	120
EP074: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	103	82	118
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	10 µg/L	95.8	80.3	119
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	10 µg/L	93.0	75.5	122
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	10 µg/L	98.7	79.2	118
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	10 µg/L	97.7	76.6	121
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	10 µg/L	96.8	79.7	118

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1292925) - continued								
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	10 µg/L	94.8	77.4	120
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	10 µg/L	91.4	76.3	122
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	10 µg/L	90.3	74.4	123
EP074B: Oxygenated Compounds (QCLot: 1292925)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	100 µg/L	81.7	61.4	134
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	100 µg/L	119	73.6	130
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	100 µg/L	103	74.7	129
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	100 µg/L	89.3	74.1	130
EP074C: Sulfonated Compounds (QCLot: 1292925)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	10 µg/L	102	72.8	127
EP074D: Fumigants (QCLot: 1292925)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	10 µg/L	86.5	72.7	124
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	10 µg/L	101	80.7	119
EP074: cis-1.3-Dichloropropylene	10061-01-5	10	µg/L	<10	10 µg/L	88.3	80.4	119
EP074: trans-1.3-Dichloropropylene	10061-02-6	10	µg/L	<10	10 µg/L	105	79.3	120
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	10 µg/L	84.7	79.1	123
EP074E: Halogenated Aliphatic Compounds (QCLot: 1292925)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	100 µg/L	121	60.6	138
EP074: Chloromethane	74-87-3	50	µg/L	<50	100 µg/L	122	67.4	130
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	100 µg/L	120	69.4	129
EP074: Bromomethane	74-83-9	50	µg/L	<50	100 µg/L	111	68.9	131
EP074: Chloroethane	75-00-3	50	µg/L	<50	100 µg/L	122	73.9	126
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	100 µg/L	115	71.6	128
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	10 µg/L	115	72.5	128
EP074: Iodomethane	74-88-4	5	µg/L	<5	10 µg/L	96.8	70.2	128
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	10 µg/L	112	77.4	122
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	10 µg/L	113	79.3	121
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	10 µg/L	120	79.5	121
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	10 µg/L	105	75.8	124
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	10 µg/L	85.8	77.8	121
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	10 µg/L	85.6	73.8	126
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	10 µg/L	124	75.5	126
EP074: Trichloroethene	79-01-6	5	µg/L	<5	10 µg/L	95.3	76.7	123
EP074: Dibromomethane	74-95-3	5	µg/L	<5	10 µg/L	89.3	76.1	126
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	10 µg/L	82.8	79.6	122
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	10 µg/L	88.7	79.9	122
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	10 µg/L	91.2	75	124
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	10 µg/L	82.7	78.9	121

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1292925) - continued								
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	10 µg/L	90.5	61.4	136
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	10 µg/L	87.8	70.6	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	10 µg/L	85.2	77.8	126
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	10 µg/L	86.9	74.1	128
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	10 µg/L	# 61.3	71.8	126
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	10 µg/L	81.2	66.4	136
EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	10 µg/L	94.4	67.2	129
EP074F: Halogenated Aromatic Compounds (QCLot: 1292925)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	10 µg/L	99.9	80.8	119
EP074: Bromobenzene	108-86-1	5	µg/L	<5	10 µg/L	89.7	79.3	119
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	10 µg/L	104	78.2	120
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	10 µg/L	98.0	79	119
EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	10 µg/L	93.6	78.9	120
EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	10 µg/L	101	79.9	119
EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	10 µg/L	91.8	82.3	116
EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	10 µg/L	84.7	67.8	129
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	10 µg/L	94.8	68.6	128
EP074G: Trihalomethanes (QCLot: 1292925)								
EP074: Chloroform	67-66-3	5	µg/L	<5	10 µg/L	108	78.2	122
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	10 µg/L	90.6	76.9	123
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	10 µg/L	81.7	78.5	124
EP074: Bromoform	75-25-2	5	µg/L	<5	10 µg/L	83.8	73.5	126
EP074H: Naphthalene (QCLot: 1292925)								
EP074: Naphthalene	91-20-3	7	µg/L	<7	10 µg/L	90.0	72.9	127
EP075A: Phenolic Compounds (QCLot: 1290243)								
EP075: Phenol	108-95-2	2	µg/L	<2	5 µg/L	40.8	25.5	64.1
EP075: 2-Chlorophenol	95-57-8	2	µg/L	<2	5 µg/L	75.2	63.1	105
EP075: 2-Methylphenol	95-48-7	2	µg/L	<2	5 µg/L	96.3	55.6	98.4
EP075: 3- & 4-Methylphenol	1319-77-3	4	µg/L	<4	10 µg/L	# 101	45	96.2
EP075: 2-Nitrophenol	88-75-5	2	µg/L	<2	5 µg/L	106	55.4	110
EP075: 2.4-Dimethylphenol	105-67-9	2	µg/L	<2	5 µg/L	66.6	61.7	110
EP075: 2.4-Dichlorophenol	120-83-2	2	µg/L	<2	5 µg/L	73.9	61.9	109
EP075: 2.6-Dichlorophenol	87-65-0	2	µg/L	<2	5 µg/L	70.6	61.5	108
EP075: 4-Chloro-3-Methylphenol	59-50-7	2	µg/L	<2	5 µg/L	73.0	61.4	107
EP075: 2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	5 µg/L	63.9	57.6	112
EP075: 2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	5 µg/L	69.8	58	110
EP075: Pentachlorophenol	87-86-5	4	µg/L	<4	10 µg/L	51.2	2.39	110
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1290243)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1290243) - continued								
EP075: Naphthalene	91-20-3	2	µg/L	<2	5 µg/L	89.5	61	108
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	5 µg/L	73.8	59	108
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	5 µg/L	70.4	60.6	106
EP075: Acenaphthylene	208-96-8	2	µg/L	<2	5 µg/L	71.7	64	108
EP075: Acenaphthene	83-32-9	2	µg/L	<2	5 µg/L	73.0	65	108
EP075: Fluorene	86-73-7	2	µg/L	<2	5 µg/L	74.2	65.2	107
EP075: Phenanthrene	85-01-8	2	µg/L	<2	5 µg/L	76.2	66.7	108
EP075: Anthracene	120-12-7	2	µg/L	<2	5 µg/L	73.2	65.8	108
EP075: Fluoranthene	206-44-0	2	µg/L	<2	5 µg/L	73.2	64.9	109
EP075: Pyrene	129-00-0	2	µg/L	<2	5 µg/L	74.5	60.1	111
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	5 µg/L	71.4	59.7	110
EP075: Benz(a)anthracene	56-55-3	2	µg/L	<2	5 µg/L	74.5	62.2	112
EP075: Chrysene	218-01-9	2	µg/L	<2	5 µg/L	74.3	59.3	114
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	10 µg/L	73.4	60.1	111
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	5 µg/L	71.6	49.8	107
EP075: Benzo(a)pyrene	50-32-8	2	µg/L	<2	5 µg/L	72.7	59.2	112
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	5 µg/L	66.2	60.1	110
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	5 µg/L	60.8	59.6	110
EP075: Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	5 µg/L	63.0	57.2	109
EP075: Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	5 µg/L	61.8	60.6	110
EP075C: Phthalate Esters (QCLot: 1290243)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	5 µg/L	72.9	64.3	112
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	5 µg/L	79.1	67.3	111
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	5 µg/L	104	68.4	122
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	5 µg/L	78.7	61.2	114
EP075: bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	<20	5 µg/L	100	72.8	135
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	5 µg/L	74.5	62.1	115
EP075D: Nitrosamines (QCLot: 1290243)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	5 µg/L	86.0	39.5	95.9
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	5 µg/L	75.4	60.6	113
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	5 µg/L	51.3	23.7	82.1
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	5 µg/L	54.2	35.4	86.2
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	5 µg/L	77.2	63.5	108
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	5 µg/L	70.0	61.7	107
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	5 µg/L	76.3	62.5	108
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	10 µg/L	70.8	64.6	112
EP075: Methapyrilene	91-80-5	2	µg/L	<2	5 µg/L	32.4	4.21	94

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 1290243)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	5 µg/L	51.3	11.4	100
EP075: Acetophenone	98-86-2	2	µg/L	<2	5 µg/L	79.4	68.3	112
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	5 µg/L	86.2	68.3	112
EP075: Isophorone	78-59-1	2	µg/L	<2	5 µg/L	78.8	67.6	111
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	5 µg/L	82.1	64.4	113
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	5 µg/L	83.2	59.5	109
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	5 µg/L	# 31.3	46.8	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	5 µg/L	# 104	8.93	98.7
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	5 µg/L	103	58.3	106
EP075: Azobenzene	103-33-3	2	µg/L	<2	5 µg/L	75.4	66	112
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	5 µg/L	93.1	39	105
EP075: Phenacetin	62-44-2	2	µg/L	<2	5 µg/L	74.7	57.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	5 µg/L	104	60.1	112
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	5 µg/L	73.5	59	109
EP075: Pronamide	23950-58-5	2	µg/L	<2	5 µg/L	71.4	62.7	109
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	5 µg/L	72.4	59.4	108
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	5 µg/L	72.9	57.7	110
EP075F: Haloethers (QCLot: 1290243)								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	5 µg/L	80.7	69.1	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	5 µg/L	71.6	66.2	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	5 µg/L	74.7	64.7	109
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	5 µg/L	73.5	61.6	108
EP075G: Chlorinated Hydrocarbons (QCLot: 1290243)								
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	5 µg/L	68.8	39.1	113
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	5 µg/L	70.2	42	114
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	5 µg/L	70.8	41.3	112
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	5 µg/L	73.2	31	114
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	5 µg/L	70.6	42.9	115
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	5 µg/L	68.6	23.8	111
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	5 µg/L	70.1	37.4	116
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	5 µg/L	71.4	1.88	105
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	5 µg/L	71.9	64.5	107
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	5 µg/L	75.8	65.7	110
EP075H: Anilines and Benzidines (QCLot: 1290243)								
EP075: Aniline	62-53-3	2	µg/L	<2	5 µg/L	# 102	10.9	89.7
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	5 µg/L	84.0	44.4	106
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	5 µg/L	80.3	60.9	110
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	5 µg/L	# 101	51.5	96.9
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	5 µg/L	75.3	65.3	108

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075H: Anilines and Benzidines (QCLot: 1290243) - continued								
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	5 µg/L	85.7	48.9	99.5
EP075: Carbazole	86-74-8	2	µg/L	<2	5 µg/L	73.0	64.3	107
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	5 µg/L	116	60.3	119
EP075I: Organochlorine Pesticides (QCLot: 1290243)								
EP075: alpha-BHC	319-84-6	2	µg/L	<2	5 µg/L	72.3	64.3	110
EP075: beta-BHC	319-85-7	2	µg/L	<2	5 µg/L	66.9	59	110
EP075: gamma-BHC	58-89-9	2	µg/L	<2	5 µg/L	73.9	63.7	112
EP075: delta-BHC	319-86-8	2	µg/L	<2	5 µg/L	78.0	60.2	113
EP075: Heptachlor	76-44-8	2	µg/L	<2	5 µg/L	74.5	57.9	108
EP075: Aldrin	309-00-2	2	µg/L	<2	5 µg/L	74.4	57	113
EP075: Heptachlor epoxide	1024-57-3	2	µg/L	<2	5 µg/L	74.3	60.3	112
EP075: alpha-Endosulfan	959-98-8	2	µg/L	<2	5 µg/L	87.5	52.5	115
EP075: 4.4`-DDE	72-55-9	2	µg/L	<2	5 µg/L	73.6	64.1	111
EP075: Dieldrin	60-57-1	2	µg/L	<2	5 µg/L	73.7	65	113
EP075: Endrin	72-20-8	2	µg/L	<2	5 µg/L	68.9	51.1	112
EP075: beta-Endosulfan	33213-65-9	2	µg/L	<2	5 µg/L	76.8	60.4	111
EP075: 4.4`-DDD	72-54-8	2	µg/L	<2	5 µg/L	74.8	59.8	115
EP075: Endosulfan sulfate	1031-07-8	2	µg/L	<2	5 µg/L	96.0	52.8	114
EP075: 4.4`-DDT	50-29-3	4	µg/L	<4	5 µg/L	77.0	41.3	114
EP075J: Organophosphorus Pesticides (QCLot: 1290243)								
EP075: Dichlorvos	62-73-7	2	µg/L	<2	5 µg/L	76.9	52	118
EP075: Dimethoate	60-51-5	2	µg/L	<2	5 µg/L	75.4	46.8	114
EP075: Diazinon	333-41-5	2	µg/L	<2	5 µg/L	96.7	54	116
EP075: Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	5 µg/L	74.8	54.1	116
EP075: Malathion	121-75-5	2	µg/L	<2	5 µg/L	83.3	57.6	118
EP075: Fenthion	55-38-9	2	µg/L	<2	5 µg/L	74.8	50.1	117
EP075: Chlorpyrifos	2921-88-2	2	µg/L	<2	5 µg/L	71.9	59.2	113
EP075: Pirimphos-ethyl	23505-41-1	2	µg/L	<2	5 µg/L	72.8	52.6	115
EP075: Chlorfenvinphos	470-90-6	2	µg/L	<2	6 µg/L	66.9	44.6	95.8
EP075: Prothiofos	34643-46-4	2	µg/L	<2	5 µg/L	68.3	56.8	116
EP075: Ethion	563-12-2	2	µg/L	<2	5 µg/L	73.3	48.6	118
EP075K: Miscellaneous Compounds (QCLot: 1290243)								
EP075: 1.3.5-Trichlorobenzene	108-70-3	2	µg/L	<2	5 µg/L	75.8	40.9	110
EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	2	µg/L	<2	5 µg/L	62.6	52.5	109
EP075: Methanesulfonate methyl	66-27-3	2	µg/L	<2	5 µg/L	78.0	41.3	119
EP075: Methanesulfonate ethyl	62-50-0	2	µg/L	<2	5 µg/L	72.5	54.4	103
EP075: cis-Isosafrole	17627-76-8	2	µg/L	<2	5 µg/L	69.2	61.7	106
EP075: trans-Isosafrole	4043-71-4	2	µg/L	<2	5 µg/L	65.6	57.3	114
EP075: Safrole	94-59-7	2	µg/L	<2	5 µg/L	70.2	64.5	110

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075K: Miscellaneous Compounds (QCLot: 1290243) - continued								
EP075: Diallate	2303-16-4	2	µg/L	<2	5 µg/L	77.8	66.4	108
EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	2	µg/L	<2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1290241)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	78.5	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	90.0	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	72.5	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1292926)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	90.0	75	127

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED009: Anions (QCLot: 1289109)							
EM1002851-001	Anonymous	ED009: Chloride	16887-00-6	4 mg/L	# Not Determined	70	130
		ED009: Fluoride	16984-48-8	2 mg/L	101	70	130
		ED009: Sulfate	14808-79-8	4 mg/L	# Not Determined	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1288805)							
ES1005214-002	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	109	70	130
EG050 Low: Total Hexavalent Chromium - Low (QCLot: 1293180)							
ES1005244-001	MW68	EG050: Hexavalent Chromium	18540-29-9	0.50 mg/L	73.9	70	130
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1291411)							
ES1005244-001	MW68	EG093A-F: Arsenic	7440-38-2	50 µg/L	72.0	70	130
		EG093A-F: Barium	7440-39-3	50 µg/L	# Not Determined	70	130
		EG093A-F: Beryllium	7440-41-7	50 µg/L	72.8	70	130
		EG093A-F: Cadmium	7440-43-9	12.5 µg/L	70.4	70	130
		EG093A-F: Chromium	7440-47-3	50 µg/L	73.4	70	130
		EG093A-F: Cobalt	7440-48-4	50 µg/L	72.8	70	130
		EG093A-F: Copper	7440-50-8	50 µg/L	75.4	70	130
		EG093A-F: Lead	7439-92-1	50 µg/L	74.3	70	130
		EG093A-F: Manganese	7439-96-5	50 µg/L	# Not Determined	70	130
		EG093A-F: Nickel	7440-02-0	50 µg/L	71.4	70	130
		EG093A-F: Vanadium	7440-62-2	50 µg/L	76.7	70	130
		EG093A-F: Zinc	7440-66-6	50 µg/L	70.0	70	130
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1294843)							
ES1005244-003	MW54	EG094A-F: Arsenic	7440-38-2	50 µg/L	125	70	130
		EG094A-F: Barium	7440-39-3	50 µg/L	116	70	130
		EG094A-F: Beryllium	7440-41-7	50 µg/L	116	70	130
		EG094A-F: Cadmium	7440-43-9	12.5 µg/L	99.1	70	130
		EG094A-F: Chromium	7440-47-3	50 µg/L	98.7	70	130
		EG094A-F: Cobalt	7440-48-4	50 µg/L	107	70	130
		EG094A-F: Copper	7440-50-8	50 µg/L	99.4	70	130
		EG094A-F: Lead	7439-92-1	50 µg/L	107	70	130
		EG094A-F: Manganese	7439-96-5	50 µg/L	# Not Determined	70	130
		EG094A-F: Nickel	7440-02-0	50 µg/L	101	70	130
		EG094A-F: Vanadium	7440-62-2	50 µg/L	107	70	130
		EG094A-F: Zinc	7440-66-6	50 µg/L	110	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1289696)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK025G: Free cyanide by Discrete Analyser (QCLot: 1289696) - continued							
ES1005244-001	MW68	EK025G: Free Cyanide	----	0.2 mg/L	97.1	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1289823)							
ES1005244-001	MW68	EK028G: Weak Acid Dissociable Cyanide	----	0.2 mg/L	80.6	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 1288930)							
ES1005244-001	MW68	EK055G: Ammonia as N	7664-41-7	1.00 mg/L	# Not Determined	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 1288888)							
ES1005244-001	MW68	EK057G: Nitrite as N	----	0.60 mg/L	89.0	70	130
EK059G: NOX as N by Discrete Analyser (QCLot: 1288929)							
ES1005244-001	MW68	EK059G: Nitrite + Nitrate as N	----	0.60 mg/L	105	70	130
EK071G: Reactive Phosphorus as P by discrete analyser (QCLot: 1288889)							
ES1005244-001	MW68	EK071G: Reactive Phosphorus as P	----	0.50 mg/L	101	70	130
EP005: Total Organic Carbon (TOC) (QCLot: 1291535)							
ES1005244-002	MW74	EP005: Total Organic Carbon	----	100 mg/L	91.9	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1292925)							
ES1005244-001	MW68	EP074: Benzene	71-43-2	25 µg/L	91.9	70	130
		EP074: Toluene	108-88-3	25 µg/L	87.6	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1292925)							
ES1005244-001	MW68	EP074: 1.1-Dichloroethene	75-35-4	25 µg/L	78.3	70	130
		EP074: Trichloroethene	79-01-6	25 µg/L	88.6	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1292925)							
ES1005244-001	MW68	EP074: Chlorobenzene	108-90-7	25 µg/L	97.8	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1292926)							
ES1005244-001	MW68	EP080: C6 - C9 Fraction	----	250 µg/L	115	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1005244**	Page	: 1 of 22
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
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Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 19-MAR-2010
Sampler	: KP/KO	Issue Date	: 29-MAR-2010
Order number	: 1303951		
		No. of samples received	: 14
Quote number	: SY/259/09 V2	No. of samples analysed	: 13

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **WATER**

Evaluation: ✗ = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA005: pH							
Clear Plastic Bottle - Natural							
MW68, MW74, MW60	**18-MAR-2010**	**----**	----	----	**23-MAR-2010**	18-MAR-2010	✗
Clear Plastic Bottle - Natural							
MW54, MW52, MW45	**19-MAR-2010**	**----**	----	----	**23-MAR-2010**	19-MAR-2010	✗
ED009: Anions							
Clear Plastic Bottle - Natural							
MW68	**18-MAR-2010**	**----**	----	----	**24-MAR-2010**	15-APR-2010	✓
Clear Plastic Bottle - Natural							
MW54, MW52, MW45	**19-MAR-2010**	**----**	----	----	**24-MAR-2010**	16-APR-2010	✓
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural							
MW68	**18-MAR-2010**	**---**	---	----	**25-MAR-2010**	01-APR-2010	✓
Clear Plastic Bottle - Natural							
MW54, MW52, MW45	**19-MAR-2010**	**---**	---	----	**25-MAR-2010**	02-APR-2010	✓
ED040T: Total Major Anions							
Clear Plastic Bottle - Natural							
MW68	**18-MAR-2010**	**24-MAR-2010**	15-APR-2010	✓	**24-MAR-2010**	15-APR-2010	✓
Clear Plastic Bottle - Natural							
MW54, MW52, MW45	**19-MAR-2010**	**24-MAR-2010**	16-APR-2010	✓	**24-MAR-2010**	16-APR-2010	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Natural							
MW68	**18-MAR-2010**	**---**	---	----	**23-MAR-2010**	25-MAR-2010	✓
Clear Plastic Bottle - Natural							
MW54, MW52, MW45	**19-MAR-2010**	**---**	---	----	**23-MAR-2010**	26-MAR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW68	**18-MAR-2010**	**---**	---	----	**24-MAR-2010**	14-SEP-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW54, MW52, MW45	**19-MAR-2010**	**---**	---	----	**24-MAR-2010**	15-SEP-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
QC328	**17-MAR-2010**	**---**	---	----	**25-MAR-2010**	14-APR-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW68, MW74, QC329, MW60	**18-MAR-2010**	**---**	---	----	**25-MAR-2010**	15-APR-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW54, MW52, MW45, QC330	**19-MAR-2010**	**---**	---	----	**25-MAR-2010**	16-APR-2010	✓
EG050 Low: Total Hexavalent Chromium - Low							
Clear Plastic Bottle - NaOH							
MW68, MW74, MW60	**18-MAR-2010**	**----**	----	----	**26-MAR-2010**	15-APR-2010	✓
Clear Plastic Bottle - NaOH							
MW54, MW52, MW45	**19-MAR-2010**	**----**	----	----	**26-MAR-2010**	16-APR-2010	✓
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW68, MW74, MW60	**18-MAR-2010**	**25-MAR-2010**	14-SEP-2010	✓	**25-MAR-2010**	14-SEP-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW52, MW45	**19-MAR-2010**	**25-MAR-2010**	15-SEP-2010	✓	**25-MAR-2010**	15-SEP-2010	✓
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
QC328	**17-MAR-2010**	**29-MAR-2010**	13-SEP-2010	✓	**29-MAR-2010**	13-SEP-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
QC329	**18-MAR-2010**	**29-MAR-2010**	14-SEP-2010	✓	**29-MAR-2010**	14-SEP-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW54, QC330	**19-MAR-2010**	**29-MAR-2010**	15-SEP-2010	✓	**29-MAR-2010**	15-SEP-2010	✓
EK025G: Free cyanide by Discrete Analyser							
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW68, MW74, MW60	**18-MAR-2010**	**24-MAR-2010**	01-APR-2010	✓	**24-MAR-2010**	01-APR-2010	✓
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW54, MW52, MW45	**19-MAR-2010**	**24-MAR-2010**	02-APR-2010	✓	**24-MAR-2010**	02-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW68, MW74, MW60	**18-MAR-2010**	**24-MAR-2010**	01-APR-2010	✓	**24-MAR-2010**	01-APR-2010	✓
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW54, MW52, MW45	**19-MAR-2010**	**24-MAR-2010**	02-APR-2010	✓	**24-MAR-2010**	02-APR-2010	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulphuric Acid							
MW68	**18-MAR-2010**	**---**	---	----	**23-MAR-2010**	15-APR-2010	✓
Clear Plastic Bottle - Sulphuric Acid							
MW54, MW52, MW45	**19-MAR-2010**	**---**	---	----	**23-MAR-2010**	16-APR-2010	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural							
MW68	**18-MAR-2010**	**---**	---	----	**22-MAR-2010**	20-MAR-2010	×
Clear Plastic Bottle - Natural							
MW54, MW52, MW45	**19-MAR-2010**	**---**	---	----	**22-MAR-2010**	21-MAR-2010	×
EK059G: NOX as N by Discrete Analyser							
Clear Plastic Bottle - Sulphuric Acid							
MW68	**18-MAR-2010**	**---**	---	----	**23-MAR-2010**	15-APR-2010	✓
Clear Plastic Bottle - Sulphuric Acid							
MW54, MW52, MW45	**19-MAR-2010**	**---**	---	----	**23-MAR-2010**	16-APR-2010	✓
EK071G: Reactive Phosphorus as P by discrete analyser							
Clear Plastic Bottle - Natural							
MW68	**18-MAR-2010**	**---**	---	----	**22-MAR-2010**	20-MAR-2010	×
Clear Plastic Bottle - Natural							
MW54, MW52, MW45	**19-MAR-2010**	**---**	---	----	**22-MAR-2010**	21-MAR-2010	×
EP005: Total Organic Carbon (TOC)							
Amber TOC Vial - Sulphuric Acid							
MW68, MW74, MW60	**18-MAR-2010**	**----**	----	----	**25-MAR-2010**	15-APR-2010	✓
Amber TOC Vial - Sulphuric Acid							
MW54, MW52, MW45	**19-MAR-2010**	**----**	----	----	**25-MAR-2010**	16-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - HCl TB303	**16-MAR-2010**	---	---	----	**26-MAR-2010**	30-MAR-2010	✓
Amber VOC Vial - HCl QC328, MW205	**17-MAR-2010**	---	---	----	**26-MAR-2010**	31-MAR-2010	✓
Amber VOC Vial - HCl MW68, MW74, QC329, TB304, MW60	**18-MAR-2010**	---	---	----	**26-MAR-2010**	01-APR-2010	✓
Amber VOC Vial - HCl MW54, MW52, MW45, MW206, QC330	**19-MAR-2010**	---	---	----	**26-MAR-2010**	02-APR-2010	✓
EP074B: Oxygenated Compounds							
Amber VOC Vial - HCl TB303	**16-MAR-2010**	---	---	----	**26-MAR-2010**	30-MAR-2010	✓
Amber VOC Vial - HCl QC328, MW205	**17-MAR-2010**	---	---	----	**26-MAR-2010**	31-MAR-2010	✓
Amber VOC Vial - HCl MW68, MW74, QC329, TB304, MW60	**18-MAR-2010**	---	---	----	**26-MAR-2010**	01-APR-2010	✓
Amber VOC Vial - HCl MW54, MW52, MW45, MW206, QC330	**19-MAR-2010**	---	---	----	**26-MAR-2010**	02-APR-2010	✓
EP074C: Sulfonated Compounds							
Amber VOC Vial - HCl TB303	**16-MAR-2010**	---	---	----	**26-MAR-2010**	30-MAR-2010	✓
Amber VOC Vial - HCl QC328, MW205	**17-MAR-2010**	---	---	----	**26-MAR-2010**	31-MAR-2010	✓
Amber VOC Vial - HCl MW68, MW74, QC329, TB304, MW60	**18-MAR-2010**	---	---	----	**26-MAR-2010**	01-APR-2010	✓
Amber VOC Vial - HCl MW54, MW52, MW45, MW206, QC330	**19-MAR-2010**	---	---	----	**26-MAR-2010**	02-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074D: Fumigants							
Amber VOC Vial - HCl TB303	**16-MAR-2010**	**---**	---	----	**26-MAR-2010**	30-MAR-2010	✓
Amber VOC Vial - HCl QC328, MW205	**17-MAR-2010**	**---**	---	----	**26-MAR-2010**	31-MAR-2010	✓
Amber VOC Vial - HCl MW68, MW74, QC329, TB304, MW60	**18-MAR-2010**	**---**	---	----	**26-MAR-2010**	01-APR-2010	✓
Amber VOC Vial - HCl MW54, MW52, MW45, MW206, QC330	**19-MAR-2010**	**---**	---	----	**26-MAR-2010**	02-APR-2010	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - HCl TB303	**16-MAR-2010**	**---**	---	----	**26-MAR-2010**	30-MAR-2010	✓
Amber VOC Vial - HCl QC328, MW205	**17-MAR-2010**	**---**	---	----	**26-MAR-2010**	31-MAR-2010	✓
Amber VOC Vial - HCl MW68, MW74, QC329, TB304, MW60	**18-MAR-2010**	**---**	---	----	**26-MAR-2010**	01-APR-2010	✓
Amber VOC Vial - HCl MW54, MW52, MW45, MW206, QC330	**19-MAR-2010**	**---**	---	----	**26-MAR-2010**	02-APR-2010	✓
EP074F: Halogenated Aromatic Compounds							
Amber VOC Vial - HCl TB303	**16-MAR-2010**	**---**	---	----	**26-MAR-2010**	30-MAR-2010	✓
Amber VOC Vial - HCl QC328, MW205	**17-MAR-2010**	**---**	---	----	**26-MAR-2010**	31-MAR-2010	✓
Amber VOC Vial - HCl MW68, MW74, QC329, TB304, MW60	**18-MAR-2010**	**---**	---	----	**26-MAR-2010**	01-APR-2010	✓
Amber VOC Vial - HCl MW54, MW52, MW45, MW206, QC330	**19-MAR-2010**	**---**	---	----	**26-MAR-2010**	02-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074G: Trihalomethanes							
Amber VOC Vial - HCl TB303	**16-MAR-2010**	---	---	----	**26-MAR-2010**	30-MAR-2010	✓
Amber VOC Vial - HCl QC328, MW205	**17-MAR-2010**	---	---	----	**26-MAR-2010**	31-MAR-2010	✓
Amber VOC Vial - HCl MW68, MW74, QC329, TB304, MW60	**18-MAR-2010**	---	---	----	**26-MAR-2010**	01-APR-2010	✓
Amber VOC Vial - HCl MW54, MW52, MW45, MW206, QC330	**19-MAR-2010**	---	---	----	**26-MAR-2010**	02-APR-2010	✓
EP074H: Naphthalene							
Amber VOC Vial - HCl TB303	**16-MAR-2010**	---	---	----	**26-MAR-2010**	30-MAR-2010	✓
Amber VOC Vial - HCl QC328	**17-MAR-2010**	---	---	----	**26-MAR-2010**	31-MAR-2010	✓
Amber VOC Vial - HCl QC329, TB304	**18-MAR-2010**	---	---	----	**26-MAR-2010**	01-APR-2010	✓
Amber VOC Vial - HCl QC330	**19-MAR-2010**	---	---	----	**26-MAR-2010**	02-APR-2010	✓
EP075A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved MW205	**17-MAR-2010**	**25-MAR-2010**	24-MAR-2010	×	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW68, MW74, MW60	**18-MAR-2010**	**25-MAR-2010**	25-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW54, MW52, MW45, MW206	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved MW205	**17-MAR-2010**	**25-MAR-2010**	24-MAR-2010	×	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW68, MW74, MW60	**18-MAR-2010**	**25-MAR-2010**	25-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW54, MW52, MW45, MW206	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075C: Phthalate Esters							
Amber Glass Bottle - Unpreserved MW205	**17-MAR-2010**	**25-MAR-2010**	24-MAR-2010	×	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW68, MW74, MW60	**18-MAR-2010**	**25-MAR-2010**	25-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW54, MW52, MW45, MW206	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075D: Nitrosamines							
Amber Glass Bottle - Unpreserved MW205	**17-MAR-2010**	**25-MAR-2010**	24-MAR-2010	×	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW68, MW74, MW60	**18-MAR-2010**	**25-MAR-2010**	25-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW54, MW52, MW45, MW206	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075E: Nitroaromatics and Ketones							
Amber Glass Bottle - Unpreserved MW205	**17-MAR-2010**	**25-MAR-2010**	24-MAR-2010	×	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW68, MW74, MW60	**18-MAR-2010**	**25-MAR-2010**	25-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW54, MW52, MW45, MW206	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075F: Haloethers							
Amber Glass Bottle - Unpreserved MW205	**17-MAR-2010**	**25-MAR-2010**	24-MAR-2010	×	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW68, MW74, MW60	**18-MAR-2010**	**25-MAR-2010**	25-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW54, MW52, MW45, MW206	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075G: Chlorinated Hydrocarbons							
Amber Glass Bottle - Unpreserved MW205	**17-MAR-2010**	**25-MAR-2010**	24-MAR-2010	×	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW68, MW74, MW60	**18-MAR-2010**	**25-MAR-2010**	25-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW54, MW52, MW45, MW206	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075H: Anilines and Benzidines							
Amber Glass Bottle - Unpreserved MW205	**17-MAR-2010**	**25-MAR-2010**	24-MAR-2010	×	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW68, MW74, MW60	**18-MAR-2010**	**25-MAR-2010**	25-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW54, MW52, MW45, MW206	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075I: Organochlorine Pesticides							
Amber Glass Bottle - Unpreserved MW205	**17-MAR-2010**	**25-MAR-2010**	24-MAR-2010	×	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW68, MW74, MW60	**18-MAR-2010**	**25-MAR-2010**	25-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW54, MW52, MW45, MW206	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075J: Organophosphorus Pesticides							
Amber Glass Bottle - Unpreserved MW205	**17-MAR-2010**	**25-MAR-2010**	24-MAR-2010	×	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW68, MW74, MW60	**18-MAR-2010**	**25-MAR-2010**	25-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved MW54, MW52, MW45, MW206	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075K: Miscellaneous Compounds							
Amber Glass Bottle - Unpreserved MW68, MW74, MW60	**18-MAR-2010**	**25-MAR-2010**	25-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved							
QC328, MW205	**17-MAR-2010**	**25-MAR-2010**	24-MAR-2010	×	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
MW68, MW74, QC329, MW60	**18-MAR-2010**	**25-MAR-2010**	25-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
MW54, MW52, MW45, MW206, QC330	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber VOC Vial - HCl							
QC328, MW205	**17-MAR-2010**	**---**	---	----	**26-MAR-2010**	31-MAR-2010	✓
Amber VOC Vial - HCl							
MW68, MW74, QC329, MW60	**18-MAR-2010**	**---**	---	----	**26-MAR-2010**	01-APR-2010	✓
Amber VOC Vial - HCl							
MW54, MW52, MW45, MW206, QC330	**19-MAR-2010**	**---**	---	----	**26-MAR-2010**	02-APR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	13	**15.4**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ammonia as N by Discrete analyser	EK055G	2	9	**22.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	2	14	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	9	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	6	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	4	**25.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH	EA005	1	6	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	5	**20.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Hexavalent Chromium-Low Level	EG050 Low	2	12	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	2	16	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	7	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ammonia as N by Discrete analyser	EK055G	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Hexavalent Chromium-Low Level	EG050 Low	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Organic Carbon	EP005	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Hexavalent Chromium-Low Level	EG050 Low	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	9	**11.1**	**5.0**	✓	ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	14	**7.1**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	9	**11.1**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	11	**9.1**	**5.0**	✓	ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	6	**16.7**	**5.0**	✓	ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	5	**20.0**	**5.0**	✓	ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Total Hexavalent Chromium-Low Level	EG050 Low	1	12	**8.3**	**5.0**	✓	ALS QCS3 requirement
Total Organic Carbon	EP005	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	15	**6.7**	**5.0**	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Volatile Organic Compounds	EP074	1	16	**6.3**	**5.0**	✓	ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	7	**14.3**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH	EA005	WATER	APHA 21st ed. 4500 H+ B. pH of water samples is determined by ISE either manually or by automated pH meter. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Standard Anions	* ED009	WATER	APHA 21st ed., 4110. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Alkalinity by PC Titrator	ED037-P	WATER	APHA 21st ed., 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Major Anions - Total	ED040T	WATER	APHA 21st ed., 3120 Samples are digested by USEPA 3005 prior to analysis. Sulfur content is determined by ICP/AES and reported as Sulfate after conversion by gravimetric factor.
Major Cations - Dissolved	ED093F	WATER	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises the 0.45um filtered sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Hexavalent Chromium-Low Level	EG050 Low	WATER	APHA 21st ed., 3500 Cr-B. Hexavalent chromium is determined directly on water sample as received by pH adjustment and colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	WATER	APHA 21st ed., 3125; USEPA SW846 - 6020 Samples are 0.45 um filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	WATER	APHA 21st ed., 3125; USEPA SW846 - 6020 Samples are 0.45 um filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Free CN by Discrete Analyser	EK025G	WATER	APHA 21st ed., 4500-CN-C&N Free Cyanide is determined on samples after distillation using a pyridine-barbituric acid colouring reagent followed with an Discrete Analyser finish. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Analytical Methods	Method	Matrix	Method Descriptions
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	WATER	APHA 21st ed., 4500-CN-C&N WAD Cyanide is determined from aqueous solutions after distillation with acetic acid. The resultant distillate is then captured in a caustic absorber solution followed by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Ammonia as N by Discrete analyser	EK055G	WATER	APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrite as N by Discrete Analyser	EK057G	WATER	APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrate as N by Discrete Analyser	EK058G	WATER	APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a cadmium reduction column followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Cadmium Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Reactive Phosphorus as P-By Discrete Analyser	EK071G	WATER	APHA 21st ed., 4500-P F Ammonium molybdate and potassium antimonyl tartrate reacts in acid medium with othophosphate to form a heteropoly acid -phosphomolybdic acid - which is reduced to intensely coloured molybdenum blue by ascorbic acid. Quantification is by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Ionic Balance by IC PCT and ICPAES	EN055 - IC ED009	WATER	APHA 21st Ed. 1030F. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Organic Carbon	EP005	WATER	APHA 21st ed., 5310 B, The automated TOC analyzer determines Total and Inorganic Carbon by IR cell. TOC is calculated as the difference. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Volatile Organic Compounds	EP074	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Semivolatile Organic Compounds	EP075	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Free Cyanide	EK025-PR	WATER	APHA 21st ed., 4500 CN- C&N. The sample is distilled at natural pH. The CN is trapped in a caustic solution, and quanitified by colourimetry on FIA. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Weak Acid Dissociable Cyanide	EK028-PR	WATER	APHA 21st ed., 4500 CN- I&N. The sample is distilled with Acetic acid, selectively releasing the weakly bound metal cyanides as HCN. The CN is trapped in a caustic solution, and quanitified by colourimetry on FIA. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP074E: Halogenated Aliphatic Compounds	1497999-002	----	**Pentachloroethane**	76-01-7	61.3 %	71.8-126%	**Recovery less than lower control limit**
EP075A: Phenolic Compounds	1495033-019	----	**3- & 4-Methylphenol**	1319-77-3	101 %	45-96.2%	**Recovery greater than upper control limit**
EP075E: Nitroaromatics and Ketones	1495033-019	----	**1-Naphthylamine**	134-32-7	31.3 %	46.8-102%	**Recovery less than lower control limit**
EP075E: Nitroaromatics and Ketones	1495033-019	----	**4-Nitroquinoline-N-oxide**	56-57-5	104 %	8.93-98.7%	**Recovery greater than upper control limit**
EP075H: Anilines and Benzidines	1495033-019	----	**Aniline**	62-53-3	102 %	10.9-89.7%	**Recovery greater than upper control limit**
EP075H: Anilines and Benzidines	1495033-019	----	**3-Nitroaniline**	99-09-2	101 %	51.5-96.9%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
ED009: Anions	EM1002851-001	Anonymous	**Chloride**	16887-00-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
ED009: Anions	EM1002851-001	Anonymous	**Sulfate**	14808-79-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG093F: Dissolved Metals in Saline Water by ORC-ICP	ES1005244-001	MW68	**Barium**	7440-39-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG093F: Dissolved Metals in Saline Water by ORC-ICP	ES1005244-001	MW68	**Manganese**	7439-96-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG094F: Dissolved Metals in Fresh Water by ORC-ICPI	ES1005244-003	MW54	**Manganese**	7439-96-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK055G: Ammonia as N by Discrete Analyser	ES1005244-001	MW68	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	**Analyte**	CAS Number	Data	Limits	**Comment**

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP074S: VOC Surrogates	ES1005244-004	MW52	**Toluene-D8**	2037-26-5	110 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1005244-005	MW45	**Toluene-D8**	2037-26-5	112 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1005244-007	QC329	**Toluene-D8**	2037-26-5	112 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1005244-008	QC328	**Toluene-D8**	2037-26-5	111 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1005244-009	QC330	**Toluene-D8**	2037-26-5	112 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1005244-011	TB303	**Toluene-D8**	2037-26-5	114 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1005244-001	MW68	**Toluene-D8**	2037-26-5	116 %	88-110 %	**Recovery greater than upper data quality objective**
EP075S: Acid Extractable Surrogates	ES1005244-006	MW206	**2-Fluorophenol**	367-12-4	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1005244-012	MW205	**2-Fluorophenol**	367-12-4	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1005244-013	MW60	**2-Fluorophenol**	367-12-4	105 %	21-100 %	**Recovery greater than upper data quality objective**
EP075S: Acid Extractable Surrogates	ES1005244-006	MW206	**Phenol-d6**	13127-88-3	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1005244-012	MW205	**Phenol-d6**	13127-88-3	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1005244-006	MW206	**2-Chlorophenol-D4**	93951-73-6	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1005244-012	MW205	**2-Chlorophenol-D4**	93951-73-6	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1005244-006	MW206	**2.4.6-Tribromophenol**	118-79-6	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1005244-012	MW205	**2.4.6-Tribromophenol**	118-79-6	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted - Continued							
EP075T: Base/Neutral Extractable Surrogates	ES1005244-006	MW206	**Nitrobenzene-D5**	4165-60-0	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075T: Base/Neutral Extractable Surrogates	ES1005244-012	MW205	**Nitrobenzene-D5**	4165-60-0	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075T: Base/Neutral Extractable Surrogates	ES1005244-006	MW206	**1.2-Dichlorobenzene-D4**	2199-69-1	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075T: Base/Neutral Extractable Surrogates	ES1005244-012	MW205	**1.2-Dichlorobenzene-D4**	2199-69-1	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075T: Base/Neutral Extractable Surrogates	ES1005244-004	MW52	**2-Fluorobiphenyl**	321-60-8	36.0 %	43-116 %	**Recovery less than lower data quality objective**
EP075T: Base/Neutral Extractable Surrogates	ES1005244-006	MW206	**2-Fluorobiphenyl**	321-60-8	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075T: Base/Neutral Extractable Surrogates	ES1005244-012	MW205	**2-Fluorobiphenyl**	321-60-8	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075T: Base/Neutral Extractable Surrogates	ES1005244-006	MW206	**Anthracene-d10**	1719-06-8	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075T: Base/Neutral Extractable Surrogates	ES1005244-012	MW205	**Anthracene-d10**	1719-06-8	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075T: Base/Neutral Extractable Surrogates	ES1005244-006	MW206	**4-Terphenyl-d14**	1718-51-0	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075T: Base/Neutral Extractable Surrogates	ES1005244-012	MW205	**4-Terphenyl-d14**	1718-51-0	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP080S: TPH(V)/BTEX Surrogates	ES1005244-009	QC330	**1.2-Dichloroethane-D4**	17060-07-0	120 %	80-120 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1005244-002	MW74	**Toluene-D8**	2037-26-5	120 %	88-110 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1005244-004	MW52	**Toluene-D8**	2037-26-5	111 %	88-110 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1005244-005	MW45	**Toluene-D8**	2037-26-5	118 %	88-110 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1005244-008	QC328	**4-Bromofluorobenzene**	460-00-4	83.9 %	86-115 %	**Recovery less than lower data quality objective**

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA005: pH						
Clear Plastic Bottle - Natural						
MW68, MW74, MW60	----	----	----	23-MAR-2010	18-MAR-2010	**5**
Clear Plastic Bottle - Natural						
MW54, MW52, MW45	----	----	----	23-MAR-2010	19-MAR-2010	**4**
EK057G: Nitrite as N by Discrete Analyser						
Clear Plastic Bottle - Natural						
MW68	----	----	----	22-MAR-2010	20-MAR-2010	**2**
Clear Plastic Bottle - Natural						
MW54, MW52, MW45	----	----	----	22-MAR-2010	21-MAR-2010	**1**
EK071G: Reactive Phosphorus as P by discrete analyser						
Clear Plastic Bottle - Natural						
MW68	----	----	----	22-MAR-2010	20-MAR-2010	**2**
Clear Plastic Bottle - Natural						
MW54, MW52, MW45	----	----	----	22-MAR-2010	21-MAR-2010	**1**
EP075A: Phenolic Compounds						
Amber Glass Bottle - Unpreserved						
MW205	25-MAR-2010	24-MAR-2010	**1**	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons						
Amber Glass Bottle - Unpreserved						
MW205	25-MAR-2010	24-MAR-2010	**1**	----	----	----
EP075C: Phthalate Esters						
Amber Glass Bottle - Unpreserved						
MW205	25-MAR-2010	24-MAR-2010	**1**	----	----	----
EP075D: Nitrosamines						
Amber Glass Bottle - Unpreserved						
MW205	25-MAR-2010	24-MAR-2010	**1**	----	----	----
EP075E: Nitroaromatics and Ketones						
Amber Glass Bottle - Unpreserved						
MW205	25-MAR-2010	24-MAR-2010	**1**	----	----	----

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP075F: Haloethers						
Amber Glass Bottle - Unpreserved						
MW205	25-MAR-2010	24-MAR-2010	1	----	----	----
EP075G: Chlorinated Hydrocarbons						
Amber Glass Bottle - Unpreserved						
MW205	25-MAR-2010	24-MAR-2010	1	----	----	----
EP075H: Anilines and Benzidines						
Amber Glass Bottle - Unpreserved						
MW205	25-MAR-2010	24-MAR-2010	1	----	----	----
EP075I: Organochlorine Pesticides						
Amber Glass Bottle - Unpreserved						
MW205	25-MAR-2010	24-MAR-2010	1	----	----	----
EP075J: Organophosphorus Pesticides						
Amber Glass Bottle - Unpreserved						
MW205	25-MAR-2010	24-MAR-2010	1	----	----	----
EP080/071: Total Petroleum Hydrocarbons						
Amber Glass Bottle - Unpreserved						
QC328, MW205	25-MAR-2010	24-MAR-2010	1	----	----	----

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1005244**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
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Project	: BARANGAROO S4150014	Page	: 1 of 3
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: KP/KO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 19-MAR-2010	Issue Date	: 23-MAR-2010 13:31
Client Requested Due Date	: 29-MAR-2010	Scheduled Reporting Date	: **29-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 5.9'C - Ice present
No. of coolers/boxes	: 2 HARD	No. of samples received	: 14
Sercurity Seal	: Intact.	No. of samples analysed	: 13

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Breaches in recommended extraction / analysis holding times may occur. Please contact ALS for further information (Jacob Waugh).**
- **Sample id MW205 and TB303 received extra and conducted TPH/SVOC/VOC as per Anthony on 23/03/10**
- **pH analysis should be conducted within 6 hours of sampling.**
- **Reactive P , NO3 should be analysed within 48 hours of sampling.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	(On Hold) WATER No analysis requested	WATER - EA005: pH pH	WATER - ED040T Total Major Anions	WATER - EG020F Dissolved Metals by ICPMS	WATER - EG035F Dissolved Mercury by FIMS	WATER - EG050 Low Total Hexavalent Chromium - Low (LOR 0.002mg/L)	WATER - EG093A-F Dissolved metals in saline water by ORC-ICPMS	WATER - EK025G Free CN By Discrete Analyser
ES1005244-001	18-MAR-2010 15:00	MW68		✓	✓	✓	✓	✓	✓	✓
ES1005244-002	18-MAR-2010 15:00	MW74		✓			✓	✓	✓	✓
ES1005244-003	19-MAR-2010 15:00	MW54		✓	✓	✓	✓	✓	✓	✓
ES1005244-004	19-MAR-2010 15:00	MW52		✓	✓	✓	✓	✓	✓	✓
ES1005244-005	19-MAR-2010 15:00	MW45		✓	✓	✓	✓	✓	✓	✓
ES1005244-007	18-MAR-2010 15:00	QC329					✓		✓	
ES1005244-008	17-MAR-2010 15:00	QC328					✓		✓	
ES1005244-009	19-MAR-2010 15:00	QC330					✓		✓	
ES1005244-013	18-MAR-2010 15:00	MW60		✓			✓	✓	✓	✓
ES1005244-014	18-MAR-2010 15:00	TB305	✓							

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EK028G Weak Acid Dissociable Cyanide By Discrete Analyser	WATER - EK055G Ammonia as N By Discrete Analyser	WATER - EN055 - IC ED009 Ionic Balance (IC)	WATER - EP005 Total Organic Carbon (TOC)	WATER - EP074 (water) Volatile Organic Compounds	WATER - EP075 (WC) SVOC at WC LOR	WATER - NT-01 Major Cations (Ca, Mg, Na, K)	WATER - NT-02 (IC) Major Anions (Cl, SO4, Alkalinity)
ES1005244-001	18-MAR-2010 15:00	MW68	✓	✓	✓	✓	✓	✓	✓	✓
ES1005244-002	18-MAR-2010 15:00	MW74	✓			✓	✓	✓		
ES1005244-003	19-MAR-2010 15:00	MW54	✓	✓	✓	✓			✓	✓
ES1005244-004	19-MAR-2010 15:00	MW52	✓	✓	✓	✓			✓	✓
ES1005244-005	19-MAR-2010 15:00	MW45	✓	✓	✓	✓			✓	✓
ES1005244-010	18-MAR-2010 15:00	TB304					✓			
ES1005244-011	16-MAR-2010 15:00	TB303					✓			
ES1005244-013	18-MAR-2010 15:00	MW60	✓			✓	✓	✓		

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - NT-03 (IC) Minor Anions (Nitrite, Nitrate, Fluoride, Reactive-P)	WATER - TPH TPH (fractions)	WATER - W-09 TPH/VOC	WATER - W-23 SVOC/VOC
ES1005244-001	18-MAR-2010 15:00	MW68	✓	✓		
ES1005244-002	18-MAR-2010 15:00	MW74		✓		
ES1005244-003	19-MAR-2010 15:00	MW54	✓	✓		✓
ES1005244-004	19-MAR-2010 15:00	MW52	✓	✓		✓
ES1005244-005	19-MAR-2010 15:00	MW45	✓	✓		✓
ES1005244-006	19-MAR-2010 15:00	MW206		✓		✓
ES1005244-007	18-MAR-2010 15:00	QC329			✓	
ES1005244-008	17-MAR-2010 15:00	QC328			✓	
ES1005244-009	19-MAR-2010 15:00	QC330			✓	
ES1005244-012	17-MAR-2010 15:00	MW205		✓		✓
ES1005244-013	18-MAR-2010 15:00	MW60		✓		

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

Updated COC received 22-3-10 11am

AECOM

Form: Batch 1 - Blocks 4 and 5

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email: anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name: Jennifer Cullen
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09

Project Name: Barangaroo **Project Number:** s4150014 **Purchase Order Number:** 1303951

Sample collected by: Kate O'Brien **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications: * Bottles include 1 X 1L plastic, 1x 500ml Amber, 2xHCL vials, 2 x H2SO4 vials, 1 x TOC vial, 1 x ultra trace metals, 1 x ferrous iron, 1 x 250 ml Cn, 1 x 250 ml purple

	(Tick) Yes	No	N/A
1. Urgent TAT required? (please circle: 24hr 48hr _____days)			
2. Fast TAT Guarantee Required?	☐	☐	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐	☐	☐ N/A
4. Special storage requirements?	☐	☐	☑ N/A
5. Preservation requirements ☐ Fax ☐ Hard copy ☑ Email	☐	☐	☐ N/A
6. Other requirements?	☐	☐	☐ N/A
7. Report Format: 8. Project Manager: tel:			

Analysis Request

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	pH	Metals (M13 ultra trace)	Free Cyanide	WAD Cyanide	Cr VI (ultra trace)	TPH C6-C36	SVOC (standard level)	SVOC (ultra trace)	VOCs	Total Sulfur	Dissolved Iron	Nitrate	Ammonia	Total Organic Carbon	Minor Anions	Major Cations and Anions	Remarks & comments
2	MW74	18/03/2010			X		X	X	X	X	*	X	X	X	X	X	X		X	X					X		
1	MW68	18/03/2010			X		X	X	X	X	*	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
3	MW54	19/03/2010			X		X	X	X	X	*	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
5	MW45	19/03/2010			X		X	X	X	X	*	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
4	MW52	19/03/2010			X		X	X	X	X	*	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
6	MW206	19/03/2010			X		X	X	X	X	2 vials, 1 amber						X	X		X							Potentially heavily contaminated
BAR CODING 13	MW60	18/03/2010			X		X	X	X	X	*	X	X	X	X	X	X		X	X					X		
8	QC328	17/03/2010			X		X	X	X	X	*		X				X			X							
7	QC329	18/03/2010			X		X	X	X	X	*		X				X			X							
9	QC330	19/03/2010			X		X	X	X	X	*		X				X			X							
10	TB304	18/03/2010			X		X	X	X	X	2 x vials									X							
14	TB305	18/03/2010			X		X	X	X	X	2 x vials																Hold
Extras: 11	MW205																										

Relinquished By: 12 TB303
Name: Anthony Davis Date: 19/03/10
of: AECOM Time:

Received by:
Name: Frank Date: 22-3-10
of: ALS Time: 11am

Received in good condition? Yes/No/NA
Samples received chilled? Yes/No/NA
Method of Shipment
Consignment Note No.
Transport Co:

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition? Yes/No/NA
Samples received chilled? Yes/No/NA
Method of Shipment
Consignment Note No.
Transport Co:

Environmental Division
Sydney
Work Order
ES1005244

Telephone : +61-2-8784 8555

Form: BATCH 1: Delineation of Remediation Area

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A
#N/A
#N/A
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Kate Pigram / Kate OBrien
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements? ☐ ~~Fax~~ ☐ ~~Hard copy~~ ☑ ~~Email~~	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager:			tel:

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: ~~ice~~ filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals (M13)	TPH (C6-36)	PAH	Phenols	SVOC	asbestos	Free Cyanide	Total Cyanide	ASLP	TCLP	Cr VI	BTEX	SVOC		VOC	comments
1	MW66	18-3-10			✓		✓	✓	✓		*																	** Ultra trace metals + ferrous iron samples filtered
2	MW74	18-3-10			✓		✓	✓	✓		*																	
3	MW54	19-3-10			✓		✓	✓	✓		*																	
4	MW52	19-3-10			✓		✓	✓	✓		*																	
5	MW45	19-3-10			✓		✓	✓	✓		*																	
6	MW206	19-3-10			✓		✓	✓	✓		2x vials 1x amber																	DNAPL SAMPLE
	~~MW204D~~	~~19-3-10~~			✓		✓	✓	✓																			
7	QC329	18-3-10			✓		✓	✓	✓		*																	
8	QC328	17-3-10			✓		✓	✓	✓		*																	
9	QC330	19-3-10			✓		✓	✓	✓		*																	

Relinquished By:	Received by:		
Name: Kate OBrien	Name: [illegible]	Received in good condition?	Yes/No/NA
Date: 19/3/10	Date: 19/3/10	Samples received chilled?	Yes/No/NA
of: AECOM	of: AES		Yes/No/NA
Time:	Time: 6pm		
Relinquished By:	**Received by:**	Received in good condition?	Yes/No/NA
Name:	Name:	Samples received chilled?	Yes/No/NA
Date:	Date:		Yes/No/NA
of:	of:		
Time:	Time:		

Method of / Consignm No. / Transport

Environmental Division
Sydney
Work Order
ES1005244

Telephone : +61-2-8784 8555

Environment * 1x500ml Amber / 2x HCl vials / 2x Methanol vials / 1x TOC vial / 1x250ml CN / 1x80ml Cr 6+ / 1x ultra trace

Form: BATCH 1 : Declaration of Remediated Area

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A
#N/A
#N/A
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: Kate O'Brien **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager:		tel:	

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)
10	TB304	18.3.10			✓			✓	✓		2xVIALS
11	TB303	16.3.10									2xVIALS
12	MW205	17.10.3									1x500 ORANGE, 2xVIALS

Analysis Request

pH	Metals (M13)	TPH (C6-36)	PAH	Phenols	SVOC	asbestos	Free Cyanide	Total Cyanide	ASLP	TCLP	Cr VI	BTEX	SVOC		VOC	comments

Relinquished By:
Name: Kate O'Brien Date: 19/3/10
of: AECOM Time:

Received by:
Name: FAN Date: 19/3/10
of: AE Time: 6pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1005391**	Page	: 1 of 23
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MS KATE PIGRAM	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: kate.pigram@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 23-MAR-2010
Sampler	: KP	Issue Date	: 07-APR-2010
Site	: ----		
		No. of samples received	: 9
Quote number	: SY/259/09 V2	No. of samples analysed	: 8

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Ankit Joshi	Inorganic Chemist	Inorganics
Ashesh Patel	Inorganic Chemist	Inorganics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Sarah Millington	Senior Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG020A-F: ES1005391 #001 LOR raised for Chromium due to matrix interference.**
- **EG020A-F: LOR's for some samples have been raised due to matrix interference (High sample salinity)**
- **EG035F:LCS recovery for Mercury falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**
- **EK028G Spike failed for WAD due to matrix interference (confirmed by re-analysis).**
- **EK055G LOR raised for ammonia on the sample ID (BH6) due to sample matrix.**
- **EP074:Level of Reporting raised for toluene due to ambient background levels in the laboratory.**
- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW69	MW61	BH6	BH3	MW40
				Client sampling date / time: 19-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00
				ES1005391-001	ES1005391-002	ES1005391-003	ES1005391-004	ES1005391-005
ED009: Anions								
Chloride	16887-00-6	0.50	mg/L	**9520**	**25.2**	**17100**	**157**	**14500**
Fluoride	16984-48-8	0.02	mg/L	**0.35**	**0.83**	**0.88**	**0.22**	----
Sulfate	14808-79-8	0.50	mg/L	**2090**	**20.6**	**2170**	**246**	**687**
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**761**	**49**	**134**	<1	**556**
Total Alkalinity as CaCO3	----	1	mg/L	**761**	**49**	**134**	<1	**556**
ED040T: Total Major Anions								
^ Sulfur as S	----	1	mg/L	**531**	**10**	**684**	**79**	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**249**	**19**	**348**	**47**	**540**
Magnesium	7439-95-4	1	mg/L	**574**	**6**	**1050**	**8**	**995**
Sodium	7440-23-5	1	mg/L	**6200**	**15**	**9630**	**68**	**7860**
Potassium	7440-09-7	1	mg/L	**216**	**3**	**351**	**12**	**195**
EG020F: Dissolved Metals by ICP-MS								
Iron	7439-89-6	0.05	mg/L	**10.3**	**1.17**	**1.69**	**62.9**	**14.1**
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EG050 Low: Total Hexavalent Chromium - Low								
Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	<0.002	<0.002	<0.002	**0.016**
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Arsenic	7440-38-2	0.5	µg/L	**0.9**	----	**0.8**	----	**5.2**
Barium	7440-39-3	1	µg/L	**104**	----	**43**	----	**468**
Beryllium	7440-41-7	0.1	µg/L	<0.1	----	**0.1**	----	<0.1
Cadmium	7440-43-9	0.2	µg/L	<0.2	----	**0.6**	----	**0.4**
Chromium	7440-47-3	0.5	µg/L	<0.5	----	**1.4**	----	<0.5
Cobalt	7440-48-4	0.2	µg/L	**6.3**	----	**3.5**	----	**1.9**
Copper	7440-50-8	1	µg/L	<1	----	<1	----	**4**
Lead	7439-92-1	0.2	µg/L	<0.2	----	**14.7**	----	**0.2**
Manganese	7439-96-5	0.5	µg/L	**690**	----	**80.1**	----	**437**
Nickel	7440-02-0	0.5	µg/L	**2.0**	----	**13.4**	----	**19.5**
Vanadium	7440-62-2	0.5	µg/L	<0.5	----	**2.6**	----	**1.7**
Zinc	7440-66-6	5	µg/L	<5	----	**125**	----	**21**
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS								
Arsenic	7440-38-2	0.2	µg/L	----	**0.4**	----	**22.0**	----
Barium	7440-39-3	0.5	µg/L	----	**66.6**	----	**42.1**	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW69	MW61	BH6	BH3	MW40
				Client sampling date / time: 19-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00
				ES1005391-001	ES1005391-002	ES1005391-003	ES1005391-004	ES1005391-005
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS - Continued								
Beryllium	7440-41-7	0.1	µg/L	----	<0.1	----	**0.3**	----
Cadmium	7440-43-9	0.05	µg/L	----	**0.06**	----	**3.95**	----
Chromium	7440-47-3	0.2	µg/L	----	**0.4**	----	**5.0**	----
Cobalt	7440-48-4	0.1	µg/L	----	**1.0**	----	**25.2**	----
Copper	7440-50-8	0.5	µg/L	----	<0.5	----	**8.6**	----
Lead	7439-92-1	0.1	µg/L	----	**0.1**	----	**7.4**	----
Manganese	7439-96-5	0.5	µg/L	----	**41.8**	----	**418**	----
Nickel	7440-02-0	0.5	µg/L	----	**5.4**	----	**186**	----
Vanadium	7440-62-2	0.2	µg/L	----	**1.2**	----	**1.3**	----
Zinc	7440-66-6	1	µg/L	----	**9**	----	**200**	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	0.004	mg/L	**0.004**	<0.004	<0.004	**0.013**	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	0.004	mg/L	**0.010**	**0.007**	<0.004	**0.020**	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	**90.4**	**0.12**	<0.10	**1.81**	**9.70**
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	<0.01	<0.01	**0.72**	**0.17**	<0.01
EK059G: NOX as N by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	**0.72**	**0.17**	<0.01
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	<0.01	**0.03**	----
EN055: Ionic Balance								
^ Total Anions	----	0.01	meq/L	----	**2.12**	**531**	**9.56**	**434**
Total Anions	----	0.01	meq/L	**333**	----	----	----	----
^ Total Cations	----	0.01	meq/L	**335**	**2.16**	**532**	----	**456**
Total Cations	----	0.01	meq/L	----	----	----	**9.66**	----
^ Ionic Balance	----	0.01	%	----	----	**0.03**	----	**2.40**
Ionic Balance	----	0.01	%	**0.21**	----	----	**0.52**	----
EP005: Total Organic Carbon (TOC)								
Total Organic Carbon	----	1	mg/L	**40**	**3**	**5**	**14**	**8**
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	1	µg/L	**868**	**16**	<1	**11**	**52**
Toluene	108-88-3	2	µg/L	**804**	**102**	<5	<5	**46**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW69	MW61	BH6	BH3	MW40
Client sampling date / time				19-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00
				ES1005391-001	ES1005391-002	ES1005391-003	ES1005391-004	ES1005391-005
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
Ethylbenzene	100-41-4	2	µg/L	**77**	**20**	<2	**5**	**2**
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	**240**	**66**	<2	**7**	**26**
Styrene	100-42-5	5	µg/L	**194**	<5	<5	<5	**8**
ortho-Xylene	95-47-6	2	µg/L	**144**	**30**	<2	**5**	**12**
Isopropylbenzene	98-82-8	5	µg/L	<5	<5	<5	<5	<5
n-Propylbenzene	103-65-1	5	µg/L	**6**	<5	<5	<5	<5
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	**19**	**10**	<5	<5	<5
sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	<5	<5	<5
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	**63**	**26**	<5	**9**	**9**
tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	<5	<5	<5
p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	<5	<5	<5
n-Butylbenzene	104-51-8	5	µg/L	<5	<5	<5	<5	<5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	<50	<50	<50	<50	<50
2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	<50	<50	<50
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	<50	<50	<50
2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	<50	<50	<50
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	<5	<5	<5	<5	<5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	<5	<5	<5
1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	<5	<5	<5
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	<5	<5	<5
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	<5	<5	<5
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	<5	<5	<5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	<50	<50	<50
Chloromethane	74-87-3	50	µg/L	<50	<50	<50	<50	<50
Vinyl chloride	75-01-4	50	µg/L	<50	<50	<50	<50	<50
Bromomethane	74-83-9	50	µg/L	<50	<50	<50	<50	<50
Chloroethane	75-00-3	50	µg/L	<50	<50	<50	<50	<50
Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	<50	<50	<50
1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	<5	<5	<5
Iodomethane	74-88-4	5	µg/L	<5	<5	<5	<5	<5
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	<5	<5	<5
1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	<5	<5	<5
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	<5	<5	<5
1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW69	MW61	BH6	BH3	MW40
				Client sampling date / time: 19-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00
				ES1005391-001	ES1005391-002	ES1005391-003	ES1005391-004	ES1005391-005
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	<5	<5	<5
Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	<5	<5	<5
1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	<5	<5	<5
Trichloroethene	79-01-6	5	µg/L	<5	<5	<5	<5	<5
Dibromomethane	74-95-3	5	µg/L	<5	<5	<5	<5	<5
1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	<5	<5	<5
1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	<5	<5	<5
Tetrachloroethene	127-18-4	5	µg/L	<5	<5	<5	<5	<5
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	<5	<5	<5
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	<5	<5	<5
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	<5	<5	<5
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	<5	<5	<5
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	<5	<5	<5
Pentachloroethane	76-01-7	5	µg/L	<5	<5	<5	<5	<5
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	<5	<5	<5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	<5	<5	<5	<5
Bromobenzene	108-86-1	5	µg/L	<5	<5	<5	<5	<5
2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	<5	<5	<5
4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	<5	<5	<5
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	<5	<5	<5
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<5	<5	<5	<5	<5
Bromodichloromethane	75-27-4	5	µg/L	<5	<5	<5	<5	<5
Dibromochloromethane	124-48-1	5	µg/L	<5	<5	<5	<5	<5
Bromoform	75-25-2	5	µg/L	<5	<5	<5	<5	<5
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	µg/L	----	----	----	----	**2**
Phenol	108-95-2	2	µg/L	**2**	<2	<2	<2	----
2-Chlorophenol	95-57-8	0.3	µg/L	----	----	----	----	<0.9
2-Chlorophenol	95-57-8	2	µg/L	<2	<2	<2	<2	----
2-Methylphenol	95-48-7	0.5	µg/L	----	----	----	----	**15**
2-Methylphenol	95-48-7	2	µg/L	**20**	<2	<2	<2	----
3- & 4-Methylphenol	1319-77-3	0.5	µg/L	----	----	----	----	**20**
3- & 4-Methylphenol	1319-77-3	4	µg/L	**20**	<4	<4	<4	----
2-Nitrophenol	88-75-5	0.5	µg/L	----	----	----	----	<0.9
2-Nitrophenol	88-75-5	2	µg/L	<2	<2	<2	<2	----
2.4-Dimethylphenol	105-67-9	0.5	µg/L	----	----	----	----	**69**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW69	MW61	BH6	BH3	MW40
				Client sampling date / time: 19-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00
				ES1005391-001	ES1005391-002	ES1005391-003	ES1005391-004	ES1005391-005
EP075A: Phenolic Compounds - Continued								
2.4-Dimethylphenol	105-67-9	2	µg/L	**138**	**2**	<2	<2	----
2.4-Dichlorophenol	120-83-2	0.3	µg/L	----	----	----	----	<0.9
2.4-Dichlorophenol	120-83-2	2	µg/L	<2	<2	<2	<2	----
2.6-Dichlorophenol	87-65-0	0.3	µg/L	----	----	----	----	<0.9
2.6-Dichlorophenol	87-65-0	2	µg/L	<2	<2	<2	<2	----
4-Chloro-3-Methylphenol	59-50-7	0.3	µg/L	----	----	----	----	<0.9
4-Chloro-3-Methylphenol	59-50-7	2	µg/L	<2	<2	<2	<2	----
2.4.6-Trichlorophenol	88-06-2	0.3	µg/L	----	----	----	----	<0.9
2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	<2	<2	<2	----
2.4.5-Trichlorophenol	95-95-4	0.3	µg/L	----	----	----	----	<0.9
2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	<2	<2	<2	----
Pentachlorophenol	87-86-5	0.6	µg/L	----	----	----	----	<2
Pentachlorophenol	87-86-5	4	µg/L	<4	<4	<4	<4	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	µg/L	----	----	----	----	**244**
Naphthalene	91-20-3	2	µg/L	**1920**	**150**	<2	**699**	----
2-Methylnaphthalene	91-57-6	0.5	µg/L	----	----	----	----	**36**
2-Methylnaphthalene	91-57-6	2	µg/L	**326**	**57**	<2	**130**	----
2-Chloronaphthalene	91-58-7	0.5	µg/L	----	----	----	----	<0.9
2-Chloronaphthalene	91-58-7	2	µg/L	<2	<2	<2	<2	----
Acenaphthylene	208-96-8	0.5	µg/L	----	----	----	----	**16**
Acenaphthylene	208-96-8	2	µg/L	**158**	**21**	<2	**40**	----
Acenaphthene	83-32-9	0.5	µg/L	----	----	----	----	**4**
Acenaphthene	83-32-9	2	µg/L	**35**	**6**	<2	**12**	----
Fluorene	86-73-7	0.5	µg/L	----	----	----	----	**12**
Fluorene	86-73-7	2	µg/L	**64**	**26**	<2	**57**	----
Phenanthrene	85-01-8	0.5	µg/L	----	----	----	----	**14**
Phenanthrene	85-01-8	2	µg/L	**126**	**79**	<2	**125**	----
Anthracene	120-12-7	0.5	µg/L	----	----	----	----	**3**
Anthracene	120-12-7	2	µg/L	**28**	**18**	<2	**25**	----
Fluoranthene	206-44-0	0.5	µg/L	----	----	----	----	**2**
Fluoranthene	206-44-0	2	µg/L	**34**	**48**	<2	**38**	----
Pyrene	129-00-0	0.5	µg/L	----	----	----	----	**2**
Pyrene	129-00-0	2	µg/L	**47**	**44**	<2	**34**	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	µg/L	----	----	----	----	<0.9
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	<2	<2	<2	----
Benz(a)anthracene	56-55-3	0.5	µg/L	----	----	----	----	<0.9
Benz(a)anthracene	56-55-3	2	µg/L	**14**	**16**	<2	**8**	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW69	MW61	BH6	BH3	MW40
				Client sampling date / time: 19-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00
				ES1005391-001	ES1005391-002	ES1005391-003	ES1005391-004	ES1005391-005
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	µg/L	----	----	----	----	<0.9
Chrysene	218-01-9	2	µg/L	**12**	**12**	<2	**8**	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	**6**	**12**	<4	**5**	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	µg/L	----	----	----	----	<2
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	µg/L	----	----	----	----	<0.9
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	<2	<2	<2	----
Benzo(a)pyrene	50-32-8	0.3	µg/L	----	----	----	----	<0.9
Benzo(a)pyrene	50-32-8	2	µg/L	**6**	**8**	<2	**3**	----
3-Methylcholanthrene	56-49-5	0.5	µg/L	----	----	----	----	<0.9
3-Methylcholanthrene	56-49-5	2	µg/L	<2	<2	<2	<2	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	µg/L	----	----	----	----	<0.9
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	**3**	<2	<2	----
Dibenz(a.h)anthracene	53-70-3	0.5	µg/L	----	----	----	----	<0.9
Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	<2	<2	<2	----
Benzo(g.h.i)perylene	191-24-2	0.5	µg/L	----	----	----	----	<0.9
Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	**3**	<2	<2	----
^ Sum of PAHs	----	0.5	µg/L	----	----	----	----	**297**
^ Sum of PAHs	----	2	µg/L	**2450**	**446**	<2	**1050**	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	µg/L	----	----	----	----	<0.9
Dimethyl phthalate	131-11-3	2	µg/L	<2	<2	<2	<2	----
Diethyl phthalate	84-66-2	0.5	µg/L	----	----	----	----	<0.9
Diethyl phthalate	84-66-2	2	µg/L	<2	<2	<2	<2	----
Di-n-butyl phthalate	84-74-2	2	µg/L	**3**	**3**	<2	<2	<2
Butyl benzyl phthalate	85-68-7	2	µg/L	<2	<2	<2	<2	<2
bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	<20	<20	<20	<20	<20
Di-n-octylphthalate	117-84-0	0.5	µg/L	----	----	----	----	<0.9
Di-n-octylphthalate	117-84-0	2	µg/L	<2	<2	<2	<2	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	µg/L	----	----	----	----	<0.9
N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	<2	<2	<2	----
N-Nitrosodiethylamine	55-18-5	0.5	µg/L	----	----	----	----	<0.9
N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	<2	<2	<2	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	<4	<4	<4	----
N-Nitrosopyrrolidine	930-55-2	1	µg/L	----	----	----	----	<1
N-Nitrosomorpholine	59-89-2	0.5	µg/L	----	----	----	----	<0.9

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW69	MW61	BH6	BH3	MW40
				Client sampling date / time: 19-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00
				ES1005391-001	ES1005391-002	ES1005391-003	ES1005391-004	ES1005391-005
EP075D: Nitrosamines - Continued								
N-Nitrosomorpholine	59-89-2	2	µg/L	<2	<2	<2	<2	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	µg/L	----	----	----	----	<0.9
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	<2	<2	<2	----
N-Nitrosopiperidine	100-75-4	0.5	µg/L	----	----	----	----	<0.9
N-Nitrosopiperidine	100-75-4	2	µg/L	<2	<2	<2	<2	----
N-Nitrosodibutylamine	924-16-3	0.5	µg/L	----	----	----	----	<0.9
N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	<2	<2	<2	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	<4	<4	<4	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1	µg/L	----	----	----	----	<2
Methapyrilene	91-80-5	0.5	µg/L	----	----	----	----	<0.9
Methapyrilene	91-80-5	2	µg/L	<2	<2	<2	<2	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	µg/L	----	----	----	----	<0.9
2-Picoline	109-06-8	2	µg/L	<2	<2	<2	<2	----
Acetophenone	98-86-2	0.5	µg/L	----	----	----	----	<0.9
Acetophenone	98-86-2	2	µg/L	**5**	<2	<2	<2	----
Nitrobenzene	98-95-3	0.5	µg/L	----	----	----	----	<0.9
Nitrobenzene	98-95-3	2	µg/L	<2	<2	<2	<2	----
Isophorone	78-59-1	0.5	µg/L	----	----	----	----	<0.9
Isophorone	78-59-1	2	µg/L	<2	<2	<2	<2	----
2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	<4	<4	<4	----
2.6-Dinitrotoluene	606-20-2	1	µg/L	----	----	----	----	<1
2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	<4	<4	<4	----
2.4-Dinitrotoluene	121-14-2	1	µg/L	----	----	----	----	<1
1-Naphthylamine	134-32-7	0.5	µg/L	----	----	----	----	<0.9
1-Naphthylamine	134-32-7	2	µg/L	<2	<2	<2	<2	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	µg/L	----	----	----	----	<0.9
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	<2	<2	<2	----
5-Nitro-o-toluidine	99-55-8	0.5	µg/L	----	----	----	----	<0.9
5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	<2	<2	<2	----
Azobenzene	103-33-3	0.5	µg/L	----	----	----	----	<0.9
Azobenzene	103-33-3	2	µg/L	<2	<2	<2	<2	----
1.3.5-Trinitrobenzene	99-35-4	0.5	µg/L	----	----	----	----	<0.9
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	<2	<2	<2	----
Phenacetin	62-44-2	0.5	µg/L	----	----	----	----	<0.9
Phenacetin	62-44-2	2	µg/L	<2	<2	<2	<2	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW69	MW61	BH6	BH3	MW40
				Client sampling date / time: 19-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00
				ES1005391-001	ES1005391-002	ES1005391-003	ES1005391-004	ES1005391-005
EP075E: Nitroaromatics and Ketones - Continued								
4-Aminobiphenyl	92-67-1	0.5	µg/L	----	----	----	----	<0.9
4-Aminobiphenyl	92-67-1	2	µg/L	<2	<2	<2	<2	----
Pentachloronitrobenzene	82-68-8	0.5	µg/L	----	----	----	----	<0.9
Pentachloronitrobenzene	82-68-8	2	µg/L	<2	<2	<2	<2	----
Pronamide	23950-58-5	0.5	µg/L	----	----	----	----	<0.9
Pronamide	23950-58-5	2	µg/L	<2	<2	<2	<2	----
Dimethylaminoazobenzene	60-11-7	0.5	µg/L	----	----	----	----	<0.9
Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	<2	<2	<2	----
Chlorobenzilate	510-15-6	0.5	µg/L	----	----	----	----	<0.9
Chlorobenzilate	510-15-6	2	µg/L	<2	<2	<2	<2	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	µg/L	----	----	----	----	<0.9
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	<2	<2	<2	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	µg/L	----	----	----	----	<0.9
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	<2	<2	<2	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	µg/L	----	----	----	----	<0.9
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	<2	<2	<2	----
4-Bromophenyl phenyl ether	101-55-3	0.5	µg/L	----	----	----	----	<0.9
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	<2	<2	<2	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	µg/L	----	----	----	----	<0.9
1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	<2	<2	<2	----
1.4-Dichlorobenzene	106-46-7	0.5	µg/L	----	----	----	----	<0.9
1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	<2	<2	<2	----
1.2-Dichlorobenzene	95-50-1	0.5	µg/L	----	----	----	----	<0.9
1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	<2	<2	<2	----
Hexachloroethane	67-72-1	0.5	µg/L	----	----	----	----	<0.9
Hexachloroethane	67-72-1	2	µg/L	<2	<2	<2	<2	----
1.2.4-Trichlorobenzene	120-82-1	0.5	µg/L	----	----	----	----	<0.9
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	<2	<2	<2	----
Hexachloropropylene	1888-71-7	0.5	µg/L	----	----	----	----	<0.9
Hexachloropropylene	1888-71-7	2	µg/L	<2	<2	<2	<2	----
Hexachlorobutadiene	87-68-3	0.5	µg/L	----	----	----	----	<0.9
Hexachlorobutadiene	87-68-3	2	µg/L	<2	<2	<2	<2	----
Hexachlorocyclopentadiene	77-47-4	0.5	µg/L	----	----	----	----	<0.9
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	<10	<10	<10	----
Pentachlorobenzene	608-93-5	0.5	µg/L	----	----	----	----	<0.9
Pentachlorobenzene	608-93-5	2	µg/L	<2	<2	<2	<2	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW69	MW61	BH6	BH3	MW40
				Client sampling date / time: 19-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00
				ES1005391-001	ES1005391-002	ES1005391-003	ES1005391-004	ES1005391-005
EP075G: Chlorinated Hydrocarbons - Continued								
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	----	----	----	----	<0.9
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	<4	<4	<4	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	µg/L	----	----	----	----	<0.9
Aniline	62-53-3	2	µg/L	<2	<2	<2	<2	----
4-Chloroaniline	106-47-8	0.5	µg/L	----	----	----	----	<0.9
4-Chloroaniline	106-47-8	2	µg/L	<2	<2	<2	<2	----
2-Nitroaniline	88-74-4	4	µg/L	<4	<4	<4	<4	----
2-Nitroaniline	88-74-4	1	µg/L	----	----	----	----	<1
3-Nitroaniline	99-09-2	4	µg/L	<4	<4	<4	<4	----
3-Nitroaniline	99-09-2	1	µg/L	----	----	----	----	<1
Dibenzofuran	132-64-9	0.5	µg/L	----	----	----	----	**9**
Dibenzofuran	132-64-9	2	µg/L	**11**	**23**	<2	**50**	----
4-Nitroaniline	100-01-6	0.5	µg/L	----	----	----	----	<0.9
4-Nitroaniline	100-01-6	2	µg/L	<2	<2	<2	<2	----
Carbazole	86-74-8	0.5	µg/L	----	----	----	----	**17**
Carbazole	86-74-8	2	µg/L	**9**	**14**	<2	**73**	----
3.3`-Dichlorobenzidine	91-94-1	0.5	µg/L	----	----	----	----	<0.9
3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	<2	<2	<2	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.3	µg/L	----	----	----	----	<0.9
alpha-BHC	319-84-6	2	µg/L	<2	<2	<2	<2	----
beta-BHC	319-85-7	0.3	µg/L	----	----	----	----	<0.9
beta-BHC	319-85-7	2	µg/L	<2	<2	<2	<2	----
gamma-BHC	58-89-9	0.3	µg/L	----	----	----	----	<0.9
gamma-BHC	58-89-9	2	µg/L	<2	<2	<2	<2	----
delta-BHC	319-86-8	0.3	µg/L	----	----	----	----	<0.9
delta-BHC	319-86-8	2	µg/L	<2	<2	<2	<2	----
Heptachlor	76-44-8	0.3	µg/L	----	----	----	----	<0.9
Heptachlor	76-44-8	2	µg/L	<2	<2	<2	<2	----
Aldrin	309-00-2	0.3	µg/L	----	----	----	----	<0.9
Aldrin	309-00-2	2	µg/L	<2	<2	<2	<2	----
Heptachlor epoxide	1024-57-3	0.3	µg/L	----	----	----	----	<0.9
Heptachlor epoxide	1024-57-3	2	µg/L	<2	<2	<2	<2	----
alpha-Endosulfan	959-98-8	0.3	µg/L	----	----	----	----	<0.9
alpha-Endosulfan	959-98-8	2	µg/L	<2	<2	<2	<2	----
4.4`-DDE	72-55-9	0.3	µg/L	----	----	----	----	<0.9
4.4`-DDE	72-55-9	2	µg/L	<2	<2	<2	<2	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW69	MW61	BH6	BH3	MW40
				Client sampling date / time: 19-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00
				ES1005391-001	ES1005391-002	ES1005391-003	ES1005391-004	ES1005391-005
EP075I: Organochlorine Pesticides - Continued								
Dieldrin	60-57-1	0.3	µg/L	----	----	----	----	<0.9
Dieldrin	60-57-1	2	µg/L	<2	<2	<2	<2	----
Endrin	72-20-8	0.3	µg/L	----	----	----	----	<0.9
Endrin	72-20-8	2	µg/L	<2	<2	<2	<2	----
beta-Endosulfan	33213-65-9	0.3	µg/L	----	----	----	----	<0.9
beta-Endosulfan	33213-65-9	2	µg/L	<2	<2	<2	<2	----
4.4`-DDD	72-54-8	0.3	µg/L	----	----	----	----	<0.9
4.4`-DDD	72-54-8	2	µg/L	<2	<2	<2	<2	----
Endosulfan sulfate	1031-07-8	0.3	µg/L	----	----	----	----	<0.9
Endosulfan sulfate	1031-07-8	2	µg/L	<2	<2	<2	<2	----
4.4`-DDT	50-29-3	0.6	µg/L	----	----	----	----	<0.9
4.4`-DDT	50-29-3	4	µg/L	<4	<4	<4	<4	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.3	µg/L	----	----	----	----	<0.9
Dichlorvos	62-73-7	2	µg/L	<2	<2	<2	<2	----
Dimethoate	60-51-5	0.3	µg/L	----	----	----	----	<0.9
Dimethoate	60-51-5	2	µg/L	<2	<2	<2	<2	----
Diazinon	333-41-5	0.3	µg/L	----	----	----	----	<0.9
Diazinon	333-41-5	2	µg/L	<2	<2	<2	<2	----
Chlorpyrifos-methyl	5598-13-0	0.3	µg/L	----	----	----	----	<0.9
Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	<2	<2	<2	----
Malathion	121-75-5	0.3	µg/L	----	----	----	----	<0.9
Malathion	121-75-5	2	µg/L	<2	<2	<2	<2	----
Fenthion	55-38-9	0.3	µg/L	----	----	----	----	<0.9
Fenthion	55-38-9	2	µg/L	<2	<2	<2	<2	----
Chlorpyrifos	2921-88-2	0.3	µg/L	----	----	----	----	<0.9
Chlorpyrifos	2921-88-2	2	µg/L	<2	<2	<2	<2	----
Pirimphos-ethyl	23505-41-1	0.3	µg/L	----	----	----	----	<0.9
Pirimphos-ethyl	23505-41-1	2	µg/L	<2	<2	<2	<2	----
Chlorfenvinphos	470-90-6	0.3	µg/L	----	----	----	----	<1
Chlorfenvinphos	470-90-6	2	µg/L	<2	<2	<2	<2	----
Prothiofos	34643-46-4	0.3	µg/L	----	----	----	----	<0.9
Prothiofos	34643-46-4	2	µg/L	<2	<2	<2	<2	----
Ethion	563-12-2	0.3	µg/L	----	----	----	----	<0.9
Ethion	563-12-2	2	µg/L	<2	<2	<2	<2	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	**3400**	**520**	<20	**40**	----
C10 - C14 Fraction	----	50	µg/L	**7200**	**860**	<50	**2900**	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW69	MW61	BH6	BH3	MW40
				Client sampling date / time: 19-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00
				ES1005391-001	ES1005391-002	ES1005391-003	ES1005391-004	ES1005391-005
EP080/071: Total Petroleum Hydrocarbons - Continued								
C15 - C28 Fraction	----	100	µg/L	**3900**	**1420**	<100	**2780**	----
C29 - C36 Fraction	----	50	µg/L	**360**	**370**	<50	**260**	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	**11500**	**2650**	<50	**5940**	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**117**	**106**	**112**	**109**	**81.6**
Toluene-D8	2037-26-5	0.1	%	**107**	**90.6**	**115**	**110**	**96.9**
4-Bromofluorobenzene	460-00-4	0.1	%	**116**	**112**	**108**	**110**	**88.9**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	**120**	**59.0**	**66.2**	**54.4**	**59.7**
Phenol-d6	13127-88-3	0.1	%	**36.2**	**29.6**	**38.6**	**30.6**	**31.2**
2-Chlorophenol-D4	93951-73-6	0.1	%	**76.3**	**71.8**	**85.3**	**74.5**	**67.2**
2.4.6-Tribromophenol	118-79-6	0.1	%	**94.7**	**85.1**	**90.0**	**108**	**81.4**
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	**85.2**	**79.0**	**94.2**	**87.7**	**76.8**
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	**68.8**	**67.0**	**77.6**	**67.0**	**62.4**
2-Fluorobiphenyl	321-60-8	0.1	%	**72.1**	**72.6**	**84.4**	**71.8**	**67.2**
Anthracene-d10	1719-06-8	0.1	%	**79.3**	**75.2**	**89.9**	**76.6**	**69.7**
4-Terphenyl-d14	1718-51-0	0.1	%	**91.2**	**88.0**	**106**	**88.4**	**80.8**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**115**	**103**	**93.0**	**95.8**	----
Toluene-D8	2037-26-5	0.1	%	**120**	**99.8**	**98.0**	**97.0**	----
4-Bromofluorobenzene	460-00-4	0.1	%	**96.8**	**112**	**100**	**102**	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW64	QC340	TB306	----	----
				Client sampling date / time: 20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	----	----
				ES1005391-006	ES1005391-007	ES1005391-008	----	----
ED009: Anions								
Chloride	16887-00-6	0.50	mg/L	**7760**	----	----	----	----
Fluoride	16984-48-8	0.02	mg/L	**0.74**	----	----	----	----
Sulfate	14808-79-8	0.50	mg/L	**1300**	----	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**244**	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	**244**	----	----	----	----
ED040T: Total Major Anions								
^ Sulfur as S	----	1	mg/L	**430**	----	----	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**231**	----	----	----	----
Magnesium	7439-95-4	1	mg/L	**490**	----	----	----	----
Sodium	7440-23-5	1	mg/L	**4380**	----	----	----	----
Potassium	7440-09-7	1	mg/L	**193**	----	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Iron	7439-89-6	0.05	mg/L	**2.75**	----	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----
EG050 Low: Total Hexavalent Chromium - Low								
Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	----	----	----	----
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Arsenic	7440-38-2	0.5	µg/L	**0.8**	----	----	----	----
Barium	7440-39-3	1	µg/L	**124**	----	----	----	----
Beryllium	7440-41-7	0.1	µg/L	<0.1	----	----	----	----
Cadmium	7440-43-9	0.2	µg/L	<0.2	----	----	----	----
Chromium	7440-47-3	0.5	µg/L	<0.5	----	----	----	----
Cobalt	7440-48-4	0.2	µg/L	**7.4**	----	----	----	----
Copper	7440-50-8	1	µg/L	<1	----	----	----	----
Lead	7439-92-1	0.2	µg/L	<0.2	----	----	----	----
Manganese	7439-96-5	0.5	µg/L	**634**	----	----	----	----
Nickel	7440-02-0	0.5	µg/L	**6.9**	----	----	----	----
Vanadium	7440-62-2	0.5	µg/L	**0.6**	----	----	----	----
Zinc	7440-66-6	5	µg/L	**12**	----	----	----	----
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS								
Arsenic	7440-38-2	0.2	µg/L	----	<0.2	----	----	----
Barium	7440-39-3	0.5	µg/L	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW64	QC340	TB306	----	----
				Client sampling date / time	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	----	----
Compound	CAS Number	LOR	Unit		ES1005391-006	ES1005391-007	ES1005391-008	----	----
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS - Continued									
Beryllium	7440-41-7	0.1	µg/L		----	<0.1	----	----	----
Cadmium	7440-43-9	0.05	µg/L		----	<0.05	----	----	----
Chromium	7440-47-3	0.2	µg/L		----	<0.2	----	----	----
Cobalt	7440-48-4	0.1	µg/L		----	<0.1	----	----	----
Copper	7440-50-8	0.5	µg/L		----	<0.5	----	----	----
Lead	7439-92-1	0.1	µg/L		----	<0.1	----	----	----
Manganese	7439-96-5	0.5	µg/L		----	<0.5	----	----	----
Nickel	7440-02-0	0.5	µg/L		----	<0.5	----	----	----
Vanadium	7440-62-2	0.2	µg/L		----	<0.2	----	----	----
Zinc	7440-66-6	1	µg/L		----	<1	----	----	----
EK025G: Free cyanide by Discrete Analyser									
Free Cyanide	----	0.004	mg/L		<0.004	----	----	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser									
Weak Acid Dissociable Cyanide	----	0.004	mg/L		<0.004	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**2.66**	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
^ Nitrate as N	14797-55-8	0.01	mg/L		**0.01**	----	----	----	----
EK059G: NOX as N by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.01**	----	----	----	----
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EN055: Ionic Balance									
^ Total Anions	----	0.01	meq/L		**251**	----	----	----	----
^ Total Cations	----	0.01	meq/L		**247**	----	----	----	----
^ Ionic Balance	----	0.01	%		**0.72**	----	----	----	----
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	1	mg/L		**24**	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons									
Benzene	71-43-2	1	µg/L		**4**	<1	<1	----	----
Toluene	108-88-3	2	µg/L		**6**	<5	<5	----	----
Ethylbenzene	100-41-4	2	µg/L		**3**	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		**6**	<2	<2	----	----
Styrene	100-42-5	5	µg/L		<5	<5	<5	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW64	QC340	TB306	----	----
				Client sampling date / time: 20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	----	----
				ES1005391-006	ES1005391-007	ES1005391-008	----	----
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
ortho-Xylene	95-47-6	2	µg/L	**4**	<2	<2	----	----
Isopropylbenzene	98-82-8	5	µg/L	<5	<5	<5	----	----
n-Propylbenzene	103-65-1	5	µg/L	<5	<5	<5	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	<5	----	----
sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	<5	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	<5	----	----
tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	<5	----	----
p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	<5	----	----
n-Butylbenzene	104-51-8	5	µg/L	<5	<5	<5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	<50	<50	<50	----	----
2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	<50	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	<50	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	<50	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	<5	<5	<5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	<5	----	----
1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	<5	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	<5	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	<5	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	<5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	<50	----	----
Chloromethane	74-87-3	50	µg/L	<50	<50	<50	----	----
Vinyl chloride	75-01-4	50	µg/L	<50	<50	<50	----	----
Bromomethane	74-83-9	50	µg/L	<50	<50	<50	----	----
Chloroethane	75-00-3	50	µg/L	<50	<50	<50	----	----
Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	<50	----	----
1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	<5	----	----
Iodomethane	74-88-4	5	µg/L	<5	<5	<5	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	<5	----	----
1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	<5	----	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	<5	----	----
1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	<5	----	----
1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	<5	----	----
Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	<5	----	----
1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	<5	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW64	QC340	TB306	----	----
				Client sampling date / time: 20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	----	----
				ES1005391-006	ES1005391-007	ES1005391-008	----	----
EP074E: Halogenated Aliphatic Compounds - Continued								
Trichloroethene	79-01-6	5	µg/L	<5	<5	<5	----	----
Dibromomethane	74-95-3	5	µg/L	<5	<5	<5	----	----
1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	<5	----	----
1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	<5	----	----
Tetrachloroethene	127-18-4	5	µg/L	<5	<5	<5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	<5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	<5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	<5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	<5	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	<5	----	----
Pentachloroethane	76-01-7	5	µg/L	<5	<5	<5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	<5	----	----
Hexachlorobutadiene	87-68-3	5	µg/L	----	<5	<5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	<5	<5	----	----
Bromobenzene	108-86-1	5	µg/L	<5	<5	<5	----	----
2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	<5	----	----
4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	<5	----	----
1.3-Dichlorobenzene	541-73-1	5	µg/L	----	<5	<5	----	----
1.4-Dichlorobenzene	106-46-7	5	µg/L	----	<5	<5	----	----
1.2-Dichlorobenzene	95-50-1	5	µg/L	----	<5	<5	----	----
1.2.4-Trichlorobenzene	120-82-1	5	µg/L	----	<5	<5	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	<5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<5	<5	<5	----	----
Bromodichloromethane	75-27-4	5	µg/L	<5	<5	<5	----	----
Dibromochloromethane	124-48-1	5	µg/L	<5	<5	<5	----	----
Bromoform	75-25-2	5	µg/L	<5	<5	<5	----	----
EP074H: Naphthalene								
Naphthalene	91-20-3	7	µg/L	----	<7	<7	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	2	µg/L	<2	----	----	----	----
2-Chlorophenol	95-57-8	2	µg/L	<2	----	----	----	----
2-Methylphenol	95-48-7	2	µg/L	<2	----	----	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L	<4	----	----	----	----
2-Nitrophenol	88-75-5	2	µg/L	<2	----	----	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L	<2	----	----	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L	<2	----	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW64	QC340	TB306	----	----
				Client sampling date / time: 20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	----	----
				ES1005391-006	ES1005391-007	ES1005391-008	----	----
EP075A: Phenolic Compounds - Continued								
2.6-Dichlorophenol	87-65-0	2	µg/L	<2	----	----	----	----
4-Chloro-3-Methylphenol	59-50-7	2	µg/L	<2	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	----	----	----	----
Pentachlorophenol	87-86-5	4	µg/L	<4	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	2	µg/L	**11**	----	----	----	----
2-Methylnaphthalene	91-57-6	2	µg/L	**5**	----	----	----	----
2-Chloronaphthalene	91-58-7	2	µg/L	<2	----	----	----	----
Acenaphthylene	208-96-8	2	µg/L	**11**	----	----	----	----
Acenaphthene	83-32-9	2	µg/L	**3**	----	----	----	----
Fluorene	86-73-7	2	µg/L	**10**	----	----	----	----
Phenanthrene	85-01-8	2	µg/L	**15**	----	----	----	----
Anthracene	120-12-7	2	µg/L	**2**	----	----	----	----
Fluoranthene	206-44-0	2	µg/L	**2**	----	----	----	----
Pyrene	129-00-0	2	µg/L	**3**	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	----	----	----	----
Benz(a)anthracene	56-55-3	2	µg/L	<2	----	----	----	----
Chrysene	218-01-9	2	µg/L	<2	----	----	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	----	----	----	----
Benzo(a)pyrene	50-32-8	2	µg/L	<2	----	----	----	----
3-Methylcholanthrene	56-49-5	2	µg/L	<2	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	----	----	----	----
^ Sum of PAHs	----	2	µg/L	**57**	----	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	2	µg/L	<2	----	----	----	----
Diethyl phthalate	84-66-2	2	µg/L	<2	----	----	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L	**4**	----	----	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L	<2	----	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	<20	----	----	----	----
Di-n-octylphthalate	117-84-0	2	µg/L	<2	----	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	----	----	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	MW64	QC340	TB306	----	----
				Client sampling date / time	20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	----	----
Compound	CAS Number	LOR	Unit		ES1005391-006	ES1005391-007	ES1005391-008	----	----
EP075D: Nitrosamines - Continued									
N-Nitrosopyrrolidine	930-55-2	4	µg/L		<4	----	----	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L		<2	----	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L		<2	----	----	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L		<2	----	----	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L		<2	----	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L		<4	----	----	----	----
Methapyrilene	91-80-5	2	µg/L		<2	----	----	----	----
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	2	µg/L		<2	----	----	----	----
Acetophenone	98-86-2	2	µg/L		<2	----	----	----	----
Nitrobenzene	98-95-3	2	µg/L		<2	----	----	----	----
Isophorone	78-59-1	2	µg/L		<2	----	----	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L		<4	----	----	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L		<4	----	----	----	----
1-Naphthylamine	134-32-7	2	µg/L		<2	----	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L		<2	----	----	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L		<2	----	----	----	----
Azobenzene	103-33-3	2	µg/L		<2	----	----	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L		<2	----	----	----	----
Phenacetin	62-44-2	2	µg/L		<2	----	----	----	----
4-Aminobiphenyl	92-67-1	2	µg/L		<2	----	----	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L		<2	----	----	----	----
Pronamide	23950-58-5	2	µg/L		<2	----	----	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L		<2	----	----	----	----
Chlorobenzilate	510-15-6	2	µg/L		<2	----	----	----	----
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	2	µg/L		<2	----	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L		<2	----	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L		<2	----	----	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L		<2	----	----	----	----
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	2	µg/L		<2	----	----	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L		<2	----	----	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L		<2	----	----	----	----
Hexachloroethane	67-72-1	2	µg/L		<2	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L		<2	----	----	----	----
Hexachloropropylene	1888-71-7	2	µg/L		<2	----	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW64	QC340	TB306	----	----
				Client sampling date / time: 20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	----	----
				ES1005391-006	ES1005391-007	ES1005391-008	----	----
EP075G: Chlorinated Hydrocarbons - Continued								
Hexachlorobutadiene	87-68-3	2	µg/L	<2	----	----	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	----	----	----	----
Pentachlorobenzene	608-93-5	2	µg/L	<2	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	----	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	2	µg/L	<2	----	----	----	----
4-Chloroaniline	106-47-8	2	µg/L	<2	----	----	----	----
2-Nitroaniline	88-74-4	4	µg/L	<4	----	----	----	----
3-Nitroaniline	99-09-2	4	µg/L	<4	----	----	----	----
Dibenzofuran	132-64-9	2	µg/L	<2	----	----	----	----
4-Nitroaniline	100-01-6	2	µg/L	<2	----	----	----	----
Carbazole	86-74-8	2	µg/L	<2	----	----	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	----	----	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	2	µg/L	<2	----	----	----	----
beta-BHC	319-85-7	2	µg/L	<2	----	----	----	----
gamma-BHC	58-89-9	2	µg/L	<2	----	----	----	----
delta-BHC	319-86-8	2	µg/L	<2	----	----	----	----
Heptachlor	76-44-8	2	µg/L	<2	----	----	----	----
Aldrin	309-00-2	2	µg/L	<2	----	----	----	----
Heptachlor epoxide	1024-57-3	2	µg/L	<2	----	----	----	----
alpha-Endosulfan	959-98-8	2	µg/L	<2	----	----	----	----
4.4`-DDE	72-55-9	2	µg/L	<2	----	----	----	----
Dieldrin	60-57-1	2	µg/L	<2	----	----	----	----
Endrin	72-20-8	2	µg/L	<2	----	----	----	----
beta-Endosulfan	33213-65-9	2	µg/L	<2	----	----	----	----
4.4`-DDD	72-54-8	2	µg/L	<2	----	----	----	----
Endosulfan sulfate	1031-07-8	2	µg/L	<2	----	----	----	----
4.4`-DDT	50-29-3	4	µg/L	<4	----	----	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	2	µg/L	<2	----	----	----	----
Dimethoate	60-51-5	2	µg/L	<2	----	----	----	----
Diazinon	333-41-5	2	µg/L	<2	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	----	----	----	----
Malathion	121-75-5	2	µg/L	<2	----	----	----	----
Fenthion	55-38-9	2	µg/L	<2	----	----	----	----
Chlorpyrifos	2921-88-2	2	µg/L	<2	----	----	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L	<2	----	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW64	QC340	TB306	----	----
				Client sampling date / time: 20-MAR-2010 15:00	20-MAR-2010 15:00	20-MAR-2010 15:00	----	----
				ES1005391-006	ES1005391-007	ES1005391-008	----	----
EP075J: Organophosphorus Pesticides - Continued								
Chlorfenvinphos	470-90-6	2	µg/L	<2	----	----	----	----
Prothiofos	34643-46-4	2	µg/L	<2	----	----	----	----
Ethion	563-12-2	2	µg/L	<2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L	**270**	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L	**1850**	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L	**540**	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	**2660**	<50	----	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**104**	**108**	**117**	----	----
Toluene-D8	2037-26-5	0.1	%	**102**	**102**	**103**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**110**	**104**	**105**	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	**62.1**	----	----	----	----
Phenol-d6	13127-88-3	0.1	%	**36.4**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**74.9**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**96.4**	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	**83.8**	----	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	**71.1**	----	----	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	**74.7**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**79.0**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**90.6**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**101**	**104**	----	----	----
Toluene-D8	2037-26-5	0.1	%	**112**	**107**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**113**	**107**	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	21	100
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	35	114
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **ES1005391**	Page	: 1 of 19
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MS KATE PIGRAM	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
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Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 23-MAR-2010
Sampler	: KP	Issue Date	: 07-APR-2010
Order number	: 1303951		
		No. of samples received	: 9
Quote number	: SY/259/09 V2	No. of samples analysed	: 8

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Ankit Joshi	Inorganic Chemist	Inorganics
Ashesh Patel	Inorganic Chemist	Inorganics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Sarah Millington	Senior Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
ED009: Anions (QC Lot: 1291216)									
ES1005253-001	Anonymous	ED009: Fluoride	16984-48-8	0.02	mg/L	0.11	0.09	18.4	No Limit
		ED009: Chloride	16887-00-6	0.50	mg/L	25.8	26.1	1.1	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	15.4	15.5	0.8	0% - 20%
ES1005258-004	Anonymous	ED009: Fluoride	16984-48-8	0.02	mg/L	<0.02	<0.02	0.0	No Limit
		ED009: Chloride	16887-00-6	0.50	mg/L	13900	14500	3.9	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	1110	1160	4.7	0% - 20%
ED037P: Alkalinity by PC Titrator (QC Lot: 1293486)									
ES1005391-001	MW69	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	761	774	1.7	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	761	774	1.7	0% - 20%
ES1005399-004	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	178	185	3.8	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	178	185	3.8	0% - 20%
ED040T: Total Major Anions (QC Lot: 1295294)									
ES1005391-002	MW61	ED040T: Sulfur as S	----	1	mg/L	10	10	0.0	0% - 50%
ED040T: Total Major Anions (QC Lot: 1298339)									
ES1005391-004	BH3	ED040T: Sulfur as S	----	1	mg/L	79	79	0.0	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 1290843)									
ES1005391-001	MW69	ED093F: Calcium	7440-70-2	1	mg/L	249	235	5.6	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	574	550	4.2	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	6200	6030	2.8	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	216	209	3.4	0% - 20%
ES1005442-004	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	2	2	0.0	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	<1	<1	0.0	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	4	3	0.0	No Limit
		ED093F: Potassium	7440-09-7	1	mg/L	1	1	0.0	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1291375)									
EB1005044-005	Anonymous	EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	<0.05	0.0	No Limit
ES1005391-006	MW64	EG020A-F: Iron	7439-89-6	0.05	mg/L	2.75	2.78	1.2	0% - 20%
EG035F: Dissolved Mercury by FIMS (QC Lot: 1291374)									
EB1005044-002	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1005391-007	QC340	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG050 Low: Total Hexavalent Chromium - Low (QC Lot: 1293180)									
ES1005244-001	Anonymous	EG050: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	<0.002	0.0	No Limit
ES1005391-004	BH3	EG050: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	<0.002	0.0	No Limit
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QC Lot: 1295572)									
EB1004570-002	Anonymous	EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Arsenic	7440-38-2	0.5	µg/L	1.7	1.8	9.0	No Limit
		EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Manganese	7439-96-5	0.5	µg/L	1.9	2.0	8.7	No Limit
		EG093A-F: Nickel	7440-02-0	0.5	µg/L	0.6	<0.5	25.9	No Limit
		EG093A-F: Vanadium	7440-62-2	0.5	µg/L	2.3	2.2	0.0	No Limit
		EG093A-F: Barium	7440-39-3	1	µg/L	9	9	0.0	No Limit
		EG093A-F: Copper	7440-50-8	1	µg/L	1	<1	0.0	No Limit
		EG093A-F: Zinc	7440-66-6	5	µg/L	6	6	0.0	No Limit
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QC Lot: 1299751)									
EB1005477-001	Anonymous	EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Arsenic	7440-38-2	0.5	µg/L	1.5	1.5	0.0	No Limit
		EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Manganese	7439-96-5	0.5	µg/L	4.8	4.8	0.0	No Limit
		EG093A-F: Nickel	7440-02-0	0.5	µg/L	0.6	0.6	0.0	No Limit
		EG093A-F: Vanadium	7440-62-2	0.5	µg/L	1.1	2.0	60.9	No Limit
		EG093A-F: Barium	7440-39-3	1	µg/L	12	12	0.0	0% - 50%
		EG093A-F: Copper	7440-50-8	1	µg/L	<1	<1	0.0	No Limit
		EG093A-F: Zinc	7440-66-6	5	µg/L	<5	<5	0.0	No Limit
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QC Lot: 1298205)									
EB1004570-001	Anonymous	EG094A-F: Cadmium	7440-43-9	0.05	µg/L	0.06	0.06	0.0	No Limit
		EG094A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG094A-F: Cobalt	7440-48-4	0.1	µg/L	12.1	11.9	1.4	0% - 20%
		EG094A-F: Lead	7439-92-1	0.1	µg/L	1.2	1.2	0.0	0% - 50%
		EG094A-F: Arsenic	7440-38-2	0.2	µg/L	5.2	4.8	6.8	0% - 20%
		EG094A-F: Chromium	7440-47-3	0.2	µg/L	2.4	2.3	0.0	0% - 50%
		EG094A-F: Vanadium	7440-62-2	0.2	µg/L	2.9	2.8	0.0	0% - 50%
		EG094A-F: Barium	7440-39-3	0.5	µg/L	16.9	17.2	1.8	0% - 20%
		EG094A-F: Copper	7440-50-8	0.5	µg/L	18.0	17.8	1.5	0% - 20%
		EG094A-F: Manganese	7439-96-5	0.5	µg/L	967	944	2.4	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QC Lot: 1298205) - continued									
EB1004570-001	Anonymous	EG094A-F: Nickel	7440-02-0	0.5	µg/L	72.0	70.7	1.8	0% - 20%
		EG094A-F: Zinc	7440-66-6	1	µg/L	88	87	1.9	0% - 20%
EK025G: Free cyanide by Discrete Analyser (QC Lot: 1294804)									
ES1005391-004	BH3	EK025G: Free Cyanide	----	0.004	mg/L	0.013	0.013	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1294803)									
ES1005391-004	BH3	EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	0.020	0.006	106	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 1290830)									
ES1005391-001	MW69	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	90.4	91.0	0.7	0% - 20%
ES1005469-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.02	0.04	50.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 1290844)									
ES1005391-003	BH6	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1005470-004	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: NOX as N by Discrete Analyser (QC Lot: 1290829)									
ES1005391-002	MW61	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1005472-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK071G: Reactive Phosphorus as P by discrete analyser (QC Lot: 1290845)									
ES1005391-001	MW69	EK071G: Reactive Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1005469-001	Anonymous	EK071G: Reactive Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EP005: Total Organic Carbon (TOC) (QC Lot: 1291535)									
ES1005244-001	Anonymous	EP005: Total Organic Carbon	----	1	mg/L	6	5	0.0	No Limit
ES1005390-001	Anonymous	EP005: Total Organic Carbon	----	1	mg/L	<1	<1	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1294682)									
ES1005391-001	MW69	EP074: Benzene	71-43-2	1	µg/L	868	870	0.3	0% - 20%
		EP074: Toluene	108-88-3	2	µg/L	804	811	0.9	0% - 20%
		EP074: Ethylbenzene	100-41-4	2	µg/L	77	66	16.1	0% - 20%
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	240	258	7.1	0% - 20%
		EP074: ortho-Xylene	95-47-6	2	µg/L	144	158	9.8	0% - 20%
		EP074: Styrene	100-42-5	5	µg/L	194	210	8.2	0% - 20%
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	6	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	19	16	21.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	63	53	16.8	0% - 50%
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
ES1005682-008	Anonymous	EP074: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP074: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1294682) - continued									
ES1005682-008	Anonymous	EP074: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1294682)									
ES1005391-001	MW69	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
ES1005682-008	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1294682)									
ES1005391-001	MW69	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
ES1005682-008	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1294682)									
ES1005391-001	MW69	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
ES1005682-008	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1294682)									
ES1005391-001	MW69	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1294682) - continued									
ES1005391-001	MW69	EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
ES1005682-008	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1294682) - continued									
ES1005682-008	Anonymous	EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1294682)									
ES1005391-001	MW69	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
ES1005682-008	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1294682)									
ES1005391-001	MW69	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
ES1005682-008	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074G: Trihalomethanes (QC Lot: 1294682) - continued									
ES1005682-008	Anonymous	EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
EP074H: Naphthalene (QC Lot: 1294682)									
ES1005391-001	MW69	EP074: Naphthalene	91-20-3	7	µg/L	1390	1470	5.7	0% - 20%
ES1005682-008	Anonymous	EP074: Naphthalene	91-20-3	7	µg/L	<7	<7	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1294681)									
ES1005391-001	MW69	EP080: C6 - C9 Fraction	----	20	µg/L	3400	3450	1.5	0% - 20%
ES1005682-008	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
ED009: Anions (QCLot: 1291216)								
ED009: Chloride	16887-00-6	0.5	mg/L	<0.50	4 mg/L	93.2	70	130
ED009: Fluoride	16984-48-8	0.02	mg/L	<0.02	4 mg/L	108	70	130
ED009: Sulfate	14808-79-8	0.5	mg/L	<0.50	4 mg/L	93.0	70	130
ED037P: Alkalinity by PC Titrator (QCLot: 1293486)								
ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	----	200 mg/L	87.0	80.2	108
ED040T: Total Major Anions (QCLot: 1295294)								
ED040T: Sulfur as S	----	1	mg/L	<1	50 mg/L	104	91	119
ED040T: Total Major Anions (QCLot: 1298339)								
ED040T: Sulfur as S	----	1	mg/L	<1	50 mg/L	103	91	119
ED093F: Dissolved Major Cations (QCLot: 1290843)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	98.4	88	110
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	101	90	110
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	89.7	81	107
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	96.5	89	109
EG020F: Dissolved Metals by ICP-MS (QCLot: 1291375)								
EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	0.5 mg/L	94.2	84	114
EG035F: Dissolved Mercury by FIMS (QCLot: 1291374)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	# 116	86	116
EG050 Low: Total Hexavalent Chromium - Low (QCLot: 1293180)								
EG050: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	0.10 mg/L	100	70	130
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1295572)								
EG093A-F: Arsenic	7440-38-2	0.5	µg/L	<0.5	10 µg/L	99.3	85	125
EG093A-F: Barium	7440-39-3	1	µg/L	<1	10 µg/L	101	81	129
EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	10 µg/L	96.6	80	122
EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	10 µg/L	83.4	78	116
EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	10 µg/L	94.8	86	128
EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	10 µg/L	109	87	127
EG093A-F: Copper	7440-50-8	1	µg/L	<1	10 µg/L	110	86	124
EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	10 µg/L	98.1	87	123
EG093A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	10 µg/L	100	90	122
EG093A-F: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	102	84	124
EG093A-F: Vanadium	7440-62-2	0.5	µg/L	<0.5	10 µg/L	98.3	85	123
EG093A-F: Zinc	7440-66-6	5	µg/L	<5	10 µg/L	102	82	128

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1299751)								
EG093A-F: Arsenic	7440-38-2	0.5	µg/L	<0.5	10 µg/L	97.7	85	125
EG093A-F: Barium	7440-39-3	1	µg/L	<1	10 µg/L	95.6	81	129
EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	10 µg/L	103	80	122
EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	10 µg/L	84.1	78	116
EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	10 µg/L	109	86	128
EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	10 µg/L	104	87	127
EG093A-F: Copper	7440-50-8	1	µg/L	<1	10 µg/L	105	86	124
EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	10 µg/L	105	87	123
EG093A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	10 µg/L	104	90	122
EG093A-F: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	105	84	124
EG093A-F: Vanadium	7440-62-2	0.5	µg/L	<0.5	10 µg/L	87.8	85	123
EG093A-F: Zinc	7440-66-6	5	µg/L	<5	10 µg/L	98.2	82	128
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1298205)								
EG094A-F: Arsenic	7440-38-2	0.2	µg/L	<0.2	10 µg/L	102	81	121
EG094A-F: Barium	7440-39-3	0.5	µg/L	<0.5	10 µg/L	95.5	78	112
EG094A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	10 µg/L	102	70	130
EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.05	10 µg/L	91.0	70	130
EG094A-F: Chromium	7440-47-3	0.2	µg/L	<0.2	10 µg/L	98.8	70	130
EG094A-F: Cobalt	7440-48-4	0.1	µg/L	<0.1	10 µg/L	102	70	130
EG094A-F: Copper	7440-50-8	0.5	µg/L	<0.5	10 µg/L	102	70	130
EG094A-F: Lead	7439-92-1	0.1	µg/L	<0.1	10 µg/L	102	70	130
EG094A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	10 µg/L	103	70	130
EG094A-F: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	101	70	130
EG094A-F: Vanadium	7440-62-2	0.2	µg/L	<0.2	10 µg/L	89.4	70	130
EG094A-F: Zinc	7440-66-6	1	µg/L	<1	10 µg/L	100	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1294804)								
EK025G: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	108	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1294803)								
EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	86.7	70	129
EK055G: Ammonia as N by Discrete Analyser (QCLot: 1290830)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.00 mg/L	89.2	79.6	122
EK057G: Nitrite as N by Discrete Analyser (QCLot: 1290844)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.96 mg/L	92.9	65.1	129
EK059G: NOX as N by Discrete Analyser (QCLot: 1290829)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.96 mg/L	100	76.9	122
EK071G: Reactive Phosphorus as P by discrete analyser (QCLot: 1290845)								
EK071G: Reactive Phosphorus as P	----	0.01	mg/L	<0.01	0.50 mg/L	106	83.8	122
EP005: Total Organic Carbon (TOC) (QCLot: 1291535)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP005: Total Organic Carbon (TOC) (QCLot: 1291535) - continued								
EP005: Total Organic Carbon	----	1	mg/L	<1	10 mg/L	107	86.9	125
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1294682)								
EP074: Benzene	71-43-2	1	µg/L	<1	10 µg/L	94.0	81	119
EP074: Toluene	108-88-3	2	µg/L	<5	10 µg/L	110	76.5	123
EP074: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	96.4	80.3	119
EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	20 µg/L	97.8	81.1	118
EP074: Styrene	100-42-5	5	µg/L	<5	10 µg/L	102	79.9	120
EP074: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	102	82	118
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	10 µg/L	94.9	80.3	119
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	10 µg/L	92.9	75.5	122
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	10 µg/L	94.3	79.2	118
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	10 µg/L	96.8	76.6	121
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	10 µg/L	94.6	79.7	118
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	10 µg/L	91.4	77.4	120
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	10 µg/L	85.9	76.3	122
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	10 µg/L	91.0	74.4	123
EP074B: Oxygenated Compounds (QCLot: 1294682)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	100 µg/L	99.7	61.4	134
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	100 µg/L	95.0	73.6	130
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	100 µg/L	108	74.7	129
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	100 µg/L	109	74.1	130
EP074C: Sulfonated Compounds (QCLot: 1294682)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	10 µg/L	87.3	72.8	127
EP074D: Fumigants (QCLot: 1294682)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	10 µg/L	92.8	72.7	124
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	10 µg/L	98.4	80.7	119
EP074: cis-1.3-Dichloropropylene	10061-01-5	10	µg/L	<10	10 µg/L	99.6	80.4	119
EP074: trans-1.3-Dichloropropylene	10061-02-6	10	µg/L	<10	10 µg/L	96.4	79.3	120
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	10 µg/L	104	79.1	123
EP074E: Halogenated Aliphatic Compounds (QCLot: 1294682)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	100 µg/L	70.5	60.6	138
EP074: Chloromethane	74-87-3	50	µg/L	<50	100 µg/L	80.2	67.4	130
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	100 µg/L	83.0	69.4	129
EP074: Bromomethane	74-83-9	50	µg/L	<50	100 µg/L	85.8	68.9	131
EP074: Chloroethane	75-00-3	50	µg/L	<50	100 µg/L	113	73.9	126
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	100 µg/L	91.2	71.6	128
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	10 µg/L	89.5	72.5	128

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1294682) - continued								
EP074: Iodomethane	74-88-4	5	µg/L	<5	10 µg/L	84.0	70.2	128
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	10 µg/L	94.3	77.4	122
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	10 µg/L	94.4	79.3	121
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	10 µg/L	98.3	79.5	121
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	10 µg/L	92.5	75.8	124
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	10 µg/L	92.4	77.8	121
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	10 µg/L	97.4	73.8	126
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	10 µg/L	106	75.5	126
EP074: Trichloroethene	79-01-6	5	µg/L	<5	10 µg/L	98.7	76.7	123
EP074: Dibromomethane	74-95-3	5	µg/L	<5	10 µg/L	103	76.1	126
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	10 µg/L	108	79.6	122
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	10 µg/L	102	79.9	122
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	10 µg/L	92.3	75	124
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	10 µg/L	101	78.9	121
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	10 µg/L	101	61.4	136
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	10 µg/L	101	70.6	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	10 µg/L	112	77.8	126
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	10 µg/L	91.2	74.1	128
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	10 µg/L	91.5	71.8	126
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	10 µg/L	89.2	66.4	136
EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	10 µg/L	98.1	67.2	129
EP074F: Halogenated Aromatic Compounds (QCLot: 1294682)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	10 µg/L	96.6	80.8	119
EP074: Bromobenzene	108-86-1	5	µg/L	<5	10 µg/L	96.4	79.3	119
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	10 µg/L	101	78.2	120
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	10 µg/L	96.2	79	119
EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	10 µg/L	102	78.9	120
EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	10 µg/L	99.2	79.9	119
EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	10 µg/L	98.9	82.3	116
EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	10 µg/L	93.2	67.8	129
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	10 µg/L	93.6	68.6	128
EP074G: Trihalomethanes (QCLot: 1294682)								
EP074: Chloroform	67-66-3	5	µg/L	<5	10 µg/L	101	78.2	122
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	10 µg/L	88.0	76.9	123
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	10 µg/L	106	78.5	124
EP074: Bromoform	75-25-2	5	µg/L	<5	10 µg/L	98.7	73.5	126
EP074H: Naphthalene (QCLot: 1294682)								
EP074: Naphthalene	91-20-3	7	µg/L	<7	10 µg/L	98.8	72.9	127
EP075A: Phenolic Compounds (QCLot: 1291424)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075A: Phenolic Compounds (QCLot: 1291424) - continued								
EP075: Phenol	108-95-2	2	µg/L	<2	5 µg/L	54.0	25.5	64.1
EP075: 2-Chlorophenol	95-57-8	2	µg/L	<2	5 µg/L	98.6	63.1	105
EP075: 2-Methylphenol	95-48-7	2	µg/L	<2	5 µg/L	92.8	55.6	98.4
EP075: 3- & 4-Methylphenol	1319-77-3	4	µg/L	<4	10 µg/L	76.4	45	96.2
EP075: 2-Nitrophenol	88-75-5	2	µg/L	<2	5 µg/L	95.9	55.4	110
EP075: 2.4-Dimethylphenol	105-67-9	2	µg/L	<2	5 µg/L	83.4	61.7	110
EP075: 2.4-Dichlorophenol	120-83-2	2	µg/L	<2	5 µg/L	88.6	61.9	109
EP075: 2.6-Dichlorophenol	87-65-0	2	µg/L	<2	5 µg/L	97.8	61.5	108
EP075: 4-Chloro-3-Methylphenol	59-50-7	2	µg/L	<2	5 µg/L	97.4	61.4	107
EP075: 2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	5 µg/L	92.1	57.6	112
EP075: 2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	5 µg/L	84.2	58	110
EP075: Pentachlorophenol	87-86-5	4	µg/L	<4	10 µg/L	40.0	2.39	110
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1291424)								
EP075: Naphthalene	91-20-3	2	µg/L	<2	5 µg/L	98.0	61	108
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	5 µg/L	96.8	59	108
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	5 µg/L	87.3	60.6	106
EP075: Acenaphthylene	208-96-8	2	µg/L	<2	5 µg/L	94.6	64	108
EP075: Acenaphthene	83-32-9	2	µg/L	<2	5 µg/L	100	65	108
EP075: Fluorene	86-73-7	2	µg/L	<2	5 µg/L	99.6	65.2	107
EP075: Phenanthrene	85-01-8	2	µg/L	<2	5 µg/L	103	66.7	108
EP075: Anthracene	120-12-7	2	µg/L	<2	5 µg/L	102	65.8	108
EP075: Fluoranthene	206-44-0	2	µg/L	<2	5 µg/L	103	64.9	109
EP075: Pyrene	129-00-0	2	µg/L	<2	5 µg/L	103	60.1	111
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	5 µg/L	104	59.7	110
EP075: Benz(a)anthracene	56-55-3	2	µg/L	<2	5 µg/L	102	62.2	112
EP075: Chrysene	218-01-9	2	µg/L	<2	5 µg/L	104	59.3	114
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	10 µg/L	100	60.1	111
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	5 µg/L	102	49.8	107
EP075: Benzo(a)pyrene	50-32-8	2	µg/L	<2	5 µg/L	98.7	59.2	112
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	5 µg/L	92.7	60.1	110
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	5 µg/L	92.6	59.6	110
EP075: Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	5 µg/L	89.2	57.2	109
EP075: Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	5 µg/L	92.2	60.6	110
EP075C: Phthalate Esters (QCLot: 1291424)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	5 µg/L	100	64.3	112
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	5 µg/L	106	67.3	111
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	5 µg/L	92.5	68.4	122
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	5 µg/L	108	61.2	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075C: Phthalate Esters (QCLot: 1291424) - continued								
EP075: bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	<20	5 µg/L	# 69.5	72.8	135
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	5 µg/L	105	62.1	115
EP075D: Nitrosamines (QCLot: 1291424)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	5 µg/L	92.3	39.5	95.9
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	5 µg/L	94.1	60.6	113
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	5 µg/L	54.1	23.7	82.1
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	5 µg/L	66.4	35.4	86.2
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	5 µg/L	97.1	63.5	108
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	5 µg/L	96.0	61.7	107
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	5 µg/L	93.5	62.5	108
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	10 µg/L	100	64.6	112
EP075: Methapyrilene	91-80-5	2	µg/L	<2	5 µg/L	47.9	4.21	94
EP075E: Nitroaromatics and Ketones (QCLot: 1291424)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	5 µg/L	46.2	11.4	100
EP075: Acetophenone	98-86-2	2	µg/L	<2	5 µg/L	103	68.3	112
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	5 µg/L	101	68.3	112
EP075: Isophorone	78-59-1	2	µg/L	<2	5 µg/L	102	67.6	111
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	5 µg/L	88.5	64.4	113
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	5 µg/L	94.7	59.5	109
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	5 µg/L	64.8	46.8	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	5 µg/L	58.1	8.93	98.7
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	5 µg/L	103	58.3	106
EP075: Azobenzene	103-33-3	2	µg/L	<2	5 µg/L	102	66	112
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	5 µg/L	90.1	39	105
EP075: Phenacetin	62-44-2	2	µg/L	<2	5 µg/L	94.6	57.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	5 µg/L	99.2	60.1	112
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	5 µg/L	98.8	59	109
EP075: Pronamide	23950-58-5	2	µg/L	<2	5 µg/L	98.4	62.7	109
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	5 µg/L	97.6	59.4	108
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	5 µg/L	102	57.7	110
EP075F: Haloethers (QCLot: 1291424)								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	5 µg/L	101	69.1	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	5 µg/L	96.4	66.2	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	5 µg/L	98.9	64.7	109
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	5 µg/L	98.6	61.6	108
EP075G: Chlorinated Hydrocarbons (QCLot: 1291424)								
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	5 µg/L	94.2	39.1	113
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	5 µg/L	93.6	42	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075G: Chlorinated Hydrocarbons (QCLot: 1291424) - continued								
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	5 µg/L	93.5	41.3	112
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	5 µg/L	94.0	31	114
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	5 µg/L	89.5	42.9	115
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	5 µg/L	88.0	23.8	111
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	5 µg/L	90.4	37.4	116
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	5 µg/L	96.6	1.88	105
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	5 µg/L	98.8	64.5	107
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	5 µg/L	100	65.7	110
EP075H: Anilines and Benzidines (QCLot: 1291424)								
EP075: Aniline	62-53-3	2	µg/L	<2	5 µg/L	83.2	10.9	89.7
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	5 µg/L	# 112	44.4	106
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	5 µg/L	90.2	60.9	110
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	5 µg/L	85.0	51.5	96.9
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	5 µg/L	99.6	65.3	108
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	5 µg/L	89.0	48.9	99.5
EP075: Carbazole	86-74-8	2	µg/L	<2	5 µg/L	101	64.3	107
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	5 µg/L	88.3	60.3	119
EP075I: Organochlorine Pesticides (QCLot: 1291424)								
EP075: alpha-BHC	319-84-6	2	µg/L	<2	5 µg/L	105	64.3	110
EP075: beta-BHC	319-85-7	2	µg/L	<2	5 µg/L	96.9	59	110
EP075: gamma-BHC	58-89-9	2	µg/L	<2	5 µg/L	102	63.7	112
EP075: delta-BHC	319-86-8	2	µg/L	<2	5 µg/L	104	60.2	113
EP075: Heptachlor	76-44-8	2	µg/L	<2	5 µg/L	98.4	57.9	108
EP075: Aldrin	309-00-2	2	µg/L	<2	5 µg/L	101	57	113
EP075: Heptachlor epoxide	1024-57-3	2	µg/L	<2	5 µg/L	96.6	60.3	112
EP075: alpha-Endosulfan	959-98-8	2	µg/L	<2	5 µg/L	87.9	52.5	115
EP075: 4.4`-DDE	72-55-9	2	µg/L	<2	5 µg/L	102	64.1	111
EP075: Dieldrin	60-57-1	2	µg/L	<2	5 µg/L	108	65	113
EP075: Endrin	72-20-8	2	µg/L	<2	5 µg/L	104	51.1	112
EP075: beta-Endosulfan	33213-65-9	2	µg/L	<2	5 µg/L	105	60.4	111
EP075: 4.4`-DDD	72-54-8	2	µg/L	<2	5 µg/L	104	59.8	115
EP075: Endosulfan sulfate	1031-07-8	2	µg/L	<2	5 µg/L	90.5	52.8	114
EP075: 4.4`-DDT	50-29-3	4	µg/L	<4	5 µg/L	104	41.3	114
EP075J: Organophosphorus Pesticides (QCLot: 1291424)								
EP075: Dichlorvos	62-73-7	2	µg/L	<2	5 µg/L	91.0	52	118
EP075: Dimethoate	60-51-5	2	µg/L	<2	5 µg/L	100	46.8	114
EP075: Diazinon	333-41-5	2	µg/L	<2	5 µg/L	112	54	116
EP075: Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	5 µg/L	103	54.1	116
EP075: Malathion	121-75-5	2	µg/L	<2	5 µg/L	116	57.6	118

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075J: Organophosphorus Pesticides (QCLot: 1291424) - continued								
EP075: Fenthion	55-38-9	2	µg/L	<2	5 µg/L	101	50.1	117
EP075: Chlorpyrifos	2921-88-2	2	µg/L	<2	5 µg/L	104	59.2	113
EP075: Pirimphos-ethyl	23505-41-1	2	µg/L	<2	5 µg/L	84.6	52.6	115
EP075: Chlorfenvinphos	470-90-6	2	µg/L	<2	6 µg/L	89.3	44.6	95.8
EP075: Prothiofos	34643-46-4	2	µg/L	<2	5 µg/L	103	56.8	116
EP075: Ethion	563-12-2	2	µg/L	<2	5 µg/L	114	48.6	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1291425)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	77.0	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	85.0	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	81.5	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1294681)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	103	75	127

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED009: Anions (QCLot: 1291216)							
ES1005253-001	Anonymous	ED009: Chloride	16887-00-6	4 mg/L	# Not Determined	70	130
		ED009: Fluoride	16984-48-8	0.2 mg/L	79.0	70	130
		ED009: Sulfate	14808-79-8	4 mg/L	98.1	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1291374)							
EB1005044-004	Anonymous	EG035F: Mercury	7439-97-6	0.1 mg/L	124	70	130
EG050 Low: Total Hexavalent Chromium - Low (QCLot: 1293180)							
ES1005244-001	Anonymous	EG050: Hexavalent Chromium	18540-29-9	0.50 mg/L	73.9	70	130
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1295572)							
EB1004570-002	Anonymous	EG093A-F: Arsenic	7440-38-2	50 µg/L	106	70	130
		EG093A-F: Barium	7440-39-3	50 µg/L	100	70	130
		EG093A-F: Beryllium	7440-41-7	50 µg/L	98.5	70	130
		EG093A-F: Cadmium	7440-43-9	12.5 µg/L	83.5	70	130
		EG093A-F: Chromium	7440-47-3	50 µg/L	98.1	70	130
		EG093A-F: Cobalt	7440-48-4	50 µg/L	107	70	130
		EG093A-F: Copper	7440-50-8	50 µg/L	114	70	130
		EG093A-F: Lead	7439-92-1	50 µg/L	97.1	70	130
		EG093A-F: Manganese	7439-96-5	50 µg/L	105	70	130
		EG093A-F: Nickel	7440-02-0	50 µg/L	101	70	130
		EG093A-F: Vanadium	7440-62-2	50 µg/L	85.8	70	130
		EG093A-F: Zinc	7440-66-6	50 µg/L	117	70	130
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1299751)							
EB1005479-003	Anonymous	EG093A-F: Arsenic	7440-38-2	50 µg/L	106	70	130
		EG093A-F: Barium	7440-39-3	50 µg/L	110	70	130
		EG093A-F: Beryllium	7440-41-7	50 µg/L	103	70	130
		EG093A-F: Cadmium	7440-43-9	12.5 µg/L	92.3	70	130
		EG093A-F: Chromium	7440-47-3	50 µg/L	89.4	70	130
		EG093A-F: Cobalt	7440-48-4	50 µg/L	110	70	130
		EG093A-F: Copper	7440-50-8	50 µg/L	105	70	130
		EG093A-F: Lead	7439-92-1	50 µg/L	96.0	70	130
		EG093A-F: Manganese	7439-96-5	50 µg/L	91.9	70	130
		EG093A-F: Nickel	7440-02-0	50 µg/L	111	70	130
		EG093A-F: Vanadium	7440-62-2	50 µg/L	112	70	130
		EG093A-F: Zinc	7440-66-6	50 µg/L	113	70	130
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1298205)							

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
				Concentration	MS	Low	High
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 1298205) - continued							
EB1004570-001	Anonymous	EG094A-F: Arsenic	7440-38-2	50 µg/L	126	70	130
		EG094A-F: Barium	7440-39-3	50 µg/L	109	70	130
		EG094A-F: Beryllium	7440-41-7	50 µg/L	87.5	70	130
		EG094A-F: Cadmium	7440-43-9	12.5 µg/L	92.6	70	130
		EG094A-F: Chromium	7440-47-3	50 µg/L	96.0	70	130
		EG094A-F: Cobalt	7440-48-4	50 µg/L	114	70	130
		EG094A-F: Copper	7440-50-8	50 µg/L	105	70	130
		EG094A-F: Lead	7439-92-1	50 µg/L	107	70	130
		EG094A-F: Manganese	7439-96-5	50 µg/L	# Not Determined	70	130
		EG094A-F: Nickel	7440-02-0	50 µg/L	102	70	130
		EG094A-F: Vanadium	7440-62-2	50 µg/L	97.2	70	130
		EG094A-F: Zinc	7440-66-6	50 µg/L	97.4	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1294804)							
ES1005391-004	BH3	EK025G: Free Cyanide	----	0.2 mg/L	103	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1294803)							
ES1005391-004	BH3	EK028G: Weak Acid Dissociable Cyanide	----	0.2 mg/L	# 47.0	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 1290830)							
ES1005391-001	MW69	EK055G: Ammonia as N	7664-41-7	1.00 mg/L	# Not Determined	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 1290844)							
ES1005391-003	BH6	EK057G: Nitrite as N	----	0.60 mg/L	90.7	70	130
EK059G: NOX as N by Discrete Analyser (QCLot: 1290829)							
ES1005391-002	MW61	EK059G: Nitrite + Nitrate as N	----	0.60 mg/L	100	70	130
EK071G: Reactive Phosphorus as P by discrete analyser (QCLot: 1290845)							
ES1005391-001	MW69	EK071G: Reactive Phosphorus as P	----	0.50 mg/L	102	70	130
EP005: Total Organic Carbon (TOC) (QCLot: 1291535)							
ES1005244-002	Anonymous	EP005: Total Organic Carbon	----	100 mg/L	91.9	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1294682)							
ES1005391-001	MW69	EP074: Benzene	71-43-2	25 µg/L	# Not Determined	70	130
		EP074: Toluene	108-88-3	25 µg/L	# Not Determined	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1294682)							
ES1005391-001	MW69	EP074: 1.1-Dichloroethene	75-35-4	25 µg/L	79.7	70	130
		EP074: Trichloroethene	79-01-6	25 µg/L	94.4	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1294682)							
ES1005391-001	MW69	EP074: Chlorobenzene	108-90-7	25 µg/L	99.0	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1294681)							
ES1005391-001	MW69	EP080: C6 - C9 Fraction	----	5000 µg/L	113	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1005391**	Page	: 1 of 17
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MS KATE PIGRAM	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: kate.pigram@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 23-MAR-2010
Sampler	: KP	Issue Date	: 07-APR-2010
Order number	: 1303951		
		No. of samples received	: 9
Quote number	: SY/259/09 V2	No. of samples analysed	: 8

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
ED009: Anions							
Clear Plastic Bottle - Natural MW69	**19-MAR-2010**	**----**	----	----	**25-MAR-2010**	16-APR-2010	✓
Clear Plastic Bottle - Natural MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**----**	----	----	**25-MAR-2010**	17-APR-2010	✓
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural MW69	**19-MAR-2010**	**---**	---	----	**26-MAR-2010**	02-APR-2010	✓
Clear Plastic Bottle - Natural MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**---**	---	----	**26-MAR-2010**	03-APR-2010	✓
ED040T: Total Major Anions							
Clear Plastic Bottle - Natural MW69	**19-MAR-2010**	**30-MAR-2010**	16-APR-2010	✓	**31-MAR-2010**	16-APR-2010	✓
Clear Plastic Bottle - Natural MW61, BH6, MW64	**20-MAR-2010**	**30-MAR-2010**	17-APR-2010	✓	**31-MAR-2010**	17-APR-2010	✓
Clear Plastic Bottle - Natural BH3	**20-MAR-2010**	**31-MAR-2010**	17-APR-2010	✓	**31-MAR-2010**	17-APR-2010	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Natural MW69	**19-MAR-2010**	**---**	---	----	**30-MAR-2010**	26-MAR-2010	×
Clear Plastic Bottle - Natural MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**---**	---	----	**30-MAR-2010**	27-MAR-2010	×

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW69	**19-MAR-2010**	**---**	---	----	**25-MAR-2010**	15-SEP-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**---**	---	----	**25-MAR-2010**	16-SEP-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW69	**19-MAR-2010**	**---**	---	----	**26-MAR-2010**	16-APR-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW61, BH6, BH3, MW40, MW64, QC340	**20-MAR-2010**	**---**	---	----	**26-MAR-2010**	17-APR-2010	✓
EG050 Low: Total Hexavalent Chromium - Low							
Clear Plastic Bottle - NaOH							
MW69	**19-MAR-2010**	**----**	----	----	**26-MAR-2010**	16-APR-2010	✓
Clear Plastic Bottle - NaOH							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**----**	----	----	**26-MAR-2010**	17-APR-2010	✓
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW69	**19-MAR-2010**	**01-APR-2010**	15-SEP-2010	✓	**01-APR-2010**	15-SEP-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW64	**20-MAR-2010**	**01-APR-2010**	16-SEP-2010	✓	**01-APR-2010**	16-SEP-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
BH6, MW40	**20-MAR-2010**	**30-MAR-2010**	16-SEP-2010	✓	**30-MAR-2010**	16-SEP-2010	✓
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW61, BH3, QC340	**20-MAR-2010**	**31-MAR-2010**	16-SEP-2010	✓	**31-MAR-2010**	16-SEP-2010	✓
EK025G: Free cyanide by Discrete Analyser							
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW69	**19-MAR-2010**	**29-MAR-2010**	02-APR-2010	✓	**29-MAR-2010**	02-APR-2010	✓
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW61, BH6, BH3, MW64	**20-MAR-2010**	**29-MAR-2010**	03-APR-2010	✓	**29-MAR-2010**	03-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW69	**19-MAR-2010**	**29-MAR-2010**	02-APR-2010	✓	**29-MAR-2010**	02-APR-2010	✓
White Plastic Bottle - NaOH/Cadmium Nitrate							
MW61, BH6, BH3, MW64	**20-MAR-2010**	**29-MAR-2010**	03-APR-2010	✓	**29-MAR-2010**	03-APR-2010	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulphuric Acid							
MW69	**19-MAR-2010**	**---**	---	----	**24-MAR-2010**	16-APR-2010	✓
Clear Plastic Bottle - Sulphuric Acid							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**---**	---	----	**24-MAR-2010**	17-APR-2010	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural							
MW69	**19-MAR-2010**	**---**	---	----	**24-MAR-2010**	21-MAR-2010	×
Clear Plastic Bottle - Natural							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**---**	---	----	**24-MAR-2010**	22-MAR-2010	×
EK059G: NOX as N by Discrete Analyser							
Clear Plastic Bottle - Sulphuric Acid							
MW69	**19-MAR-2010**	**---**	---	----	**24-MAR-2010**	16-APR-2010	✓
Clear Plastic Bottle - Sulphuric Acid							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**---**	---	----	**24-MAR-2010**	17-APR-2010	✓
EK071G: Reactive Phosphorus as P by discrete analyser							
Clear Plastic Bottle - Natural							
MW69	**19-MAR-2010**	**---**	---	----	**24-MAR-2010**	21-MAR-2010	×
Clear Plastic Bottle - Natural							
MW61, BH6, BH3, MW64	**20-MAR-2010**	**---**	---	----	**24-MAR-2010**	22-MAR-2010	×
EP005: Total Organic Carbon (TOC)							
Amber TOC Vial - Sulphuric Acid							
MW69	**19-MAR-2010**	**----**	----	----	**25-MAR-2010**	16-APR-2010	✓
Amber TOC Vial - Sulphuric Acid							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**----**	----	----	**25-MAR-2010**	17-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - HCl							
MW69	**19-MAR-2010**	**---**	---	----	**28-MAR-2010**	02-APR-2010	✓
Amber VOC Vial - HCl							
MW61, BH6, BH3, MW40, MW64, QC340, TB306	**20-MAR-2010**	**---**	---	----	**28-MAR-2010**	03-APR-2010	✓
EP074B: Oxygenated Compounds							
Amber VOC Vial - HCl							
MW69	**19-MAR-2010**	**---**	---	----	**28-MAR-2010**	02-APR-2010	✓
Amber VOC Vial - HCl							
MW61, BH6, BH3, MW40, MW64, QC340, TB306	**20-MAR-2010**	**---**	---	----	**28-MAR-2010**	03-APR-2010	✓
EP074C: Sulfonated Compounds							
Amber VOC Vial - HCl							
MW69	**19-MAR-2010**	**---**	---	----	**28-MAR-2010**	02-APR-2010	✓
Amber VOC Vial - HCl							
MW61, BH6, BH3, MW40, MW64, QC340, TB306	**20-MAR-2010**	**---**	---	----	**28-MAR-2010**	03-APR-2010	✓
EP074D: Fumigants							
Amber VOC Vial - HCl							
MW69	**19-MAR-2010**	**---**	---	----	**28-MAR-2010**	02-APR-2010	✓
Amber VOC Vial - HCl							
MW61, BH6, BH3, MW40, MW64, QC340, TB306	**20-MAR-2010**	**---**	---	----	**28-MAR-2010**	03-APR-2010	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - HCl							
MW69	**19-MAR-2010**	**---**	---	----	**28-MAR-2010**	02-APR-2010	✓
Amber VOC Vial - HCl							
MW61, BH6, BH3, MW40, MW64, QC340, TB306	**20-MAR-2010**	**---**	---	----	**28-MAR-2010**	03-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074F: Halogenated Aromatic Compounds							
Amber VOC Vial - HCl							
MW69	**19-MAR-2010**	**---**	---	----	**28-MAR-2010**	02-APR-2010	✓
Amber VOC Vial - HCl							
MW61, BH6, BH3, MW40, MW64, QC340, TB306	**20-MAR-2010**	**---**	---	----	**28-MAR-2010**	03-APR-2010	✓
EP074G: Trihalomethanes							
Amber VOC Vial - HCl							
MW69	**19-MAR-2010**	**---**	---	----	**28-MAR-2010**	02-APR-2010	✓
Amber VOC Vial - HCl							
MW61, BH6, BH3, MW40, MW64, QC340, TB306	**20-MAR-2010**	**---**	---	----	**28-MAR-2010**	03-APR-2010	✓
EP074H: Naphthalene							
Amber VOC Vial - HCl							
QC340, TB306	**20-MAR-2010**	**---**	---	----	**28-MAR-2010**	03-APR-2010	✓
EP075A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved							
MW69	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**25-MAR-2010**	27-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
MW69	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**25-MAR-2010**	27-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075C: Phthalate Esters							
Amber Glass Bottle - Unpreserved							
MW69	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**25-MAR-2010**	27-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075D: Nitrosamines							
Amber Glass Bottle - Unpreserved							
MW69	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**25-MAR-2010**	27-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075E: Nitroaromatics and Ketones							
Amber Glass Bottle - Unpreserved							
MW69	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**25-MAR-2010**	27-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075F: Haloethers							
Amber Glass Bottle - Unpreserved							
MW69	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**25-MAR-2010**	27-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075G: Chlorinated Hydrocarbons							
Amber Glass Bottle - Unpreserved							
MW69	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**25-MAR-2010**	27-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075H: Anilines and Benzidines							
Amber Glass Bottle - Unpreserved							
MW69	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**25-MAR-2010**	27-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP075I: Organochlorine Pesticides							
Amber Glass Bottle - Unpreserved							
MW69	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**25-MAR-2010**	27-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075J: Organophosphorus Pesticides							
Amber Glass Bottle - Unpreserved							
MW69	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
MW61, BH6, BH3, MW40, MW64	**20-MAR-2010**	**25-MAR-2010**	27-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved							
MW69	**19-MAR-2010**	**25-MAR-2010**	26-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
MW61, BH6, BH3, MW64, QC340	**20-MAR-2010**	**25-MAR-2010**	27-MAR-2010	✓	**26-MAR-2010**	04-MAY-2010	✓
Amber VOC Vial - HCl							
MW69	**19-MAR-2010**	**---**	---	----	**28-MAR-2010**	02-APR-2010	✓
Amber VOC Vial - HCl							
MW61, BH6, BH3, MW64, QC340	**20-MAR-2010**	**---**	---	----	**28-MAR-2010**	03-APR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ammonia as N by Discrete analyser	EK055G	2	10	**20.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	2	13	**15.4**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	18	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	9	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	5	**20.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	2	6	**33.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	12	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	2	14	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Hexavalent Chromium-Low Level	EG050 Low	2	12	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	17	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	7	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ammonia as N by Discrete analyser	EK055G	1	10	**10.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	2	11	**18.2**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	2	6	**33.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	10	**10.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Hexavalent Chromium-Low Level	EG050 Low	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
TPH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	10	**10.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	2	11	**18.2**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	2	6	**33.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	10	**10.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Hexavalent Chromium-Low Level	EG050 Low	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	10	**10.0**	**5.0**	✓	ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	13	**7.7**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.6**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	9	**11.1**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	2	11	**18.2**	**5.0**	✓	ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	5	**20.0**	**5.0**	✓	ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	12	**8.3**	**5.0**	✓	ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	14	**7.1**	**5.0**	✓	ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Total Hexavalent Chromium-Low Level	EG050 Low	1	12	**8.3**	**5.0**	✓	ALS QCS3 requirement
Total Organic Carbon	EP005	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	11	**9.1**	**5.0**	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	7	**14.3**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Standard Anions	* ED009	WATER	APHA 21st ed., 4110. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Alkalinity by PC Titrator	ED037-P	WATER	APHA 21st ed., 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Major Anions - Total	ED040T	WATER	APHA 21st ed., 3120 Samples are digested by USEPA 3005 prior to analysis. Sulfur content is determined by ICP/AES and reported as Sulfate after conversion by gravimetric factor.
Major Cations - Dissolved	ED093F	WATER	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises the 0.45um filtered sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Hexavalent Chromium-Low Level	EG050 Low	WATER	APHA 21st ed., 3500 Cr-B. Hexavalent chromium is determined directly on water sample as received by pH adjustment and colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	WATER	APHA 21st ed., 3125; USEPA SW846 - 6020 Samples are 0.45 um filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	WATER	APHA 21st ed., 3125; USEPA SW846 - 6020 Samples are 0.45 um filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Free CN by Discrete Analyser	EK025G	WATER	APHA 21st ed., 4500-CN-C&N Free Cyanide is determined on samples after distillation using a pyridine-barbituric acid colouring reagent followed with an Discrete Analyser finish. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Analytical Methods	Method	Matrix	Method Descriptions
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	WATER	APHA 21st ed., 4500-CN-C&N WAD Cyanide is determined from aqueous solutions after distillation with acetic acid. The resultant distillate is then captured in a caustic absorber solution followed by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Ammonia as N by Discrete analyser	EK055G	WATER	APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrite as N by Discrete Analyser	EK057G	WATER	APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrate as N by Discrete Analyser	EK058G	WATER	APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a cadmium reduction column followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Cadmium Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Reactive Phosphorus as P-By Discrete Analyser	EK071G	WATER	APHA 21st ed., 4500-P F Ammonium molybdate and potassium antimonyl tartrate reacts in acid medium with othophosphate to form a heteropoly acid -phosphomolybdic acid - which is reduced to intensely coloured molybdenum blue by ascorbic acid. Quantification is by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Ionic Balance by IC PCT and ICPAES	EN055 - IC ED009	WATER	APHA 21st Ed. 1030F. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Organic Carbon	EP005	WATER	APHA 21st ed., 5310 B, The automated TOC analyzer determines Total and Inorganic Carbon by IR cell. TOC is calculated as the difference. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Volatile Organic Compounds	EP074	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Semivolatile Organic Compounds	EP075	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Free Cyanide	EK025-PR	WATER	APHA 21st ed., 4500 CN- C&N. The sample is distilled at natural pH. The CN is trapped in a caustic solution, and quanitified by colourimetry on FIA. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Weak Acid Dissociable Cyanide	EK028-PR	WATER	APHA 21st ed., 4500 CN- I&N. The sample is distilled with Acetic acid, selectively releasing the weakly bound metal cyanides as HCN. The CN is trapped in a caustic solution, and quanitified by colourimetry on FIA. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG035F: Dissolved Mercury by FIMS	1496304-002	----	**Mercury**	7439-97-6	116 %	86-116%	**Recovery greater than upper control limit**
EP075C: Phthalate Esters	1496344-002	----	**bis(2-ethylhexyl) phthalate**	117-81-7	69.5 %	72.8-135%	**Recovery less than lower control limit**
EP075H: Anilines and Benzidines	1496344-002	----	**4-Chloroaniline**	106-47-8	112 %	44.4-106%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
ED009: Anions	ES1005253-001	Anonymous	**Chloride**	16887-00-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG094F: Dissolved Metals in Fresh Water by ORC-ICPI	EB1004570-001	Anonymous	**Manganese**	7439-96-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK028G: Weak Acid Dissociable Cyanide By Discrete A	ES1005391-004	BH3	**Weak Acid Dissociable Cyanide**	----	47.0 %	70-130%	**Recovery less than lower data quality objective**
EK055G: Ammonia as N by Discrete Analyser	ES1005391-001	MW69	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1005391-001	MW69	**Benzene**	71-43-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1005391-001	MW69	**Toluene**	108-88-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP074S: VOC Surrogates	ES1005391-003	BH6	**Toluene-D8**	2037-26-5	115 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1005391-001	MW69	**4-Bromofluorobenzene**	460-00-4	116 %	86-115 %	**Recovery greater than upper data quality objective**
EP075S: Acid Extractable Surrogates	ES1005391-001	MW69	**2-Fluorophenol**	367-12-4	120 %	21-100 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1005391-001	MW69	**Toluene-D8**	2037-26-5	120 %	88-110 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1005391-006	MW64	**Toluene-D8**	2037-26-5	112 %	88-110 %	**Recovery greater than upper data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **WATER**

Method / **Container** / Client Sample ID(s)	*Extraction / Preparation*			*Analysis*		
	Date extracted	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
ED093F: Dissolved Major Cations						
Clear Plastic Bottle - Natural						
MW69	----	----	----	30-MAR-2010	26-MAR-2010	**4**
Clear Plastic Bottle - Natural						
MW61, BH6, BH3, MW40, MW64	----	----	----	30-MAR-2010	27-MAR-2010	**3**
EK057G: Nitrite as N by Discrete Analyser						
Clear Plastic Bottle - Natural						
MW69	----	----	----	24-MAR-2010	21-MAR-2010	**3**
Clear Plastic Bottle - Natural						
MW61, BH6, BH3, MW40, MW64	----	----	----	24-MAR-2010	22-MAR-2010	**2**
EK071G: Reactive Phosphorus as P by discrete analyser						
Clear Plastic Bottle - Natural						
MW69	----	----	----	24-MAR-2010	21-MAR-2010	**3**
Clear Plastic Bottle - Natural						
MW61, BH6, BH3, MW64	----	----	----	24-MAR-2010	22-MAR-2010	**2**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1005391**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	Page	: 1 of 3
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: KP	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 23-MAR-2010	Issue Date	: 25-MAR-2010 08:20
Client Requested Due Date	: 06-APR-2010	Scheduled Reporting Date	: **06-APR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 5.6'C - Ice present
No. of coolers/boxes	: 2 HARD	No. of samples received	: 9
Sercurity Seal	: Intact.	No. of samples analysed	: 8

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Breaches in recommended extraction / analysis holding times may occur. Please contact ALS for further information (Jacob Waugh).**
- **Sample ID on COC is QC240 but on jar is QC340, lab will follow the jar ID and will analyse. This has been confirmed correct by Anthony Davis.**
- **Received extra sample MW206 placed on hold as per Anthony Davis.**
- **Reactive P, NO2, NO3, should be analysed within 48 hours of sampling.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	(On Hold) WATER No analysis requested	WATER - ED040T Total Major Anions	WATER - EG020F Dissolved Metals by ICPMS	WATER - EG035F Dissolved Mercury by FIMS	WATER - EG050 Low Total Hexavalent Chromium - Low (LOR 0.002mg/L)	WATER - EG093A-F Dissolved metals in saline water by ORC-ICPMS	WATER - EK025G Free CN By Discrete Analyser	WATER - EK028G Weak Acid Dissociable Cyanide By Discrete Analyser
ES1005391-001	19-MAR-2010 15:00	MW69		✓	✓	✓	✓	✓	✓	✓
ES1005391-002	20-MAR-2010 15:00	MW61		✓	✓	✓	✓	✓	✓	✓
ES1005391-003	20-MAR-2010 15:00	BH6		✓	✓	✓	✓	✓	✓	✓
ES1005391-004	20-MAR-2010 15:00	BH3		✓	✓	✓	✓	✓	✓	✓
ES1005391-005	20-MAR-2010 15:00	MW40			✓	✓	✓	✓		
ES1005391-006	20-MAR-2010 15:00	MW64		✓	✓	✓	✓	✓	✓	✓
ES1005391-007	20-MAR-2010 15:00	QC340				✓		✓		
ES1005391-009	17-MAR-2010 15:00	MW206	✓							

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EK055G Ammonia as N By Discrete Analyser	WATER - EK058G Nitrate as N by Discrete Analyser	WATER - EN055 - IC ED009 Ionic Balance (IC)	WATER - EP005 Total Organic Carbon (TOC)	WATER - EP074 (water) Volatile Organic Compounds	WATER - EP075 (WC) SVOC at WC LOR	WATER - NT-01 Major Cations (Ca, Mg, Na, K)	WATER - NT-02 (IC) Major Anions (Cl, SO4, Alkalinity)
ES1005391-001	19-MAR-2010 15:00	MW69	✓		✓	✓			✓	✓
ES1005391-002	20-MAR-2010 15:00	MW61	✓		✓	✓			✓	✓
ES1005391-003	20-MAR-2010 15:00	BH6	✓		✓	✓			✓	✓
ES1005391-004	20-MAR-2010 15:00	BH3	✓		✓	✓			✓	✓
ES1005391-005	20-MAR-2010 15:00	MW40	✓	✓	✓	✓	✓	✓	✓	✓
ES1005391-006	20-MAR-2010 15:00	MW64	✓		✓	✓			✓	✓
ES1005391-008	20-MAR-2010 15:00	TB306					✓			

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - NT-03 (IC) Minor Anions (Nitrite, Nitrate, Fluoride, Reactive-P)	WATER - TPH TPH (fractions)	WATER - W-09 TPH/VOC	WATER - W-23 SVOC/VOC
ES1005391-001	19-MAR-2010 15:00	MW69	✓	✓		✓
ES1005391-002	20-MAR-2010 15:00	MW61	✓	✓		✓
ES1005391-003	20-MAR-2010 15:00	BH6	✓	✓		✓
ES1005391-004	20-MAR-2010 15:00	BH3	✓	✓		✓
ES1005391-006	20-MAR-2010 15:00	MW64	✓	✓		✓
ES1005391-007	20-MAR-2010 15:00	QC340			✓	

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

Environmental Division
Sydney
Work Order
ES1005391

Telephone : + 61-2-8784 8555

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email: anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09

Project Name: Barangaroo
Project Number: s4150014
Purchase Order Number: 1303951

Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications: * Bottles include 1 X 1L plastic, 1x 500ml Amber, 2xHCL vials, 2 x H2SO4 vials, 1 x TOC vial, 1 x ultra trace metals, 1 x ferrous iron, 1 x 250 ml Cn, 1 x 250 ml purple, 1 x Cr VI

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	~~Yes~~	~~No~~	~~N/A~~
2. Fast TAT Guarantee Required?	Yes	No	N/A
3. Is any sediment layer present in waters to be excluded from extractions?	Yes	No	N/A
4. Special storage requirements?	Yes	No	✓ N/A
5. Preservation requirements ~~Fax~~ ~~Hard copy~~ ~~Email~~	Yes	No	N/A
6. Other requirements?	Yes	No	N/A

7. Report Format: 8. Project Manager: Anthony Davis tel:

Analysis Request

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals (M13 ultra trace)	Free Cyanide	WAD Cyanide	Cr VI (ultra trace)	TPH C6-C36	SVOC (standard level)	SVOC (ultra trace)	VOCs	Total Sulfur	Dissolved Iron	Nitrate	Ammonia	Total Organic Carbon	Major Cations and Anions	Minor Anions	Remarks & comments
1	MW69	19/03/2010			X		X	X	X		*		X	X	X	X	X	X		X	X	X	X	X	X	X	X	
2	MW61	20/03/2010			X		X	X	X		*		X	X	X	X	X	X		X	X	X	X	X	X	X	X	
3	BH6	20/03/2010			X		X	X	X		*		X	X	X	X	X	X		X	X	X	X	X	X	X	X	
4	BH3	20/03/2010			X		X	X	X		*		X	X	X	X	X	X		X	X	X	X	X	X	X	X	
5	MW40	20/03/2010			X		X	X	X		*		X			X			X	X		X	X	X	X	X		
6	MW64	20/03/2010			X		X	X	X		*		X	X	X	X	X	X		X	X	X	X	X	X	X	X	
* 7	QC240	20/03/2010			X		X	X	X		*		X				X			X								
8	TB306	20/03/2010			X		X	X	X		*									X								
Extra sample.																											
9	M206	17/3/10																										

Relinquished By:	**Received by:**	Received in good condition? Yes/No/NA	Method of Shipment ☐ Courier ☐ Postal ☐ by Hand
Name: Anthony Davis Date: 22 Mar 2010	Name: Sarah A.S. 56 Date:	Samples received chilled? Yes/No/NA	Consignment Note No.
of: Time:	of: MJ 23/3/10 Time: 19:00.	Yes/No/NA	Transport Co:
Relinquished By:	**Received by:**	Received in good condition? Yes/No/NA	Method of Shipment ☐ Courier ☐ Postal ☐ by Hand
Name: Date:	Name: Date:	Samples received chilled? Yes/No/NA	Consignment Note No.
of: Time:	of: Time:	Yes/No/NA	Transport Co:

Printed copies of this document are uncontrolled

(7) * Received on the bottles sample ID: QC340

CERTIFICATE OF ANALYSIS

Work Order	: **ES1005579**	Page	: 1 of 5
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO REBATCH OF ES1004994 ES1004956 & ES1004782	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951, 1303522		
C-O-C number	: ----	Date Samples Received	: 25-MAR-2010
Sampler	: ----	Issue Date	: 26-MAR-2010
Site	: ----		
		No. of samples received	: 11
Quote number	: SY/259/09 V2	No. of samples analysed	: 11

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Spectroscopist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG020A-F: LOR's for some samples have been raised due to matrix interference (High sample salinity)**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW62	MW58	QC237	MW200	MW209
				Client sampling date / time: 17-MAR-2010 15:00	17-MAR-2010 15:00	17-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00
				ES1005579-001	ES1005579-002	ES1005579-003	ES1005579-004	ES1005579-005
EG020F: Dissolved Metals by ICP-MS								
Iron	7439-89-6	0.05	mg/L	<0.50	**7.03**	**7.15**	**8.99**	**10.0**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW198	QC323	MW210	MW22	MW204S
				Client sampling date / time: 16-MAR-2010 15:00	16-MAR-2010 15:00	16-MAR-2010 15:00	15-MAR-2010 14:10	15-MAR-2010 08:30
				ES1005579-006	ES1005579-007	ES1005579-008	ES1005579-009	ES1005579-010
EG020F: Dissolved Metals by ICP-MS								
Iron	7439-89-6	0.05	mg/L	**15.9**	**16.5**	**61.9**	**3.30**	**0.62**

Analytical Results

Sub-Matrix: **WATER**				Client sample ID	**MW15**	----	----	----	----
				Client sampling date / time	15-MAR-2010 10:30	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*		**ES1005579-011**	**----**	**----**	**----**	**----**
EG020F: Dissolved Metals by ICP-MS									
Iron	7439-89-6	0.05	mg/L		**0.97**	----	----	----	----

QUALITY CONTROL REPORT

Work Order	: **ES1005579**	Page	: 1 of 5
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO REBATCH OF ES1004994 ES1004956 & ES1004782	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 25-MAR-2010
Sampler	: ----	Issue Date	: 26-MAR-2010
Order number	: 1303951, 1303522		
		No. of samples received	: 11
Quote number	: SY/259/09 V2	No. of samples analysed	: 11

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Spectroscopist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1293007)									
ES1005579-001	MW62	EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.50	<0.50	0.0	No Limit
ES1005579-011	MW15	EG020A-F: Iron	7439-89-6	0.05	mg/L	0.97	0.88	9.2	0% - 50%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 1293007)								
EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	0.5 mg/L	102	84	114

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) Results are required to be reported.**

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1005579**	Page	: 1 of 5
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO REBATCH OF ES1004994 ES1004956 & ES1004782	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 25-MAR-2010
Sampler	: ----	Issue Date	: 26-MAR-2010
Order number	: 1303951, 1303522		
		No. of samples received	: 11
Quote number	: SY/259/09 V2	No. of samples analysed	: 11

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non-volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW22, MW204S, MW15	**15-MAR-2010**	**---**	---	----	**26-MAR-2010**	11-SEP-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW200, MW209, MW198, QC323, MW210	**16-MAR-2010**	**---**	---	----	**26-MAR-2010**	12-SEP-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Filtered							
MW62, MW58, QC237	**17-MAR-2010**	**---**	---	----	**26-MAR-2010**	13-SEP-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	11	**9.1**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1005579**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO REBATCH OF ES1004994 ES1004956 & ES1004782	Page	: 1 of 2
Order number	: 1303951, 1303522		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: ----	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 25-MAR-2010	Issue Date	: 25-MAR-2010 19:21
Client Requested Due Date	: 26-MAR-2010	Scheduled Reporting Date	: **26-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 5.6' C
No. of coolers/boxes	: REBATCH	No. of samples received	: 11
Sercurity Seal	: Not intact.	No. of samples analysed	: 11

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **This is a rebatch of ES1004994, ES1004956 & ES1004782.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EG020F Dissolved Metals by ICPMS
ES1005579-001	17-MAR-2010 15:00	MW62	✓
ES1005579-002	17-MAR-2010 15:00	MW58	✓
ES1005579-003	17-MAR-2010 15:00	QC237	✓
ES1005579-004	16-MAR-2010 15:00	MW200	✓
ES1005579-005	16-MAR-2010 15:00	MW209	✓
ES1005579-006	16-MAR-2010 15:00	MW198	✓
ES1005579-007	16-MAR-2010 15:00	QC323	✓
ES1005579-008	16-MAR-2010 15:00	MW210	✓
ES1005579-009	15-MAR-2010 14:10	MW22	✓
ES1005579-010	15-MAR-2010 08:30	MW204S	✓
ES1005579-011	15-MAR-2010 10:30	MW15	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

Jacob Waugh

From: Jacob Waugh
Sent: Thursday, 25 March 2010 6:25 PM
To: Fadi Soro; Uma Nagendiram
Cc: Jennifer Cullen; 'Davis, Anthony'; Bijal Patel; Wisam Marassa
Subject: AECOM - Barrangaroo- Re-batch for Dissolved Iron

Hi Fadi,

Can you please re-batch the following samples for Dissolved Iron by ICPMS (EG020F)? please note there will be a dissolved ORC metals bottle for each sample listed.

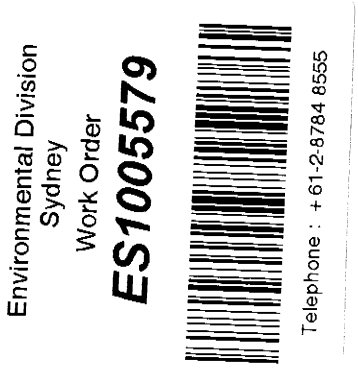
ES1004994 samples 1, 2 & 4.

ES1004956 samples 1, 2, 3, 5 & 8.

ES1004782 samples 1, 2 and 3.

Uma,
Can you please amend the invoice for each of the above batches and delete the ferrous iron charge? Unfortunately we were incorrectly logging ferrous iron instead of dissolved iron.

Jacob Waugh
Production Co-ordinator
ALS Laboratory Group
Environmental Division
Sydney, Australia
Phone: +61 2 8784 8555
Fax: +61 2 8784 8500
www.alsglobal.com



URGENT

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1005598**	Page	: 1 of 20
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MS KATE PIGRAM	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: kate.pigram@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014-BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 25-MAR-2010
Sampler	: KP	Issue Date	: 07-APR-2010
Site	: ----		
		No. of samples received	: 10
Quote number	: SY/259/09 V2	No. of samples analysed	: 10

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Ashesh Patel	Inorganic Chemist	Inorganics
Celine Conceicao	Spectroscopist	Inorganics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG020A-F: LOR's for some samples have been raised due to matrix interference (High sample salinity)**
- **EK055G LOR raised for ammonia on the sample ID (IT1_SHALLOW, IT1_MID, IT2_SHALLOW, STILLING WELL(SW), QC331) due to sample matrix.**
- **EP074/EP080: Positive results confirmed by re-analysis.**
- **EP074: Level of Reporting raised for toluene due to ambient background levels in the laboratory.**
- **EP075: Particular samples required dilution prior to extraction due to matrix interferences. LOR values have been adjusted accordingly. Poor surrogate recovery due to sample matrix interferences.**
- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT1_SHALLOW	IT1_MID	IT1_DEEP	IT2_SHALLOW	IT2_MID
				Client sampling date / time: [25-MAR-2010]	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00
				ES1005598-001	ES1005598-002	ES1005598-003	ES1005598-004	ES1005598-005
EA015: Total Dissolved Solids								
Total Dissolved Solids @180°C	GIS-210-010	1	mg/L	**35700**	**38200**	**29600**	**32600**	**36700**
ED009: Anions								
Chloride	16887-00-6	0.50	mg/L	**21100**	**20000**	**16300**	**19100**	**21200**
Fluoride	16984-48-8	0.02	mg/L	**1.32**	**1.17**	**0.74**	**0.90**	<0.02
Sulfate	14808-79-8	0.50	mg/L	**2370**	**2360**	**1620**	**2180**	**1010**
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**153**	**105**	**209**	**289**	**57**
Total Alkalinity as CaCO3	----	1	mg/L	**153**	**105**	**209**	**289**	**57**
ED040T: Total Major Anions								
^ Sulfur as S	----	1	mg/L	**822**	**853**	**603**	**763**	**260**
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**462**	**675**	**662**	**713**	**1410**
Magnesium	7439-95-4	1	mg/L	**1250**	**1210**	**1020**	**1090**	**265**
Sodium	7440-23-5	1	mg/L	**11600**	**12000**	**9420**	**11400**	**10900**
Potassium	7440-09-7	1	mg/L	**444**	**446**	**252**	**417**	**353**
EG020F: Dissolved Metals by ICP-MS								
Iron	7439-89-6	0.05	mg/L	**0.53**	<0.50	**83.5**	<0.50	<0.50
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	**0.0001**	<0.0001
EG050F Low: Dissolved Hexavalent Chromium - Low								
Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	<0.002	<0.002	<0.002	**0.004**
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Arsenic	7440-38-2	0.5	µg/L	**0.9**	**2.7**	**1.8**	**2.1**	**2.0**
Barium	7440-39-3	1	µg/L	**50**	**91**	**128**	**185**	**767**
Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	**0.3**	<0.1	<0.1
Cadmium	7440-43-9	0.2	µg/L	**1.3**	<0.2	**0.4**	<0.2	<0.2
Chromium	7440-47-3	0.5	µg/L	<0.5	**102**	<0.5	<0.5	<0.5
Cobalt	7440-48-4	0.2	µg/L	**0.3**	**1.6**	**51.9**	**3.7**	**0.5**
Copper	7440-50-8	1	µg/L	**1**	**19**	<1	<1	<1
Lead	7439-92-1	0.2	µg/L	**12.2**	**0.4**	**1.1**	**1.6**	**0.3**
Manganese	7439-96-5	0.5	µg/L	**25.6**	**418**	**4340**	**1090**	**154**
Nickel	7440-02-0	0.5	µg/L	**3.6**	**45.9**	**70.0**	**10.5**	**1.8**
Vanadium	7440-62-2	0.5	µg/L	**0.7**	**2.3**	<0.5	<0.5	**1.7**
Zinc	7440-66-6	5	µg/L	**35**	**23**	**127**	**17**	**7**
EK025G: Free cyanide by Discrete Analyser								

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT1_SHALLOW	IT1_MID	IT1_DEEP	IT2_SHALLOW	IT2_MID
Client sampling date / time				[25-MAR-2010]	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00
				ES1005598-001	ES1005598-002	ES1005598-003	ES1005598-004	ES1005598-005
EK025G: Free cyanide by Discrete Analyser - Continued								
Free Cyanide	----	0.004	mg/L	<0.004	0.037	0.053	<0.004	<0.004
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	0.004	mg/L	0.007	0.085	0.061	<0.004	<0.004
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	<0.10	<0.10	1.38	<0.10	9.26
EN055: Ionic Balance								
^ Total Anions	----	0.01	meq/L	647	614	498	589	620
^ Total Cations	----	0.01	meq/L	642	667	533	632	575
^ Ionic Balance	----	0.01	%	0.40	4.07	3.35	3.54	3.78
EP005: Total Organic Carbon (TOC)								
Total Organic Carbon	----	1	mg/L	8	150	96	180	60
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	1	µg/L	<1	<1	113	2	3
Toluene	108-88-3	2	µg/L	<5	<5	22	20	<5
Ethylbenzene	100-41-4	2	µg/L	<2	<2	4	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	22	<2	<2
Styrene	100-42-5	5	µg/L	<5	<5	<5	<5	<5
ortho-Xylene	95-47-6	2	µg/L	<2	<2	10	<2	<2
Isopropylbenzene	98-82-8	5	µg/L	<5	<5	<5	<5	<5
n-Propylbenzene	103-65-1	5	µg/L	<5	<5	<5	<5	<5
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	<5	<5	<5
sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	<5	<5	<5
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	<5	<5	<5
tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	<5	<5	<5
p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	<5	<5	<5
n-Butylbenzene	104-51-8	5	µg/L	<5	<5	<5	<5	<5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	<50	<50	<50	<50	<50
2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	<50	<50	<50
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	<50	<50	<50
2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	<50	<50	<50
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	<5	<5	<5	<5	<5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	<5	<5	<5
1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	<5	<5	<5
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT1_SHALLOW Client sampling date / time: [25-MAR-2010] ES1005598-001	IT1_MID 24-MAR-2010 15:00 ES1005598-002	IT1_DEEP 24-MAR-2010 15:00 ES1005598-003	IT2_SHALLOW 24-MAR-2010 15:00 ES1005598-004	IT2_MID 24-MAR-2010 15:00 ES1005598-005
EP074D: Fumigants - Continued								
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	<5	<5	<5
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	<5	<5	<5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	<50	<50	<50
Chloromethane	74-87-3	50	µg/L	<50	<50	<50	<50	<50
Vinyl chloride	75-01-4	50	µg/L	<50	<50	<50	<50	<50
Bromomethane	74-83-9	50	µg/L	<50	<50	<50	<50	<50
Chloroethane	75-00-3	50	µg/L	<50	<50	<50	<50	<50
Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	<50	<50	<50
1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	<5	<5	<5
Iodomethane	74-88-4	5	µg/L	<5	<5	<5	<5	<5
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	<5	<5	<5
1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	<5	<5	<5
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	<5	<5	<5
1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	<5	<5	<5
1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	<5	<5	<5
Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	<5	<5	<5
1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	<5	<5	<5
Trichloroethene	79-01-6	5	µg/L	<5	<5	<5	<5	<5
Dibromomethane	74-95-3	5	µg/L	<5	<5	<5	<5	<5
1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	<5	<5	<5
1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	<5	<5	<5
Tetrachloroethene	127-18-4	5	µg/L	<5	<5	<5	<5	<5
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	<5	<5	<5
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	<5	<5	<5
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	<5	<5	<5
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	<5	<5	<5
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	<5	<5	<5
Pentachloroethane	76-01-7	5	µg/L	<5	<5	<5	<5	<5
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	<5	<5	<5
Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	<5	<5	<5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	<5	<5	<5	<5
Bromobenzene	108-86-1	5	µg/L	<5	<5	<5	<5	<5
2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	<5	<5	<5
4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	<5	<5	<5
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	<5	<5	<5
EP074G: Trihalomethanes								

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT1_SHALLOW Client sampling date / time: [25-MAR-2010] ES1005598-001	IT1_MID 24-MAR-2010 15:00 ES1005598-002	IT1_DEEP 24-MAR-2010 15:00 ES1005598-003	IT2_SHALLOW 24-MAR-2010 15:00 ES1005598-004	IT2_MID 24-MAR-2010 15:00 ES1005598-005
EP074G: Trihalomethanes - Continued								
Chloroform	67-66-3	5	µg/L	<5	<5	<5	<5	<5
Bromodichloromethane	75-27-4	5	µg/L	<5	<5	<5	<5	<5
Dibromochloromethane	124-48-1	5	µg/L	<5	<5	<5	<5	<5
Bromoform	75-25-2	5	µg/L	<5	<5	<5	<5	<5
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	µg/L	<0.9	<1	<10	<1	**2**
2-Chlorophenol	95-57-8	0.3	µg/L	<0.9	<1	<10	<1	<1
2-Methylphenol	95-48-7	0.5	µg/L	<0.9	<1	**17**	**1**	**5**
3- & 4-Methylphenol	1319-77-3	0.5	µg/L	<2	<2	<20	<2	**9**
2-Nitrophenol	88-75-5	0.5	µg/L	<0.9	<1	<10	<1	<1
2.4-Dimethylphenol	105-67-9	0.5	µg/L	<0.9	<1	**177**	**2**	**10**
2.4-Dichlorophenol	120-83-2	0.3	µg/L	<0.9	<1	<10	<1	<1
2.6-Dichlorophenol	87-65-0	0.3	µg/L	<0.9	<1	<10	<1	<1
4-Chloro-3-Methylphenol	59-50-7	0.3	µg/L	<0.9	<1	<10	<1	<1
2.4.6-Trichlorophenol	88-06-2	0.3	µg/L	<0.9	<1	<10	<1	<1
2.4.5-Trichlorophenol	95-95-4	0.3	µg/L	<0.9	<1	<10	<1	<1
Pentachlorophenol	87-86-5	0.6	µg/L	<2	<2	<20	<2	<2
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	µg/L	<0.9	**16**	**153**	<1	**41**
2-Methylnaphthalene	91-57-6	0.5	µg/L	<0.9	**4**	<10	<1	**7**
2-Chloronaphthalene	91-58-7	0.5	µg/L	<0.9	<1	<10	<1	<1
Acenaphthylene	208-96-8	0.5	µg/L	<0.9	**10**	**12**	<1	**2**
Acenaphthene	83-32-9	0.5	µg/L	<0.9	**6**	<10	**1**	**6**
Fluorene	86-73-7	0.5	µg/L	<0.9	**11**	**10**	<1	**5**
Phenanthrene	85-01-8	0.5	µg/L	<0.9	**20**	**29**	<1	**10**
Anthracene	120-12-7	0.5	µg/L	<0.9	**6**	**10**	<1	**2**
Fluoranthene	206-44-0	0.5	µg/L	<0.9	**13**	**33**	**1**	**2**
Pyrene	129-00-0	0.5	µg/L	<0.9	**14**	**38**	<1	**2**
N-2-Fluorenyl Acetamide	53-96-3	0.5	µg/L	<0.9	<1	<10	<1	<1
Benz(a)anthracene	56-55-3	0.5	µg/L	<0.9	**7**	**21**	<1	<1
Chrysene	218-01-9	0.5	µg/L	<0.9	**7**	**21**	<1	<1
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	µg/L	<2	**12**	**39**	<2	<2
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	µg/L	<0.9	<1	<10	<1	<1
Benzo(a)pyrene	50-32-8	0.3	µg/L	<0.9	**7**	**17**	<1	<1
3-Methylcholanthrene	56-49-5	0.5	µg/L	<0.9	<1	<10	<1	<1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	µg/L	<0.9	**2**	<10	<1	<1
Dibenz(a.h)anthracene	53-70-3	0.5	µg/L	<0.9	<1	<10	<1	<1

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT1_SHALLOW Client sampling date / time: [25-MAR-2010] ES1005598-001	IT1_MID 24-MAR-2010 15:00 ES1005598-002	IT1_DEEP 24-MAR-2010 15:00 ES1005598-003	IT2_SHALLOW 24-MAR-2010 15:00 ES1005598-004	IT2_MID 24-MAR-2010 15:00 ES1005598-005
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g.h.i)perylene	191-24-2	0.5	µg/L	<0.9	**3**	**10**	<1	<1
^ Sum of PAHs	----	0.5	µg/L	<0.9	**134**	**393**	**2**	**70**
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	µg/L	<0.9	<1	<10	<1	<1
Diethyl phthalate	84-66-2	0.5	µg/L	<0.9	<1	<10	<1	<1
Di-n-butyl phthalate	84-74-2	2	µg/L	<2	**2**	<10	**5**	**5**
Butyl benzyl phthalate	85-68-7	2	µg/L	<2	<2	<10	<2	<2
bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	<20	<20	<20	<20	<20
Di-n-octylphthalate	117-84-0	0.5	µg/L	<0.9	<1	<10	<1	<1
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	µg/L	<0.9	<1	<10	<1	<1
N-Nitrosodiethylamine	55-18-5	0.5	µg/L	<0.9	<1	<10	<1	<1
N-Nitrosopyrrolidine	930-55-2	1	µg/L	<1	<1	<10	<1	<1
N-Nitrosomorpholine	59-89-2	0.5	µg/L	<0.9	<1	<10	<1	<1
N-Nitrosodi-n-propylamine	621-64-7	0.5	µg/L	<0.9	<1	<10	<1	<1
N-Nitrosopiperidine	100-75-4	0.5	µg/L	<0.9	<1	<10	<1	<1
N-Nitrosodibutylamine	924-16-3	0.5	µg/L	<0.9	<1	<10	<1	<1
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1	µg/L	<2	<2	<20	<2	<2
Methapyrilene	91-80-5	0.5	µg/L	<0.9	<1	<10	<1	<1
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	µg/L	<0.9	<1	<10	<1	<1
Acetophenone	98-86-2	0.5	µg/L	<0.9	**2**	<10	<1	<1
Nitrobenzene	98-95-3	0.5	µg/L	<0.9	<1	<10	<1	<1
Isophorone	78-59-1	0.5	µg/L	<0.9	<1	<10	<1	<1
2.6-Dinitrotoluene	606-20-2	1	µg/L	<1	<1	<10	<1	<1
2.4-Dinitrotoluene	121-14-2	1	µg/L	<1	<1	<10	<1	<1
1-Naphthylamine	134-32-7	0.5	µg/L	<0.9	<1	<10	<1	<1
4-Nitroquinoline-N-oxide	56-57-5	0.5	µg/L	<0.9	<1	<10	<1	<1
5-Nitro-o-toluidine	99-55-8	0.5	µg/L	<0.9	<1	<10	<1	<1
Azobenzene	103-33-3	0.5	µg/L	<0.9	<1	<10	<1	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	µg/L	<0.9	<1	<10	<1	<1
Phenacetin	62-44-2	0.5	µg/L	<0.9	<1	<10	<1	<1
4-Aminobiphenyl	92-67-1	0.5	µg/L	<0.9	<1	<10	<1	<1
Pentachloronitrobenzene	82-68-8	0.5	µg/L	<0.9	<1	<10	<1	<1
Pronamide	23950-58-5	0.5	µg/L	<0.9	<1	<10	<1	<1
Dimethylaminoazobenzene	60-11-7	0.5	µg/L	<0.9	<1	<10	<1	<1
Chlorobenzilate	510-15-6	0.5	µg/L	<0.9	<1	<10	<1	<1

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT1_SHALLOW	IT1_MID	IT1_DEEP	IT2_SHALLOW	IT2_MID
				Client sampling date / time: [25-MAR-2010]	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00
				ES1005598-001	ES1005598-002	ES1005598-003	ES1005598-004	ES1005598-005
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	µg/L	<0.9	<1	<10	<1	<1
Bis(2-chloroethoxy) methane	111-91-1	0.5	µg/L	<0.9	<1	<10	<1	<1
4-Chlorophenyl phenyl ether	7005-72-3	0.5	µg/L	<0.9	<1	<10	<1	<1
4-Bromophenyl phenyl ether	101-55-3	0.5	µg/L	<0.9	<1	<10	<1	<1
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	µg/L	<0.9	<1	<10	<1	<1
1.4-Dichlorobenzene	106-46-7	0.5	µg/L	<0.9	<1	<10	<1	<1
1.2-Dichlorobenzene	95-50-1	0.5	µg/L	<0.9	<1	<10	<1	<1
Hexachloroethane	67-72-1	0.5	µg/L	<0.9	<1	<10	<1	<1
1.2.4-Trichlorobenzene	120-82-1	0.5	µg/L	<0.9	<1	<10	<1	<1
Hexachloropropylene	1888-71-7	0.5	µg/L	<0.9	<1	<10	<1	<1
Hexachlorobutadiene	87-68-3	0.5	µg/L	<0.9	<1	<10	<1	<1
Hexachlorocyclopentadiene	77-47-4	0.5	µg/L	<0.9	<1	<10	<1	<1
Pentachlorobenzene	608-93-5	0.5	µg/L	<0.9	<1	<10	<1	<1
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.9	<1	<10	<1	<1
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	µg/L	<0.9	<1	<10	<1	<1
4-Chloroaniline	106-47-8	0.5	µg/L	<0.9	<1	<10	<1	<1
2-Nitroaniline	88-74-4	1	µg/L	<1	<1	<10	<1	<1
3-Nitroaniline	99-09-2	1	µg/L	<1	<1	<10	<1	<1
Dibenzofuran	132-64-9	0.5	µg/L	<0.9	**6**	<10	<1	**4**
4-Nitroaniline	100-01-6	0.5	µg/L	<0.9	<1	<10	<1	<1
Carbazole	86-74-8	0.5	µg/L	<0.9	**7**	**10**	<1	**11**
3.3`-Dichlorobenzidine	91-94-1	0.5	µg/L	<0.9	<1	<10	<1	<1
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.3	µg/L	<0.9	<1	<10	<1	<1
beta-BHC	319-85-7	0.3	µg/L	<0.9	<1	<10	<1	<1
gamma-BHC	58-89-9	0.3	µg/L	<0.9	<1	<10	<1	<1
delta-BHC	319-86-8	0.3	µg/L	<0.9	<1	<10	<1	<1
Heptachlor	76-44-8	0.3	µg/L	<0.9	<1	<10	<1	<1
Aldrin	309-00-2	0.3	µg/L	<0.9	<1	<10	<1	<1
Heptachlor epoxide	1024-57-3	0.3	µg/L	<0.9	<1	<10	<1	<1
alpha-Endosulfan	959-98-8	0.3	µg/L	<0.9	<1	<10	<1	<1
4.4`-DDE	72-55-9	0.3	µg/L	<0.9	<1	<10	<1	<1
Dieldrin	60-57-1	0.3	µg/L	<0.9	<1	<10	<1	<1
Endrin	72-20-8	0.3	µg/L	<0.9	<1	<10	<1	<1
beta-Endosulfan	33213-65-9	0.3	µg/L	<0.9	<1	<10	<1	<1
4.4`-DDD	72-54-8	0.3	µg/L	<0.9	<1	<10	<1	<1

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT1_SHALLOW Client sampling date / time: [25-MAR-2010] ES1005598-001	Client sample ID: IT1_MID Client sampling date / time: 24-MAR-2010 15:00 ES1005598-002	Client sample ID: IT1_DEEP Client sampling date / time: 24-MAR-2010 15:00 ES1005598-003	Client sample ID: IT2_SHALLOW Client sampling date / time: 24-MAR-2010 15:00 ES1005598-004	Client sample ID: IT2_MID Client sampling date / time: 24-MAR-2010 15:00 ES1005598-005
EP075I: Organochlorine Pesticides - Continued								
Endosulfan sulfate	1031-07-8	0.3	µg/L	<0.9	<1	<10	<1	<1
4.4`-DDT	50-29-3	0.6	µg/L	<0.9	<1	<10	<1	<1
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.3	µg/L	<0.9	<1	<10	<1	<1
Dimethoate	60-51-5	0.3	µg/L	<0.9	<1	<10	<1	<1
Diazinon	333-41-5	0.3	µg/L	<0.9	<1	<10	<1	<1
Chlorpyrifos-methyl	5598-13-0	0.3	µg/L	<0.9	<1	<10	<1	<1
Malathion	121-75-5	0.3	µg/L	<0.9	<1	<10	<1	<1
Fenthion	55-38-9	0.3	µg/L	<0.9	<1	<10	<1	<1
Chlorpyrifos	2921-88-2	0.3	µg/L	<0.9	<1	<10	<1	<1
Pirimphos-ethyl	23505-41-1	0.3	µg/L	<0.9	<1	<10	<1	<1
Chlorfenvinphos	470-90-6	0.3	µg/L	<1	<1	<11	<1	<1
Prothiofos	34643-46-4	0.3	µg/L	<0.9	<1	<10	<1	<1
Ethion	563-12-2	0.3	µg/L	<0.9	<1	<10	<1	<1
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	**210**	**40**	**30**
C10 - C14 Fraction	----	50	µg/L	<50	**100**	**1350**	<50	**210**
C15 - C28 Fraction	----	100	µg/L	<100	**900**	**3050**	**240**	**3580**
C29 - C36 Fraction	----	50	µg/L	<50	**450**	**950**	**90**	**320**
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	**1450**	**5350**	**330**	**4110**
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**95.5**	**97.2**	**121**	**104**	**107**
Toluene-D8	2037-26-5	0.1	%	**118**	**96.5**	**110**	**115**	**102**
4-Bromofluorobenzene	460-00-4	0.1	%	**114**	**90.4**	**116**	**111**	**99.1**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	**57.2**	**63.0**	**72.9**	**64.8**	**60.2**
Phenol-d6	13127-88-3	0.1	%	**35.4**	**44.5**	**Not Determined**	**47.3**	**40.4**
2-Chlorophenol-D4	93951-73-6	0.1	%	**70.4**	**79.1**	**89.0**	**84.6**	**75.2**
2.4.6-Tribromophenol	118-79-6	0.1	%	**63.3**	**75.1**	**86.4**	**84.5**	**72.7**
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	**68.9**	**76.9**	**87.8**	**83.6**	**73.4**
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	**60.0**	**64.5**	**81.0**	**69.3**	**65.6**
2-Fluorobiphenyl	321-60-8	0.1	%	**65.2**	**72.1**	**91.0**	**79.3**	**69.2**
Anthracene-d10	1719-06-8	0.1	%	**68.7**	**79.8**	**104**	**86.7**	**77.0**
4-Terphenyl-d14	1718-51-0	0.1	%	**64.3**	**81.4**	**93.8**	**83.9**	**89.4**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**109**	**111**	**104**	**118**	**122**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT1_SHALLOW	IT1_MID	IT1_DEEP	IT2_SHALLOW	IT2_MID
				Client sampling date / time: [25-MAR-2010]	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00
				ES1005598-001	ES1005598-002	ES1005598-003	ES1005598-004	ES1005598-005
EP080S: TPH(V)/BTEX Surrogates - Continued								
Toluene-D8	2037-26-5	0.1	%	**114**	**106**	**108**	**98.9**	**112**
4-Bromofluorobenzene	460-00-4	0.1	%	**98.4**	**102**	**114**	**98.8**	**114**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT2_DEEP Client sampling date / time: 24-MAR-2010 15:00 ES1005598-006	STILLING WELL(SW) 24-MAR-2010 15:00 ES1005598-007	QC331 24-MAR-2010 15:00 ES1005598-008	QC333 24-MAR-2010 15:00 ES1005598-009	TB307 24-MAR-2010 15:00 ES1005598-010
EA015: Total Dissolved Solids								
Total Dissolved Solids @180°C	GIS-210-010	1	mg/L	**23400**	**40200**	----	----	----
ED009: Anions								
Chloride	16887-00-6	0.50	mg/L	**10100**	**23400**	**19500**	----	----
Fluoride	16984-48-8	0.02	mg/L	<0.02	**1.49**	**1.03**	----	----
Sulfate	14808-79-8	0.50	mg/L	**607**	**3160**	**2430**	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**198**	**94**	**104**	----	----
Total Alkalinity as CaCO3	----	1	mg/L	**198**	**94**	**104**	----	----
ED040T: Total Major Anions								
^ Sulfur as S	----	1	mg/L	**231**	**880**	**901**	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**604**	**440**	**644**	----	----
Magnesium	7439-95-4	1	mg/L	**344**	**1400**	**1170**	----	----
Sodium	7440-23-5	1	mg/L	**6070**	**12500**	**11700**	----	----
Potassium	7440-09-7	1	mg/L	**214**	**473**	**438**	----	----
EG020F: Dissolved Metals by ICP-MS								
Iron	7439-89-6	0.05	mg/L	**4.78**	<0.50	<0.50	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	----
EG050F Low: Dissolved Hexavalent Chromium - Low								
Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	<0.002	<0.002	----	----
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Arsenic	7440-38-2	0.5	µg/L	**0.6**	**2.1**	**2.5**	<0.5	----
Barium	7440-39-3	1	µg/L	**259**	**8**	**91**	<1	----
Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----
Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	----
Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	<0.5	**2.7**	----
Cobalt	7440-48-4	0.2	µg/L	**18.6**	<0.2	**0.7**	<0.2	----
Copper	7440-50-8	1	µg/L	<1	**4**	<1	<1	----
Lead	7439-92-1	0.2	µg/L	**0.4**	**0.4**	**1.0**	<0.2	----
Manganese	7439-96-5	0.5	µg/L	**466**	**2.6**	**414**	<0.5	----
Nickel	7440-02-0	0.5	µg/L	**5.6**	<0.5	**2.1**	**1.1**	----
Vanadium	7440-62-2	0.5	µg/L	<0.5	**1.0**	**1.8**	<0.5	----
Zinc	7440-66-6	5	µg/L	**15**	**13**	**6**	<5	----
EK025G: Free cyanide by Discrete Analyser								

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT2_DEEP	STILLING WELL(SW)	QC331	QC333	TB307
				Client sampling date / time: 24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00
				ES1005598-006	ES1005598-007	ES1005598-008	ES1005598-009	ES1005598-010
EK025G: Free cyanide by Discrete Analyser - Continued								
Free Cyanide	----	0.004	mg/L	<0.004	<0.004	**0.045**	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	**0.085**	----	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	**5.99**	<0.10	<0.10	----	----
EN055: Ionic Balance								
^ Total Anions	----	0.01	meq/L	**303**	**728**	**603**	----	----
^ Total Cations	----	0.01	meq/L	**328**	**691**	**650**	----	----
^ Ionic Balance	----	0.01	%	**3.96**	**2.59**	**3.77**	----	----
EP005: Total Organic Carbon (TOC)								
Total Organic Carbon	----	1	mg/L	**30**	<1	**130**	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	1	µg/L	**265**	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	**65**	<5	<5	<5	<5
Ethylbenzene	100-41-4	2	µg/L	**7**	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	**32**	<2	<2	<2	<2
Styrene	100-42-5	5	µg/L	**10**	<5	<5	<5	<5
ortho-Xylene	95-47-6	2	µg/L	**18**	<2	<2	<2	<2
Isopropylbenzene	98-82-8	5	µg/L	<5	<5	<5	<5	<5
n-Propylbenzene	103-65-1	5	µg/L	<5	<5	<5	<5	<5
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	<5	<5	<5
sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	<5	<5	<5
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	<5	<5	<5
tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	<5	<5	<5
p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	<5	<5	<5
n-Butylbenzene	104-51-8	5	µg/L	<5	<5	<5	<5	<5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	<50	<50	<50	<50	<50
2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	<50	<50	<50
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	<50	<50	<50
2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	<50	<50	<50
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	<5	<5	<5	<5	<5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	<5	<5	<5
1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	<5	<5	<5
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT2_DEEP	STILLING WELL(SW)	QC331	QC333	TB307
				Client sampling date / time: 24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00
				ES1005598-006	ES1005598-007	ES1005598-008	ES1005598-009	ES1005598-010
EP074D: Fumigants - Continued								
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	<5	<5	<5
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	<5	<5	<5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	<50	<50	<50
Chloromethane	74-87-3	50	µg/L	<50	<50	<50	<50	<50
Vinyl chloride	75-01-4	50	µg/L	<50	<50	<50	<50	<50
Bromomethane	74-83-9	50	µg/L	<50	<50	<50	<50	<50
Chloroethane	75-00-3	50	µg/L	<50	<50	<50	<50	<50
Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	<50	<50	<50
1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	<5	<5	<5
Iodomethane	74-88-4	5	µg/L	<5	<5	<5	<5	<5
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	<5	<5	<5
1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	<5	<5	<5
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	<5	<5	<5
1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	<5	<5	<5
1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	<5	<5	<5
Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	<5	<5	<5
1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	<5	<5	<5
Trichloroethene	79-01-6	5	µg/L	<5	<5	<5	<5	<5
Dibromomethane	74-95-3	5	µg/L	<5	<5	<5	<5	<5
1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	<5	<5	<5
1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	<5	<5	<5
Tetrachloroethene	127-18-4	5	µg/L	<5	<5	<5	<5	<5
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	<5	<5	<5
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	<5	<5	<5
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	<5	<5	<5
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	<5	<5	<5
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	<5	<5	<5
Pentachloroethane	76-01-7	5	µg/L	<5	<5	<5	<5	<5
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	<5	<5	<5
Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	<5	<5	<5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	<5	<5	<5	<5
Bromobenzene	108-86-1	5	µg/L	<5	<5	<5	<5	<5
2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	<5	<5	<5
4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	<5	<5	<5
1.3-Dichlorobenzene	541-73-1	5	µg/L	----	----	----	<5	<5
1.4-Dichlorobenzene	106-46-7	5	µg/L	----	----	----	<5	<5

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT2_DEEP	STILLING WELL(SW)	QC331	QC333	TB307
				Client sampling date / time: 24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00
				ES1005598-006	ES1005598-007	ES1005598-008	ES1005598-009	ES1005598-010
EP074F: Halogenated Aromatic Compounds - Continued								
1.2-Dichlorobenzene	95-50-1	5	µg/L	----	----	----	<5	<5
1.2.4-Trichlorobenzene	120-82-1	5	µg/L	----	----	----	<5	<5
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	<5	<5	<5
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<5	<5	<5	<5	<5
Bromodichloromethane	75-27-4	5	µg/L	<5	<5	<5	<5	<5
Dibromochloromethane	124-48-1	5	µg/L	<5	<5	<5	<5	<5
Bromoform	75-25-2	5	µg/L	<5	<5	<5	<5	<5
EP074H: Naphthalene								
Naphthalene	91-20-3	7	µg/L	----	----	----	<7	<7
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	µg/L	**7**	<0.9	<1	----	----
2-Chlorophenol	95-57-8	0.3	µg/L	<1	<0.9	<1	----	----
2-Methylphenol	95-48-7	0.5	µg/L	**31**	<0.9	<1	----	----
3- & 4-Methylphenol	1319-77-3	0.5	µg/L	**35**	<2	<2	----	----
2-Nitrophenol	88-75-5	0.5	µg/L	<1	<0.9	<1	----	----
2.4-Dimethylphenol	105-67-9	0.5	µg/L	**195**	<0.9	**1**	----	----
2.4-Dichlorophenol	120-83-2	0.3	µg/L	<1	<0.9	<1	----	----
2.6-Dichlorophenol	87-65-0	0.3	µg/L	<1	<0.9	<1	----	----
4-Chloro-3-Methylphenol	59-50-7	0.3	µg/L	<1	<0.9	<1	----	----
2.4.6-Trichlorophenol	88-06-2	0.3	µg/L	<1	<0.9	<1	----	----
2.4.5-Trichlorophenol	95-95-4	0.3	µg/L	<1	<0.9	<1	----	----
Pentachlorophenol	87-86-5	0.6	µg/L	<2	<2	<2	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	µg/L	**159**	<0.9	**17**	----	----
2-Methylnaphthalene	91-57-6	0.5	µg/L	**4**	<0.9	**4**	----	----
2-Chloronaphthalene	91-58-7	0.5	µg/L	<1	<0.9	<1	----	----
Acenaphthylene	208-96-8	0.5	µg/L	**2**	<0.9	**11**	----	----
Acenaphthene	83-32-9	0.5	µg/L	**1**	<0.9	**6**	----	----
Fluorene	86-73-7	0.5	µg/L	**1**	<0.9	**12**	----	----
Phenanthrene	85-01-8	0.5	µg/L	**2**	<0.9	**22**	----	----
Anthracene	120-12-7	0.5	µg/L	<1	<0.9	**6**	----	----
Fluoranthene	206-44-0	0.5	µg/L	<1	<0.9	**15**	----	----
Pyrene	129-00-0	0.5	µg/L	<1	<0.9	**15**	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	µg/L	<1	<0.9	<1	----	----
Benz(a)anthracene	56-55-3	0.5	µg/L	<1	<0.9	**8**	----	----
Chrysene	218-01-9	0.5	µg/L	<1	<0.9	**8**	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT2_DEEP	STILLING WELL(SW)	QC331	QC333	TB307
				Client sampling date / time: 24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00
				ES1005598-006	ES1005598-007	ES1005598-008	ES1005598-009	ES1005598-010
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	µg/L	<2	<2	**12**	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	µg/L	<1	<0.9	<1	----	----
Benzo(a)pyrene	50-32-8	0.3	µg/L	<1	<0.9	**6**	----	----
3-Methylcholanthrene	56-49-5	0.5	µg/L	<1	<0.9	<1	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	µg/L	<1	<0.9	**2**	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	µg/L	<1	<0.9	<1	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	µg/L	<1	<0.9	**3**	----	----
^ Sum of PAHs	----	0.5	µg/L	**165**	<0.9	**143**	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	µg/L	<1	<0.9	<1	----	----
Diethyl phthalate	84-66-2	0.5	µg/L	<1	<0.9	<1	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L	**4**	**3**	**3**	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L	<2	<2	<2	----	----
bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	<20	<20	<20	----	----
Di-n-octylphthalate	117-84-0	0.5	µg/L	<1	<0.9	<1	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	µg/L	<1	<0.9	<1	----	----
N-Nitrosodiethylamine	55-18-5	0.5	µg/L	<1	<0.9	<1	----	----
N-Nitrosopyrrolidine	930-55-2	1	µg/L	<1	<1	<1	----	----
N-Nitrosomorpholine	59-89-2	0.5	µg/L	<1	<0.9	<1	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	µg/L	<1	<0.9	<1	----	----
N-Nitrosopiperidine	100-75-4	0.5	µg/L	<1	<0.9	<1	----	----
N-Nitrosodibutylamine	924-16-3	0.5	µg/L	<1	<0.9	<1	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1	µg/L	<2	<2	<2	----	----
Methapyrilene	91-80-5	0.5	µg/L	<1	<0.9	<1	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	µg/L	<1	<0.9	<1	----	----
Acetophenone	98-86-2	0.5	µg/L	<1	<0.9	<1	----	----
Nitrobenzene	98-95-3	0.5	µg/L	<1	<0.9	<1	----	----
Isophorone	78-59-1	0.5	µg/L	<1	<0.9	<1	----	----
2.6-Dinitrotoluene	606-20-2	1	µg/L	<1	<1	<1	----	----
2.4-Dinitrotoluene	121-14-2	1	µg/L	<1	<1	<1	----	----
1-Naphthylamine	134-32-7	0.5	µg/L	<1	<0.9	<1	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	µg/L	<1	<0.9	<1	----	----
5-Nitro-o-toluidine	99-55-8	0.5	µg/L	<1	<0.9	<1	----	----
Azobenzene	103-33-3	0.5	µg/L	<1	<0.9	<1	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT2_DEEP	STILLING WELL(SW)	QC331	QC333	TB307
				Client sampling date / time: 24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00
				ES1005598-006	ES1005598-007	ES1005598-008	ES1005598-009	ES1005598-010
EP075E: Nitroaromatics and Ketones - Continued								
1.3.5-Trinitrobenzene	99-35-4	0.5	µg/L	<1	<0.9	<1	----	----
Phenacetin	62-44-2	0.5	µg/L	<1	<0.9	<1	----	----
4-Aminobiphenyl	92-67-1	0.5	µg/L	<1	<0.9	<1	----	----
Pentachloronitrobenzene	82-68-8	0.5	µg/L	<1	<0.9	<1	----	----
Pronamide	23950-58-5	0.5	µg/L	<1	<0.9	<1	----	----
Dimethylaminoazobenzene	60-11-7	0.5	µg/L	<1	<0.9	<1	----	----
Chlorobenzilate	510-15-6	0.5	µg/L	<1	<0.9	<1	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	µg/L	<1	<0.9	<1	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	µg/L	<1	<0.9	<1	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	µg/L	<1	<0.9	<1	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	µg/L	<1	<0.9	<1	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	µg/L	<1	<0.9	<1	----	----
1.4-Dichlorobenzene	106-46-7	0.5	µg/L	<1	<0.9	<1	----	----
1.2-Dichlorobenzene	95-50-1	0.5	µg/L	<1	<0.9	<1	----	----
Hexachloroethane	67-72-1	0.5	µg/L	<1	<0.9	<1	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	µg/L	<1	<0.9	<1	----	----
Hexachloropropylene	1888-71-7	0.5	µg/L	<1	<0.9	<1	----	----
Hexachlorobutadiene	87-68-3	0.5	µg/L	<1	<0.9	<1	----	----
Hexachlorocyclopentadiene	77-47-4	0.5	µg/L	<1	<0.9	<1	----	----
Pentachlorobenzene	608-93-5	0.5	µg/L	<1	<0.9	<1	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<1	<0.9	<1	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	µg/L	**4**	<0.9	<1	----	----
4-Chloroaniline	106-47-8	0.5	µg/L	<1	<0.9	<1	----	----
2-Nitroaniline	88-74-4	1	µg/L	<1	<1	<1	----	----
3-Nitroaniline	99-09-2	1	µg/L	<1	<1	<1	----	----
Dibenzofuran	132-64-9	0.5	µg/L	**1**	<0.9	**7**	----	----
4-Nitroaniline	100-01-6	0.5	µg/L	<1	<0.9	<1	----	----
Carbazole	86-74-8	0.5	µg/L	**16**	<0.9	**7**	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	µg/L	<1	<0.9	<1	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.3	µg/L	<1	<0.9	<1	----	----
beta-BHC	319-85-7	0.3	µg/L	<1	<0.9	<1	----	----
gamma-BHC	58-89-9	0.3	µg/L	<1	<0.9	<1	----	----
delta-BHC	319-86-8	0.3	µg/L	<1	<0.9	<1	----	----
Heptachlor	76-44-8	0.3	µg/L	<1	<0.9	<1	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT2_DEEP	STILLING WELL(SW)	QC331	QC333	TB307
				Client sampling date / time: 24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00
				ES1005598-006	ES1005598-007	ES1005598-008	ES1005598-009	ES1005598-010
EP075I: Organochlorine Pesticides - Continued								
Aldrin	309-00-2	0.3	µg/L	<1	<0.9	<1	----	----
Heptachlor epoxide	1024-57-3	0.3	µg/L	<1	<0.9	<1	----	----
alpha-Endosulfan	959-98-8	0.3	µg/L	<1	<0.9	<1	----	----
4.4`-DDE	72-55-9	0.3	µg/L	<1	<0.9	<1	----	----
Dieldrin	60-57-1	0.3	µg/L	<1	<0.9	<1	----	----
Endrin	72-20-8	0.3	µg/L	<1	<0.9	<1	----	----
beta-Endosulfan	33213-65-9	0.3	µg/L	<1	<0.9	<1	----	----
4.4`-DDD	72-54-8	0.3	µg/L	<1	<0.9	<1	----	----
Endosulfan sulfate	1031-07-8	0.3	µg/L	<1	<0.9	<1	----	----
4.4`-DDT	50-29-3	0.6	µg/L	<1	<0.9	<1	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.3	µg/L	<1	<0.9	<1	----	----
Dimethoate	60-51-5	0.3	µg/L	<1	<0.9	<1	----	----
Diazinon	333-41-5	0.3	µg/L	<1	<0.9	<1	----	----
Chlorpyrifos-methyl	5598-13-0	0.3	µg/L	<1	<0.9	<1	----	----
Malathion	121-75-5	0.3	µg/L	<1	<0.9	<1	----	----
Fenthion	55-38-9	0.3	µg/L	<1	<0.9	<1	----	----
Chlorpyrifos	2921-88-2	0.3	µg/L	<1	<0.9	<1	----	----
Pirimphos-ethyl	23505-41-1	0.3	µg/L	<1	<0.9	<1	----	----
Chlorfenvinphos	470-90-6	0.3	µg/L	<1	<1	<1	----	----
Prothiofos	34643-46-4	0.3	µg/L	<1	<0.9	<1	----	----
Ethion	563-12-2	0.3	µg/L	<1	<0.9	<1	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	**350**	<20	<20	<20	----
C10 - C14 Fraction	----	50	µg/L	**1860**	<50	**140**	<50	----
C15 - C28 Fraction	----	100	µg/L	**2790**	<100	**950**	<100	----
C29 - C36 Fraction	----	50	µg/L	**200**	<50	**340**	<50	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	**4850**	<50	**1430**	<50	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**94.4**	**97.3**	**96.1**	**86.8**	**88.5**
Toluene-D8	2037-26-5	0.1	%	**110**	**100**	**115**	**106**	**106**
4-Bromofluorobenzene	460-00-4	0.1	%	**112**	**100**	**109**	**110**	**110**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	**69.2**	**63.4**	**73.5**	----	----
Phenol-d6	13127-88-3	0.1	%	**45.5**	**45.1**	**51.1**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**85.1**	**82.0**	**88.3**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**82.3**	**80.6**	**84.0**	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: IT2_DEEP	STILLING WELL(SW)	QC331	QC333	TB307
				Client sampling date / time: 24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00	24-MAR-2010 15:00
				ES1005598-006	ES1005598-007	ES1005598-008	ES1005598-009	ES1005598-010
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	**85.5**	**83.8**	**86.7**	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	**74.0**	**72.8**	**77.3**	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	**79.3**	**80.8**	**82.8**	----	----
Anthracene-d10	1719-06-8	0.1	%	**84.9**	**84.9**	**88.1**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**94.2**	**82.7**	**94.8**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**108**	**108**	**110**	**99.1**	----
Toluene-D8	2037-26-5	0.1	%	**94.6**	**109**	**102**	**94.6**	----
4-Bromofluorobenzene	460-00-4	0.1	%	**98.3**	**97.7**	**95.7**	**96.2**	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	21	100
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	35	114
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

QUALITY CONTROL REPORT

Work Order	: **ES1005598**	Page	: 1 of 17
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MS KATE PIGRAM	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: kate.pigram@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014-BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 25-MAR-2010
Sampler	: KP	Issue Date	: 07-APR-2010
Order number	: 1303951		
		No. of samples received	: 10
Quote number	: SY/259/09 V2	No. of samples analysed	: 10

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Ashesh Patel	Inorganic Chemist	Inorganics
Celine Conceicao	Spectroscopist	Inorganics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA015: Total Dissolved Solids (QC Lot: 1296832)									
ES1005598-001	IT1_SHALLOW	EA015: Total Dissolved Solids @180°C	GIS-210-010	1	mg/L	35700	36300	1.7	0% - 20%
ES1005707-003	Anonymous	EA015: Total Dissolved Solids @180°C	GIS-210-010	1	mg/L	104	90	14.4	0% - 20%
ED009: Anions (QC Lot: 1297042)									
ES1005598-001	IT1_SHALLOW	ED009: Fluoride	16984-48-8	0.02	mg/L	1.32	1.37	4.2	0% - 20%
		ED009: Chloride	16887-00-6	0.50	mg/L	21100	21700	3.1	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	2370	2660	11.8	0% - 20%
ES1005603-003	Anonymous	ED009: Fluoride	16984-48-8	0.02	mg/L	<0.02	<0.02	0.0	No Limit
		ED009: Chloride	16887-00-6	0.50	mg/L	71.3	71.0	0.4	0% - 20%
		ED009: Sulfate	14808-79-8	0.50	mg/L	36.5	35.5	2.8	0% - 20%
ED037P: Alkalinity by PC Titrator (QC Lot: 1299573)									
ES1005589-004	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	2	2	51.2	No Limit
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	2	2	51.2	No Limit
ES1005591-005	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	<1	<1	0.0	No Limit
ED040T: Total Major Anions (QC Lot: 1297072)									
ES1005598-001	IT1_SHALLOW	ED040T: Sulfur as S	----	1	mg/L	822	829	0.8	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 1296148)									
ES1005598-001	IT1_SHALLOW	ED093F: Calcium	7440-70-2	1	mg/L	462	465	0.7	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	1250	1250	0.0	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	11600	11300	2.8	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	444	431	2.9	0% - 20%
ES1005709-003	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	2	2	0.0	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	4	4	0.0	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	24	24	0.0	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	1	1	0.0	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1296662)									
ES1005598-001	IT1_SHALLOW	EG020A-F: Iron	7439-89-6	0.05	mg/L	0.53	0.53	0.0	0% - 50%
ES1005691-001	Anonymous	EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	<0.05	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1296661)									
EB1005339-003	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG035F: Dissolved Mercury by FIMS (QC Lot: 1296661) - continued									
ES1005745-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG050F Low: Dissolved Hexavalent Chromium - Low (QC Lot: 1296923)									
ES1005598-001	IT1_SHALLOW	EG050F: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	<0.002	0.0	No Limit
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QC Lot: 1300042)									
EB1005480-002	Anonymous	EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Arsenic	7440-38-2	0.5	µg/L	1.3	1.5	15.1	No Limit
		EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Manganese	7439-96-5	0.5	µg/L	3.9	3.9	0.0	No Limit
		EG093A-F: Nickel	7440-02-0	0.5	µg/L	0.6	<0.5	0.0	No Limit
		EG093A-F: Vanadium	7440-62-2	0.5	µg/L	1.9	1.8	6.9	No Limit
		EG093A-F: Barium	7440-39-3	1	µg/L	12	13	0.0	0% - 50%
		EG093A-F: Copper	7440-50-8	1	µg/L	<1	<1	0.0	No Limit
		EG093A-F: Zinc	7440-66-6	5	µg/L	<5	<5	0.0	No Limit
ES1005598-009	QC333	EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-F: Arsenic	7440-38-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Chromium	7440-47-3	0.5	µg/L	2.7	2.5	6.4	No Limit
		EG093A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Nickel	7440-02-0	0.5	µg/L	1.1	0.9	19.0	No Limit
		EG093A-F: Vanadium	7440-62-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-F: Barium	7440-39-3	1	µg/L	<1	<1	0.0	No Limit
		EG093A-F: Copper	7440-50-8	1	µg/L	<1	<1	0.0	No Limit
		EG093A-F: Zinc	7440-66-6	5	µg/L	<5	<5	0.0	No Limit
EK025G: Free cyanide by Discrete Analyser (QC Lot: 1296611)									
ES1005598-001	IT1_SHALLOW	EK025G: Free Cyanide	----	0.004	mg/L	<0.004	0.037	161	No Limit
ES1005691-002	Anonymous	EK025G: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1296612)									
ES1005598-001	IT1_SHALLOW	EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	0.007	0.004	42.2	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 1296618)									
ES1005598-001	IT1_SHALLOW	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.10	<0.10	0.0	No Limit
ES1005709-002	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EP005: Total Organic Carbon (TOC) (QC Lot: 1297511)									
EP1001679-001	Anonymous	EP005: Total Organic Carbon	----	1	mg/L	<1	<1	0.0	No Limit
ES1005637-001	Anonymous	EP005: Total Organic Carbon	----	1	mg/L	1	1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1298319)									
ES1005598-001	IT1_SHALLOW	EP074: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP074: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
ES1005763-001	Anonymous	EP074: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP074: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1298319)									
ES1005598-001	IT1_SHALLOW	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
ES1005763-001	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074C: Sulfonated Compounds (QC Lot: 1298319)									
ES1005598-001	IT1_SHALLOW	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
ES1005763-001	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1298319)									
ES1005598-001	IT1_SHALLOW	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
ES1005763-001	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1298319)									
ES1005598-001	IT1_SHALLOW	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1298319) - continued									
ES1005598-001	IT1_SHALLOW	EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
ES1005763-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1298319)									
ES1005598-001	IT1_SHALLOW	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074F: Halogenated Aromatic Compounds (QC Lot: 1298319) - continued									
ES1005598-001	IT1_SHALLOW	EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
ES1005763-001	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1298319)									
ES1005598-001	IT1_SHALLOW	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
ES1005763-001	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
EP074H: Naphthalene (QC Lot: 1298319)									
ES1005598-001	IT1_SHALLOW	EP074: Naphthalene	91-20-3	7	µg/L	<7	<7	0.0	No Limit
ES1005763-001	Anonymous	EP074: Naphthalene	91-20-3	7	µg/L	<7	<7	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1298320)									
ES1005598-001	IT1_SHALLOW	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1005763-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA015: Total Dissolved Solids (QCLot: 1296832)								
EA015: Total Dissolved Solids @180°C	GIS-210-010	1	mg/L	<1	293 mg/L	83.3	77.9	122
ED009: Anions (QCLot: 1297042)								
ED009: Chloride	16887-00-6	0.5	mg/L	<0.50	4 mg/L	91.4	70	130
ED009: Fluoride	16984-48-8	0.02	mg/L	<0.02	4 mg/L	93.5	70	130
ED009: Sulfate	14808-79-8	0.5	mg/L	<0.50	4 mg/L	89.1	70	130
ED037P: Alkalinity by PC Titrator (QCLot: 1299573)								
ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	----	200 mg/L	84.3	80.2	108
ED040T: Total Major Anions (QCLot: 1297072)								
ED040T: Sulfur as S	----	1	mg/L	<1	50 mg/L	100	91	119
ED093F: Dissolved Major Cations (QCLot: 1296148)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	94.0	88	110
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	97.9	90	110
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	89.8	81	107
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	98.2	89	109
EG020F: Dissolved Metals by ICP-MS (QCLot: 1296662)								
EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	0.5 mg/L	94.2	84	114
EG035F: Dissolved Mercury by FIMS (QCLot: 1296661)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	102	86	116
EG050F Low: Dissolved Hexavalent Chromium - Low (QCLot: 1296923)								
EG050F: Hexavalent Chromium	18540-29-9	0.002	mg/L	<0.002	0.1 mg/L	94.4	----	----
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1300042)								
EG093A-F: Arsenic	7440-38-2	0.5	µg/L	<0.5	10 µg/L	99.5	85	125
EG093A-F: Barium	7440-39-3	1	µg/L	<1	10 µg/L	99.5	81	129
EG093A-F: Beryllium	7440-41-7	0.1	µg/L	<0.1	10 µg/L	105	80	122
EG093A-F: Cadmium	7440-43-9	0.2	µg/L	<0.2	10 µg/L	83.5	78	116
EG093A-F: Chromium	7440-47-3	0.5	µg/L	<0.5	10 µg/L	104	86	128
EG093A-F: Cobalt	7440-48-4	0.2	µg/L	<0.2	10 µg/L	105	87	127
EG093A-F: Copper	7440-50-8	1	µg/L	<1	10 µg/L	119	86	124
EG093A-F: Lead	7439-92-1	0.2	µg/L	<0.2	10 µg/L	101	87	123
EG093A-F: Manganese	7439-96-5	0.5	µg/L	<0.5	10 µg/L	96.1	90	122
EG093A-F: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	105	84	124
EG093A-F: Vanadium	7440-62-2	0.5	µg/L	<0.5	10 µg/L	88.8	85	123
EG093A-F: Zinc	7440-66-6	5	µg/L	<5	10 µg/L	111	82	128

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK025G: Free cyanide by Discrete Analyser (QCLot: 1296611)								
EK025G: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	100	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1296612)								
EK028G: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	85.0	70	129
EK055G: Ammonia as N by Discrete Analyser (QCLot: 1296618)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.00 mg/L	110	79.6	122
EP005: Total Organic Carbon (TOC) (QCLot: 1297511)								
EP005: Total Organic Carbon	----	1	mg/L	<1	10 mg/L	105	86.9	125
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1298319)								
EP074: Benzene	71-43-2	1	µg/L	<1	10 µg/L	96.4	81	119
EP074: Toluene	108-88-3	2	µg/L	<5	10 µg/L	82.2	76.5	123
EP074: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	104	80.3	119
EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	20 µg/L	104	81.1	118
EP074: Styrene	100-42-5	5	µg/L	<5	10 µg/L	107	79.9	120
EP074: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	105	82	118
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	10 µg/L	108	80.3	119
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	10 µg/L	112	75.5	122
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	10 µg/L	110	79.2	118
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	10 µg/L	114	76.6	121
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	10 µg/L	111	79.7	118
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	10 µg/L	115	77.4	120
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	10 µg/L	111	76.3	122
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	10 µg/L	117	74.4	123
EP074B: Oxygenated Compounds (QCLot: 1298319)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	100 µg/L	108	61.4	134
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	100 µg/L	82.9	73.6	130
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	100 µg/L	99.8	74.7	129
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	100 µg/L	100	74.1	130
EP074C: Sulfonated Compounds (QCLot: 1298319)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	10 µg/L	99.5	72.8	127
EP074D: Fumigants (QCLot: 1298319)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	10 µg/L	108	72.7	124
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	10 µg/L	107	80.7	119
EP074: cis-1.3-Dichloropropylene	10061-01-5	10	µg/L	<10	10 µg/L	91.3	80.4	119
EP074: trans-1.3-Dichloropropylene	10061-02-6	10	µg/L	<10	10 µg/L	94.9	79.3	120
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	10 µg/L	103	79.1	123
EP074E: Halogenated Aliphatic Compounds (QCLot: 1298319)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	100 µg/L	99.1	60.6	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1298319) - continued								
EP074: Chloromethane	74-87-3	50	µg/L	<50	100 µg/L	104	67.4	130
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	100 µg/L	107	69.4	129
EP074: Bromomethane	74-83-9	50	µg/L	<50	100 µg/L	128	68.9	131
EP074: Chloroethane	75-00-3	50	µg/L	<50	100 µg/L	117	73.9	126
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	100 µg/L	112	71.6	128
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	10 µg/L	107	72.5	128
EP074: Iodomethane	74-88-4	5	µg/L	<5	10 µg/L	118	70.2	128
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	10 µg/L	94.4	77.4	122
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	10 µg/L	104	79.3	121
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	10 µg/L	103	79.5	121
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	10 µg/L	107	75.8	124
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	10 µg/L	104	77.8	121
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	10 µg/L	102	73.8	126
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	10 µg/L	99.7	75.5	126
EP074: Trichloroethene	79-01-6	5	µg/L	<5	10 µg/L	97.3	76.7	123
EP074: Dibromomethane	74-95-3	5	µg/L	<5	10 µg/L	101	76.1	126
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	10 µg/L	102	79.6	122
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	10 µg/L	102	79.9	122
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	10 µg/L	105	75	124
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	10 µg/L	94.4	78.9	121
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	10 µg/L	87.7	61.4	136
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	10 µg/L	118	70.6	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	10 µg/L	95.3	77.8	126
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	10 µg/L	105	74.1	128
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	10 µg/L	95.4	71.8	126
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	10 µg/L	86.9	66.4	136
EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	10 µg/L	115	67.2	129
EP074F: Halogenated Aromatic Compounds (QCLot: 1298319)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	10 µg/L	106	80.8	119
EP074: Bromobenzene	108-86-1	5	µg/L	<5	10 µg/L	107	79.3	119
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	10 µg/L	111	78.2	120
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	10 µg/L	111	79	119
EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	10 µg/L	106	78.9	120
EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	10 µg/L	108	79.9	119
EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	10 µg/L	105	82.3	116
EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	10 µg/L	114	67.8	129
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	10 µg/L	111	68.6	128
EP074G: Trihalomethanes (QCLot: 1298319)								
EP074: Chloroform	67-66-3	5	µg/L	<5	10 µg/L	102	78.2	122

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074G: Trihalomethanes (QCLot: 1298319) - continued								
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	10 µg/L	89.0	76.9	123
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	10 µg/L	95.4	78.5	124
EP074: Bromoform	75-25-2	5	µg/L	<5	10 µg/L	93.7	73.5	126
EP074H: Naphthalene (QCLot: 1298319)								
EP074: Naphthalene	91-20-3	7	µg/L	<7	10 µg/L	108	72.9	127
EP075A: Phenolic Compounds (QCLot: 1296736)								
EP075: Phenol	108-95-2	2	µg/L	<2	5 µg/L	47.5	25.5	64.1
EP075: 2-Chlorophenol	95-57-8	2	µg/L	<2	5 µg/L	96.9	63.1	105
EP075: 2-Methylphenol	95-48-7	2	µg/L	<2	5 µg/L	86.8	55.6	98.4
EP075: 3- & 4-Methylphenol	1319-77-3	4	µg/L	<4	10 µg/L	80.7	45	96.2
EP075: 2-Nitrophenol	88-75-5	2	µg/L	<2	5 µg/L	93.3	55.4	110
EP075: 2.4-Dimethylphenol	105-67-9	2	µg/L	<2	5 µg/L	86.9	61.7	110
EP075: 2.4-Dichlorophenol	120-83-2	2	µg/L	<2	5 µg/L	94.5	61.9	109
EP075: 2.6-Dichlorophenol	87-65-0	2	µg/L	<2	5 µg/L	98.1	61.5	108
EP075: 4-Chloro-3-Methylphenol	59-50-7	2	µg/L	<2	5 µg/L	97.4	61.4	107
EP075: 2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	5 µg/L	97.2	57.6	112
EP075: 2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	5 µg/L	92.8	58	110
EP075: Pentachlorophenol	87-86-5	4	µg/L	<4	10 µg/L	96.6	2.39	110
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1296736)								
EP075: Naphthalene	91-20-3	2	µg/L	<2	5 µg/L	97.2	61	108
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	5 µg/L	97.4	59	108
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	5 µg/L	95.4	60.6	106
EP075: Acenaphthylene	208-96-8	2	µg/L	<2	5 µg/L	95.1	64	108
EP075: Acenaphthene	83-32-9	2	µg/L	<2	5 µg/L	93.1	65	108
EP075: Fluorene	86-73-7	2	µg/L	<2	5 µg/L	99.8	65.2	107
EP075: Phenanthrene	85-01-8	2	µg/L	<2	5 µg/L	102	66.7	108
EP075: Anthracene	120-12-7	2	µg/L	<2	5 µg/L	102	65.8	108
EP075: Fluoranthene	206-44-0	2	µg/L	<2	5 µg/L	101	64.9	109
EP075: Pyrene	129-00-0	2	µg/L	<2	5 µg/L	99.9	60.1	111
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	5 µg/L	100	59.7	110
EP075: Benz(a)anthracene	56-55-3	2	µg/L	<2	5 µg/L	101	62.2	112
EP075: Chrysene	218-01-9	2	µg/L	<2	5 µg/L	102	59.3	114
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	10 µg/L	103	60.1	111
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	5 µg/L	101	49.8	107
EP075: Benzo(a)pyrene	50-32-8	2	µg/L	<2	5 µg/L	107	59.2	112
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	5 µg/L	95.2	60.1	110
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	5 µg/L	96.1	59.6	110
EP075: Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	5 µg/L	96.7	57.2	109

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1296736) - continued								
EP075: Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	5 µg/L	95.2	60.6	110
EP075C: Phthalate Esters (QCLot: 1296736)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	5 µg/L	98.7	64.3	112
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	5 µg/L	101	67.3	111
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	5 µg/L	85.0	68.4	122
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	5 µg/L	104	61.2	114
EP075: bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	<20	5 µg/L	83.4	72.8	135
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	5 µg/L	102	62.1	115
EP075D: Nitrosamines (QCLot: 1296736)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	5 µg/L	92.0	39.5	95.9
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	5 µg/L	91.2	60.6	113
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	5 µg/L	60.5	23.7	82.1
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	5 µg/L	77.7	35.4	86.2
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	5 µg/L	92.9	63.5	108
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	5 µg/L	92.3	61.7	107
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	5 µg/L	92.1	62.5	108
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	10 µg/L	97.7	64.6	112
EP075: Methapyrilene	91-80-5	2	µg/L	<2	5 µg/L	62.7	4.21	94
EP075E: Nitroaromatics and Ketones (QCLot: 1296736)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	5 µg/L	73.5	11.4	100
EP075: Acetophenone	98-86-2	2	µg/L	<2	5 µg/L	96.5	68.3	112
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	5 µg/L	97.1	68.3	112
EP075: Isophorone	78-59-1	2	µg/L	<2	5 µg/L	98.4	67.6	111
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	5 µg/L	93.9	64.4	113
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	5 µg/L	97.2	59.5	109
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	5 µg/L	83.7	46.8	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	5 µg/L	80.8	8.93	98.7
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	5 µg/L	# 115	58.3	106
EP075: Azobenzene	103-33-3	2	µg/L	<2	5 µg/L	98.5	66	112
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	5 µg/L	80.4	39	105
EP075: Phenacetin	62-44-2	2	µg/L	<2	5 µg/L	89.9	57.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	5 µg/L	90.7	60.1	112
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	5 µg/L	93.2	59	109
EP075: Pronamide	23950-58-5	2	µg/L	<2	5 µg/L	98.6	62.7	109
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	5 µg/L	94.8	59.4	108
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	5 µg/L	98.7	57.7	110
EP075F: Haloethers (QCLot: 1296736)								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	5 µg/L	97.5	69.1	112

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075F: Haloethers (QCLot: 1296736) - continued								
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	5 µg/L	95.4	66.2	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	5 µg/L	102	64.7	109
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	5 µg/L	96.2	61.6	108
EP075G: Chlorinated Hydrocarbons (QCLot: 1296736)								
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	5 µg/L	92.7	39.1	113
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	5 µg/L	92.5	42	114
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	5 µg/L	93.8	41.3	112
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	5 µg/L	90.0	31	114
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	5 µg/L	92.0	42.9	115
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	5 µg/L	89.9	23.8	111
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	5 µg/L	92.8	37.4	116
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	5 µg/L	90.6	1.88	105
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	5 µg/L	96.0	64.5	107
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	5 µg/L	95.8	65.7	110
EP075H: Anilines and Benzidines (QCLot: 1296736)								
EP075: Aniline	62-53-3	2	µg/L	<2	5 µg/L	54.0	10.9	89.7
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	5 µg/L	91.1	44.4	106
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	5 µg/L	92.0	60.9	110
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	5 µg/L	# 104	51.5	96.9
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	5 µg/L	99.5	65.3	108
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	5 µg/L	# 102	48.9	99.5
EP075: Carbazole	86-74-8	2	µg/L	<2	5 µg/L	101	64.3	107
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	5 µg/L	97.4	60.3	119
EP075I: Organochlorine Pesticides (QCLot: 1296736)								
EP075: alpha-BHC	319-84-6	2	µg/L	<2	5 µg/L	94.5	64.3	110
EP075: beta-BHC	319-85-7	2	µg/L	<2	5 µg/L	96.1	59	110
EP075: gamma-BHC	58-89-9	2	µg/L	<2	5 µg/L	97.8	63.7	112
EP075: delta-BHC	319-86-8	2	µg/L	<2	5 µg/L	93.4	60.2	113
EP075: Heptachlor	76-44-8	2	µg/L	<2	5 µg/L	96.1	57.9	108
EP075: Aldrin	309-00-2	2	µg/L	<2	5 µg/L	96.3	57	113
EP075: Heptachlor epoxide	1024-57-3	2	µg/L	<2	5 µg/L	96.6	60.3	112
EP075: alpha-Endosulfan	959-98-8	2	µg/L	<2	5 µg/L	97.0	52.5	115
EP075: 4.4`-DDE	72-55-9	2	µg/L	<2	5 µg/L	99.3	64.1	111
EP075: Dieldrin	60-57-1	2	µg/L	<2	5 µg/L	97.2	65	113
EP075: Endrin	72-20-8	2	µg/L	<2	5 µg/L	100	51.1	112
EP075: beta-Endosulfan	33213-65-9	2	µg/L	<2	5 µg/L	96.5	60.4	111
EP075: 4.4`-DDD	72-54-8	2	µg/L	<2	5 µg/L	98.1	59.8	115
EP075: Endosulfan sulfate	1031-07-8	2	µg/L	<2	5 µg/L	114	52.8	114
EP075: 4.4`-DDT	50-29-3	4	µg/L	<4	5 µg/L	98.9	41.3	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075J: Organophosphorus Pesticides (QCLot: 1296736)								
EP075: Dichlorvos	62-73-7	2	µg/L	<2	5 µg/L	95.8	52	118
EP075: Dimethoate	60-51-5	2	µg/L	<2	5 µg/L	97.2	46.8	114
EP075: Diazinon	333-41-5	2	µg/L	<2	5 µg/L	108	54	116
EP075: Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	5 µg/L	98.1	54.1	116
EP075: Malathion	121-75-5	2	µg/L	<2	5 µg/L	110	57.6	118
EP075: Fenthion	55-38-9	2	µg/L	<2	5 µg/L	98.7	50.1	117
EP075: Chlorpyrifos	2921-88-2	2	µg/L	<2	5 µg/L	94.3	59.2	113
EP075: Pirimphos-ethyl	23505-41-1	2	µg/L	<2	5 µg/L	94.7	52.6	115
EP075: Chlorfenvinphos	470-90-6	2	µg/L	<2	6 µg/L	76.7	44.6	95.8
EP075: Prothiofos	34643-46-4	2	µg/L	<2	5 µg/L	92.7	56.8	116
EP075: Ethion	563-12-2	2	µg/L	<2	5 µg/L	93.0	48.6	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1296656)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	100 µg/L	86.0	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	100 µg/L	136	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	100 µg/L	122	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1296737)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	80.0	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	106	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	120	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1298320)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	96.6	75	127

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED009: Anions (QCLot: 1297042)							
ES1005598-001	IT1_SHALLOW	ED009: Chloride	16887-00-6	4 mg/L	# Not Determined	70	130
		ED009: Fluoride	16984-48-8	0.2 mg/L	# Not Determined	70	130
		ED009: Sulfate	14808-79-8	4 mg/L	# Not Determined	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1296661)							
ES1005598-002	IT1_MID	EG035F: Mercury	7439-97-6	0.0100 mg/L	94.8	70	130
EG050F Low: Dissolved Hexavalent Chromium - Low (QCLot: 1296923)							
ES1005598-001	IT1_SHALLOW	EG050F: Hexavalent Chromium	18540-29-9	0.5 mg/L	106	70	130
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS (QCLot: 1300042)							
EB1005480-002	Anonymous	EG093A-F: Arsenic	7440-38-2	50 µg/L	103	70	130
		EG093A-F: Barium	7440-39-3	50 µg/L	99.0	70	130
		EG093A-F: Beryllium	7440-41-7	50 µg/L	103	70	130
		EG093A-F: Cadmium	7440-43-9	12.5 µg/L	83.0	70	130
		EG093A-F: Chromium	7440-47-3	50 µg/L	105	70	130
		EG093A-F: Cobalt	7440-48-4	50 µg/L	104	70	130
		EG093A-F: Copper	7440-50-8	50 µg/L	117	70	130
		EG093A-F: Lead	7439-92-1	50 µg/L	97.9	70	130
		EG093A-F: Manganese	7439-96-5	50 µg/L	102	70	130
		EG093A-F: Nickel	7440-02-0	50 µg/L	107	70	130
		EG093A-F: Vanadium	7440-62-2	50 µg/L	92.6	70	130
		EG093A-F: Zinc	7440-66-6	50 µg/L	102	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1296611)							
ES1005598-001	IT1_SHALLOW	EK025G: Free Cyanide	----	0.2 mg/L	112	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1296612)							
ES1005598-001	IT1_SHALLOW	EK028G: Weak Acid Dissociable Cyanide	----	0.2 mg/L	103	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 1296618)							
ES1005598-001	IT1_SHALLOW	EK055G: Ammonia as N	7664-41-7	1.00 mg/L	78.4	70	130
EP005: Total Organic Carbon (TOC) (QCLot: 1297511)							
EP1001679-002	Anonymous	EP005: Total Organic Carbon	----	100 mg/L	93.0	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1298319)							
ES1005598-001	IT1_SHALLOW	EP074: Benzene	71-43-2	25 µg/L	80.4	70	130
		EP074: Toluene	108-88-3	25 µg/L	112	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1298319)							
ES1005598-001	IT1_SHALLOW	EP074: 1.1-Dichloroethene	75-35-4	25 µg/L	95.9	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1298319) - continued							
ES1005598-001	IT1_SHALLOW	EP074: Trichloroethene	79-01-6	25 µg/L	85.4	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1298319)							
ES1005598-001	IT1_SHALLOW	EP074: Chlorobenzene	108-90-7	25 µg/L	105	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1298320)							
ES1005598-001	IT1_SHALLOW	EP080: C6 - C9 Fraction	----	250 µg/L	109	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1005598**	Page	: 1 of 15
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MS KATE PIGRAM	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: kate.pigram@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014-BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 25-MAR-2010
Sampler	: KP	Issue Date	: 07-APR-2010
Order number	: 1303951		
		No. of samples received	: 10
Quote number	: SY/259/09 V2	No. of samples analysed	: 10

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA015: Total Dissolved Solids							
Clear Plastic Bottle - Natural							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW)	**24-MAR-2010**	**----**	----	----	**30-MAR-2010**	31-MAR-2010	✓
Clear Plastic Bottle - Natural							
IT1_SHALLOW	**25-MAR-2010**	**----**	----	----	**30-MAR-2010**	01-APR-2010	✓
ED009: Anions							
Clear Plastic Bottle - Natural							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**----**	----	----	**30-MAR-2010**	21-APR-2010	✓
Clear Plastic Bottle - Natural							
IT1_SHALLOW	**25-MAR-2010**	**----**	----	----	**30-MAR-2010**	22-APR-2010	✓
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**---**	---	----	**01-APR-2010**	07-APR-2010	✓
Clear Plastic Bottle - Natural							
IT1_SHALLOW	**25-MAR-2010**	**---**	---	----	**01-APR-2010**	08-APR-2010	✓
ED040T: Total Major Anions							
Clear Plastic Bottle - Natural							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**30-MAR-2010**	21-APR-2010	✓	**31-MAR-2010**	21-APR-2010	✓
Clear Plastic Bottle - Natural							
IT1_SHALLOW	**25-MAR-2010**	**30-MAR-2010**	22-APR-2010	✓	**31-MAR-2010**	22-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Natural							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**---**	---	----	**30-MAR-2010**	31-MAR-2010	✓
Clear Plastic Bottle - Natural							
IT1_SHALLOW	**25-MAR-2010**	**---**	---	----	**30-MAR-2010**	01-APR-2010	✓
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**---**	---	----	**30-MAR-2010**	20-SEP-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered							
IT1_SHALLOW	**25-MAR-2010**	**---**	---	----	**30-MAR-2010**	21-SEP-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331, QC333	**24-MAR-2010**	**---**	---	----	**31-MAR-2010**	21-APR-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered							
IT1_SHALLOW	**25-MAR-2010**	**---**	---	----	**31-MAR-2010**	22-APR-2010	✓
EG050F Low: Dissolved Hexavalent Chromium - Low							
Clear Plastic Bottle - NaOH							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**----**	----	----	**30-MAR-2010**	21-APR-2010	✓
Clear Plastic Bottle - NaOH							
IT1_SHALLOW	**25-MAR-2010**	**----**	----	----	**30-MAR-2010**	22-APR-2010	✓
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS							
Clear Plastic Bottle - Nitric Acid; Filtered							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331, QC333	**24-MAR-2010**	**01-APR-2010**	20-SEP-2010	✓	**01-APR-2010**	20-SEP-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered							
IT1_SHALLOW	**25-MAR-2010**	**01-APR-2010**	21-SEP-2010	✓	**01-APR-2010**	21-SEP-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK025G: Free cyanide by Discrete Analyser							
White Plastic Bottle - NaOH/Cadmium Nitrate IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**30-MAR-2010**	07-APR-2010	✓	**30-MAR-2010**	07-APR-2010	✓
White Plastic Bottle - NaOH/Cadmium Nitrate IT1_SHALLOW	**25-MAR-2010**	**30-MAR-2010**	08-APR-2010	✓	**30-MAR-2010**	08-APR-2010	✓
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
White Plastic Bottle - NaOH/Cadmium Nitrate IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**30-MAR-2010**	07-APR-2010	✓	**30-MAR-2010**	07-APR-2010	✓
White Plastic Bottle - NaOH/Cadmium Nitrate IT1_SHALLOW	**25-MAR-2010**	**30-MAR-2010**	08-APR-2010	✓	**30-MAR-2010**	08-APR-2010	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulphuric Acid IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**---**	---	----	**30-MAR-2010**	21-APR-2010	✓
Clear Plastic Bottle - Sulphuric Acid IT1_SHALLOW	**25-MAR-2010**	**---**	---	----	**30-MAR-2010**	22-APR-2010	✓
EP005: Total Organic Carbon (TOC)							
Amber TOC Vial - Sulphuric Acid IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**----**	----	----	**30-MAR-2010**	21-APR-2010	✓
Amber TOC Vial - Sulphuric Acid IT1_SHALLOW	**25-MAR-2010**	**----**	----	----	**30-MAR-2010**	22-APR-2010	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - HCl IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331, QC333, TB307	**24-MAR-2010**	**---**	---	----	**31-MAR-2010**	07-APR-2010	✓
Amber VOC Vial - HCl IT1_SHALLOW	**25-MAR-2010**	**---**	---	----	**31-MAR-2010**	08-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074B: Oxygenated Compounds							
Amber VOC Vial - HCl IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331, QC333, TB307	**24-MAR-2010**	**---**	---	----	**31-MAR-2010**	07-APR-2010	✓
Amber VOC Vial - HCl IT1_SHALLOW	**25-MAR-2010**	**---**	---	----	**31-MAR-2010**	08-APR-2010	✓
EP074C: Sulfonated Compounds							
Amber VOC Vial - HCl IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331, QC333, TB307	**24-MAR-2010**	**---**	---	----	**31-MAR-2010**	07-APR-2010	✓
Amber VOC Vial - HCl IT1_SHALLOW	**25-MAR-2010**	**---**	---	----	**31-MAR-2010**	08-APR-2010	✓
EP074D: Fumigants							
Amber VOC Vial - HCl IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331, QC333, TB307	**24-MAR-2010**	**---**	---	----	**31-MAR-2010**	07-APR-2010	✓
Amber VOC Vial - HCl IT1_SHALLOW	**25-MAR-2010**	**---**	---	----	**31-MAR-2010**	08-APR-2010	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - HCl IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331, QC333, TB307	**24-MAR-2010**	**---**	---	----	**31-MAR-2010**	07-APR-2010	✓
Amber VOC Vial - HCl IT1_SHALLOW	**25-MAR-2010**	**---**	---	----	**31-MAR-2010**	08-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074F: Halogenated Aromatic Compounds								
Amber VOC Vial - HCl								
IT1_MID,	IT1_DEEP,	**24-MAR-2010**	**---**	---	----	**31-MAR-2010**	07-APR-2010	✓
IT2_SHALLOW,	IT2_MID,							
IT2_DEEP,	STILLING WELL(SW),							
QC331,	QC333,							
TB307								
Amber VOC Vial - HCl								
IT1_SHALLOW		**25-MAR-2010**	**---**	---	----	**31-MAR-2010**	08-APR-2010	✓
EP074G: Trihalomethanes								
Amber VOC Vial - HCl								
IT1_MID,	IT1_DEEP,	**24-MAR-2010**	**---**	---	----	**31-MAR-2010**	07-APR-2010	✓
IT2_SHALLOW,	IT2_MID,							
IT2_DEEP,	STILLING WELL(SW),							
QC331,	QC333,							
TB307								
Amber VOC Vial - HCl								
IT1_SHALLOW		**25-MAR-2010**	**---**	---	----	**31-MAR-2010**	08-APR-2010	✓
EP074H: Naphthalene								
Amber VOC Vial - HCl								
QC333,	TB307	**24-MAR-2010**	**---**	---	----	**31-MAR-2010**	07-APR-2010	✓
EP075A: Phenolic Compounds								
Amber Glass Bottle - Unpreserved								
IT1_MID,	IT1_DEEP,	**24-MAR-2010**	**31-MAR-2010**	31-MAR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
IT2_SHALLOW,	IT2_MID,							
IT2_DEEP,	STILLING WELL(SW),							
QC331								
Amber Glass Bottle - Unpreserved								
IT1_SHALLOW		**25-MAR-2010**	**31-MAR-2010**	01-APR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
EP075B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved								
IT1_MID,	IT1_DEEP,	**24-MAR-2010**	**31-MAR-2010**	31-MAR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
IT2_SHALLOW,	IT2_MID,							
IT2_DEEP,	STILLING WELL(SW),							
QC331								
Amber Glass Bottle - Unpreserved								
IT1_SHALLOW		**25-MAR-2010**	**31-MAR-2010**	01-APR-2010	✓	**01-APR-2010**	10-MAY-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075C: Phthalate Esters							
Amber Glass Bottle - Unpreserved							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**31-MAR-2010**	31-MAR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
IT1_SHALLOW	**25-MAR-2010**	**31-MAR-2010**	01-APR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
EP075D: Nitrosamines							
Amber Glass Bottle - Unpreserved							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**31-MAR-2010**	31-MAR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
IT1_SHALLOW	**25-MAR-2010**	**31-MAR-2010**	01-APR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
EP075E: Nitroaromatics and Ketones							
Amber Glass Bottle - Unpreserved							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**31-MAR-2010**	31-MAR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
IT1_SHALLOW	**25-MAR-2010**	**31-MAR-2010**	01-APR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
EP075F: Haloethers							
Amber Glass Bottle - Unpreserved							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**31-MAR-2010**	31-MAR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
IT1_SHALLOW	**25-MAR-2010**	**31-MAR-2010**	01-APR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
EP075G: Chlorinated Hydrocarbons							
Amber Glass Bottle - Unpreserved							
IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**31-MAR-2010**	31-MAR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
Amber Glass Bottle - Unpreserved							
IT1_SHALLOW	**25-MAR-2010**	**31-MAR-2010**	01-APR-2010	✓	**01-APR-2010**	10-MAY-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075H: Anilines and Benzidines							
Amber Glass Bottle - Unpreserved IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**31-MAR-2010**	31-MAR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
Amber Glass Bottle - Unpreserved IT1_SHALLOW	**25-MAR-2010**	**31-MAR-2010**	01-APR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
EP075I: Organochlorine Pesticides							
Amber Glass Bottle - Unpreserved IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**31-MAR-2010**	31-MAR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
Amber Glass Bottle - Unpreserved IT1_SHALLOW	**25-MAR-2010**	**31-MAR-2010**	01-APR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
EP075J: Organophosphorus Pesticides							
Amber Glass Bottle - Unpreserved IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**31-MAR-2010**	31-MAR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
Amber Glass Bottle - Unpreserved IT1_SHALLOW	**25-MAR-2010**	**31-MAR-2010**	01-APR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved QC333	**24-MAR-2010**	**30-MAR-2010**	31-MAR-2010	✓	**31-MAR-2010**	09-MAY-2010	✓
Amber Glass Bottle - Unpreserved IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331	**24-MAR-2010**	**31-MAR-2010**	31-MAR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
Amber Glass Bottle - Unpreserved IT1_SHALLOW	**25-MAR-2010**	**31-MAR-2010**	01-APR-2010	✓	**01-APR-2010**	10-MAY-2010	✓
Amber VOC Vial - HCl IT1_MID, IT1_DEEP, IT2_SHALLOW, IT2_MID, IT2_DEEP, STILLING WELL(SW), QC331, QC333	**24-MAR-2010**	**---**	---	----	**31-MAR-2010**	07-APR-2010	✓
Amber VOC Vial - HCl IT1_SHALLOW	**25-MAR-2010**	**---**	---	----	**31-MAR-2010**	08-APR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	19	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ammonia as N by Discrete analyser	EK055G	2	17	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	1	8	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	18	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	8	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	8	**25.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	3	**66.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	2	4	**50.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Dissolved Solids	EA015	2	18	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	2	17	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	9	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Ammonia as N by Discrete analyser	EK055G	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	3	**33.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Dissolved Solids	EA015	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
TPH - Semivolatile Fraction	EP071	2	29	**6.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Anions - Total	ED040T	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Major Cations - Dissolved	ED093F	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	3	**33.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Dissolved Solids	EA015	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	29	**6.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Dissolved Hexavalent Chromium - Low Level	EG050F Low	1	8	**12.5**	**5.0**	✓	ALS QCS3 requirement
Dissolved Mercury by FIMS	EG035F	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.6**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	1	11	**9.1**	**5.0**	✓	ALS QCS3 requirement
Free CN by Discrete Analyser	EK025G	1	11	**9.1**	**5.0**	✓	ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	8	**12.5**	**5.0**	✓	ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	3	**33.3**	**5.0**	✓	ALS QCS3 requirement
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	4	**25.0**	**5.0**	✓	ALS QCS3 requirement
Standard Anions	ED009	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Total Organic Carbon	EP005	1	15	**6.7**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	15	**6.7**	**5.0**	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	1	9	**11.1**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Total Dissolved Solids	EA015	WATER	APHA 21st ed., 2540C A gravimetric procedure that determines the amount of `filterable` residue in an aqueous sample. A well-mixed sample is filtered through a glass fibre filter (1.2um). The filtrate is evaporated to dryness and dried to constant weight at 180+/-5C. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Standard Anions	* ED009	WATER	APHA 21st ed., 4110. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Alkalinity by PC Titrator	ED037-P	WATER	APHA 21st ed., 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Major Anions - Total	ED040T	WATER	APHA 21st ed., 3120 Samples are digested by USEPA 3005 prior to analysis. Sulfur content is determined by ICP/AES and reported as Sulfate after conversion by gravimetric factor.
Major Cations - Dissolved	ED093F	WATER	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises the 0.45um filtered sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Hexavalent Chromium - Low Level	EG050F Low	WATER	APHA 21st ed., 3500 Cr-B. Samples are 0.45 um filtered prior to analysis. Hexavalent chromium is determined on filtered water sample as received by pH adjustment and colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Dissolved Metals in Saline Water -Suite A by ORC-ICPMS	EG093A-F	WATER	APHA 21st ed., 3125; USEPA SW846 - 6020 Samples are 0.45 um filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Free CN by Discrete Analyser	EK025G	WATER	APHA 21st ed., 4500-CN-C&N Free Cyanide is determined on samples after distillation using a pyridine-barbituric acid colouring reagent followed with an Discrete Analyser finish. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Weak Acid Dissociable Cyanide By Discrete Analyser	EK028G	WATER	APHA 21st ed., 4500-CN-C&N WAD Cyanide is determined from aqueous solutions after distillation with acetic acid. The resultant distillate is then captured in a caustic absorber solution followed by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Analytical Methods	Method	Matrix	Method Descriptions
Ammonia as N by Discrete analyser	EK055G	WATER	APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrite as N by Discrete Analyser	EK057G	WATER	APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrate as N by Discrete Analyser	EK058G	WATER	APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a cadmium reduction column followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Cadmium Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Reactive Phosphorus as P-By Discrete Analyser	EK071G	WATER	APHA 21st ed., 4500-P F Ammonium molybdate and potassium antimonyl tartrate reacts in acid medium with othophosphate to form a heteropoly acid -phosphomolybdic acid - which is reduced to intensely coloured molybdenum blue by ascorbic acid. Quantification is by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Ionic Balance by IC PCT and ICPAES	EN055 - IC ED009	WATER	APHA 21st Ed. 1030F. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Organic Carbon	EP005	WATER	APHA 21st ed., 5310 B, The automated TOC analyzer determines Total and Inorganic Carbon by IR cell. TOC is calculated as the difference. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Volatile Organic Compounds	EP074	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Semivolatile Organic Compounds	EP075	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Free Cyanide	EK025-PR	WATER	APHA 21st ed., 4500 CN- C&N. The sample is distilled at natural pH. The CN is trapped in a caustic solution, and quanitified by colourimetry on FIA. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Weak Acid Dissociable Cyanide	EK028-PR	WATER	APHA 21st ed., 4500 CN- I&N. The sample is distilled with Acetic acid, selectively releasing the weakly bound metal cyanides as HCN. The CN is trapped in a caustic solution, and quanitified by colourimetry on FIA. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075E: Nitroaromatics and Ketones	1502206-008	----	**5-Nitro-o-toluidine**	99-55-8	115 %	58.3-106%	**Recovery greater than upper control limit**
EP075H: Anilines and Benzidines	1502206-008	----	**3-Nitroaniline**	99-09-2	104 %	51.5-96.9%	**Recovery greater than upper control limit**
EP075H: Anilines and Benzidines	1502206-008	----	**4-Nitroaniline**	100-01-6	102 %	48.9-99.5%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
ED009: Anions	ES1005598-001	IT1_SHALLOW	**Chloride**	16887-00-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
ED009: Anions	ES1005598-001	IT1_SHALLOW	**Fluoride**	16984-48-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
ED009: Anions	ES1005598-001	IT1_SHALLOW	**Sulfate**	14808-79-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP074S: VOC Surrogates	ES1005598-003	IT1_DEEP	**1.2-Dichloroethane-D4**	17060-07-0	121 %	80-120 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1005598-001	IT1_SHALLOW	**Toluene-D8**	2037-26-5	118 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1005598-003	IT1_DEEP	**Toluene-D8**	2037-26-5	110 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1005598-004	IT2_SHALLOW	**Toluene-D8**	2037-26-5	115 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1005598-006	IT2_DEEP	**Toluene-D8**	2037-26-5	110 %	88-110 %	**Recovery greater than upper data quality objective**

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted - Continued							
EP074S: VOC Surrogates	ES1005598-008	QC331	**Toluene-D8**	2037-26-5	115 %	88-110 %	**Recovery greater than upper data quality objective**
EP074S: VOC Surrogates	ES1005598-003	IT1_DEEP	**4-Bromofluorobenzene**	460-00-4	116 %	86-115 %	**Recovery greater than upper data quality objective**
EP075S: Acid Extractable Surrogates	ES1005598-003	IT1_DEEP	**Phenol-d6**	13127-88-3	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP080S: TPH(V)/BTEX Surrogates	ES1005598-005	IT2_MID	**1.2-Dichloroethane-D4**	17060-07-0	122 %	80-120 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1005598-001	IT1_SHALLOW	**Toluene-D8**	2037-26-5	114 %	88-110 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1005598-005	IT2_MID	**Toluene-D8**	2037-26-5	112 %	88-110 %	**Recovery greater than upper data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : **ES1005598**

Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014-BARANGAROO	Page	: 1 of 3
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: KP	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 25-MAR-2010	Issue Date	: 29-MAR-2010 18:31
Client Requested Due Date	: 06-APR-2010	Scheduled Reporting Date	: **06-APR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 7.5'C - Ice present
No. of coolers/boxes	: 2 HARD	No. of samples received	: 10
Sercurity Seal	: Intact.	No. of samples analysed	: 10

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Sample id QC332 sent to Labmark as per COC**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EA015 Total Dissolved Solids	WATER - ED040T Total Major Anions	WATER - EG020F Dissolved Metals by ICPMS	WATER - EG035F Dissolved Mercury by FIMS	WATER - EG050F Low Dissolved hexavalent Chromium - Low Level	WATER - EG093A-F Dissolved metals in saline water by ORC-ICPMS	WATER - EK025G Free CN By Discrete Analyser	WATER - EK028G Weak Acid Dissociable Cyanide By Discrete Analyser
ES1005598-001	[25-MAR-2010]	IT1_SHALLOW	✓	✓	✓	✓	✓	✓	✓	✓
ES1005598-002	24-MAR-2010 15:00	IT1_MID	✓	✓	✓	✓	✓	✓	✓	✓
ES1005598-003	24-MAR-2010 15:00	IT1_DEEP	✓	✓	✓	✓	✓	✓	✓	✓
ES1005598-004	24-MAR-2010 15:00	IT2_SHALLOW	✓	✓	✓	✓	✓	✓	✓	✓
ES1005598-005	24-MAR-2010 15:00	IT2_MID	✓	✓	✓	✓	✓	✓	✓	✓
ES1005598-006	24-MAR-2010 15:00	IT2_DEEP	✓	✓	✓	✓	✓	✓	✓	✓
ES1005598-007	24-MAR-2010 15:00	STILLING WELL(SW)	✓	✓	✓	✓	✓	✓	✓	✓
ES1005598-008	24-MAR-2010 15:00	QC331		✓	✓	✓	✓	✓	✓	✓
ES1005598-009	24-MAR-2010 15:00	QC333				✓		✓		

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EK055G Ammonia as N By Discrete Analyser	WATER - EK058G Nitrate as N by Discrete Analyser	WATER - EK071G Reactive Phosphorus by Discrete analyser	WATER - EN055 - IC ED009 Ionic Balance (IC)	WATER - EP005 Total Organic Carbon (TOC)	WATER - EP074 (water) Volatile Organic Compounds	WATER - EP075 (WC) SVOC at WC LOR	WATER - NT-01 Major Cations (Ca, Mg, Na, K)
ES1005598-001	[25-MAR-2010]	IT1_SHALLOW	✓	✓	✓	✓	✓		✓	✓
ES1005598-002	24-MAR-2010 15:00	IT1_MID	✓	✓	✓	✓	✓		✓	✓
ES1005598-003	24-MAR-2010 15:00	IT1_DEEP	✓	✓	✓	✓	✓		✓	✓
ES1005598-004	24-MAR-2010 15:00	IT2_SHALLOW	✓	✓	✓	✓	✓		✓	✓
ES1005598-005	24-MAR-2010 15:00	IT2_MID	✓	✓	✓	✓	✓		✓	✓
ES1005598-006	24-MAR-2010 15:00	IT2_DEEP	✓	✓	✓	✓	✓		✓	✓
ES1005598-007	24-MAR-2010 15:00	STILLING WELL(SW)	✓	✓	✓	✓	✓		✓	✓
ES1005598-008	24-MAR-2010 15:00	QC331	✓	✓	✓	✓	✓		✓	✓
ES1005598-010	24-MAR-2010 15:00	TB307						✓		

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - NT-02 (IC) Major Anions (Cl, SO4, Alkalinity)	WATER - W-09 TPH/VOC
ES1005598-001	[25-MAR-2010]	IT1_SHALLOW	✓	✓
ES1005598-002	24-MAR-2010 15:00	IT1_MID	✓	✓
ES1005598-003	24-MAR-2010 15:00	IT1_DEEP	✓	✓
ES1005598-004	24-MAR-2010 15:00	IT2_SHALLOW	✓	✓
ES1005598-005	24-MAR-2010 15:00	IT2_MID	✓	✓
ES1005598-006	24-MAR-2010 15:00	IT2_DEEP	✓	✓
ES1005598-007	24-MAR-2010 15:00	STILLING WELL(SW)	✓	✓
ES1005598-008	24-MAR-2010 15:00	QC331	✓	✓
ES1005598-009	24-MAR-2010 15:00	QC333		✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

CONTRACT WORK
WO:
LAB: Labmark
DATE:
SPLIT:

AECOM

Form: Declaration Area

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09

Project Name: Barangaroo
Project Number: s4150014
Purchase Order Number: 1303951

Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications: * Bottles include 1 X 1L plastic, 1x 500ml Amber, 2xHCL vials, ~~2 x H2SO4 vials~~, 1 x TOC vial, 1 x ultra trace metals, 1 x ferrous iron, 1 x 250 ml Cn, 1 x 250 ml purple, 1 x Cr VI

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☑ N/A
5. Preservation requirement: ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
6. Other requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT
8. Project Manager: Anthony Davis
tel:

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals (M13 ultra trace)	Free Cyanide	WAD Cyanide	Cr VI (ultra trace)	TPH C6-C36	TDS	SVOC (ultra trace)	VOCs	Total Sulfur	Dissolved Iron	Nitrate	Ammonia	Total Organic Carbon	Major Cations and Anions	Minor Anions	Remarks & comments
1	IT1_shallow	~~24/03/2010~~	25-3-10		X		X	X	X		*	~~X~~	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	IT1-S
2	IT1_Mid	24/03/2010									*	~~X~~	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	IT1-M
3	IT1_Deep	24/03/2010									*	~~X~~	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	IT1-D
4	IT2_shallow	24/03/2010									*	~~X~~	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	IT2-S
5	IT2_Mid	24/03/2010									*	~~X~~	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	IT2-M
6	IT2_Deep	24/03/2010									*	~~X~~	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	IT2-D
7	Stilling Well(SW)	24/03/2010									*	~~X~~	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SW
8	QC331	24/03/2010									*		X	X	X	X	X		X	X	X	X	X	X	X	X	X	
Acknowledge 9507	QC332	24/03/2010									*		X	X	X	X	X		X	X	X	X	X	X	X	X	X	Please forward to Labmark with COC
9	QC333	24/03/2010									*		X				X			X								Rinsate
10	TB307	24/03/2010			X			X	X	X	*									X								

Environmental Division
Sydney
Work Order
ES1005598
Telephone : +61-2-8784 8555

Relinquished By:
Name: Lauren Kontus
Date: 24 Mar 2010
Time:
of: AECOM

Received by: Keith 25/03/10 4:00 pm
Name:
Date:
Time:
of:

Relinquished By:
Name:
Date:
Time:
of:

Received by:
Name:
Date:
Time:
of:

Received in good condition?	Yes/No/NA	Method of Shipment	
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Received in good condition?	Yes/No/NA	Method of Shipment	
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

CERTIFICATE OF ANALYSIS

Work Order	: **ES1003046**	Page	: 1 of 5
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4128501 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 18-FEB-2010
Sampler	: SAM PATEL	Issue Date	: 26-FEB-2010
Site	: ----		
		No. of samples received	: 9
Quote number	: SY/259/09 V2	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Hoa Nguyen	Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH33_0.75-0.85	BH33_5.0-5.2	BH33_8.0-8.2	----	----
				Client sampling date / time	12-FEB-2010 15:00	12-FEB-2010 15:00	12-FEB-2010 15:00	----	----
Compound	CAS Number	LOR	Unit		ES1003046-001	ES1003046-002	ES1003046-003	----	----
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		----	7.8	7.8	----	----
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		4.2	15.4	10.4	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	6	<5	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg		8	10	9	----	----
Copper	7440-50-8	5	mg/kg		264	12	10	----	----
Lead	7439-92-1	5	mg/kg		6	36	37	----	----
Nickel	7440-02-0	2	mg/kg		10	12	7	----	----
Zinc	7440-66-6	5	mg/kg		50	77	40	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK025G: Free cyanide by Discrete Analyser									
Free Cyanide	----	1	mg/kg		----	<1	----	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser									
Weak Acid Dissociable Cyanide	----	1	mg/kg		----	<1	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		----	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg		----	<1.0	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		----	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		----	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	<0.5	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		----	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	<0.5	----	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		----	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		----	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		----	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg		----	<0.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	BH33_0.75-0.85	BH33_5.0-5.2	BH33_8.0-8.2	----	----
				Client sampling date / time	12-FEB-2010 15:00	12-FEB-2010 15:00	12-FEB-2010 15:00	----	----
					ES1003046-001	ES1003046-002	ES1003046-003	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	----	
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	----	
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	----	----	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	----	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	----	----	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	----	
C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	----	
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%	----	**108**	----	----	----	
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**90.3**	----	----	----	
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**70.5**	----	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%	----	**99.6**	----	----	----	
Anthracene-d10	1719-06-8	0.1	%	----	**112**	----	----	----	
4-Terphenyl-d14	1718-51-0	0.1	%	----	**126**	----	----	----	
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**109**	**103**	**108**	----	----	
Toluene-D8	2037-26-5	0.1	%	**120**	**112**	**117**	----	----	
4-Bromofluorobenzene	460-00-4	0.1	%	**114**	**106**	**112**	----	----	

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

QUALITY CONTROL REPORT

Work Order	: **ES1003046**	Page	: 1 of 9
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4128501 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 18-FEB-2010
Sampler	: SAM PATEL	Issue Date	: 26-FEB-2010
Order number	: 1303951		
		No. of samples received	: 9
Quote number	: SY/259/09 V2	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Hoa Nguyen	Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA002 : pH (Soils) (QC Lot: 1255809)									
ES1003046-002	BH33_5.0-5.2	EA002: pH Value	----	0.1	pH Unit	7.8	7.8	0.0	0% - 20%
EA055: Moisture Content (QC Lot: 1255880)									
ES1001951-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	20.6	20.1	2.2	0% - 20%
ES1003055-002	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	4.4	3.3	27.5	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 1256458)									
ES1003045-020	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	10	10	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	9	8	13.4	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	22	20	8.9	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	13	12	8.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	36	32	11.6	No Limit
ES1003048-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	5	7	28.5	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	10	23	80.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	6	15	83.1	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1256459)									
ES1003045-020	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1003048-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK025G: Free cyanide by Discrete Analyser (QC Lot: 1260018)									
ES1003046-002	BH33_5.0-5.2	EK025G: Free Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1259951)									
ES1003046-002	BH33_5.0-5.2	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1255855)									
ES1002913-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 1255855) - continued									
ES1002913-001	Anonymous	EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
ES1003048-007	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1255855)									
ES1002913-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003048-007	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1255855) - continued									
ES1003048-007	Anonymous	EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1255499)									
ES1003022-003	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1003048-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1255854)									
ES1002913-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1003048-007	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEX (QC Lot: 1255499)									
ES1003022-003	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	0.5	0.7	23.3	No Limit
ES1003048-002	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1256458)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	95.2	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	98.3	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	95.6	89.2	117
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	93.1	90.1	114
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	92.9	85.2	111
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	93.6	88.3	116
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	92.9	88.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1256459)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	73.6	67	118
EK025G: Free cyanide by Discrete Analyser (QCLot: 1260018)								
EK025G: Free Cyanide	----	1	mg/kg	<1	2.0 mg/kg	88.6	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1259951)								
EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	2.0 mg/kg	78.0	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1255855)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	74.7	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	# 79.1	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	80.2	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	87.9	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	96.3	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	103	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	98.6	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	# 117	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	108	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	106	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	103	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	35.9	1.23	91.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1255855)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	100	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	107	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	104	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	109	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	106	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	92.6	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	96.0	78.8	113

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1255855) - continued								
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	103	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	104	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	101	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	106	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	106	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	106	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	105	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	98.6	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	87.0	72.4	114
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1255499)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	80.0	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1255854)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	104	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	108	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	94.0	72.6	117
EP080: BTEX (QCLot: 1255499)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	80.9	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	82.8	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	84.2	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	85.3	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	87.7	66.7	123

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1256458)							
ES1003045-020	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	94.0	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	103	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	96.7	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	102	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	99.5	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	98.7	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	97.0	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1256459)							
ES1003045-020	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	83.8	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1260018)							
ES1003046-002	BH33_5.0-5.2	EK025G: Free Cyanide	----	2.0 mg/kg	89.2	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1259951)							
ES1003046-002	BH33_5.0-5.2	EK028G: Weak Acid Dissociable Cyanide	----	2.0 mg/kg	85.6	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1255855)							
ES1002913-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	115	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	98.4	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	74.5	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	108	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	87.6	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1255855)							
ES1002913-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	90.6	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	114	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1255499)							
ES1003022-003	Anonymous	EP080: C6 - C9 Fraction	----	26 mg/kg	76.1	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1255854)							
ES1002913-001	Anonymous	EP071: C10 - C14 Fraction	----	640 mg/kg	106	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	95.2	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	93.0	70	130
EP080: BTEX (QCLot: 1255499)							
ES1003022-003	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	72.8	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	72.8	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	76.6	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080: BTEX (QCLot: 1255499) - continued							
ES1003022-003	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	90.8	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	78.5	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1003046**	Page	: 1 of 7
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4128501 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 18-FEB-2010
Sampler	: SAM PATEL	Issue Date	: 26-FEB-2010
Order number	: 1303951		
		No. of samples received	: 9
Quote number	: SY/259/09 V2	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved							
BH33_5.0-5.2, BH33_8.0-8.2	**12-FEB-2010**	**19-FEB-2010**	19-FEB-2010	✓	**19-FEB-2010**	19-FEB-2010	✓
EA055: Moisture Content							
Soil Glass Jar - Unpreserved							
BH33_0.75-0.85, BH33_5.0-5.2, BH33_8.0-8.2	**12-FEB-2010**	**----**	----	----	**19-FEB-2010**	19-FEB-2010	✓
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved							
BH33_0.75-0.85, BH33_5.0-5.2, BH33_8.0-8.2	**12-FEB-2010**	**21-FEB-2010**	12-MAR-2010	✓	**22-FEB-2010**	11-AUG-2010	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved							
BH33_0.75-0.85, BH33_5.0-5.2, BH33_8.0-8.2	**12-FEB-2010**	**21-FEB-2010**	12-MAR-2010	✓	**23-FEB-2010**	12-MAR-2010	✓
EK025G: Free cyanide by Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH33_5.0-5.2	**12-FEB-2010**	**25-FEB-2010**	19-FEB-2010	×	**25-FEB-2010**	11-MAR-2010	✓
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH33_5.0-5.2	**12-FEB-2010**	**25-FEB-2010**	19-FEB-2010	×	**25-FEB-2010**	19-FEB-2010	×
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved							
BH33_5.0-5.2	**12-FEB-2010**	**19-FEB-2010**	26-FEB-2010	✓	**22-FEB-2010**	31-MAR-2010	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved							
BH33_5.0-5.2	**12-FEB-2010**	**19-FEB-2010**	26-FEB-2010	✓	**22-FEB-2010**	31-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved							
BH33_0.75-0.85, BH33_5.0-5.2, BH33_8.0-8.2	**12-FEB-2010**	**19-FEB-2010**	26-FEB-2010	✓	**22-FEB-2010**	31-MAR-2010	✓
EP080: BTEX							
Soil Glass Jar - Unpreserved							
BH33_0.75-0.85, BH33_5.0-5.2, BH33_8.0-8.2	**12-FEB-2010**	**19-FEB-2010**	26-FEB-2010	✓	**22-FEB-2010**	26-FEB-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Free Cyanide By Discrete Analyser	EK025G	1	1	**100.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	18	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	13	**15.4**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	1	4	**25.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	19	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	16	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	2	**50.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Free Cyanide By Discrete Analyser	EK025G	1	1	**100.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	2	**50.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Free Cyanide By Discrete Analyser	EK025G	1	1	**100.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	2	**50.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Free Cyanide By Discrete Analyser	EK025G	1	1	**100.0**	**5.0**	✓	ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	13	**7.7**	**5.0**	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	19	**5.3**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	2	**50.0**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH (1:5)	EA002	SOIL	(APHA 21st ed., 4500H+) pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM (1999) Schedule B(3) (Method 103)
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Free Cyanide By Discrete Analyser	EK025G	SOIL	APHA 21st 4500 CN- C & N. Caustic leach extracts of the sample are distilled at natural pH. The distillates are analyzed for CN by Discrete Analyser.
WAD Cyanide By Discrete Analyser	EK028G	SOIL	APHA 21st 4500 CN - I & N. Sample are distilled with a weak organic acid, converting selected CN species to HCN. The distillates are analyzed for CN by Discrete Analyser.
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)

Preparation Methods	Method	Matrix	Method Descriptions
Free Cyanide Preparation Method	EK025 PR	SOIL	APHA 21st ed., 4500 CN C & N. Cyanides in the soil are directly distilled from the soil at natural pH using a steam distillation aparatus.
WAD Cyanide	EK028PR	SOIL	APHA 21st ed., 4500 CN- C & N. Cyanide is selectively distilled from the sample by the action of weak acetic acid. Only poorly bound metal complexed cyanides are released.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)

Preparation Methods	Method	Matrix	Method Descriptions
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075(SIM)A: Phenolic Compounds	1453371-007	----	**2-Chlorophenol**	95-57-8	79.1 %	80.2-115%	**Recovery less than lower control limit**
EP075(SIM)A: Phenolic Compounds	1453371-007	----	**2.6-Dichlorophenol**	87-65-0	117 %	74.8-115%	**Recovery greater than upper control limit**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP080S: TPH(V)/BTEX Surrogates	ES1003046-001	BH33_0.75-0.85	**Toluene-D8**	2037-26-5	120 %	81-117 %	**Recovery greater than upper data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **SOIL**

Method / **Container** / Client Sample ID(s)	*Extraction / Preparation*			*Analysis*		
	Date extracted	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EK025G: Free cyanide by Discrete Analyser						
Soil Glass Jar - Unpreserved						
BH33_5.0-5.2	25-FEB-2010	19-FEB-2010	**6**	----	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser						
Soil Glass Jar - Unpreserved						
BH33_5.0-5.2	25-FEB-2010	19-FEB-2010	**6**	25-FEB-2010	19-FEB-2010	**6**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1003046**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4128501 BARANGAROO	Page	: 1 of 2
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: SAM PATEL	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 18-FEB-2010	Issue Date	: 19-FEB-2010 15:33
Client Requested Due Date	: 25-FEB-2010	Scheduled Reporting Date	: **25-FEB-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 6.4'C - Ice present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 9
Sercurity Seal	: Intact.	No. of samples analysed	: 3

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EK025G (Solids) Free CN By Discrete Analyser	SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - S-05 TPH/BTEX/8 Metals	SOIL - S-14A PAH/Phenols (16 PAH - SIM)
ES1003046-001	12-FEB-2010 15:00	BH33_0.75-0.85					✓	
ES1003046-002	12-FEB-2010 15:00	BH33_5.0-5.2		✓	✓	✓	✓	✓
ES1003046-003	12-FEB-2010 15:00	BH33_8.0-8.2		✓			✓	
ES1003046-004	12-FEB-2010 15:00	BH33_1.0-1.2	✓					
ES1003046-005	12-FEB-2010 15:00	BH33_2.0-2.2	✓					
ES1003046-006	12-FEB-2010 15:00	BH33_3.0-3.2	✓					
ES1003046-007	12-FEB-2010 15:00	BH33_4.0-4.2	✓					
ES1003046-008	12-FEB-2010 15:00	BH33_6.0-6.2	✓					
ES1003046-009	12-FEB-2010 15:00	BH33_7.0-7.2	✓					

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

Form: BATCH 2 (STH COVE) Page 1 of 1

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-25909 V2

Project Name: Barangaroo **Project Number:** S4126501 **Purchase Order Number:** [redacted] 1302951

Sample collected by: Sam Palet **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: ESDAT format Rep 8. Project Manager: Anthony Davis			

Analysis Request

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals (excl. Hg & Cr6)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	ASLP	TCLP	Free Cyanide	Total Cyanide	Remarks & comments
1	BH33_0.7-0.8	12.2.10									1 x 250ml plastic		X	X									
(4)	BH33_1.0-1.2																						
(5)	BH33_2.0-2.2																						
(6)	BH33_3.0-3.2																						
(7)	BH33_4.0-4.2																						
2	BH33_5.0-5.2												X	X	X	X	X				X	X	
(8)	BH33_6.0-6.2																						
(9)	BH33_7.0-7.2																						
3	BH33_8.0-8.2												X	X	X								

Environmental Division
Sydney
Work Order
ES1003046
Telephone : +61-2-8784 8555

Relinquished By:	Received by:		
Name: Anthony Davis	Name: Frank	Received in good condition?	Yes/No/NA — Method of Shipment: ☐ Courier ☐ Postal ☐ By Hand
Date: 17/2/10	Date: 18/2/10	Samples received chilled?	Yes/No/NA — Consignment Note No.
of:	of: ALS		Yes/No/NA — Transport Co:
Time:	Time: 9:30		

Relinquished By:	Received by:		
Name:	Name:	Received in good condition?	Yes/No/NA — Method of Shipment: ☐ Courier ☐ Postal ☐ By Hand
Date:	Date:	Samples received chilled?	Yes/No/NA — Consignment Note No.
of:	of:		Yes/No/NA — Transport Co:
Time:	Time:		

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Form: BATCH 2 (STH COVE) Page 1 of 1

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-25909 V2

Project Name: Barangaroo **Project Number:** S4126501 **Purchase Order Number:** [redacted] 1302951

Sample collected by: Sam Palet **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: ESDAT format Rep 8. Project Manager: Anthony Davis			

Analysis Request

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals (excl. Hg & Cr6)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	ASLP	TCLP	Free Cyanide	Total Cyanide	Remarks & comments
1	BH33_0.7-0.8	12.2.10									1 x 250ml plastic		X	X									
(4)	BH33_1.0-1.2																						
(5)	BH33_2.0-2.2																						
(6)	BH33_3.0-3.2																						
(7)	BH33_4.0-4.2																						
2	BH33_5.0-5.2												X	X	X	X	X				X	X	
(8)	BH33_6.0-6.2																						
(9)	BH33_7.0-7.2																						
3	BH33_8.0-8.2												X	X	X								

Environmental Division
Sydney
Work Order
ES1003046
Telephone : +61-2-8784 8555

Relinquished By:	Received by:		
Name: Anthony Davis	Name: Frank	Received in good condition?	Yes/No/NA — Method of Shipment: ☐ Courier ☐ Postal ☐ By Hand
Date: 17/2/10	Date: 18/2/10	Samples received chilled?	Yes/No/NA — Consignment Note No.
of:	of: ALS		Yes/No/NA — Transport Co:
Time:	Time: 9:30		

Relinquished By:	Received by:		
Name:	Name:	Received in good condition?	Yes/No/NA — Method of Shipment: ☐ Courier ☐ Postal ☐ By Hand
Date:	Date:	Samples received chilled?	Yes/No/NA — Consignment Note No.
of:	of:		Yes/No/NA — Transport Co:
Time:	Time:		

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ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1003390**	Page	: 1 of 23
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 24-FEB-2010
Sampler	: KP	Issue Date	: 09-MAR-2010
Site	: ----		
		No. of samples received	: 25
Quote number	: SY/259/09 V2	No. of samples analysed	: 15

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
		Inorganics
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Sarah Millington	Senior Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG-020F: LCS recovery for Vanadium falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required**
- **EG048G:: Spike failed for Hexavalent Chromium by Alkaline Digest due to matrix interference.**
- **EP074: Level of Reporting raised for toluene due to ambient background levels in the laboratory.**
- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH40_1.0-1.2	BH40_7.0-7.2	BH40_8.5-8.7	BH40_16.5-16.7	BH40_17.8-18.0
				Client sampling date / time: 18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00
				ES1003390-001	ES1003390-002	ES1003390-003	ES1003390-004	ES1003390-005
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	8.4	7.9	8.6	7.4	6.4
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	9.2	16.0	----	17.3	16.3
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	----	20	<5
Barium	7440-39-3	10	mg/kg	20	20	----	<10	10
Beryllium	7440-41-7	1	mg/kg	<1	<1	----	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	<1	<1
Chromium	7440-47-3	2	mg/kg	9	7	----	22	5
Cobalt	7440-48-4	2	mg/kg	3	4	----	<2	<2
Copper	7440-50-8	5	mg/kg	<5	<5	----	<5	<5
Iron	7439-89-6	50	mg/kg	----	----	----	17800	890
Lead	7439-92-1	5	mg/kg	10	7	----	6	6
Manganese	7439-96-5	5	mg/kg	181	180	----	<5	<5
Nickel	7440-02-0	2	mg/kg	4	5	----	<2	<2
Vanadium	7440-62-2	5	mg/kg	13	9	----	86	6
Zinc	7440-66-6	5	mg/kg	20	30	----	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	<0.5	<0.5
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	----	----	----	<1	<1
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	----	----	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	----	<1	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	----	----	7.4
After HCl pH	----	0.1	pH Unit	----	----	----	----	1.6
Extraction Fluid Number	----	1	-	----	----	----	----	1
Final pH	----	0.1	pH Unit	----	----	----	----	4.9
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	----	0.8	<0.5
^ Total Organic Carbon	----	0.5	%	----	----	----	<0.5	<0.5
EP074A: Monocyclic Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH40_1.0-1.2	BH40_7.0-7.2	BH40_8.5-8.7	BH40_16.5-16.7	BH40_17.8-18.0
				Client sampling date / time: 18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00
				ES1003390-001	ES1003390-002	ES1003390-003	ES1003390-004	ES1003390-005
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
Benzene	71-43-2	0.2	mg/kg	----	----	----	**5.4**	**0.8**
Toluene	108-88-3	0.5	mg/kg	----	----	----	**14.0**	**1.5**
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	**1.3**	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	**17.2**	**2.4**
Styrene	100-42-5	0.5	mg/kg	----	----	----	**6.7**	**0.9**
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	**5.6**	**1.0**
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	----	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	----	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	----	**3.0**	**0.6**
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	----	**7.5**	**1.3**
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	----	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	----	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	----	<0.5	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	----	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	----	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	----	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	----	<5	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	----	<0.5	<0.5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	----	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	----	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	----	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	----	<5	<5
Chloromethane	74-87-3	5	mg/kg	----	----	----	<5	<5
Vinyl chloride	75-01-4	5	mg/kg	----	----	----	<5	<5
Bromomethane	74-83-9	5	mg/kg	----	----	----	<5	<5
Chloroethane	75-00-3	5	mg/kg	----	----	----	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	----	<5	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg	----	----	----	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	----	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	----	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	----	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH40_1.0-1.2	BH40_7.0-7.2	BH40_8.5-8.7	BH40_16.5-16.7	BH40_17.8-18.0
				Client sampling date / time: 18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00
				ES1003390-001	ES1003390-002	ES1003390-003	ES1003390-004	ES1003390-005
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	----	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	----	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	----	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg	----	----	----	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg	----	----	----	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	----	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	----	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	----	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	----	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	----	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	----	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	----	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	----	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg	----	----	----	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	----	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	----	<0.5	<0.5
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	----	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	----	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg	----	----	----	<0.5	<0.5
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH40_1.0-1.2	BH40_7.0-7.2	BH40_8.5-8.7	BH40_16.5-16.7	BH40_17.8-18.0
				Client sampling date / time: 18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00
				ES1003390-001	ES1003390-002	ES1003390-003	ES1003390-004	ES1003390-005
EP075(SIM)A: Phenolic Compounds - Continued								
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	----	**3.0**	**0.6**
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	**5.9**	**1.0**
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	----	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Pentachlorophenol	87-86-5	1	mg/kg	----	----	----	<1	<1
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	**137**	**1.4**
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	----	**28.6**	**0.5**
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	----	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	**13.1**	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	**2.5**	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH40_1.0-1.2	BH40_7.0-7.2	BH40_8.5-8.7	BH40_16.5-16.7	BH40_17.8-18.0
				Client sampling date / time: 18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00
				ES1003390-001	ES1003390-002	ES1003390-003	ES1003390-004	ES1003390-005
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	0.5	mg/kg	----	----	----	**12.6**	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	**36.6**	**0.8**
Anthracene	120-12-7	0.5	mg/kg	----	----	----	**10.0**	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	**31.8**	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	----	----	**19.2**	<0.5
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	----	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	**8.4**	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	----	----	**6.0**	<0.5
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	----	----	**6**	<1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	----	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	**6.8**	<0.5
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	----	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	**2.0**	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	**0.6**	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	**2.0**	<0.5
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	----	<0.5	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	----	<0.5	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	----	<0.5	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	----	<0.5	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	0.5	mg/kg	----	----	----	<0.5	<0.5
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	----	<0.5	<0.5
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	----	<0.5	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	----	<0.5	<0.5
N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	----	----	----	<0.5	<0.5
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	----	<0.5	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	----	<0.5	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	----	<0.5	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	----	<0.5	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Methapyrilene	91-80-5	0.5	mg/kg	----	----	----	<0.5	<0.5
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	----	----	<0.5	<0.5
Acetophenone	98-86-2	0.5	mg/kg	----	----	----	<0.5	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	----	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH40_1.0-1.2	BH40_7.0-7.2	BH40_8.5-8.7	BH40_16.5-16.7	BH40_17.8-18.0
				Client sampling date / time: 18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00
				ES1003390-001	ES1003390-002	ES1003390-003	ES1003390-004	ES1003390-005
EP075E: Nitroaromatics and Ketones - Continued								
Isophorone	78-59-1	0.5	mg/kg	----	----	----	<0.5	<0.5
2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	----	----	----	<0.5	<0.5
2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	----	----	----	<0.5	<0.5
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	----	<0.5	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	----	<0.5	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	----	<0.5	<0.5
Azobenzene	103-33-3	1	mg/kg	----	----	----	<1	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Phenacetin	62-44-2	0.5	mg/kg	----	----	----	<0.5	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	----	<0.5	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	----	<0.5	<0.5
Pronamide	23950-58-5	0.5	mg/kg	----	----	----	<0.5	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	----	<0.5	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	----	<0.5	<0.5
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	----	<0.5	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	----	<0.5	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	----	<0.5	<0.5
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	<0.5	<0.5
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	<0.5	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	----	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	<0.5	<0.5
Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	----	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	----	----	----	<0.5	<0.5
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	----	----	<0.5	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	----	<0.5	<0.5
2-Nitroaniline	88-74-4	0.5	mg/kg	----	----	----	<0.5	<0.5
3-Nitroaniline	99-09-2	0.5	mg/kg	----	----	----	<0.5	<0.5
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	----	**8.9**	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	----	<0.5	<0.5
Carbazole	86-74-8	0.5	mg/kg	----	----	----	**5.3**	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH40_1.0-1.2	BH40_7.0-7.2	BH40_8.5-8.7	BH40_16.5-16.7	BH40_17.8-18.0
				Client sampling date / time: 18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00
				ES1003390-001	ES1003390-002	ES1003390-003	ES1003390-004	ES1003390-005
EP075H: Anilines and Benzidines - Continued								
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	----	<0.5	<0.5
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	----	----	<0.5	<0.5
beta-BHC	319-85-7	0.5	mg/kg	----	----	----	<0.5	<0.5
gamma-BHC	58-89-9	0.5	mg/kg	----	----	----	<0.5	<0.5
delta-BHC	319-86-8	0.5	mg/kg	----	----	----	<0.5	<0.5
Heptachlor	76-44-8	0.5	mg/kg	----	----	----	<0.5	<0.5
Aldrin	309-00-2	0.5	mg/kg	----	----	----	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	----	----	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	----	----	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg	----	----	----	<0.5	<0.5
Dieldrin	60-57-1	0.5	mg/kg	----	----	----	<0.5	<0.5
Endrin	72-20-8	0.5	mg/kg	----	----	----	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	----	----	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg	----	----	----	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	----	----	<0.5	<0.5
4.4`-DDT	50-29-3	0.5	mg/kg	----	----	----	<0.5	<0.5
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	----	----	<0.5	<0.5
Dimethoate	60-51-5	0.5	mg/kg	----	----	----	<0.5	<0.5
Diazinon	333-41-5	0.5	mg/kg	----	----	----	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	----	----	<0.5	<0.5
Malathion	121-75-5	0.5	mg/kg	----	----	----	<0.5	<0.5
Fenthion	55-38-9	0.5	mg/kg	----	----	----	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	----	----	<0.5	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	----	----	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	----	----	<0.5	<0.5
Prothiofos	34643-46-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Ethion	563-12-2	0.5	mg/kg	----	----	----	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	----	----
C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH40_1.0-1.2	BH40_7.0-7.2	BH40_8.5-8.7	BH40_16.5-16.7	BH40_17.8-18.0
				Client sampling date / time: 18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00
				ES1003390-001	ES1003390-002	ES1003390-003	ES1003390-004	ES1003390-005
EP080: BTEX - Continued								
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	**87.0**	**105**
Toluene-D8	2037-26-5	0.1	%	----	----	----	**89.0**	**108**
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	**87.6**	**111**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	**94.3**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**93.1**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**80.9**	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**89.3**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**94.0**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**93.3**	----	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	----	----	**35.4**	**50.7**
Phenol-d6	13127-88-3	0.1	%	----	----	----	**52.4**	**37.0**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	**53.5**	**39.4**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	----	**49.2**	**24.0**
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	----	----	**56.2**	**42.5**
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	----	----	**43.8**	**33.2**
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	**35.0**	**42.3**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	**53.7**	**45.8**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	**44.7**	**38.6**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**97.8**	----	----	----
Toluene-D8	2037-26-5	0.1	%	----	**113**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	**93.1**	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH40_19.0-19.4	BH59_0.15-0.16	BH54_0.6-0.7	BH52_0.15-0.16	BH58_0.15-0.16
				Client sampling date / time: 18-FEB-2010 15:00	17-FEB-2010 15:00	18-FEB-2010 15:00	17-FEB-2010 15:00	17-FEB-2010 15:00
				ES1003390-006	ES1003390-007	ES1003390-008	ES1003390-009	ES1003390-010
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**6.3**	----	----	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**19.5**	**8.1**	**16.2**	**13.2**	**11.6**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**38**	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	**20**	**20**	**100**	**60**	**60**
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**28**	**7**	**10**	**25**	**21**
Cobalt	7440-48-4	2	mg/kg	<2	**26**	**5**	**39**	**34**
Copper	7440-50-8	5	mg/kg	<5	**111**	**30**	**72**	**65**
Iron	7439-89-6	50	mg/kg	**24500**	**43200**	**55000**	**60700**	**55000**
Lead	7439-92-1	5	mg/kg	**8**	<5	**630**	<5	<5
Manganese	7439-96-5	5	mg/kg	**9**	**502**	**246**	**677**	**618**
Nickel	7440-02-0	2	mg/kg	**2**	**70**	**16**	**160**	**137**
Vanadium	7440-62-2	5	mg/kg	**116**	**28**	**18**	**34**	**30**
Zinc	7440-66-6	5	mg/kg	**8**	**37**	**231**	**48**	**46**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	**0.2**	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	**1.3**	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	**2.7**	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	**3.1**	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**10.5**	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	**2.0**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH40_19.0-19.4	BH59_0.15-0.16	BH54_0.6-0.7	BH52_0.15-0.16	BH58_0.15-0.16
				Client sampling date / time: 18-FEB-2010 15:00	17-FEB-2010 15:00	18-FEB-2010 15:00	17-FEB-2010 15:00	17-FEB-2010 15:00
				ES1003390-006	ES1003390-007	ES1003390-008	ES1003390-009	ES1003390-010
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	**2.7**	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**6.6**	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	**2.0**	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**3.8**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	**3.4**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**1.4**	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	**1.2**	----	----	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	**0.9**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**0.8**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	**0.6**	----	----	----	----
Toluene	108-88-3	0.5	mg/kg	**0.6**	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**90.1**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**90.5**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**82.2**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**87.5**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**90.2**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**90.8**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**87.7**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	**110**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH40_19.0-19.4	BH59_0.15-0.16	BH54_0.6-0.7	BH52_0.15-0.16	BH58_0.15-0.16
				Client sampling date / time	18-FEB-2010 15:00	17-FEB-2010 15:00	18-FEB-2010 15:00	17-FEB-2010 15:00	17-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1003390-006	ES1003390-007	ES1003390-008	ES1003390-009	ES1003390-010
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.1	%		**91.8**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC54	TB03	BH40_13.0-13.2	----	----
				Client sampling date / time: 18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	----	----
				ES1003390-013	ES1003390-014	ES1003390-019	----	----
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**6.5**	----	----	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**14.7**	----	**6.6**	----	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	<5	----	----
Barium	7440-39-3	10	mg/kg	**20**	----	<10	----	----
Beryllium	7440-41-7	1	mg/kg	<1	----	<1	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	----	----
Chromium	7440-47-3	2	mg/kg	**7**	----	**4**	----	----
Cobalt	7440-48-4	2	mg/kg	**2**	----	<2	----	----
Copper	7440-50-8	5	mg/kg	<5	----	<5	----	----
Lead	7439-92-1	5	mg/kg	**7**	----	**8**	----	----
Manganese	7439-96-5	5	mg/kg	**115**	----	**77**	----	----
Nickel	7440-02-0	2	mg/kg	**3**	----	<2	----	----
Vanadium	7440-62-2	5	mg/kg	**10**	----	**8**	----	----
Zinc	7440-66-6	5	mg/kg	**15**	----	**36**	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	<0.1	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC54	TB03	BH40_13.0-13.2	----	----
				Client sampling date / time: 18-FEB-2010 15:00	18-FEB-2010 15:00	18-FEB-2010 15:00	----	----
				ES1003390-013	ES1003390-014	ES1003390-019	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**97.9**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**93.2**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**83.1**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**91.3**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**93.6**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**96.2**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**93.3**	**104**	----	----	----
Toluene-D8	2037-26-5	0.1	%	**111**	**103**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**89.2**	**113**	----	----	----

Analytical Results

Sub-Matrix: **TCLP LEACHATE**

Compound	CAS Number	LOR	Unit	Client sample ID: BH40_17.8-18.0	----	----	----	----
				Client sampling date / time: 26-FEB-2010 12:00	----	----	----	----
				ES1003390-005	----	----	----	----
EG005C: Leachable Metals by ICPAES								
Arsenic	7440-38-2	0.1	mg/L	<0.1	----	----	----	----
Barium	7440-39-3	0.1	mg/L	**0.2**	----	----	----	----
Beryllium	7440-41-7	0.05	mg/L	<0.05	----	----	----	----
Cadmium	7440-43-9	0.05	mg/L	<0.05	----	----	----	----
Chromium	7440-47-3	0.1	mg/L	<0.1	----	----	----	----
Cobalt	7440-48-4	0.1	mg/L	<0.1	----	----	----	----
Copper	7440-50-8	0.1	mg/L	<0.1	----	----	----	----
Lead	7439-92-1	0.1	mg/L	<0.1	----	----	----	----
Manganese	7439-96-5	0.1	mg/L	<0.1	----	----	----	----
Nickel	7440-02-0	0.1	mg/L	<0.1	----	----	----	----
Vanadium	7440-62-2	0.1	mg/L	<0.1	----	----	----	----
Zinc	7440-66-6	0.1	mg/L	**0.2**	----	----	----	----
EG035C: Leachable Mercury by FIMS								
Mercury	7439-97-6	0.0010	mg/L	<0.0010	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	**2390**	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	**141**	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	**22.9**	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	**116**	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	**94.5**	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	**17.3**	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	**10.2**	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	**7.7**	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**27.5**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**55.6**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**72.2**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**65.9**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**65.2**	----	----	----	----

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	BH40_17.8-18.0	----	----	----	----
				Client sampling date / time	26-FEB-2010 12:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1003390-005	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		**73.8**	----	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	QC51	QC52	----	----	----
				Client sampling date / time	18-FEB-2010 15:00	18-FEB-2010 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1003390-011	ES1003390-012	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Barium	7440-39-3	0.001	mg/L		<0.001	----	----	----	----
Beryllium	7440-41-7	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Cobalt	7440-48-4	0.001	mg/L		<0.001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Vanadium	7440-62-2	0.01	mg/L		<0.01	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<5	<5	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
Styrene	100-42-5	5	µg/L		<5	<5	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
Isopropylbenzene	98-82-8	5	µg/L		<5	<5	----	----	----
n-Propylbenzene	103-65-1	5	µg/L		<5	<5	----	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L		<5	<5	----	----	----
sec-Butylbenzene	135-98-8	5	µg/L		<5	<5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L		<5	<5	----	----	----
tert-Butylbenzene	98-06-6	5	µg/L		<5	<5	----	----	----
p-Isopropyltoluene	99-87-6	5	µg/L		<5	<5	----	----	----
n-Butylbenzene	104-51-8	5	µg/L		<5	<5	----	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	50	µg/L		<50	<50	----	----	----
2-Butanone (MEK)	78-93-3	50	µg/L		<50	<50	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		<50	<50	----	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L		<50	<50	----	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		<5	<5	----	----	----
EP074D: Fumigants									

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC51	QC52	----	----	----
				Client sampling date / time: 18-FEB-2010 15:00	18-FEB-2010 15:00	----	----	----
				ES1003390-011	ES1003390-012	----	----	----
EP074D: Fumigants - Continued								
2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	----	----	----
1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	----	----	----
Chloromethane	74-87-3	50	µg/L	<50	<50	----	----	----
Vinyl chloride	75-01-4	50	µg/L	<50	<50	----	----	----
Bromomethane	74-83-9	50	µg/L	<50	<50	----	----	----
Chloroethane	75-00-3	50	µg/L	<50	<50	----	----	----
Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	----	----	----
1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	----	----	----
Iodomethane	74-88-4	5	µg/L	<5	<5	----	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	----	----	----
1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	----	----	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	----	----	----
1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	----	----	----
1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	----	----	----
Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	----	----	----
1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	----	----	----
Trichloroethene	79-01-6	5	µg/L	<5	<5	----	----	----
Dibromomethane	74-95-3	5	µg/L	<5	<5	----	----	----
1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	----	----	----
1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	----	----	----
Tetrachloroethene	127-18-4	5	µg/L	<5	<5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	----	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	----	----	----
Pentachloroethane	76-01-7	5	µg/L	<5	<5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	----	----	----
Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	<5	----	----	----
Bromobenzene	108-86-1	5	µg/L	<5	<5	----	----	----
2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	QC51	QC52	----	----	----
				Client sampling date / time	18-FEB-2010 15:00	18-FEB-2010 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1003390-011	ES1003390-012	----	----	----
EP074F: Halogenated Aromatic Compounds - Continued									
4-Chlorotoluene	106-43-4	5	µg/L		<5	<5	----	----	----
1.3-Dichlorobenzene	541-73-1	5	µg/L		<5	<5	----	----	----
1.4-Dichlorobenzene	106-46-7	5	µg/L		<5	<5	----	----	----
1.2-Dichlorobenzene	95-50-1	5	µg/L		<5	<5	----	----	----
1.2.4-Trichlorobenzene	120-82-1	5	µg/L		<5	<5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		<5	<5	----	----	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		<5	<5	----	----	----
Bromodichloromethane	75-27-4	5	µg/L		<5	<5	----	----	----
Dibromochloromethane	124-48-1	5	µg/L		<5	<5	----	----	----
Bromoform	75-25-2	5	µg/L		<5	<5	----	----	----
EP074H: Naphthalene									
Naphthalene	91-20-3	7	µg/L		<7	<7	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
C10 - C36 Fraction (sum)	----	50	µg/L		<50	----	----	----	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**95.3**	**107**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**101**	**112**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**91.2**	**100**	----	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	23	120
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

Sub-Matrix: WATER		Recovery Limits (%)	

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

QUALITY CONTROL REPORT

Work Order	: **ES1003390**	Page	: 1 of 33
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 24-FEB-2010
Sampler	: KP	Issue Date	: 09-MAR-2010
Order number	: 1303951		
		No. of samples received	: 25
Quote number	: SY/259/09 V2	No. of samples analysed	: 15

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
		Inorganics
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Sarah Millington	Senior Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA002 : pH (Soils) (QC Lot: 1261321)									
ES1003390-001	BH40_1.0-1.2	EA002: pH Value	----	0.1	pH Unit	8.4	8.4	0.0	0% - 20%
EA002 : pH (Soils) (QC Lot: 1265447)									
ES1003390-004	BH40_16.5-16.7	EA002: pH Value	----	0.1	pH Unit	7.4	7.4	0.0	0% - 20%
ES1003645-008	Anonymous	EA002: pH Value	----	0.1	pH Unit	6.6	6.6	0.0	0% - 20%
EA055: Moisture Content (QC Lot: 1261458)									
ES1003357-018	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	5.4	5.3	0.0	No Limit
ES1003390-002	BH40_7.0-7.2	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	16.0	16.4	2.3	0% - 50%
EA055: Moisture Content (QC Lot: 1264987)									
ES1003672-036	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.1	23.9	0.7	0% - 20%
ES1003684-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	18.7	18.3	2.2	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 1264302)									
ES1003390-001	BH40_1.0-1.2	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	20	10	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	10	13.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	3	3	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	4	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	10	12	13.7	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	181	198	9.0	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	13	14	7.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	20	20	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	10400	10700	2.3	0% - 20%
ES1003390-019	BH40_13.0-13.2	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	<10	<10	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	4	4	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	<5	52.7	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	77	67	13.8	0% - 50%
		EG005T: Vanadium	7440-62-2	5	mg/kg	8	7	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1264302) - continued									
ES1003390-019	BH40_13.0-13.2	EG005T: Zinc	7440-66-6	5	mg/kg	36	11	106	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	5720	4900	15.5	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1264858)									
ES1003390-004	BH40_16.5-16.7	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	<10	<10	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	22	24	10.6	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	20	21	5.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	6	7	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	86	99	14.0	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	17800	17400	2.6	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1264303)									
ES1003390-001	BH40_1.0-1.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1003390-019	BH40_13.0-13.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1264859)									
ES1003390-004	BH40_16.5-16.7	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1263425)									
ES1003022-003	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003390-007	BH59_0.15-0.16	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK025G: Free cyanide by Discrete Analyser (QC Lot: 1266315)									
ES1003388-003	Anonymous	EK025G: Free Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
ES1003391-014	Anonymous	EK025G: Free Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EK026G: Total Cyanide By Discrete Analyser (QC Lot: 1261543)									
ES1003390-005	BH40_17.8-18.0	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
ES1003391-019	Anonymous	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1268169)									
ES1003390-004	BH40_16.5-16.7	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
ES1003671-024	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EP004: Organic Matter (QC Lot: 1271403)									
ES1003390-004	BH40_16.5-16.7	EP004: Organic Matter	----	0.5	%	0.8	0.7	13.3	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1263549)									
ES1003388-003	Anonymous	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1263549) - continued									
ES1003388-003	Anonymous	EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1263549)									
ES1003388-003	Anonymous	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1263549)									
ES1003388-003	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1263549)									
ES1003388-003	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1263549)									
ES1003388-003	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1263549) - continued									
ES1003388-003	Anonymous	EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1263549)									
ES1003388-003	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1263549)									
ES1003388-003	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1262855)									
ES1003390-002	BH40_7.0-7.2	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 1262855) - continued									
ES1003544-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1262855)									
ES1003390-002	BH40_7.0-7.2	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003544-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1262855) - continued									
ES1003544-001	Anonymous	EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075A: Phenolic Compounds (QC Lot: 1263595)									
ES1003391-018	Anonymous	EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1263595)									
ES1003391-018	Anonymous	EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1263595) - continued									
ES1003391-018	Anonymous	EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	<1	0.0	No Limit
EP075C: Phthalate Esters (QC Lot: 1263595)									
ES1003391-018	Anonymous	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: bis(2-ethylhexyl) phthalate	117-81-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075D: Nitrosamines (QC Lot: 1263595)									
ES1003391-018	Anonymous	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 1263595)									
ES1003391-018	Anonymous	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit
EP075F: Haloethers (QC Lot: 1263595)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075F: Haloethers (QC Lot: 1263595) - continued									
ES1003391-018	Anonymous	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 1263595)									
ES1003391-018	Anonymous	EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075H: Anilines and Benzidines (QC Lot: 1263595)									
ES1003391-018	Anonymous	EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 1263595)									
ES1003391-018	Anonymous	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075I: Organochlorine Pesticides (QC Lot: 1263595) - continued									
ES1003391-018	Anonymous	EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 1263595)									
ES1003391-018	Anonymous	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1261539)									
ES1003390-002	BH40_7.0-7.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1003391-019	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1262854)									
ES1003390-002	BH40_7.0-7.2	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1003544-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEX (QC Lot: 1261539)									
ES1003390-002	BH40_7.0-7.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003391-019	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005C: Leachable Metals by ICPAES (QC Lot: 1264883)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005C: Leachable Metals by ICPAES (QC Lot: 1264883) - continued									
ES1003390-005	BH40_17.8-18.0	EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Barium	7440-39-3	0.1	mg/L	0.2	0.2	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Manganese	7439-96-5	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	0.2	0.2	0.0	No Limit
ES1003610-003	Anonymous	EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Barium	7440-39-3	0.1	mg/L	2.3	2.3	0.0	0% - 20%
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	0.2	0.2	0.0	No Limit
		EG005C: Lead	7439-92-1	0.1	mg/L	0.2	0.2	0.0	No Limit
		EG005C: Manganese	7439-96-5	0.1	mg/L	2.1	2.2	0.0	0% - 20%
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	3.7	3.7	0.0	0% - 20%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1265549)									
ES1003390-011	QC51	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1003495-006	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1265549) - continued									
ES1003495-006	Anonymous	EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	0.020	0.020	0.0	0% - 20%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.006	0.005	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.019	0.020	0.0	No Limit
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EG035C: Leachable Mercury by FIMS (QC Lot: 1266279)									
ES1003390-005	BH40_17.8-18.0	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
ES1003619-005	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1265548)									
ES1003390-011	QC51	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1003495-006	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1263798)									
ES1003563-006	Anonymous	EP074: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP074: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
ES1003563-010	Anonymous	EP074: Benzene	71-43-2	1	µg/L	2880	2880	0.05	0% - 20%
		EP074: Toluene	108-88-3	2	µg/L	61	64	4.4	0% - 20%
		EP074: Ethylbenzene	100-41-4	2	µg/L	402	387	3.7	0% - 20%
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	839	834	0.5	0% - 20%
		EP074: ortho-Xylene	95-47-6	2	µg/L	<50	<50	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1263798) - continued									
ES1003563-010	Anonymous	EP074: Isopropylbenzene	98-82-8	5	µg/L	68	63	8.4	0% - 50%
		EP074: n-Propylbenzene	103-65-1	5	µg/L	169	165	2.0	0% - 20%
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<50	<50	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	173	173	0.0	0% - 20%
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<50	<50	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<50	<50	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<50	<50	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1263798)									
ES1003563-006	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
ES1003563-010	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<500	<500	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<500	<500	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<500	<500	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<500	<500	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1263798)									
ES1003563-006	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
ES1003563-010	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<50	<50	0.0	No Limit
EP074D: Fumigants (QC Lot: 1263798)									
ES1003563-006	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
ES1003563-010	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<50	<50	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<50	<50	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<50	<50	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1263798)									
ES1003563-006	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1263798) - continued									
ES1003563-006	Anonymous	EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
ES1003563-010	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<50	<50	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<50	<50	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<50	<50	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<50	<50	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<50	<50	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<50	<50	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<50	<50	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<50	<50	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<50	<50	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1263798) - continued									
ES1003563-010	Anonymous	EP074: Pentachloroethane	76-01-7	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<50	<50	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<50	<50	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<500	<500	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<500	<500	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<500	<500	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<500	<500	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<500	<500	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<500	<500	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1263798)									
ES1003563-006	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
ES1003563-010	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<50	<50	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<50	<50	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<50	<50	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1263798)									
ES1003563-006	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
ES1003563-010	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<50	<50	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<50	<50	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<50	<50	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<50	<50	0.0	No Limit
EP074H: Naphthalene (QC Lot: 1263798)									
ES1003563-006	Anonymous	EP074: Naphthalene	91-20-3	7	µg/L	<7	<7	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074H: Naphthalene (QC Lot: 1263798) - continued									
ES1003563-010	Anonymous	EP074: Naphthalene	91-20-3	7	µg/L	<50	<50	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1264302)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	109	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	108	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	105	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	104	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	106	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	102	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	102	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	102	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	110	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	104	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	108	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	102	88.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1264858)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	97.2	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	96.5	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	95.9	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	94.7	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	93.1	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	88.7	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	93.0	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	13134 mg/kg	99.5	70	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	91.7	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	98.7	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	92.2	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	93.0	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	92.4	88.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1264303)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	82.7	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1264859)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	76.1	67	118
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1263425)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	96.0	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1266315)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK025G: Free cyanide by Discrete Analyser (QCLot: 1266315) - continued								
EK025G: Free Cyanide	----	1	mg/kg	<1	2.0 mg/kg	87.8	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1261543)								
EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	20.0 mg/kg	110	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1268169)								
EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	2.0 mg/kg	84.2	70	130
EP004: Organic Matter (QCLot: 1271403)								
EP004: Organic Matter	----	0.5	%	<0.5	4.58 %	90.0	86	111
EP004: Total Organic Carbon	----	0.5	%	<0.5	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1263549)								
EP074: Benzene	71-43-2	0.5	mg/kg	<0.5	1 mg/kg	95.0	64	126
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	96.4	63	135
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	95.3	64	124
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	96.3	66	126
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	94.3	67	121
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	95.6	66	124
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	96.6	64	124
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	98.9	59	129
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	98.6	63	125
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	99.0	61	127
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	98.6	62	126
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	97.5	62	126
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	98.3	60	126
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	99.5	57	129
EP074B: Oxygenated Compounds (QCLot: 1263549)								
EP074: Vinyl Acetate	108-05-4	1	mg/kg	----	10 mg/kg	95.7	11	155
		5	mg/kg	<5	----	----	----	----
EP074: 2-Butanone (MEK)	78-93-3	1	mg/kg	----	10 mg/kg	92.8	37	169
		5	mg/kg	<5	----	----	----	----
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	1	mg/kg	----	10 mg/kg	96.6	55	133
		5	mg/kg	<5	----	----	----	----
EP074: 2-Hexanone (MBK)	591-78-6	1	mg/kg	----	10 mg/kg	95.0	57	133
		5	mg/kg	<5	----	----	----	----
EP074C: Sulfonated Compounds (QCLot: 1263549)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	97.6	53	135
EP074D: Fumigants (QCLot: 1263549)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	93.9	57	129
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	96.3	68	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074D: Fumigants (QCLot: 1263549) - continued								
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	96.1	59	127
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	98.3	53	129
EP074E: Halogenated Aliphatic Compounds (QCLot: 1263549)								
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	----	10 mg/kg	112	28.9	146
		5	mg/kg	<5	----	----	----	----
EP074: Chloromethane	74-87-3	1	mg/kg	----	10 mg/kg	119	43	140
		5	mg/kg	<5	----	----	----	----
EP074: Vinyl chloride	75-01-4	1	mg/kg	----	10 mg/kg	106	41	149
		5	mg/kg	<5	----	----	----	----
EP074: Bromomethane	74-83-9	1	mg/kg	----	10 mg/kg	104	44	152
		5	mg/kg	<5	----	----	----	----
EP074: Chloroethane	75-00-3	1	mg/kg	----	10 mg/kg	105	49	149
		5	mg/kg	<5	----	----	----	----
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	----	10 mg/kg	94.8	53	139
		5	mg/kg	<5	----	----	----	----
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	98.5	57	133
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	82.7	48	134
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	77.9	62	128
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	98.1	64	126
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	93.8	66	124
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	94.4	61	125
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	97.0	62	128
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	95.4	56	128
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	95.6	70	124
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	96.7	65	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	92.7	67	123
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	97.4	70	122
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	96.9	71	121
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	102	64	144
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	97.8	57	125
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	110	39	141
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	99.8	56	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	103	57	127
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	100	62	126
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	99.1	26.4	144
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	89.3	51	133
EP074F: Halogenated Aromatic Compounds (QCLot: 1263549)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	96.3	67	125
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	98.0	68	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074F: Halogenated Aromatic Compounds (QCLot: 1263549) - continued								
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	102	63	127
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	98.3	64	126
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	71.6	58	132
EP074G: Trihalomethanes (QCLot: 1263549)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	97.3	67	123
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	99.9	60	126
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	95.3	58	124
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	96.7	57	121
EP075(SIM)A: Phenolic Compounds (QCLot: 1262855)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	106	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	107	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	101	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	105	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	73.1	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	101	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	96.6	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	97.6	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	100	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	79.3	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	86.0	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	20.6	1.23	91.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1262855)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	108	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	111	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	103	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	105	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	108	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	# 112	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	112	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	112	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	103	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	# 117	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	87.0	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	87.7	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	81.8	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	# 68.4	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	# 71.4	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	77.5	72.4	114
EP075A: Phenolic Compounds (QCLot: 1263595)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075A: Phenolic Compounds (QCLot: 1263595) - continued								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.25 mg/kg	90.6	66.9	114
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.25 mg/kg	63.6	58.5	108
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.25 mg/kg	65.0	43	103
EP075: 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	2.5 mg/kg	74.9	35.9	109
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	51.4	49.4	109
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.25 mg/kg	22.7	.15	116
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.25 mg/kg	62.0	52.5	106
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.25 mg/kg	50.9	48.2	98.6
EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	1.25 mg/kg	66.6	59	106
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.25 mg/kg	57.6	44.4	101
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.25 mg/kg	53.4	48	107
EP075: Pentachlorophenol	87-86-5	1.0	mg/kg	<1	2.5 mg/kg	26.6	4.43	89.2
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1263595)								
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.25 mg/kg	73.4	63.7	108
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.25 mg/kg	72.4	60.8	110
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.25 mg/kg	65.6	59.1	110
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.25 mg/kg	71.3	58.8	106
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.25 mg/kg	71.9	61.7	110
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	66.7	59.2	110
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.25 mg/kg	73.0	61.9	108
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.25 mg/kg	73.0	58.3	107
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.25 mg/kg	73.0	58.5	110
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.25 mg/kg	69.5	60.4	109
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.25 mg/kg	67.7	59.5	110
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	76.5	57.2	111
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.25 mg/kg	73.9	58.4	113
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2	1	mg/kg	----	2.5 mg/kg	71.3	57.1	112
	207-08-9	1.0	mg/kg	<1	----	----	----	----
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.25 mg/kg	71.0	48.1	106
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.25 mg/kg	76.2	56.6	108
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.25 mg/kg	83.7	52.7	108
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.25 mg/kg	73.4	56.8	110
EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.25 mg/kg	70.6	54.7	110
EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.25 mg/kg	72.5	55	112
EP075C: Phthalate Esters (QCLot: 1263595)								
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.25 mg/kg	72.5	60.1	111
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.25 mg/kg	73.7	62.3	114
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.25 mg/kg	81.7	65.5	122
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.25 mg/kg	81.9	61.6	112

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075C: Phthalate Esters (QCLot: 1263595) - continued								
EP075: bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg	----	1.25 mg/kg	114	66.6	135
		5.0	mg/kg	<5.0	----	----	----	----
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.25 mg/kg	86.2	59	116
EP075D: Nitrosamines (QCLot: 1263595)								
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.25 mg/kg	75.2	39.4	124
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.25 mg/kg	76.2	62.7	112
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	----	1.25 mg/kg	65.5	42.8	102
		1.0	mg/kg	<1.0	----	----	----	----
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.25 mg/kg	82.9	52.4	112
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.25 mg/kg	71.9	60.6	107
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.25 mg/kg	69.6	59.6	108
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.25 mg/kg	71.3	59.4	106
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6	1.0	mg/kg	<1.0	2.5 mg/kg	48.7	38	110
	122-39-4							
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.25 mg/kg	65.8	16.3	123
EP075E: Nitroaromatics and Ketones (QCLot: 1263595)								
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.25 mg/kg	66.5	27.3	129
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.25 mg/kg	67.0	62.6	110
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.25 mg/kg	76.6	64.4	112
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.25 mg/kg	74.4	64	110
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	----	1.25 mg/kg	71.2	58	114
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	----	1.25 mg/kg	68.5	55.8	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.25 mg/kg	37.4	2.24	93
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.25 mg/kg	44.3	3.12	108
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.25 mg/kg	69.8	48.3	98.5
EP075: Azobenzene	103-33-3	1	mg/kg	----	1.25 mg/kg	79.1	61.4	113
		1.0	mg/kg	<1	----	----	----	----
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.25 mg/kg	59.3	33	108
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.25 mg/kg	62.6	58.1	110
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.25 mg/kg	57.5	36.1	102
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.25 mg/kg	61.7	55.8	106
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.25 mg/kg	68.0	49.4	105
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.25 mg/kg	67.8	53.5	105
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.25 mg/kg	69.8	57.4	112
EP075F: Haloethers (QCLot: 1263595)								
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.25 mg/kg	85.0	63.1	113
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.25 mg/kg	77.6	62.4	111

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)
				Result	Concentration	LCS	Low	High
EP075F: Haloethers (QCLot: 1263595) - continued								
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.25 mg/kg	64.1	59	111
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	56.8	56.4	109
EP075G: Chlorinated Hydrocarbons (QCLot: 1263595)								
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.25 mg/kg	69.6	60.4	106
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.25 mg/kg	70.9	62.1	107
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.25 mg/kg	68.4	61.3	107
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.25 mg/kg	63.7	53.8	107
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.25 mg/kg	63.5	62.9	108
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.25 mg/kg	58.6	39.1	110
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.25 mg/kg	66.4	59.3	110
EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	----	1.25 mg/kg	62.8	17.2	106
		2.5	mg/kg	<2.5	----	----	----	----
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.25 mg/kg	62.0	60	110
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	----	1.25 mg/kg	62.6	59.9	111
		1.0	mg/kg	<1.0	----	----	----	----
EP075H: Anilines and Benzidines (QCLot: 1263595)								
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.25 mg/kg	42.7	13.2	108
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.25 mg/kg	62.3	19.9	114
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	----	1.25 mg/kg	71.8	57.4	109
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	----	1.25 mg/kg	60.0	31.5	93.7
		1.0	mg/kg	<1.0	----	----	----	----
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.25 mg/kg	70.8	60.2	111
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.25 mg/kg	69.4	48.6	97.6
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.25 mg/kg	79.5	61	109
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.25 mg/kg	95.3	15.6	101
EP075I: Organochlorine Pesticides (QCLot: 1263595)								
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.25 mg/kg	64.8	59.5	110
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.25 mg/kg	70.1	53.4	113
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.25 mg/kg	73.0	58.2	112
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.25 mg/kg	78.3	56.9	114
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.25 mg/kg	68.1	52	108
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.25 mg/kg	68.5	54.9	112
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.25 mg/kg	65.6	54.6	113
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.25 mg/kg	91.2	51.7	115
EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	1.25 mg/kg	69.8	60.3	112
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.25 mg/kg	78.1	61.9	116
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.25 mg/kg	67.2	49	110
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.25 mg/kg	75.1	59.5	112

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075I: Organochlorine Pesticides (QCLot: 1263595) - continued								
EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	1.25 mg/kg	72.1	58.5	116
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.25 mg/kg	71.2	52.6	114
EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	----	1.25 mg/kg	63.6	39.2	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075J: Organophosphorus Pesticides (QCLot: 1263595)								
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	57.8	24.6	109
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.25 mg/kg	66.3	46.4	118
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.25 mg/kg	80.4	50.3	116
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.25 mg/kg	63.4	41.7	119
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	73.4	52.1	121
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.25 mg/kg	62.9	43	116
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.25 mg/kg	73.1	51.1	115
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.25 mg/kg	75.9	50.9	115
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	----	----	----
		0.55	mg/kg	----	1.375 mg/kg	66.2	45.3	104
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.25 mg/kg	78.2	51.5	116
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.25 mg/kg	71.2	47.3	115
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1261539)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	90.8	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1262854)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	96.0	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	95.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	97.0	72.6	117
EP080: BTEX (QCLot: 1261539)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	113	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	107	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	106	65.3	126
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	103	66.5	124
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	106	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005C: Leachable Metals by ICPAES (QCLot: 1264883)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	0.1 mg/L	89.1	70	130
EG005C: Barium	7440-39-3	0.1	mg/L	<0.1	0.1 mg/L	93.2	70	130
EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	0.1 mg/L	94.0	70	130
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.1 mg/L	95.1	70	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)
				Result	Concentration	LCS	Low	High
EG005C: Leachable Metals by ICPAES (QCLot: 1264883) - continued								
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	0.1 mg/L	93.6	70	130
EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	0.1 mg/L	90.8	70	130
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	0.1 mg/L	94.2	70	130
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	0.1 mg/L	93.5	70	130
EG005C: Manganese	7439-96-5	0.1	mg/L	<0.1	0.1 mg/L	103	70	130
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	0.1 mg/L	90.2	70	130
EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	0.1 mg/L	81.9	70	130
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	0.1 mg/L	107	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1265549)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	93.9	88	110
EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	96.6	80	114
EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	98.2	85	109
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	91.8	89	107
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	96.6	91	111
EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	97.1	89	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	97.2	87	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	95.8	90	110
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	104	87	113
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	96.4	89	109
EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 90.9	91	109
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	97.9	85	115
EG035C: Leachable Mercury by FIMS (QCLot: 1266279)								
EG035C: Mercury	7439-97-6	0.001	mg/L	<0.0010	0.010 mg/L	102	83	119
EG035F: Dissolved Mercury by FIMS (QCLot: 1265548)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	99.1	86	116
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1263798)								
EP074: Benzene	71-43-2	1	µg/L	<1	10 µg/L	105	81	119
EP074: Toluene	108-88-3	2	µg/L	<5	10 µg/L	104	76.5	123
EP074: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	105	80.3	119
EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	20 µg/L	104	81.1	118
EP074: Styrene	100-42-5	5	µg/L	<5	10 µg/L	106	79.9	120
EP074: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	104	82	118
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	10 µg/L	103	80.3	119
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	10 µg/L	101	75.5	122
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	10 µg/L	101	79.2	118
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	10 µg/L	101	76.6	121
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	10 µg/L	101	79.7	118
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	10 µg/L	103	77.4	120

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1263798) - continued								
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	10 µg/L	102	76.3	122
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	10 µg/L	100	74.4	123
EP074B: Oxygenated Compounds (QCLot: 1263798)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	100 µg/L	104	61.4	134
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	100 µg/L	108	73.6	130
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	100 µg/L	103	74.7	129
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	100 µg/L	105	74.1	130
EP074C: Sulfonated Compounds (QCLot: 1263798)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	10 µg/L	102	72.8	127
EP074D: Fumigants (QCLot: 1263798)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	10 µg/L	106	72.7	124
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	10 µg/L	104	80.7	119
EP074: cis-1.3-Dichloropropylene	10061-01-5	10	µg/L	<10	10 µg/L	104	80.4	119
EP074: trans-1.3-Dichloropropylene	10061-02-6	10	µg/L	<10	10 µg/L	102	79.3	120
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	10 µg/L	111	79.1	123
EP074E: Halogenated Aliphatic Compounds (QCLot: 1263798)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	100 µg/L	89.4	60.6	138
EP074: Chloromethane	74-87-3	50	µg/L	<50	100 µg/L	83.8	67.4	130
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	100 µg/L	94.0	69.4	129
EP074: Bromomethane	74-83-9	50	µg/L	<50	100 µg/L	95.8	68.9	131
EP074: Chloroethane	75-00-3	50	µg/L	<50	100 µg/L	95.0	73.9	126
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	100 µg/L	105	71.6	128
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	10 µg/L	102	72.5	128
EP074: Iodomethane	74-88-4	5	µg/L	<5	10 µg/L	97.6	70.2	128
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	10 µg/L	105	77.4	122
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	10 µg/L	102	79.3	121
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	10 µg/L	106	79.5	121
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	10 µg/L	106	75.8	124
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	10 µg/L	103	77.8	121
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	10 µg/L	105	73.8	126
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	10 µg/L	104	75.5	126
EP074: Trichloroethene	79-01-6	5	µg/L	<5	10 µg/L	103	76.7	123
EP074: Dibromomethane	74-95-3	5	µg/L	<5	10 µg/L	108	76.1	126
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	10 µg/L	103	79.6	122
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	10 µg/L	103	79.9	122
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	10 µg/L	97.8	75	124
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	10 µg/L	102	78.9	121
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	10 µg/L	100	61.4	136

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1263798) - continued								
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	10 µg/L	90.7	70.6	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	10 µg/L	97.4	77.8	126
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	10 µg/L	99.8	74.1	128
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	10 µg/L	101	71.8	126
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	10 µg/L	112	66.4	136
EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	10 µg/L	104	67.2	129
EP074F: Halogenated Aromatic Compounds (QCLot: 1263798)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	10 µg/L	104	80.8	119
EP074: Bromobenzene	108-86-1	5	µg/L	<5	10 µg/L	102	79.3	119
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	10 µg/L	98.2	78.2	120
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	10 µg/L	102	79	119
EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	10 µg/L	100	78.9	120
EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	10 µg/L	104	79.9	119
EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	10 µg/L	101	82.3	116
EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	10 µg/L	117	67.8	129
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	10 µg/L	111	68.6	128
EP074G: Trihalomethanes (QCLot: 1263798)								
EP074: Chloroform	67-66-3	5	µg/L	<5	10 µg/L	103	78.2	122
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	10 µg/L	100	76.9	123
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	10 µg/L	105	78.5	124
EP074: Bromoform	75-25-2	5	µg/L	<5	10 µg/L	103	73.5	126
EP074H: Naphthalene (QCLot: 1263798)								
EP074: Naphthalene	91-20-3	7	µg/L	<7	10 µg/L	112	72.9	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1262055)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	94.2	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	87.7	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	87.1	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	89.8	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	92.2	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	88.4	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	94.9	63.6	118
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1262055) - continued								
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	93.2	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	91.7	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	87.8	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	87.4	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	90.5	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	72.5	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	66.4	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	68.0	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	67.3	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1261454)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	82.5	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	80.5	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	86.5	62.7	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1264302)							
ES1003390-001	BH40_1.0-1.2	EG005T: Arsenic	7440-38-2	50 mg/kg	93.3	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	99.6	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	102	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	100	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	98.3	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	98.5	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1264858)							
ES1003390-004	BH40_16.5-16.7	EG005T: Arsenic	7440-38-2	50 mg/kg	77.6	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	91.2	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	93.1	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	94.4	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	89.5	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	89.4	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	89.8	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1264303)							
ES1003390-001	BH40_1.0-1.2	EG035T: Mercury	7439-97-6	5 mg/kg	87.4	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1264859)							
ES1003390-004	BH40_16.5-16.7	EG035T: Mercury	7439-97-6	5 mg/kg	80.4	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1263425)							
ES1003022-003	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	# 25.0	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1266315)							
ES1003388-003	Anonymous	EK025G: Free Cyanide	----	2.0 mg/kg	87.8	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1261543)							
ES1003390-005	BH40_17.8-18.0	EK026G: Total Cyanide	57-12-5	20.0 mg/kg	108	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1268169)							
ES1003390-004	BH40_16.5-16.7	EK028G: Weak Acid Dissociable Cyanide	----	2.0 mg/kg	84.9	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1263549)							
ES1003388-003	Anonymous	EP074: Benzene	71-43-2	2.5 mg/kg	75.9	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	70.8	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1263549)							
ES1003388-003	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	95.3	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	79.2	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP074F: Halogenated Aromatic Compounds (QCLot: 1263549)							
ES1003388-003	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	71.2	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1262855)							
ES1003390-002	BH40_7.0-7.2	EP075(SIM): Phenol	108-95-2	10 mg/kg	101	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	95.8	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	80.8	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	90.5	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	57.7	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1262855)							
ES1003390-002	BH40_7.0-7.2	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	85.4	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	95.3	70	130
EP075A: Phenolic Compounds (QCLot: 1263595)							
ES1003391-018	Anonymous	EP075: Phenol	108-95-2	5 mg/kg	60.8	60	130
		EP075: 2-Chlorophenol	95-57-8	5 mg/kg	74.2	60	130
		EP075: 2-Nitrophenol	88-75-5	5 mg/kg	52.5	50	130
		EP075: 4-Chloro-3-Methylphenol	59-50-7	5 mg/kg	67.5	50	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	14.4	5	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1263595)							
ES1003391-018	Anonymous	EP075: Acenaphthene	83-32-9	5 mg/kg	63.4	50	130
		EP075: Pyrene	129-00-0	5 mg/kg	62.5	50	130
EP075D: Nitrosamines (QCLot: 1263595)							
ES1003391-018	Anonymous	EP075: N-Nitrosodi-n-propylamine	621-64-7	5 mg/kg	62.9	50	130
EP075E: Nitroaromatics and Ketones (QCLot: 1263595)							
ES1003391-018	Anonymous	EP075: 2.4-Dinitrotoluene	121-14-2	5 mg/kg	66.1	40	130
EP075G: Chlorinated Hydrocarbons (QCLot: 1263595)							
ES1003391-018	Anonymous	EP075: 1.4-Dichlorobenzene	106-46-7	5 mg/kg	64.3	60	130
		EP075: 1.2.4-Trichlorobenzene	120-82-1	5 mg/kg	65.7	50	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1261539)							
ES1003390-002	BH40_7.0-7.2	EP080: C6 - C9 Fraction	----	26 mg/kg	116	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1262854)							
ES1003390-002	BH40_7.0-7.2	EP071: C10 - C14 Fraction	----	640 mg/kg	99.4	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	95.9	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	92.4	70	130
EP080: BTEX (QCLot: 1261539)							
ES1003390-002	BH40_7.0-7.2	EP080: Benzene	71-43-2	2.5 mg/kg	93.9	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	88.0	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	84.3	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEX (QCLot: 1261539) - continued							
ES1003390-002	BH40_7.0-7.2	EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	84.0	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	87.0	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005C: Leachable Metals by ICPAES (QCLot: 1264883)							
ES1003415-001	Anonymous	EG005C: Arsenic	7440-38-2	1 mg/L	96.3	70	130
		EG005C: Barium	7440-39-3	1 mg/L	89.9	70	130
		EG005C: Beryllium	7440-41-7	1 mg/L	96.5	70	130
		EG005C: Cadmium	7440-43-9	0.250 mg/L	91.6	70	130
		EG005C: Chromium	7440-47-3	1 mg/L	90.6	70	130
		EG005C: Cobalt	7440-48-4	1 mg/L	91.8	70	130
		EG005C: Copper	7440-50-8	1 mg/L	96.3	70	130
		EG005C: Lead	7439-92-1	1 mg/L	93.9	70	130
		EG005C: Manganese	7439-96-5	1 mg/L	97.5	70	130
		EG005C: Nickel	7440-02-0	1 mg/L	87.4	70	130
		EG005C: Vanadium	7440-62-2	1 mg/L	91.9	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	91.6	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1265549)							
ES1003438-002	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	100	70	130
		EG020A-F: Beryllium	7440-41-7	0.2 mg/L	97.8	70	130
		EG020A-F: Barium	7440-39-3	0.2 mg/L	103	70	130
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	91.2	70	130
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	92.0	70	130
		EG020A-F: Cobalt	7440-48-4	0.2 mg/L	96.3	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	97.1	70	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	93.8	70	130
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	# Not Determined	70	130
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	94.7	70	130
		EG020A-F: Vanadium	7440-62-2	0.2 mg/L	101	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	# Not Determined	70	130
EG035C: Leachable Mercury by FIMS (QCLot: 1266279)							
ES1003390-005	BH40_17.8-18.0	EG035C: Mercury	7439-97-6	0.1 mg/L	115	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1265548)							
ES1003438-001	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	94.2	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1263798)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1263798) - continued							
ES1003563-007	Anonymous	EP074: Benzene	71-43-2	25 µg/L	91.1	70	130
		EP074: Toluene	108-88-3	25 µg/L	88.7	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1263798)							
ES1003563-007	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	25 µg/L	96.4	70	130
		EP074: Trichloroethene	79-01-6	25 µg/L	94.7	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1263798)							
ES1003563-007	Anonymous	EP074: Chlorobenzene	108-90-7	25 µg/L	93.9	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1003390**	Page	: 1 of 14
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 24-FEB-2010
Sampler	: KP	Issue Date	: 09-MAR-2010
Order number	: 1303951		
		No. of samples received	: 25
Quote number	: SY/259/09 V2	No. of samples analysed	: 15

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: ✗ = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7	**18-FEB-2010**	**02-MAR-2010**	25-FEB-2010	✗	**02-MAR-2010**	02-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH40_1.0-1.2, BH40_7.0-7.2, BH40_8.5-8.7, BH40_17.8-18.0, BH40_19.0-19.4, QC54	**18-FEB-2010**	**25-FEB-2010**	25-FEB-2010	✓	**25-FEB-2010**	25-FEB-2010	✓
EA055: Moisture Content							
Soil Glass Jar - Unpreserved							
BH59_0.15-0.16, BH52_0.15-0.16, BH58_0.15-0.16	**17-FEB-2010**	**----**	----	----	**25-FEB-2010**	24-FEB-2010	✗
Soil Glass Jar - Unpreserved							
BH40_1.0-1.2, BH40_7.0-7.2, BH40_17.8-18.0, BH40_19.0-19.4, BH54_0.6-0.7, QC54, BH40_13.0-13.2	**18-FEB-2010**	**----**	----	----	**25-FEB-2010**	25-FEB-2010	✓
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7	**18-FEB-2010**	**----**	----	----	**26-FEB-2010**	25-FEB-2010	✗
EG005C: Leachable Metals by ICPAES							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH40_17.8-18.0	**26-FEB-2010**	**02-MAR-2010**	25-AUG-2010	✓	**02-MAR-2010**	25-AUG-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved							
BH59_0.15-0.16, BH52_0.15-0.16, BH58_0.15-0.16	**17-FEB-2010**	**01-MAR-2010**	17-MAR-2010	✓	**02-MAR-2010**	16-AUG-2010	✓
Soil Glass Jar - Unpreserved							
BH40_1.0-1.2, BH40_7.0-7.2, BH40_17.8-18.0, BH40_19.0-19.4, BH54_0.6-0.7, QC54, BH40_13.0-13.2	**18-FEB-2010**	**01-MAR-2010**	18-MAR-2010	✓	**02-MAR-2010**	17-AUG-2010	✓
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7	**18-FEB-2010**	**02-MAR-2010**	18-MAR-2010	✓	**02-MAR-2010**	17-AUG-2010	✓
EG035C: Leachable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH40_17.8-18.0	**26-FEB-2010**	**----**	----	----	**04-MAR-2010**	26-MAR-2010	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved							
BH59_0.15-0.16, BH52_0.15-0.16, BH58_0.15-0.16	**17-FEB-2010**	**01-MAR-2010**	17-MAR-2010	✓	**03-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH40_1.0-1.2, BH40_7.0-7.2, BH40_17.8-18.0, BH40_19.0-19.4, BH54_0.6-0.7, QC54, BH40_13.0-13.2	**18-FEB-2010**	**01-MAR-2010**	18-MAR-2010	✓	**03-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7	**18-FEB-2010**	**02-MAR-2010**	18-MAR-2010	✓	**02-MAR-2010**	18-MAR-2010	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved							
BH59_0.15-0.16, BH52_0.15-0.16, BH58_0.15-0.16	**17-FEB-2010**	**01-MAR-2010**	17-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7, BH40_17.8-18.0, BH40_19.0-19.4, BH54_0.6-0.7	**18-FEB-2010**	**01-MAR-2010**	18-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
EK025G: Free cyanide by Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7, BH40_17.8-18.0	**18-FEB-2010**	**03-MAR-2010**	25-FEB-2010	×	**03-MAR-2010**	17-MAR-2010	✓
EK026G: Total Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH40_17.8-18.0	**18-FEB-2010**	**26-FEB-2010**	25-FEB-2010	×	**01-MAR-2010**	12-MAR-2010	✓
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7	**18-FEB-2010**	**04-MAR-2010**	25-FEB-2010	×	**04-MAR-2010**	25-FEB-2010	×

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach							
LabSplit: Leach for organics and other tests							
BH40_17.8-18.0	**18-FEB-2010**	**---**	---	----	**26-FEB-2010**	04-MAR-2010	✓
EP004: Organic Matter							
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7, BH40_17.8-18.0	**18-FEB-2010**	**----**	----	----	**09-MAR-2010**	25-FEB-2010	×
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7, BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**01-MAR-2010**	04-MAR-2010	✓
EP074B: Oxygenated Compounds							
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7, BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**01-MAR-2010**	04-MAR-2010	✓
EP074C: Sulfonated Compounds							
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7, BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**01-MAR-2010**	04-MAR-2010	✓
EP074D: Fumigants							
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7, BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**01-MAR-2010**	04-MAR-2010	✓
EP074E: Halogenated Aliphatic Compounds							
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7, BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**01-MAR-2010**	04-MAR-2010	✓
EP074F: Halogenated Aromatic Compounds							
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7, BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**01-MAR-2010**	04-MAR-2010	✓
EP074G: Trihalomethanes							
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7, BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**01-MAR-2010**	04-MAR-2010	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved							
BH40_7.0-7.2, BH40_19.0-19.4, QC54	**18-FEB-2010**	**26-FEB-2010**	04-MAR-2010	✓	**01-MAR-2010**	07-APR-2010	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
BH40_17.8-18.0	**26-FEB-2010**	**26-FEB-2010**	05-MAR-2010	✓	**01-MAR-2010**	07-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH40_7.0-7.2, BH40_19.0-19.4, QC54	**18-FEB-2010**	**26-FEB-2010**	04-MAR-2010	✓	**01-MAR-2010**	07-APR-2010	✓
EP075A: Phenolic Compounds							
Soil Glass Jar - Unpreserved							
BH40_16.5-16.7, BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved								
BH40_16.5-16.7,	BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
EP075C: Phthalate Esters								
Soil Glass Jar - Unpreserved								
BH40_16.5-16.7,	BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
EP075D: Nitrosamines								
Soil Glass Jar - Unpreserved								
BH40_16.5-16.7,	BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
EP075E: Nitroaromatics and Ketones								
Soil Glass Jar - Unpreserved								
BH40_16.5-16.7,	BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
EP075F: Haloethers								
Soil Glass Jar - Unpreserved								
BH40_16.5-16.7,	BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
EP075G: Chlorinated Hydrocarbons								
Soil Glass Jar - Unpreserved								
BH40_16.5-16.7,	BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
EP075H: Anilines and Benzidines								
Soil Glass Jar - Unpreserved								
BH40_16.5-16.7,	BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
EP075I: Organochlorine Pesticides								
Soil Glass Jar - Unpreserved								
BH40_16.5-16.7,	BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
EP075J: Organophosphorus Pesticides								
Soil Glass Jar - Unpreserved								
BH40_16.5-16.7,	BH40_17.8-18.0	**18-FEB-2010**	**01-MAR-2010**	04-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved								
BH40_7.0-7.2, QC54	BH40_19.0-19.4,	**18-FEB-2010**	**25-FEB-2010**	04-MAR-2010	✓	**26-FEB-2010**	04-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH40_7.0-7.2, QC54	BH40_19.0-19.4,	**18-FEB-2010**	**26-FEB-2010**	04-MAR-2010	✓	**01-MAR-2010**	07-APR-2010	✓
EP080: BTEX								
Soil Glass Jar - Unpreserved								
BH40_7.0-7.2, QC54,	BH40_19.0-19.4, TB03	**18-FEB-2010**	**25-FEB-2010**	04-MAR-2010	✓	**26-FEB-2010**	04-MAR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered							
QC51	**18-FEB-2010**	**---**	---	----	**03-MAR-2010**	17-AUG-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered							
QC51	**18-FEB-2010**	**---**	---	----	**04-MAR-2010**	18-MAR-2010	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - HCl							
QC51, QC52	**18-FEB-2010**	**---**	---	----	**01-MAR-2010**	04-MAR-2010	✓
EP074B: Oxygenated Compounds							
Amber VOC Vial - HCl							
QC51, QC52	**18-FEB-2010**	**---**	---	----	**01-MAR-2010**	04-MAR-2010	✓
EP074C: Sulfonated Compounds							
Amber VOC Vial - HCl							
QC51, QC52	**18-FEB-2010**	**---**	---	----	**01-MAR-2010**	04-MAR-2010	✓
EP074D: Fumigants							
Amber VOC Vial - HCl							
QC51, QC52	**18-FEB-2010**	**---**	---	----	**01-MAR-2010**	04-MAR-2010	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - HCl							
QC51, QC52	**18-FEB-2010**	**---**	---	----	**01-MAR-2010**	04-MAR-2010	✓
EP074F: Halogenated Aromatic Compounds							
Amber VOC Vial - HCl							
QC51, QC52	**18-FEB-2010**	**---**	---	----	**01-MAR-2010**	04-MAR-2010	✓
EP074G: Trihalomethanes							
Amber VOC Vial - HCl							
QC51, QC52	**18-FEB-2010**	**---**	---	----	**01-MAR-2010**	04-MAR-2010	✓
EP074H: Naphthalene							
Amber VOC Vial - HCl							
QC51, QC52	**18-FEB-2010**	**---**	---	----	**01-MAR-2010**	04-MAR-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved							
QC51	**18-FEB-2010**	**25-FEB-2010**	25-FEB-2010	✓	**26-FEB-2010**	06-APR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Free Cyanide By Discrete Analyser	EK025G	2	18	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	6	57	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	2	**50.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	3	26	**11.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	5	**20.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	2	13	**15.4**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	3	26	**11.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	3	26	**11.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	19	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	7	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	2	19	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Free Cyanide By Discrete Analyser	EK025G	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	2	**50.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	26	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	26	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Free Cyanide By Discrete Analyser	EK025G	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	2	**50.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	26	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	2	26	7.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	19	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	19	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Free Cyanide By Discrete Analyser	EK025G	1	18	5.6	5.0	✓	ALS QCS3 requirement
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	20	5.0	5.0	✓	ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.0	5.0	✓	ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	5	20.0	5.0	✓	ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	13	7.7	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	26	7.7	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	26	7.7	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	19	5.3	5.0	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	7	14.3	5.0	✓	ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	19	5.3	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	2	6	33.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	2	12	16.7	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	2	18	11.1	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	6	16.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	12	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	5	20.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	18	5.6	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	6	16.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	12	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	**10.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	6	**16.7**	**5.0**	✓	ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	12	**8.3**	**5.0**	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	18	**5.6**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH (1:5)	EA002	SOIL	(APHA 21st ed., 4500H+) pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM (1999) Schedule B(3) (Method 103)
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)
Leachable Metals by ICPAES	EG005C	SOIL	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Leachable Mercury by FIMS	EG035C	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	USEPA SW846, Method 3060A. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Free Cyanide By Discrete Analyser	EK025G	SOIL	APHA 21st 4500 CN- C & N. Caustic leach extracts of the sample are distilled at natural pH. The distillates are analyzed for CN by Discrete Analyser.
Total Cyanide By Discrete Analyser	EK026G	SOIL	APHA 21st 4500 CN - C & N. Caustic leach extracts of the sample are distilled with sulphuric acid, converting all CN species to HCN. The distillates are analyzed for CN by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Method 403)
WAD Cyanide By Discrete Analyser	EK028G	SOIL	APHA 21st 4500 CN - I & N. Sample are distilled with a weak organic acid, converting selected CN species to HCN. The distillates are analyzed for CN by Discrete Analyser.
Organic Matter	EP004	SOIL	AS1289.4.1.1 - 1997., Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (1999) Schedule B(3) (Method 105)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)

Analytical Methods	Method	Matrix	Method Descriptions
Volatile Organic Compounds	EP074	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Semivolatile Organic Compounds	EP075	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 502)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Volatile Organic Compounds	EP074	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	USEPA SW846, Method 3060A.
Free Cyanide Preparation Method	EK025 PR	SOIL	APHA 21st ed., 4500 CN C & N. Cyanides in the soil are directly distilled from the soil at natural pH using a steam distillation aparatus.
NaOH leach for TCN in Soils	EK026PR	SOIL	APHA 21st ed., 4500 CN- C & N. Samples are extracted by end-over-end tumbling with NaOH.
WAD Cyanide	EK028PR	SOIL	APHA 21st ed., 4500 CN- C & N. Cyanide is selectively distilled from the sample by the action of weak acetic acid. Only poorly bound metal complexed cyanides are released.
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes	EN33a	SOIL	(USEPA SW846-1311, ALS QWI-EN/33) The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1462251-007	----	**Anthracene**	120-12-7	112 %	81.1-112%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1462251-007	----	**Chrysene**	218-01-9	117 %	79.8-114%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1462251-007	----	**Indeno(1.2.3.cd)pyrene**	193-39-5	68.4 %	71-113%	**Recovery less than lower control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1462251-007	----	**Dibenz(a.h)anthracene**	53-70-3	71.4 %	71.7-113%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							
EG048: Hexavalent Chromium (Alkaline Digest)	ES1003022-003	Anonymous	**Hexavalent Chromium**	18540-29-9	25.0 %	70-130%	**Recovery less than lower data quality objective**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	1465399-009	----	**Vanadium**	7440-62-2	90.9 %	91-109%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	ES1003438-002	Anonymous	**Manganese**	7439-96-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG020F: Dissolved Metals by ICP-MS	ES1003438-002	Anonymous	**Zinc**	7440-66-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP074S: VOC Surrogates	ES1003390-012	QC52	**Toluene-D8**	2037-26-5	112 %	88-110 %	**Recovery greater than upper data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA002 : pH (Soils)						
Soil Glass Jar - Unpreserved						
BH40_16.5-16.7	02-MAR-2010	25-FEB-2010	**5**	----	----	----
EA055: Moisture Content						
Soil Glass Jar - Unpreserved						
BH59_0.15-0.16, BH52_0.15-0.16, BH58_0.15-0.16	----	----	----	25-FEB-2010	24-FEB-2010	**1**
Soil Glass Jar - Unpreserved						
BH40_16.5-16.7	----	----	----	26-FEB-2010	25-FEB-2010	**1**
EK025G: Free cyanide by Discrete Analyser						
Soil Glass Jar - Unpreserved						
BH40_16.5-16.7, BH40_17.8-18.0	03-MAR-2010	25-FEB-2010	**6**	----	----	----
EK026G: Total Cyanide By Discrete Analyser						
Soil Glass Jar - Unpreserved						
BH40_17.8-18.0	26-FEB-2010	25-FEB-2010	**1**	----	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser						
Soil Glass Jar - Unpreserved						
BH40_16.5-16.7	04-MAR-2010	25-FEB-2010	**7**	04-MAR-2010	25-FEB-2010	**7**
EP004: Organic Matter						
Soil Glass Jar - Unpreserved						
BH40_16.5-16.7, BH40_17.8-18.0	----	----	----	09-MAR-2010	25-FEB-2010	**12**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

Form: Remediation Area

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: +61-2-8484 8999
Fax: 61-2-8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Subcon / Forward Lab / Split WO
Lab / Analysis: ALS Brisbane / EQS
Organised By / Date:
Relinquished By / Date:
Consignee / Courier:
WO No. ES1002390
Attach By PO / Internal Sheet:

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo **Project Number:** S4150014
Purchase Order Number: 1303951
Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: tel:			

Environmental Division
Sydney
Work Order
ES1003390

Telephone : +61-2-8784 8555

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals (inc) + Cr VI + Fe	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	VOC	TOC	Metals M-13	Remarks & comments
1	BH40_1.0-1.2	18.2.10	→	X					X		1jar	X													X	
(15)	BH40_2.5-2.7	18-2-10	→	X					X		1jar															
(16)	BH40_5.0-5.2	18.2.10	→	X					X		1jar															
2	BH40_7.0-7.2	18.2.10	→	X					X		1jar	X		X	X	X									X	
3	BH40_8.5-8.7	18.2.10	→	X					X		1jar	X														
(17)	BH40_10.0-10.2	18-2-10	→	X					X		1jar															
(18)	BH40_11.5-11.7	18.2.10	→	X					X		1jar															
(19)	BH40_13.0-13.2	18.2.10	→	X					X		1jar														X	
(20)	BH40_15.2-15.5	18.2.10	→	X					X		1jar															
4	BH40_16.5-16.7	18.2.10	→	X					X		1jar	X	X				X		X	X			X	X		

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Anthony Davis Date: 23/2/10	Name: Frank Date: 24-2-10	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: ALS Time: 9:30		Yes/No/NA	Transport Co:	
Relinquished By:	**Received by:**	**Received in good condition?**	**Yes/No/NA**	**Method of Shipment**	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	**Samples received chilled?**	**Yes/No/NA**	**Consignment Note No.**	
of: Time:	of: Time:		**Yes/No/NA**	**Transport Co:**	

Form: Remediation Area

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951

Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: tel:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals (NB) + CrVI + Fe	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	Cyanide (Total)	ASLP	TCLP	Voc	TOC	Metals	Remarks & comments
5	BH40_17-8-18-0	18-2-10	→	X					X		1 Jar	X	X				X		X	X	X	X	X	X	X	
6	BH40_19-0-19-1	18-2-10	→	X					X		1 Jar	X	X	X	X	X										
(21)	BH45_0-0.8-0.1	17-2-10	→	X					X		↑															
7	BH59_0-15-0.16	17-2-10	→	X					X				X													
(22)	BH57_0-15-0.16	17-2-10	→	X					X																	
8	BH54_0.6-0.7	18-2-10	→	X					X				X													
(23)	BH49_0.15-0.16	17-2-10	→	X					X																	
9	BH52_0-15-0.16	17-2-10	→	X					X				X													
10	BH58_0-15-0.16	17-2-10	→	X					X		↓		X													
(24)	QC5	18-2-10	→	X					X		1 TAR															

Relinquished By:
Name: Anthony Davis Date: 23/2/10
of: Time:

Received by:
Name: Frank Date: 24-2-10
of: ALS Time: 9:30

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Form:

Batch 3

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-526-09 V2

Project Name: Barangaroo
Project Number: S4126501
Purchase Order Number: 1303522
Sample collected by: Sam Patel
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: Anthony Davis tel:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	Analysis Request: pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	ASLP	TCLP	VOC	Metals (4 metals)	TPH C10-C36	BTEX	Remarks & comments
11	QC 51	18.2.10			X						1x125ml P										X	X	X		
12	QC 52	↓			X						2 V										X	X	X		
(25)	QC 53			X							1x250ml Soil Jar														
13	QC 54			X					↓		↓	X	X	X	X	X									
14	TB03			X																				X	

Relinquished By:
Name: Anthony Davis Date: 23/2/10
of: Time:

Received by:
Name: Frank Date: 24-2-10
of: ALS Time: 9:30

Received in good condition? Yes/No/NA
Samples received chilled? Yes/No/NA
Yes/No/NA
Method of Shipment ☐ Courier ☐ Postal ☐ By Hand
Consignment Note No.
Transport Co:

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition? Yes/No/NA
Samples received chilled? Yes/No/NA
Yes/No/NA
Method of Shipment ☐ Courier ☐ Postal ☐ By Hand
Consignment Note No.
Transport Co:

Frank Ferraro

From: Davis, Anthony [Anthony.Davis@aecom.com]
Sent: Wednesday, 24 February 2010 9:31 AM
To: Jennifer Cullen; Samples Sydney
Subject: RE: Barangaroo

Jenny,

Here is another COC for samples picked up from Site by ALS.

Please note I mentioned in my earlier email that TB2 will be delivered today – this is incorrect. The samples are TB3 and TB4 which will be delivered today.

Thanks

Anthony Davis
Senior Environmental Scientist
D +61 2 8484 8952
Anthony.Davis@aecom.com

AECOM
Level 5, 828 Pacific Highway, Gordon, NSW 2072
PO Box 726 Pymble NSW 2073
T +61 2 8484 8999 F +61 2 8484 8989
www.aecom.com

Please consider the environment before printing this email.

.-. -.. -
From: Jennifer Cullen [mailto:jennifer.cullen@alsenviro.com]
Sent: Wednesday, 24 February 2010 8:51 AM
To: Samples Sydney
Cc: Davis, Anthony
Subject: FW: Barangaroo

Hi Frank,

This is another COC for samples from AECOM. Sample TB2 will be delivered today.

Could you please log these ASAP?

Thanks

Kind Regards

Jennifer Cullen
Client Services Co-ordinator
ALS Laboratory Group
Environmental Division
Sydney, Australia
Phone: + 61 2 8784 8555
Direct: + 61 2 8784 8509
Fax: + 61 2 8784 8500
www.alsglobal.com

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : **ES1003390**

Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	Page	: 1 of 4
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: KP	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 24-FEB-2010	Issue Date	: 25-FEB-2010 16:26
Client Requested Due Date	: 03-MAR-2010	Scheduled Reporting Date	: **03-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 5.2'C - Ice present
No. of coolers/boxes	: 2 HARD	No. of samples received	: 25
Sercurity Seal	: Not intact.	No. of samples analysed	: 15

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **This batch is split into ES1003431 for DI Water Leach.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	(On Hold) SOIL No analysis requested	SOIL - EP005 (solids) Total Organic Carbon (TOC) soils	SOIL - EA002 pH (1:5)	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EG035C Leachable Mercury by FIMS	SOIL - EG048G Total Hexavalent Chromium (Alkaline digestion) by Discrete Analyser	SOIL - EK025G (Solids) Free CN By Discrete Analyser
ES1003390-001	18-FEB-2010 15:00	BH40_1.0-1.2			✓					
ES1003390-002	18-FEB-2010 15:00	BH40_7.0-7.2			✓					
ES1003390-003	18-FEB-2010 15:00	BH40_8.5-8.7			✓					
ES1003390-004	18-FEB-2010 15:00	BH40_16.5-16.7		✓	✓		✓		✓	✓
ES1003390-005	18-FEB-2010 15:00	BH40_17.8-18.0		✓	✓	✓	✓	✓	✓	✓
ES1003390-006	18-FEB-2010 15:00	BH40_19.0-19.4			✓		✓		✓	
ES1003390-007	17-FEB-2010 15:00	BH59_0.15-0.16					✓		✓	
ES1003390-008	18-FEB-2010 15:00	BH54_0.6-0.7					✓		✓	
ES1003390-009	17-FEB-2010 15:00	BH52_0.15-0.16					✓		✓	
ES1003390-010	17-FEB-2010 15:00	BH58_0.15-0.16					✓		✓	
ES1003390-013	18-FEB-2010 15:00	QC54			✓					
ES1003390-015	18-FEB-2010 15:00	BH40_2.5-2.7	✓							
ES1003390-016	18-FEB-2010 15:00	BH40_5.0-5.2	✓							
ES1003390-017	18-FEB-2010 15:00	BH40_10.0-10.2	✓							
ES1003390-018	18-FEB-2010 15:00	BH40_11.5-11.7	✓							
ES1003390-020	18-FEB-2010 15:00	BH40_15.2-15.5	✓							
ES1003390-021	17-FEB-2010 15:00	BH45_0.08-0.1	✓							
ES1003390-022	17-FEB-2010 15:00	BH57_0.15-0.16	✓							
ES1003390-023	17-FEB-2010 15:00	BH49_0.15-0.16	✓							
ES1003390-024	18-FEB-2010 15:00	QC55	✓							
ES1003390-025	18-FEB-2010 15:00	QC53	✓							

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EK026G (Solids) Total Cyanide By Discrete Analyser	SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP080 BTEX	SOIL - S-03 13 Metals (NEPM Suite - incl. Digestion)	SOIL - S-04 TPH/BTEX	SOIL - S-14A PAH/Phenols (16 PAH - SIM)	SOIL - S-23 SVOC/VOC
ES1003390-001	18-FEB-2010 15:00	BH40_1.0-1.2					✓			
ES1003390-002	18-FEB-2010 15:00	BH40_7.0-7.2					✓	✓	✓	
ES1003390-004	18-FEB-2010 15:00	BH40_16.5-16.7		✓			✓			✓
ES1003390-005	18-FEB-2010 15:00	BH40_17.8-18.0	✓		✓		✓			✓
ES1003390-006	18-FEB-2010 15:00	BH40_19.0-19.4					✓	✓	✓	
ES1003390-007	17-FEB-2010 15:00	BH59_0.15-0.16					✓			
ES1003390-008	18-FEB-2010 15:00	BH54_0.6-0.7					✓			
ES1003390-009	17-FEB-2010 15:00	BH52_0.15-0.16					✓			
ES1003390-010	17-FEB-2010 15:00	BH58_0.15-0.16					✓			
ES1003390-013	18-FEB-2010 15:00	QC54					✓	✓	✓	
ES1003390-014	18-FEB-2010 15:00	TB03				✓				
ES1003390-019	18-FEB-2010 15:00	BH40_13.0-13.2					✓			

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - TCLP TCLP Leach
ES1003390-005	18-FEB-2010 15:00	BH40_17.8-18.0	✓

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EP071(SV-TPH-WD) Total Petroleum Hydrocarbons (TPH)	WATER - EP074 (water) Volatile Organic Compounds	WATER - W-03 13 Metals (NEPM Suite)
ES1003390-011	18-FEB-2010 15:00	QC51	✓	✓	✓
ES1003390-012	18-FEB-2010 15:00	QC52		✓	

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

CERTIFICATE OF ANALYSIS

Work Order	: **ES1003431**	Page	: 1 of 6
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 24-FEB-2010
Sampler	: KP	Issue Date	: 03-MAR-2010
Site	: ----		
		No. of samples received	: 1
Quote number	: SY/259/09 V2	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **LCS recovery for Vanadium falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**

Analytical Results

Sub-Matrix: DI WATER LEACHATE				Client sample ID	BH40_17.8-18.0	----	----	----	----
				Client sampling date / time	02-MAR-2010 12:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1003431-001	----	----	----	----
EG020W: Water Leachable Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Beryllium	7440-41-7	0.001	mg/L		<0.001	----	----	----	----
Barium	7440-39-3	0.001	mg/L		**0.156**	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Cobalt	7440-48-4	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		**0.002**	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Vanadium	7440-62-2	0.01	mg/L		<0.01	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.040**	----	----	----	----
EG035W: Water Leachable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		**2540**	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		**142**	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		**28.4**	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		**146**	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		**134**	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		**25.6**	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		**14.1**	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		**10.4**	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**26.9**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**73.2**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**76.4**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**78.7**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**80.7**	----	----	----	----

Analytical Results

Sub-Matrix: DI WATER LEACHATE			Client sample ID	BH40_17.8-18.0	----	----	----	----
			Client sampling date / time	02-MAR-2010 12:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1003431-001	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	**86.9**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL**			Client sample ID	BH40_17.8-18.0	----	----	----	----
			Client sampling date / time	18-FEB-2010 15:00	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES1003431-001**	**----**	**----**	**----**	**----**
EN60: Bottle Leaching Procedure								
Final pH	----	0.1	pH Unit	**8.0**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **DI WATER LEACHATE**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

QUALITY CONTROL REPORT

Work Order	: **ES1003431**	Page	: 1 of 6
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 24-FEB-2010
Sampler	: KP	Issue Date	: 03-MAR-2010
Order number	: 1303951		
		No. of samples received	: 1
Quote number	: SY/259/09 V2	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020W: Water Leachable Metals by ICP-MS (QC Lot: 1265300)									
ES1003431-001	BH40_17.8-18.0	EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-W: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Barium	7440-39-3	0.001	mg/L	0.156	0.157	1.0	0% - 20%
		EG020A-W: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Manganese	7439-96-5	0.001	mg/L	0.002	0.003	0.0	No Limit
		EG020A-W: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Zinc	7440-66-6	0.005	mg/L	0.040	0.042	4.5	No Limit
		EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EG035W: Water Leachable Mercury by FIMS (QC Lot: 1266278)									
ES1003416-001	Anonymous	EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1265300)								
EG020A-W: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	94.6	87	111
EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	89.8	75	125
EG020A-W: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	96.0	86	114
EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	92.5	90	106
EG020A-W: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	100	94	114
EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	99.1	89	117
EG020A-W: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	98.2	90	112
EG020A-W: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	102	88	120
EG020A-W: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	102	90	120
EG020A-W: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	98.0	86	116
EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 87.3	92	112
EG020A-W: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	95.8	82	116
EG035W: Water Leachable Mercury by FIMS (QCLot: 1266278)								
EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	112	82	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1265410)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	80.6	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	84.8	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	81.3	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	82.7	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	82.6	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	85.4	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	83.8	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	83.8	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	72.0	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	68.6	62.5	116
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1265410) - continued								
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	64.9	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	70.7	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	108	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	83.2	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	81.3	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	77.9	59.1	118
		1	µg/L	<1.0	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1265300)							
ES1003431-001	BH40_17.8-18.0	EG020A-W: Arsenic	7440-38-2	0.1 mg/L	93.1	70	130
		EG020A-W: Beryllium	7440-41-7	0.1 mg/L	87.6	70	130
		EG020A-W: Barium	7440-39-3	0.1 mg/L	95.8	70	130
		EG020A-W: Cadmium	7440-43-9	0.0250 mg/L	90.0	70	130
		EG020A-W: Chromium	7440-47-3	0.1 mg/L	97.5	70	130
		EG020A-W: Cobalt	7440-48-4	0.1 mg/L	98.0	70	130
		EG020A-W: Copper	7440-50-8	0.1 mg/L	104	70	130
		EG020A-W: Lead	7439-92-1	0.1 mg/L	98.9	70	130
		EG020A-W: Manganese	7439-96-5	0.1 mg/L	98.9	70	130
		EG020A-W: Nickel	7440-02-0	0.1 mg/L	93.9	70	130
		EG020A-W: Vanadium	7440-62-2	0.1 mg/L	95.6	70	130
		EG020A-W: Zinc	7440-66-6	0.1 mg/L	103	70	130
EG035W: Water Leachable Mercury by FIMS (QCLot: 1266278)							
ES1003416-002	Anonymous	EG035W: Mercury	7439-97-6	0.0100 mg/L	110	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1003431**	Page	: 1 of 5
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 24-FEB-2010
Sampler	: KP	Issue Date	: 03-MAR-2010
Order number	: 1303951		
		No. of samples received	: 1
Quote number	: SY/259/09 V2	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non-volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020W: Water Leachable Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH40_17.8-18.0	**02-MAR-2010**	**02-MAR-2010**	29-AUG-2010	✓	**02-MAR-2010**	29-AUG-2010	✓
EG035W: Water Leachable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH40_17.8-18.0	**02-MAR-2010**	**----**	----	----	**03-MAR-2010**	30-MAR-2010	✓
EN60: Bottle Leaching Procedure							
LabSplit: Leach for organics and other tests							
BH40_17.8-18.0	**18-FEB-2010**	**---**	---	----	**02-MAR-2010**	04-MAR-2010	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
BH40_17.8-18.0	**02-MAR-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	11-APR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Water Leachable Mercury by FIMS	EG035W	1	5	**20.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	2	**50.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Mercury by FIMS	EG035W	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	2	**50.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Mercury by FIMS	EG035W	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	2	**50.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Water Leachable Mercury by FIMS	EG035W	1	5	**20.0**	**5.0**	✓	ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	2	**50.0**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	SOIL	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Water Leachable Mercury by FIMS	EG035W	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in DI Water Leachate	EN25W	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Deionised Water Leach	EN60-Dla	SOIL	AS4439.3 Preparation of Leachates
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020W: Water Leachable Metals by ICP-MS	1465022-002	----	**Vanadium**	7440-62-2	87.3 %	92-112%	**Recovery less than lower control limit**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : **ES1003431**

Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S4150014 BARANGAROO	Page	: 1 of 2
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: KP	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 24-FEB-2010	Issue Date	: 25-FEB-2010 16:40
Client Requested Due Date	: 03-MAR-2010	Scheduled Reporting Date	: **03-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 5.2'C - Ice present
No. of coolers/boxes	: 2 HARD	No. of samples received	: 1
Sercurity Seal	: Not intact.	No. of samples analysed	: 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **This batch is for DI Water Leach split from ES1003390.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EG020W Water Leachable Metals by ICPMS	SOIL - EG035W Water Leachable Mercury by FIMS	SOIL - EP075 SIM PAH only SIM - PAH only
ES1003431-001	24-FEB-2010 15:00	BH40_17.8-18.0	✓	✓	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

Form: Remediation Area. DI WATER ONLY

AECOM

Chain of Custody & Analysis Request Form

ES1003590

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Subcon / Forward Lab / Split WO:
Lab / Analysis: ALS Brisbane / FOS
Organised By / Date:
Relinquished By / Date:
Consignote / Courier:
WO No. ES1002823 0

Tel: 61-2 8484 8999
Fax: 61-2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Baranga **Project Number:** S4150014

Purchase Order Number: 1303951

Sample collected by:

Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:
Attach By PO / Internal Sheet:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: tel:			

Analysis Request

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	pH	Metals (m3) + CrVI + Fe	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	VOC	TAC	Metals M-13
	BH40_1-0-1-2	18-2-10	→	X					X		1jar	X													X
	BH40_2.5-2-7	18-2-10	→	X					X		1jar														
	BH40_5-0-5-2	18-2-10	→	X					X		1jar														
	BH40_7-0-7-2	18-2-10	→	X					X		1jar	X		X	X	X									X
	BH40_8-5-8-7	18-2-10	→	X					X		1jar	X													
	BH40_10-0-10-2	18-2-10	→	X					X		1jar														
	BH40_11-5-11-7	18-2-10	→	X					X		1jar														
	BH40_13-0-13-2	18-2-10	→	X					X		1jar														X
	BH40_15-2-15-5	18-2-10	→	X					X		1jar														
	BH40_16-5-16-7	18-2-10	→	X					X		1jar	X	X				X		X	X			X	X	

Remarks & comments

Environmental Division
Sydney
Work Order
ES1003431

Telephone : +61-2-8784 8555

Relinquished By:	**Received by:**		
Name: Anthony Davis Date: 23/2/10	Name: Frank Date: 24-2-10	Received in good condition?	Yes/No/NA Method of Shipment ☐ Courier ☐ Postal ☐ By Hand
of: Time:	of: ALS Time: 9:30	Samples received chilled?	Yes/No/NA Consignment Note No.
			Yes/No/NA Transport Co:
Relinquished By:	**Received by:**	Received in good condition?	Yes/No/NA Method of Shipment ☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	Samples received chilled?	Yes/No/NA Consignment Note No.
of: Time:	of: Time:		Yes/No/NA Transport Co:

Printed copies of this document are uncontrolled

Revision: Oct 09
BMS-PM-DV-F046

Environment

Form: Remediation Area

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: tel:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	ice	other	Container (No. & type)	pH	Metals (NB) + CrVI + Fe	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	Cyanide (Total)	ASLP-13 metals & PAH (DI)	TCLP-13 metals & PAH	Vcc	Tcc	Metals		Remarks & comments
1	BH40_17-8-18-0	18-2-10	→	X					X		1 Jar	X	X				X		X	X	X	X	X	X	X		
	BH40_19-0-19-4	18-2-10	→	X					X		1 Jar	X	X	X	X	X												
	BH45_0-08-0-1	17-2-10	→	X					X		↑																	
	BH59_0-15-0-16	17-2-10	→	X					X				X															
	BH57_0-15-0-16	17-2-10	→	X					X																			
	BH54_0-6-0-7	18-2-10	→	X					X				X															
	BH49_0-15-0-16	17-2-10	→	X					X																			
	BH57_0-15-0-16	17-2-10	→	X					X				X															
	BH58_0-15-0-16	17-2-10	→	X					X		↓		X															
	QC5	18-2-10	→	X					X		1 TAR																	

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Anthony Davis Date: 23/2/10	Name: Frank 24-2-10 Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: ALS 9:30 Time:		Yes/No/NA	Transport Co:	
Relinquished By:	**Received by:**	**Received in good condition?**	Yes/No/NA	**Method of Shipment**	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	**Samples received chilled?**	Yes/No/NA	**Consignment Note No.**	
of: Time:	of: Time:		Yes/No/NA	**Transport Co:**	

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Environment

Clarification on ASLP & TCLP given by Anthony Davis on 24/2/2010 18:30

Form:

Batch 3

Page 4 of 4

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-526-09 V2

Project Name: Barangaroo
Project Number: S4128501
Purchase Order Number: 1303522

Sample collected by: Sam Patel
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: Anthony Davis tel:			

Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	ASLP	TCLP	VOC	Metals (4 fractions)	TPH C6 - C36	BTEX	Remarks & comments
QC 51	18.2.16			X						1B+2V+1P									X	X	X	X		
QC 52	↓			X						2V									X	X	X	X		
QC 53			X							1x250ml Soil Jar														
QC 54			X					↓		↓	X	X	X	X	X									
TB03	↓		X																				X	

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Anthony Davis Date: 23/2/16	Name: Frank Date: 24-2-16	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: ALS Time: 9:30		Yes/No/NA	Transport Co:	
Relinquished By:	**Received by:**	**Received in good condition?**	**Yes/No/NA**	**Method of Shipment**	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	**Samples received chilled?**	**Yes/No/NA**	**Consignment Note No.**	
of: Time:	of: Time:		**Yes/No/NA**	**Transport Co:**	

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Environment

Frank Ferraro

From: Davis, Anthony [Anthony.Davis@aecom.com]
Sent: Wednesday, 24 February 2010 9:31 AM
To: Jennifer Cullen; Samples Sydney
Subject: RE: Barangaroo

Jenny,

Here is another COC for samples picked up from Site by ALS.

Please note I mentioned in my earlier email that TB2 will be delivered today – this is incorrect. The samples are TB3 and TB4 which will be delivered today.

Thanks

Anthony Davis
Senior Environmental Scientist
D +61 2 8484 8952
Anthony.Davis@aecom.com

AECOM
Level 5, 828 Pacific Highway, Gordon, NSW 2072
PO Box 726 Pymble NSW 2073
T +61 2 8484 8999 F +61 2 8484 8989
www.aecom.com

Please consider the environment before printing this email.

.-. -.. -
From: Jennifer Cullen [mailto:jennifer.cullen@alsenviro.com]
Sent: Wednesday, 24 February 2010 8:51 AM
To: Samples Sydney
Cc: Davis, Anthony
Subject: FW: Barangaroo

Hi Frank,

This is another COC for samples from AECOM. Sample TB2 will be delivered today.

Could you please log these ASAP?

Thanks

Kind Regards

Jennifer Cullen
Client Services Co-ordinator
ALS Laboratory Group
Environmental Division
Sydney, Australia
Phone: + 61 2 8784 8555
Direct: + 61 2 8784 8509
Fax: + 61 2 8784 8500
www.alsglobal.com

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1003671**	Page	: 1 of 46
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2010
Sampler	: SP/LK	Issue Date	: 09-MAR-2010
Site	: ----		
		No. of samples received	: 71
Quote number	: SY/259/09 V2	No. of samples analysed	: 38

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
KEN HALL	Analyst	Newcastle
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Sarah Millington	Senior Inorganic Chemist	Inorganics
Victor Kedicioglu	Business Manager - NSW	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Asbestos Identification: Samples were analysed by Polarised Light Microscopy including dispersion staining. Legend for Asbestos Type: 'Am' Amosite (brown asbestos) detected, 'Ch' Chrysotile (white asbestos) detected, 'Cr' Crocidolite (blue asbestos) detected, 'UMF' Unknown mineral fibres detected - No asbestos fibres detected, 't' Trace levels detected. Confirmation by alternative techniques is recommended for samples where unknown mineral fibres are detected.**
- **EG005T: Poor precision was obtained for Barium and Manganese on sample ES1003754#3 due to sample heterogeneity.**
- **EG005T: Poor precision was obtained for Iron and Manganese on sample ES1003671# 009 due to sample heterogeneity. Confirmed by redigestion and reanalysis.**
- **EG020A-F: Positive results for samples ES1003671 #017 and # 071 have been confirmed by reanalysis**
- **EG048G: spike failed for hexavalent chromium by alkaline digest due to matrix interference.**
- **EP071: The result for sample QC78 was confirmed by re-extraction and re-analysis.**
- **EP071:Sample QC80 not received in a suitable timeframe to conduct TPH analysis within the recommended holding time.**
- **EP074/EP080: Results for samples QC78 and BH48-14.5-14.7 has been confirmed by re-analysis.**
- **EP074: Napthalene results for various samples has been reported from EP075.**
- **EP075(SIM), EP075: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.**
- **EP075, EP075(SIM), EP074, EP080: Poor duplicate precision due to sample heterogeneity. Confirmed by re-analysis, insufficient sample provided for re-extraction.**
- **EP075, EP075(SIM), EP074, EP080: Poor matrix spike recovery due to sample heterogeneity. Confirmed by re-analysis, insufficient sample provided for re-extraction.**
- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**
- **EP080: Level of reporting raised for toluene due to ambient background levels in the laboratory.**
- **LCS recovery for Vanadium falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH46-1.0-1.2	BH46-4.0-4.2	BH46-7.0-7.2	BH46-14.5-14.7	BH65-0.15-0.25
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-001	ES1003671-002	ES1003671-003	ES1003671-004	ES1003671-005
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	----	----	**6.0**	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**9.5**	**18.1**	**13.3**	**16.8**	**8.8**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	**270**	**50**	**50**	<10	**80**
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**20**	**8**	**7**	**8**	**19**
Cobalt	7440-48-4	2	mg/kg	**5**	**5**	**3**	<2	**32**
Copper	7440-50-8	5	mg/kg	**7**	**8**	**6**	<5	**76**
Iron	7439-89-6	50	mg/kg	----	----	----	**5210**	----
Lead	7439-92-1	5	mg/kg	**11**	**6**	**12**	**6**	<5
Manganese	7439-96-5	5	mg/kg	**285**	**130**	**154**	<5	**636**
Nickel	7440-02-0	2	mg/kg	**6**	**6**	**4**	<2	**118**
Vanadium	7440-62-2	5	mg/kg	**13**	**11**	**12**	**13**	**32**
Zinc	7440-66-6	5	mg/kg	**29**	**24**	**27**	<5	**41**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	<0.5	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	----	----	<1	<1	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	<1	<1	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	----	**3.2**	----
^ Total Organic Carbon	----	0.5	%	----	----	----	**1.8**	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	<1.0	<1.0	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH46-1.0-1.2	BH46-4.0-4.2	BH46-7.0-7.2	BH46-14.5-14.7	BH65-0.15-0.25
				Client sampling date / time	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1003671-001	ES1003671-002	ES1003671-003	ES1003671-004	ES1003671-005
EP075(SIM)A: Phenolic Compounds - Continued									
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
Pentachlorophenol	87-86-5	2.0	mg/kg		<2.0	----	<2.0	<2.0	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	<0.5	**114**	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	<0.5	**26.8**	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	<0.5	**4.5**	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	<0.5	**25.9**	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	<0.5	**55.9**	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	<0.5	**20.7**	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	<0.5	**38.3**	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	<0.5	**32.1**	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	<0.5	**17.1**	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	<0.5	**12.0**	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		<0.5	----	<0.5	**14.7**	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	<0.5	**4.4**	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	<0.5	**10.1**	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	<0.5	**3.7**	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	<0.5	**1.2**	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	<0.5	**4.5**	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	<50	**200**	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	<100	**560**	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	<100	**200**	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		----	----	----	**960**	----
C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	<50	----	----
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**81.9**	----	**83.8**	**110**	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**85.1**	----	**85.8**	**98.3**	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**69.7**	----	**65.7**	**82.1**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH46-1.0-1.2	BH46-4.0-4.2	BH46-7.0-7.2	BH46-14.5-14.7	BH65-0.15-0.25
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-001	ES1003671-002	ES1003671-003	ES1003671-004	ES1003671-005
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**90.7**	----	**92.2**	**92.8**	----
Anthracene-d10	1719-06-8	0.1	%	**91.4**	----	**91.1**	**89.4**	----
4-Terphenyl-d14	1718-51-0	0.1	%	**90.0**	----	**94.5**	**97.6**	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**109**	----	**104**	**100**	----
Toluene-D8	2037-26-5	0.1	%	**106**	----	**105**	**101**	----
4-Bromofluorobenzene	460-00-4	0.1	%	**104**	----	**101**	**103**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH47-1.0-1.2	BH47-4.0-4.2	BH47-8.5-8.7	BH47-10.0-10.2	BH47-13.0-13.2
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003671-006	ES1003671-007	ES1003671-008	ES1003671-009	ES1003671-010
AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	Yes	----
Asbestos Type	132207-33-1	0.1	g/kg	-	----	----	Am + UMF	----
Sample weight (dry)	----	0.01	g	49.9	----	----	72.7	----
APPROVED IDENTIFIER:	----	-	-	K.HALL	----	----	K.HALL	----
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	10.5	----	10.2	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	7.7	21.9	23.4	26.2	22.3
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	120	210	100	140	60
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	8	10	7	12	18
Cobalt	7440-48-4	2	mg/kg	3	2	<2	5	4
Copper	7440-50-8	5	mg/kg	19	17	26	24	29
Iron	7439-89-6	50	mg/kg	----	----	----	----	14500
Lead	7439-92-1	5	mg/kg	164	764	226	282	70
Manganese	7439-96-5	5	mg/kg	137	131	150	179	171
Nickel	7440-02-0	2	mg/kg	4	4	6	11	18
Vanadium	7440-62-2	5	mg/kg	21	15	14	22	20
Zinc	7440-66-6	5	mg/kg	177	1020	148	166	55
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	----	<0.5
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	----	<1	----	----	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	<1	----	----	<1
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	----	----	<0.5
^ Total Organic Carbon	----	0.5	%	----	----	----	----	<0.5
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg	----	----	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH47-1.0-1.2	BH47-4.0-4.2	BH47-8.5-8.7	BH47-10.0-10.2	BH47-13.0-13.2
				Client sampling date / time	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1003671-006	ES1003671-007	ES1003671-008	ES1003671-009	ES1003671-010
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	----	----	----	<0.5
Styrene	100-42-5	0.5	mg/kg		----	----	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		----	----	----	----	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg		----	----	----	----	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg		----	----	----	----	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		----	----	----	----	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg		----	----	----	----	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		----	----	----	----	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg		----	----	----	----	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg		----	----	----	----	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg		----	----	----	----	<0.5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		----	----	----	----	<5
2-Butanone (MEK)	78-93-3	5	mg/kg		----	----	----	----	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		----	----	----	----	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg		----	----	----	----	<5
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		----	----	----	----	<0.5
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		----	----	----	----	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg		----	----	----	----	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		----	----	----	----	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		----	----	----	----	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		----	----	----	----	<0.5
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		----	----	----	----	<5
Chloromethane	74-87-3	5	mg/kg		----	----	----	----	<5
Vinyl chloride	75-01-4	5	mg/kg		----	----	----	----	<5
Bromomethane	74-83-9	5	mg/kg		----	----	----	----	<5
Chloroethane	75-00-3	5	mg/kg		----	----	----	----	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		----	----	----	----	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg		----	----	----	----	<0.5
Iodomethane	74-88-4	0.5	mg/kg		----	----	----	----	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		----	----	----	----	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg		----	----	----	----	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		----	----	----	----	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		----	----	----	----	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		----	----	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH47-1.0-1.2	BH47-4.0-4.2	BH47-8.5-8.7	BH47-10.0-10.2	BH47-13.0-13.2
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003671-006	ES1003671-007	ES1003671-008	ES1003671-009	ES1003671-010
EP074E: Halogenated Aliphatic Compounds - Continued								
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	----	----	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	----	----	<0.5
Trichloroethene	79-01-6	0.5	mg/kg	----	----	----	----	<0.5
Dibromomethane	74-95-3	0.5	mg/kg	----	----	----	----	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	----	----	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	----	----	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	----	----	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	----	----	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	----	----	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	----	----	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	----	----	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	----	----	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	----	----	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	----	----	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	----	<0.5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	----	----	<0.5
Bromobenzene	108-86-1	0.5	mg/kg	----	----	----	----	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	----	----	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	----	----	<0.5
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	----	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	----	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	----	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	----	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	----	----	<0.5
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	----	----	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	----	----	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	----	----	<0.5
Bromoform	75-25-2	0.5	mg/kg	----	----	----	----	<0.5
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	<1.0	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH47-1.0-1.2	BH47-4.0-4.2	BH47-8.5-8.7	BH47-10.0-10.2	BH47-13.0-13.2
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003671-006	ES1003671-007	ES1003671-008	ES1003671-009	ES1003671-010
EP075(SIM)A: Phenolic Compounds - Continued								
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	<0.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	<0.5	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	**1.1**	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	**2.8**	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	**0.8**	----	----
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	**1.6**	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	**1.8**	**20.6**	----	----
Anthracene	120-12-7	0.5	mg/kg	----	**0.6**	**6.2**	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	**3.3**	**28.0**	----	----
Pyrene	129-00-0	0.5	mg/kg	----	**3.3**	**27.8**	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	**2.0**	**12.0**	----	----
Chrysene	218-01-9	0.5	mg/kg	----	**1.6**	**10.0**	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	**2.5**	**11.4**	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	**1.0**	**5.2**	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**2.0**	**8.3**	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	**1.0**	**3.9**	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	**1.4**	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	**1.4**	**4.9**	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	----	----	<0.5
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	----	<0.5
Pentachlorophenol	87-86-5	1	mg/kg	----	----	----	----	<1
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	----	<0.5
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH47-1.0-1.2	BH47-4.0-4.2	BH47-8.5-8.7	BH47-10.0-10.2	BH47-13.0-13.2
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003671-006	ES1003671-007	ES1003671-008	ES1003671-009	ES1003671-010
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	----	**0.8**
Fluorene	86-73-7	0.5	mg/kg	----	----	----	----	**0.6**
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	----	**3.8**
Anthracene	120-12-7	0.5	mg/kg	----	----	----	----	**1.3**
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	----	**4.8**
Pyrene	129-00-0	0.5	mg/kg	----	----	----	----	**5.3**
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	----	**2.0**
Chrysene	218-01-9	0.5	mg/kg	----	----	----	----	**1.7**
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	----	----	----	**2**
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	----	**1.7**
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	----	<0.5
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	----	----	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	----	----	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	----	----	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	----	----	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	----	----	----	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	----	----	<0.5
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	----	----	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	----	----	<0.5
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	----	----	----	<1.0
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	----	----	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	----	----	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	----	----	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	----	----	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	----	----	----	<1.0
Methapyrilene	91-80-5	0.5	mg/kg	----	----	----	----	<0.5
EP075E: Nitroaromatics and Ketones								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH47-1.0-1.2	BH47-4.0-4.2	BH47-8.5-8.7	BH47-10.0-10.2	BH47-13.0-13.2
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003671-006	ES1003671-007	ES1003671-008	ES1003671-009	ES1003671-010
EP075E: Nitroaromatics and Ketones - Continued								
2-Picoline	109-06-8	0.5	mg/kg	----	----	----	----	<0.5
Acetophenone	98-86-2	0.5	mg/kg	----	----	----	----	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	----	----	<0.5
Isophorone	78-59-1	0.5	mg/kg	----	----	----	----	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	----	----	----	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	----	----	----	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	----	----	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	----	----	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	----	----	<0.5
Azobenzene	103-33-3	1	mg/kg	----	----	----	----	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	----	----	<0.5
Phenacetin	62-44-2	0.5	mg/kg	----	----	----	----	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	----	----	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	----	----	<0.5
Pronamide	23950-58-5	0.5	mg/kg	----	----	----	----	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	----	----	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	----	----	<0.5
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	----	----	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	----	----	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	----	----	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	----	----	<0.5
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	----	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	----	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	----	<0.5
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	----	----	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	----	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	----	----	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	----	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	----	----	----	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	----	----	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	----	----	----	<1.0
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	----	----	----	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	----	----	<0.5
2-Nitroaniline	88-74-4	1.0	mg/kg	----	----	----	----	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg	----	----	----	----	<1.0

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH47-1.0-1.2	BH47-4.0-4.2	BH47-8.5-8.7	BH47-10.0-10.2	BH47-13.0-13.2
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003671-006	ES1003671-007	ES1003671-008	ES1003671-009	ES1003671-010
EP075H: Anilines and Benzidines - Continued								
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	----	----	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	----	----	<0.5
Carbazole	86-74-8	0.5	mg/kg	----	----	----	----	<0.5
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	----	----	<0.5
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	----	----	----	<0.5
beta-BHC	319-85-7	0.5	mg/kg	----	----	----	----	<0.5
gamma-BHC	58-89-9	0.5	mg/kg	----	----	----	----	<0.5
delta-BHC	319-86-8	0.5	mg/kg	----	----	----	----	<0.5
Heptachlor	76-44-8	0.5	mg/kg	----	----	----	----	<0.5
Aldrin	309-00-2	0.5	mg/kg	----	----	----	----	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	----	----	----	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	----	----	----	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg	----	----	----	----	<0.5
Dieldrin	60-57-1	0.5	mg/kg	----	----	----	----	<0.5
Endrin	72-20-8	0.5	mg/kg	----	----	----	----	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	----	----	----	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg	----	----	----	----	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	----	----	----	<0.5
4.4`-DDT	50-29-3	1.0	mg/kg	----	----	----	----	<1.0
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	----	----	----	<0.5
Dimethoate	60-51-5	0.5	mg/kg	----	----	----	----	<0.5
Diazinon	333-41-5	0.5	mg/kg	----	----	----	----	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	----	----	----	<0.5
Malathion	121-75-5	0.5	mg/kg	----	----	----	----	<0.5
Fenthion	55-38-9	0.5	mg/kg	----	----	----	----	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	----	----	----	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	----	----	----	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	----	----	----	<0.5
Prothiofos	34643-46-4	0.5	mg/kg	----	----	----	----	<0.5
Ethion	563-12-2	0.5	mg/kg	----	----	----	----	<0.5
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	----	----	----	----	<0.5
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	----	----	----	----	<0.5
Methanesulfonate methyl	66-27-3	0.5	mg/kg	----	----	----	----	<0.5
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	----	----	----	----	<0.5
cis-Isosafrole	17627-76-8	0.5	mg/kg	----	----	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH47-1.0-1.2	BH47-4.0-4.2	BH47-8.5-8.7	BH47-10.0-10.2	BH47-13.0-13.2
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003671-006	ES1003671-007	ES1003671-008	ES1003671-009	ES1003671-010
EP075K: Miscellaneous Compounds - Continued								
trans-Isosafrole	4043-71-4	0.5	mg/kg	----	----	----	----	<0.5
Safrole	94-59-7	0.5	mg/kg	----	----	----	----	<0.5
Diallate	2303-16-4	0.5	mg/kg	----	----	----	----	<0.5
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	----	----	----	----	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg	----	<50	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg	----	**850**	**500**	----	**480**
C29 - C36 Fraction	----	100	mg/kg	----	**900**	**380**	----	**380**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	**1750**	**880**	----	**860**
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	<0.5	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	----	**105**
Toluene-D8	2037-26-5	0.1	%	----	----	----	----	**109**
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	----	**107**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	**67.3**	**71.9**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**68.2**	**80.8**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**54.6**	**72.5**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**86.9**	**83.1**	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**89.0**	**80.8**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**86.0**	**82.6**	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	----	----	----	**88.6**
Phenol-d6	13127-88-3	0.1	%	----	----	----	----	**58.8**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	----	**60.3**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	----	----	**50.8**
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	----	----	----	**59.5**
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	----	----	----	**51.8**
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	**58.7**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH47-1.0-1.2	BH47-4.0-4.2	BH47-8.5-8.7	BH47-10.0-10.2	BH47-13.0-13.2
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003671-006	ES1003671-007	ES1003671-008	ES1003671-009	ES1003671-010
EP075T: Base/Neutral Extractable Surrogates - Continued								
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	**86.8**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	**81.3**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**103**	**96.4**	----	**98.3**
Toluene-D8	2037-26-5	0.1	%	----	**104**	**97.3**	----	**100**
4-Bromofluorobenzene	460-00-4	0.1	%	----	**99.7**	**90.8**	----	**94.2**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH47-18.6-18.8	QC74	BH48-1.0-1.2	QC76	QC56
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-011	ES1003671-012	ES1003671-013	ES1003671-014	ES1003671-015
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**17.4**	**18.8**	**8.4**	**8.1**	**9.5**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**7**	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	**20**	**20**	**130**	**120**	**300**
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**14**	**7**	**8**	**8**	**11**
Cobalt	7440-48-4	2	mg/kg	<2	<2	<2	<2	**5**
Copper	7440-50-8	5	mg/kg	**7**	<5	**13**	**9**	**5**
Lead	7439-92-1	5	mg/kg	**11**	**10**	**259**	**226**	**12**
Manganese	7439-96-5	5	mg/kg	**51**	**9**	**90**	**108**	**352**
Nickel	7440-02-0	2	mg/kg	**4**	**2**	**3**	**3**	**6**
Vanadium	7440-62-2	5	mg/kg	**23**	**11**	**14**	**11**	**14**
Zinc	7440-66-6	5	mg/kg	**49**	**6**	**201**	**136**	**34**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	**0.3**	**0.3**	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	----	<1.0	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	----	----	<2.0	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	**1.0**	**1.8**	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	**1.7**	**1.8**	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	----	**1.8**	**2.0**	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH47-18.6-18.8	QC74	BH48-1.0-1.2	QC76	QC56
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-011	ES1003671-012	ES1003671-013	ES1003671-014	ES1003671-015
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	**0.9**	**0.8**	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	----	**0.7**	**0.8**	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	**0.9**	**0.8**	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	**0.7**	**0.6**	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	----	----	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	----	----	**200**	**150**	<100
C29 - C36 Fraction	----	100	mg/kg	----	----	**150**	**160**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	**350**	**310**	----
C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	----	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	**76.4**	**69.8**	**77.6**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**81.2**	**72.4**	**80.8**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**71.6**	**67.8**	**72.0**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**87.8**	**82.8**	**88.7**
Anthracene-d10	1719-06-8	0.1	%	----	----	**87.0**	**87.1**	**91.2**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**84.7**	**85.0**	**84.6**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	**109**	**106**	**110**
Toluene-D8	2037-26-5	0.1	%	----	----	**107**	**101**	**107**
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	**99.8**	**94.7**	**104**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	QC57	BH39-4.0-4.2	BH39-7.0-7.2	BH39-11.5-11.7	BH39-16.0-16.2
Client sample ID								
Client sampling date / time				23-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00
				ES1003671-016	ES1003671-018	ES1003671-019	ES1003671-020	ES1003671-021
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**12.8**	**15.4**	**17.1**	**12.4**	**13.6**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	**20**	**110**	**30**	**20**	**20**
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**8**	**10**	**12**	**7**	**7**
Cobalt	7440-48-4	2	mg/kg	**6**	**3**	**2**	<2	<2
Copper	7440-50-8	5	mg/kg	**6**	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	**10**	**7**	**6**	<5	**5**
Manganese	7439-96-5	5	mg/kg	**144**	**206**	**200**	**134**	<5
Nickel	7440-02-0	2	mg/kg	**6**	**3**	**3**	<2	<2
Vanadium	7440-62-2	5	mg/kg	**15**	**11**	**12**	**7**	**14**
Zinc	7440-66-6	5	mg/kg	**38**	**16**	**23**	**8**	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	<1	----	----	----	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	----	----	----	<1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	----	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	----	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC57	BH39-4.0-4.2	BH39-7.0-7.2	BH39-11.5-11.7	BH39-16.0-16.2
				Client sampling date / time: 23-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00
				ES1003671-016	ES1003671-018	ES1003671-019	ES1003671-020	ES1003671-021
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	----	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	----	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	----	<100	<100
C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	----	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**77.7**	**81.1**	----	**63.6**	**79.2**
2-Chlorophenol-D4	93951-73-6	0.1	%	**86.7**	**89.3**	----	**74.0**	**84.5**
2.4.6-Tribromophenol	118-79-6	0.1	%	**70.7**	**74.0**	----	**65.9**	**59.8**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**90.6**	**93.6**	----	**87.1**	**91.2**
Anthracene-d10	1719-06-8	0.1	%	**90.2**	**92.0**	----	**88.8**	**89.6**
4-Terphenyl-d14	1718-51-0	0.1	%	**85.6**	**89.4**	----	**87.3**	**86.4**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**114**	**104**	----	**109**	**110**
Toluene-D8	2037-26-5	0.1	%	**109**	**104**	----	**100**	**104**
4-Bromofluorobenzene	460-00-4	0.1	%	**104**	**104**	----	**96.9**	**101**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH39-20.5-20.7	QC101	QC78	BH46-19.0-19.2	BH46-20.5-20.7
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-022	ES1003671-023	ES1003671-024	ES1003671-025	ES1003671-026
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	5.1	----	8.9	7.9	6.8
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	17.4	18.3	15.7	15.3	18.9
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	10	20	10	10	<10
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	4	10	6	5	7
Cobalt	7440-48-4	2	mg/kg	<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg	<5	6	<5	<5	<5
Iron	7439-89-6	50	mg/kg	----	----	----	480	12800
Lead	7439-92-1	5	mg/kg	<5	11	6	6	<5
Manganese	7439-96-5	5	mg/kg	<5	6	<5	<5	5
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	<2	<2
Vanadium	7440-62-2	5	mg/kg	<5	25	<5	<5	18
Zinc	7440-66-6	5	mg/kg	<5	8	7	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	<1	<1	<1	<1	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	<1	<1	<1
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	----	5.7	----
After HCl pH	----	0.1	pH Unit	----	----	----	1.6	----
Extraction Fluid Number	----	1	-	----	----	----	1	----
Final pH	----	0.1	pH Unit	----	----	----	4.8	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	1.8	<0.5	<0.5
^ Total Organic Carbon	----	0.5	%	----	----	1.0	<0.5	<0.5
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	35.0	<0.2	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	95.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	7.6	<0.5	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH39-20.5-20.7	QC101	QC78	BH46-19.0-19.2	BH46-20.5-20.7
				Client sampling date / time	24-FEB-2010 15:00	24-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1003671-022	ES1003671-023	ES1003671-024	ES1003671-025	ES1003671-026
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	**101**	<0.5	----
Styrene	100-42-5	0.5	mg/kg		<0.5	----	**43.0**	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	**31.3**	<0.5	----
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	----	**1.2**	<0.5	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	----	**21.1**	<0.5	----
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	----	**40.9**	<0.5	----
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	----	**0.6**	<0.5	----
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	----	<5	<5	----
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	----	<5	<5	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	----	<5	<5	----
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	----	<5	<5	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	----	<5	<5	----
Chloromethane	74-87-3	5	mg/kg		<5	----	<5	<5	----
Vinyl chloride	75-01-4	5	mg/kg		<5	----	<5	<5	----
Bromomethane	74-83-9	5	mg/kg		<5	----	<5	<5	----
Chloroethane	75-00-3	5	mg/kg		<5	----	<5	<5	----
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	----	<5	<5	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
Iodomethane	74-88-4	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	----	<0.5	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH39-20.5-20.7	QC101	QC78	BH46-19.0-19.2	BH46-20.5-20.7
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-022	ES1003671-023	ES1003671-024	ES1003671-025	ES1003671-026
EP074E: Halogenated Aliphatic Compounds - Continued								
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	----	----	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	**0.7**
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH39-20.5-20.7	QC101	QC78	BH46-19.0-19.2	BH46-20.5-20.7
				Client sampling date / time	24-FEB-2010 15:00	24-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1003671-022	ES1003671-023	ES1003671-024	ES1003671-025	ES1003671-026
EP075(SIM)A: Phenolic Compounds - Continued									
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	<0.5	----	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		----	<0.5	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	<0.5	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	<0.5	----	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg		----	<2.0	----	----	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		----	<0.5	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		----	<0.5	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		----	<0.5	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg		----	<0.5	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		----	**1.0**	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg		----	**1.0**	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	<0.5	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg		----	<0.5	----	----	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		----	<0.5	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	<0.5	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	<0.5	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	<0.5	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	<0.5	----	----	<0.5
EP075A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	**11.2**	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	**39.1**	**0.8**	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg		<0.5	----	**98.3**	**1.4**	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	**119**	**2.2**	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
Pentachlorophenol	87-86-5	1	mg/kg		<1	----	<2	<1	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	**720**	<0.5	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg		<0.5	----	**196**	<0.5	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH39-20.5-20.7	QC101	QC78	BH46-19.0-19.2	BH46-20.5-20.7
				Client sampling date / time	24-FEB-2010 15:00	24-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1003671-022	ES1003671-023	ES1003671-024	ES1003671-025	ES1003671-026
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	**142**	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	**18.2**	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	**121**	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	**267**	<0.5	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	**98.0**	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	**157**	<0.5	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	**128**	<0.5	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	**54.8**	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	**41.7**	<0.5	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg		<1	----	**54**	<1	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	**43.4**	<0.5	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	**12.5**	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	**3.9**	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	**11.8**	<0.5	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
Diethyl phthalate	84-66-2	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		<5.0	----	<5.0	<5.0	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		<1.0	----	<1.2	<1.0	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		<1.0	----	<2.5	<1.0	----
Methapyrilene	91-80-5	0.5	mg/kg		<0.5	----	<1.2	<0.5	----
EP075E: Nitroaromatics and Ketones									

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH39-20.5-20.7	QC101	QC78	BH46-19.0-19.2	BH46-20.5-20.7
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-022	ES1003671-023	ES1003671-024	ES1003671-025	ES1003671-026
EP075E: Nitroaromatics and Ketones - Continued								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	<1.2	<1.0	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	<1.2	<1.0	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Azobenzene	103-33-3	1	mg/kg	<1	----	<1	<1	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	<2.5	<2.5	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	<1.2	<1.0	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	<1.2	<1.0	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	<1.2	<1.0	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH39-20.5-20.7	QC101	QC78	BH46-19.0-19.2	BH46-20.5-20.7
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-022	ES1003671-023	ES1003671-024	ES1003671-025	ES1003671-026
EP075H: Anilines and Benzidines - Continued								
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	**90.5**	<0.5	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	**41.2**	<0.5	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	----	**1.3**	<0.5	----
beta-BHC	319-85-7	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
delta-BHC	319-86-8	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Heptachlor	76-44-8	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Aldrin	309-00-2	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Dieldrin	60-57-1	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Endrin	72-20-8	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	----	<1.2	<1.0	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Dimethoate	60-51-5	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Diazinon	333-41-5	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Malathion	121-75-5	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Fenthion	55-38-9	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	<1.4	<0.5	----
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Ethion	563-12-2	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	----	<2.5	<0.5	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	----	<1.2	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH39-20.5-20.7	QC101	QC78	BH46-19.0-19.2	BH46-20.5-20.7
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-022	ES1003671-023	ES1003671-024	ES1003671-025	ES1003671-026
EP075K: Miscellaneous Compounds - Continued								
trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Safrole	94-59-7	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
Diallate	2303-16-4	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	----	<1.2	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	**424**	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	**1980**	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	**3490**	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	**1020**	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	**6490**	----	----
C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	----	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	**0.4**
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	<0.5
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**112**	----	**118**	**120**	----
Toluene-D8	2037-26-5	0.1	%	**104**	----	**107**	**119**	----
4-Bromofluorobenzene	460-00-4	0.1	%	**104**	----	**114**	**114**	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	**70.2**	----	----	**66.2**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**85.3**	----	----	**79.4**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**67.6**	----	----	**67.8**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**86.3**	----	----	**82.7**
Anthracene-d10	1719-06-8	0.1	%	----	**89.4**	----	----	**87.5**
4-Terphenyl-d14	1718-51-0	0.1	%	----	**83.0**	----	----	**83.2**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	**64.2**	----	**93.3**	**89.1**	----
Phenol-d6	13127-88-3	0.1	%	**54.9**	----	**81.2**	**71.4**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**54.3**	----	**86.5**	**73.6**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**38.9**	----	**81.5**	**64.8**	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	**61.2**	----	**89.3**	**79.4**	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	**50.9**	----	**75.2**	**66.1**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH39-20.5-20.7	QC101	QC78	BH46-19.0-19.2	BH46-20.5-20.7
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-022	ES1003671-023	ES1003671-024	ES1003671-025	ES1003671-026
EP075T: Base/Neutral Extractable Surrogates - Continued								
2-Fluorobiphenyl	321-60-8	0.1	%	**57.4**	----	**91.0**	**76.2**	----
Anthracene-d10	1719-06-8	0.1	%	**57.3**	----	**90.5**	**74.8**	----
4-Terphenyl-d14	1718-51-0	0.1	%	**60.0**	----	**96.5**	**80.4**	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**105**	**102**	**110**	**112**	**86.1**
Toluene-D8	2037-26-5	0.1	%	**95.2**	**100**	**114**	**109**	**103**
4-Bromofluorobenzene	460-00-4	0.1	%	**94.6**	**95.3**	**102**	**102**	**94.5**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH46-23.5-23.7	BH39-2.5-2.7	BH48-8.5-8.7	BH48-14.5-14.7	BH48-17.0-17.2
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-027	ES1003671-028	ES1003671-029	ES1003671-030	ES1003671-031
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	----	----	7.0	6.8
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	14.8	12.7	19.8	15.2	17.2
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	120	110	90	30	10
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	12	8	8	4	3
Cobalt	7440-48-4	2	mg/kg	<2	3	2	<2	<2
Copper	7440-50-8	5	mg/kg	<5	<5	15	23	<5
Iron	7439-89-6	50	mg/kg	----	----	----	4420	----
Lead	7439-92-1	5	mg/kg	11	6	88	12	5
Manganese	7439-96-5	5	mg/kg	9	156	111	33	<5
Nickel	7440-02-0	2	mg/kg	<2	3	6	<2	<2
Vanadium	7440-62-2	5	mg/kg	17	10	18	8	5
Zinc	7440-66-6	5	mg/kg	<5	18	906	27	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.3	0.3	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	<0.8	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	----	----	----	<1	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	----	<1	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	----	7.0	----
After HCl pH	----	0.1	pH Unit	----	----	----	1.6	----
Extraction Fluid Number	----	1	-	----	----	----	1	----
Final pH	----	0.1	pH Unit	----	----	----	4.8	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	----	<0.5	----
^ Total Organic Carbon	----	0.5	%	----	----	----	<0.5	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	----	8.9	----
Toluene	108-88-3	0.5	mg/kg	----	----	----	20.8	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	1.6	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH46-23.5-23.7	BH39-2.5-2.7	BH48-8.5-8.7	BH48-14.5-14.7	BH48-17.0-17.2
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-027	ES1003671-028	ES1003671-029	ES1003671-030	ES1003671-031
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	**20.1**	----
Styrene	100-42-5	0.5	mg/kg	----	----	----	**9.1**	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	**7.0**	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	----	<0.5	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	----	<0.5	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	----	**3.9**	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	----	<0.5	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	----	**8.7**	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	----	<0.5	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	----	<0.5	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	----	<0.5	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	----	<5	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	----	<5	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	----	<5	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	----	<5	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	----	<0.5	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	----	<0.5	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	----	<0.5	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	----	----	<0.5	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	----	<5	----
Chloromethane	74-87-3	5	mg/kg	----	----	----	<5	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	----	<5	----
Bromomethane	74-83-9	5	mg/kg	----	----	----	<5	----
Chloroethane	75-00-3	5	mg/kg	----	----	----	<5	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	----	<5	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	----	<0.5	----
Iodomethane	74-88-4	0.5	mg/kg	----	----	----	<0.5	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	----	<0.5	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	----	<0.5	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	----	<0.5	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	----	<0.5	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH46-23.5-23.7	BH39-2.5-2.7	BH48-8.5-8.7	BH48-14.5-14.7	BH48-17.0-17.2
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-027	ES1003671-028	ES1003671-029	ES1003671-030	ES1003671-031
EP074E: Halogenated Aliphatic Compounds - Continued								
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	----	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	----	<0.5	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	----	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	----	<0.5	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	----	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	----	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	----	<0.5	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	----	<0.5	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	----	<0.5	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	----	<0.5	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	----	<0.5	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	<0.5	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	----	<0.5	----
Bromobenzene	108-86-1	0.5	mg/kg	----	----	----	<0.5	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	----	<0.5	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	----	<0.5	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	<0.5	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	----	<0.5	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	----	<0.5	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	----	<0.5	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	----	<0.5	----
Bromoform	75-25-2	0.5	mg/kg	----	----	----	<0.5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.5	----	**2.1**
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.5	----	**4.8**
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	<1.0	----	**10.8**
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.5	----	**6.4**
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	----	<0.5

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH46-23.5-23.7	BH39-2.5-2.7	BH48-8.5-8.7	BH48-14.5-14.7	BH48-17.0-17.2
				Client sampling date / time	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1003671-027	ES1003671-028	ES1003671-029	ES1003671-030	ES1003671-031
EP075(SIM)A: Phenolic Compounds - Continued									
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg		<2.0	----	<2.0	----	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	<0.5	----	**11.0**
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	<0.5	----	**1.9**
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	<0.5	----	**2.3**
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	**0.9**	----	**5.2**
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	<0.5	----	**2.0**
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	**1.2**	----	**3.1**
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	**1.4**	----	**2.4**
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	**0.5**	----	**1.2**
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	**0.6**	----	**0.9**
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		<0.5	----	**0.6**	----	**0.8**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	<0.5	----	**0.6**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
EP075A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	----	----	**9.4**	----
2-Chlorophenol	95-57-8	0.5	mg/kg		----	----	----	<1.2	----
2-Methylphenol	95-48-7	0.5	mg/kg		----	----	----	**30.2**	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg		----	----	----	**57.1**	----
2-Nitrophenol	88-75-5	0.5	mg/kg		----	----	----	<1.2	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		----	----	----	**97.6**	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	----	----	<1.2	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	----	----	<1.2	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		----	----	----	<1.2	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	----	----	<1.2	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	----	----	<1.2	----
Pentachlorophenol	87-86-5	1	mg/kg		----	----	----	<2	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	----	----	**517**	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg		----	----	----	**144**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH46-23.5-23.7	BH39-2.5-2.7	BH48-8.5-8.7	BH48-14.5-14.7	BH48-17.0-17.2
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-027	ES1003671-028	ES1003671-029	ES1003671-030	ES1003671-031
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	----	<1.2	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	**113**	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	**12.9**	----
Fluorene	86-73-7	0.5	mg/kg	----	----	----	**94.3**	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	**215**	----
Anthracene	120-12-7	0.5	mg/kg	----	----	----	**54.0**	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	**124**	----
Pyrene	129-00-0	0.5	mg/kg	----	----	----	**101**	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	----	<1.2	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	**39.2**	----
Chrysene	218-01-9	0.5	mg/kg	----	----	----	**30.8**	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	----	----	**39**	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	----	<1.2	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	**31.0**	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	----	<1.2	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	**8.9**	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	**2.9**	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	**8.5**	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	----	<1.2	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	----	<1.2	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	----	<1.2	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	----	<1.2	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	----	----	<5.0	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	----	<1.2	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	----	<1.2	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	----	<1.2	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	----	----	<1.2	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	----	<1.2	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	----	<1.2	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	----	<1.2	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	----	<1.2	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	----	----	<2.5	----
Methapyrilene	91-80-5	0.5	mg/kg	----	----	----	<1.2	----
EP075E: Nitroaromatics and Ketones								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH46-23.5-23.7	BH39-2.5-2.7	BH48-8.5-8.7	BH48-14.5-14.7	BH48-17.0-17.2
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-027	ES1003671-028	ES1003671-029	ES1003671-030	ES1003671-031
EP075E: Nitroaromatics and Ketones - Continued								
2-Picoline	109-06-8	0.5	mg/kg	----	----	----	<1.2	----
Acetophenone	98-86-2	0.5	mg/kg	----	----	----	<1.2	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	----	<1.2	----
Isophorone	78-59-1	0.5	mg/kg	----	----	----	<1.2	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	----	----	<1.2	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	----	----	<1.2	----
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	----	<1.2	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	----	<1.2	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	----	<1.2	----
Azobenzene	103-33-3	1	mg/kg	----	----	----	<1	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	----	<1.2	----
Phenacetin	62-44-2	0.5	mg/kg	----	----	----	<1.2	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	----	<1.2	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	----	<1.2	----
Pronamide	23950-58-5	0.5	mg/kg	----	----	----	<1.2	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	----	<1.2	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	----	<1.2	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	----	<1.2	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	----	<1.2	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	----	<1.2	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	----	<1.2	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	<1.2	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	<1.2	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	<1.2	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	----	<1.2	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	<1.2	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	----	<1.2	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	<1.2	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	----	----	<2.5	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	----	<1.2	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	----	----	<1.2	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	----	----	<1.2	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	----	<1.2	----
2-Nitroaniline	88-74-4	1.0	mg/kg	----	----	----	<1.2	----
3-Nitroaniline	99-09-2	1.0	mg/kg	----	----	----	<1.2	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH46-23.5-23.7	BH39-2.5-2.7	BH48-8.5-8.7	BH48-14.5-14.7	BH48-17.0-17.2
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-027	ES1003671-028	ES1003671-029	ES1003671-030	ES1003671-031
EP075H: Anilines and Benzidines - Continued								
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	----	**49.4**	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	----	<1.2	----
Carbazole	86-74-8	0.5	mg/kg	----	----	----	**32.8**	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	----	**1.6**	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	----	----	<1.2	----
beta-BHC	319-85-7	0.5	mg/kg	----	----	----	<1.2	----
gamma-BHC	58-89-9	0.5	mg/kg	----	----	----	<1.2	----
delta-BHC	319-86-8	0.5	mg/kg	----	----	----	<1.2	----
Heptachlor	76-44-8	0.5	mg/kg	----	----	----	<1.2	----
Aldrin	309-00-2	0.5	mg/kg	----	----	----	<1.2	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	----	----	<1.2	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	----	----	<1.2	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	----	----	<1.2	----
Dieldrin	60-57-1	0.5	mg/kg	----	----	----	<1.2	----
Endrin	72-20-8	0.5	mg/kg	----	----	----	<1.2	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	----	----	<1.2	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	----	----	<1.2	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	----	----	<1.2	----
4.4`-DDT	50-29-3	1.0	mg/kg	----	----	----	<1.2	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	----	----	<1.2	----
Dimethoate	60-51-5	0.5	mg/kg	----	----	----	<1.2	----
Diazinon	333-41-5	0.5	mg/kg	----	----	----	<1.2	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	----	----	<1.2	----
Malathion	121-75-5	0.5	mg/kg	----	----	----	<1.2	----
Fenthion	55-38-9	0.5	mg/kg	----	----	----	<1.2	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	----	----	<1.2	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	----	----	<1.2	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	----	----	<1.4	----
Prothiofos	34643-46-4	0.5	mg/kg	----	----	----	<1.2	----
Ethion	563-12-2	0.5	mg/kg	----	----	----	<1.2	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	----	----	----	<1.2	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	----	----	----	<2.5	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	----	----	----	<1.2	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	----	----	----	<1.2	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	----	----	----	<1.2	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH46-23.5-23.7	BH39-2.5-2.7	BH48-8.5-8.7	BH48-14.5-14.7	BH48-17.0-17.2
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-027	ES1003671-028	ES1003671-029	ES1003671-030	ES1003671-031
EP075K: Miscellaneous Compounds - Continued								
trans-Isosafrole	4043-71-4	0.5	mg/kg	----	----	----	<1.2	----
Safrole	94-59-7	0.5	mg/kg	----	----	----	<1.2	----
Diallate	2303-16-4	0.5	mg/kg	----	----	----	<1.2	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	----	----	----	<1.2	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	<10	**90**	<10
C10 - C14 Fraction	----	50	mg/kg	<50	----	<50	**1750**	**60**
C15 - C28 Fraction	----	100	mg/kg	<100	----	<100	**3610**	**110**
C29 - C36 Fraction	----	100	mg/kg	<100	----	<100	**1040**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	**6400**	**170**
C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	<50	----	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	<0.2	----	**0.2**
Toluene	108-88-3	0.5	mg/kg	<0.5	----	<0.5	----	**0.8**
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	<0.5	----	**0.8**
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	**116**	----
Toluene-D8	2037-26-5	0.1	%	----	----	----	**110**	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	**109**	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**71.3**	----	**64.0**	----	**96.0**
2-Chlorophenol-D4	93951-73-6	0.1	%	**84.3**	----	**69.4**	----	**96.5**
2.4.6-Tribromophenol	118-79-6	0.1	%	**62.7**	----	**65.2**	----	**84.4**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**87.4**	----	**85.3**	----	**94.5**
Anthracene-d10	1719-06-8	0.1	%	**88.4**	----	**86.8**	----	**91.2**
4-Terphenyl-d14	1718-51-0	0.1	%	**83.6**	----	**84.3**	----	**107**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	----	----	**104**	----
Phenol-d6	13127-88-3	0.1	%	----	----	----	**89.6**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	**92.2**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	----	**94.9**	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	----	----	**101**	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	----	----	**85.9**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH46-23.5-23.7	BH39-2.5-2.7	BH48-8.5-8.7	BH48-14.5-14.7	BH48-17.0-17.2
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003671-027	ES1003671-028	ES1003671-029	ES1003671-030	ES1003671-031
EP075T: Base/Neutral Extractable Surrogates - Continued								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	**97.0**	----
Anthracene-d10	1719-06-8	0.1	%	----	----	----	**101**	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	**108**	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**85.0**	----	**82.7**	**109**	**86.5**
Toluene-D8	2037-26-5	0.1	%	**103**	----	**97.5**	**102**	**93.1**
4-Bromofluorobenzene	460-00-4	0.1	%	**97.1**	----	**92.2**	**108**	**102**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH48-11.5-11.7	TB07	TB05	TB10	----
				Client sampling date / time	23-FEB-2010 15:00	22-FEB-2010 15:00	23-FEB-2010 15:00	24-FEB-2010 15:00	----
Compound	CAS Number	LOR	Unit		ES1003671-033	ES1003671-034	ES1003671-045	ES1003671-060	----
AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos Detected	1332-21-4	0.1	g/kg		Yes	----	----	----	----
Asbestos Type	132207-33-1	0.1	g/kg		UMF	----	----	----	----
Sample weight (dry)	----	0.01	g		84.9	----	----	----	----
APPROVED IDENTIFIER:	----	-	-		K.HALL	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
Styrene	100-42-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
Isopropylbenzene	98-82-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
n-Propylbenzene	103-65-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
sec-Butylbenzene	135-98-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
tert-Butylbenzene	98-06-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
n-Butylbenzene	104-51-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		----	<5	<5	<5	----
2-Butanone (MEK)	78-93-3	5	mg/kg		----	<5	<5	<5	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		----	<5	<5	<5	----
2-Hexanone (MBK)	591-78-6	5	mg/kg		----	<5	<5	<5	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		----	<5	<5	<5	----
Chloromethane	74-87-3	5	mg/kg		----	<5	<5	<5	----
Vinyl chloride	75-01-4	5	mg/kg		----	<5	<5	<5	----
Bromomethane	74-83-9	5	mg/kg		----	<5	<5	<5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH48-11.5-11.7	TB07	TB05	TB10	----
				Client sampling date / time: 23-FEB-2010 15:00	22-FEB-2010 15:00	23-FEB-2010 15:00	24-FEB-2010 15:00	----
				ES1003671-033	ES1003671-034	ES1003671-045	ES1003671-060	----
EP074E: Halogenated Aliphatic Compounds - Continued								
Chloroethane	75-00-3	5	mg/kg	----	<5	<5	<5	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	<5	<5	<5	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Iodomethane	74-88-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Dibromomethane	74-95-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Bromobenzene	108-86-1	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	<0.5	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH48-11.5-11.7	TB07	TB05	TB10	----
				Client sampling date / time	23-FEB-2010 15:00	22-FEB-2010 15:00	23-FEB-2010 15:00	24-FEB-2010 15:00	----
Compound	CAS Number	LOR	Unit		ES1003671-033	ES1003671-034	ES1003671-045	ES1003671-060	----
EP074G: Trihalomethanes - Continued									
Bromoform	75-25-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
EP074H: Naphthalene									
Naphthalene	91-20-3	5	mg/kg		----	<5	<5	<5	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**85.2**	**111**	**99.2**	----
Toluene-D8	2037-26-5	0.1	%		----	**103**	**96.1**	**100**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**108**	**102**	**103**	----

Analytical Results

Sub-Matrix: **TCLP LEACHATE**

Compound	CAS Number	LOR	Unit	Client sample ID: BH46-19.0-19.2	Client sampling date / time: 03-MAR-2010 12:00	ES1003671-025	BH48-14.5-14.7	03-MAR-2010 12:00	ES1003671-030	----	----	----	----	----	----
EG005C: Leachable Metals by ICPAES															
Arsenic	7440-38-2	0.1	mg/L	<0.1			<0.1			----			----		
Barium	7440-39-3	0.1	mg/L	<0.1			<0.1			----			----		
Beryllium	7440-41-7	0.05	mg/L	<0.05			<0.05			----			----		
Cadmium	7440-43-9	0.05	mg/L	<0.05			<0.05			----			----		
Chromium	7440-47-3	0.1	mg/L	<0.1			<0.1			----			----		
Cobalt	7440-48-4	0.1	mg/L	<0.1			<0.1			----			----		
Copper	7440-50-8	0.1	mg/L	<0.1			<0.1			----			----		
Lead	7439-92-1	0.1	mg/L	<0.1			<0.1			----			----		
Manganese	7439-96-5	0.1	mg/L	<0.1			<0.1			----			----		
Nickel	7440-02-0	0.1	mg/L	<0.1			<0.1			----			----		
Vanadium	7440-62-2	0.1	mg/L	<0.1			<0.1			----			----		
Zinc	7440-66-6	0.1	mg/L	<0.1			**0.1**			----			----		
EG035C: Leachable Mercury by FIMS															
Mercury	7439-97-6	0.0010	mg/L	<0.0010			<0.0010			----			----		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons															
Naphthalene	91-20-3	1.0	µg/L	**7.0**			**8890**			----			----		
Acenaphthylene	208-96-8	1.0	µg/L	<1.0			**508**			----			----		
Acenaphthene	83-32-9	1.0	µg/L	<1.0			**77.5**			----			----		
Fluorene	86-73-7	1.0	µg/L	<1.0			**232**			----			----		
Phenanthrene	85-01-8	1.0	µg/L	<1.0			**148**			----			----		
Anthracene	120-12-7	1.0	µg/L	<1.0			**45.5**			----			----		
Fluoranthene	206-44-0	1.0	µg/L	<1.0			**18.2**			----			----		
Pyrene	129-00-0	1.0	µg/L	<1.0			**12.5**			----			----		
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0			<3.8			----			----		
Chrysene	218-01-9	1.0	µg/L	<1.0			<3.8			----			----		
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0			<3.8			----			----		
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0			<3.8			----			----		
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5			<3.8			----			----		
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0			<3.8			----			----		
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0			<3.8			----			----		
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0			<3.8			----			----		
EP075(SIM)S: Phenolic Compound Surrogates															
Phenol-d6	13127-88-3	0.1	%	**39.1**			**31.1**			----			----		
2-Chlorophenol-D4	93951-73-6	0.1	%	**54.9**			**114**			----			----		
2.4.6-Tribromophenol	118-79-6	0.1	%	**71.5**			**112**			----			----		
EP075(SIM)T: PAH Surrogates															
2-Fluorobiphenyl	321-60-8	0.1	%	**62.4**			**89.1**			----			----		
Anthracene-d10	1719-06-8	0.1	%	**58.9**			**113**			----			----		

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	BH46-19.0-19.2	BH48-14.5-14.7	----	----	----
				Client sampling date / time	03-MAR-2010 12:00	03-MAR-2010 12:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1003671-025	ES1003671-030	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		**61.8**	**116**	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC59	QC100	QC80	QC103	----
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	19-FEB-2010 15:00	24-FEB-2010 15:00	----
				ES1003671-017	ES1003671-032	ES1003671-071	ES1003671-072	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	----
Barium	7440-39-3	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	----
Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	----
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	----
Copper	7440-50-8	0.001	mg/L	**0.001**	<0.001	<0.001	<0.001	----
Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	----
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	**0.002**	<0.001	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	----
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	----
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	<0.005	<0.005	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	<100	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	----
C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	<50	----
EP080: BTEX								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	----
Toluene	108-88-3	2	µg/L	<5	<5	<5	<5	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**90.8**	**87.5**	**89.9**	**86.7**	----
Toluene-D8	2037-26-5	0.1	%	**84.9**	**98.0**	**96.0**	**87.4**	----
4-Bromofluorobenzene	460-00-4	0.1	%	**100**	**97.8**	**98.5**	**96.9**	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	BH47-1.0-1.2 - 22-FEB-2010 15:00	A coarse grain light brown sandy clay soil with plenty of large and small rocks (some purple) and no sign of any vegetation material.
EA200: Description	BH47-10.0-10.2 - 22-FEB-2010 15:00	A greyish - white coarse grain sandy clay soil with large & small rocks and plenty of very fine vegetation debri incorporated in the clay.
EA200: Description	BH48-11.5-11.7 - 23-FEB-2010 15:00	A light grey sandy clay soil with plenty of small rocks and vegetation debris.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	23	120
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

Sub-Matrix: WATER		Recovery Limits (%)	

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

QUALITY CONTROL REPORT

Work Order	: **ES1003671**	Page	: 1 of 42
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2010
Sampler	: SP/LK	Issue Date	: 09-MAR-2010
Order number	: 1303951		
		No. of samples received	: 71
Quote number	: SY/259/09 V2	No. of samples analysed	: 38

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
KEN HALL	Analyst	Newcastle
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Sarah Millington	Senior Inorganic Chemist	Inorganics
Victor Kedicioglu	Business Manager - NSW	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA002 : pH (Soils) (QC Lot: 1264500)									
ES1003483-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	5.7	5.7	0.0	0% - 20%
EA002 : pH (Soils) (QC Lot: 1265676)									
ES1003441-006	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.1	8.0	0.0	0% - 20%
ES1003672-054	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.4	8.3	1.2	0% - 20%
EA055: Moisture Content (QC Lot: 1264434)									
ES1003671-006	BH47-1.0-1.2	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	7.7	7.8	1.5	No Limit
ES1003700-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	12.6	12.8	2.0	0% - 50%
EA055: Moisture Content (QC Lot: 1264986)									
ES1003671-001	BH46-1.0-1.2	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	9.5	9.6	0.0	No Limit
ES1003671-025	BH46-19.0-19.2	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	15.3	14.4	5.9	0% - 50%
EA055: Moisture Content (QC Lot: 1265099)									
ES1003348-002	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	98.3	99.3	1.1	0% - 20%
ES1003348-011	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	98.7	98.9	0.2	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1265535)									
ES1003671-001	BH46-1.0-1.2	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	270	220	19.0	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	20	17	17.5	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	5	5	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	6	6	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	7	5	30.2	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	10	12.2	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	285	293	2.8	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	13	13	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	29	28	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	16400	17100	4.3	0% - 20%
ES1003671-009	BH47-10.0-10.2	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	140	130	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	12	14	19.6	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	5	3	58.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	11	6	63.4	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	24	21	13.7	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1265535) - continued									
ES1003671-009	BH47-10.0-10.2	EG005T: Lead	7439-92-1	5	mg/kg	282	256	9.4	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	179	235	# 27.1	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	22	29	28.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	166	148	11.5	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	12300	18000	# 37.2	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1265537)									
ES1003671-020	BH39-11.5-11.7	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	20	40	55.6	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	7	7	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	134	144	7.1	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	7	8	21.7	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	8	7	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	6830	7610	10.8	0% - 20%
ES1003754-003	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	230	170	# 31.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	14	13	7.2	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	22	17	27.9	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	42	38	10.0	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	31	31	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	71	67	5.2	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	43	41	5.5	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	929	590	# 44.6	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	33	32	5.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	92	80	14.0	0% - 50%
		EG005T: Iron	7439-89-6	50	mg/kg	34400	31200	9.9	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1267059)									
ES1003671-028	BH39-2.5-2.7	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	110	120	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	8	8	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	3	3	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	3	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1267059) - continued									
ES1003671-028	BH39-2.5-2.7	EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	6	6	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	156	152	2.6	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	10	10	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	18	14	28.3	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	8400	7940	5.6	0% - 20%
ES1003757-007	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	80	80	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	42	41	2.7	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	14	15	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	66	74	11.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	6	23.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	25	29	15.1	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	13	17.3	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	488	476	2.3	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	33	34	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	267	286	6.8	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	24200	25700	6.2	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1265536)									
ES1003671-001	BH46-1.0-1.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1003671-009	BH47-10.0-10.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1265538)									
ES1003671-020	BH39-11.5-11.7	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1003754-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1267060)									
ES1003671-028	BH39-2.5-2.7	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1003757-007	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1266556)									
ES1003671-004	BH46-14.5-14.7	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003672-014	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK025G: Free cyanide by Discrete Analyser (QC Lot: 1266315)									
ES1003388-003	Anonymous	EK025G: Free Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
ES1003391-014	Anonymous	EK025G: Free Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EK025G: Free cyanide by Discrete Analyser (QC Lot: 1266316)									
ES1003671-007	BH47-4.0-4.2	EK025G: Free Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
ES1003672-002	Anonymous	EK025G: Free Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1268169)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1268169) - continued									
ES1003390-004	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
ES1003671-024	QC78	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EP004: Organic Matter (QC Lot: 1265016)									
ES1003391-010	Anonymous	EP004: Organic Matter	----	0.5	%	<0.5	0.5	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.0	No Limit
ES1003561-003	Anonymous	EP004: Organic Matter	----	0.5	%	0.6	0.6	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1264318)									
ES1003671-010	BH47-13.0-13.2	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1264889)									
ES1003671-030	BH48-14.5-14.7	EP074: Benzene	71-43-2	0.2	mg/kg	8.9	6.5	# 30.5	0% - 20%
		EP074: Toluene	108-88-3	0.5	mg/kg	20.8	16.9	# 20.3	0% - 20%
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	1.6	1.2	27.1	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	20.1	15.7	# 24.8	0% - 20%
		EP074: Styrene	100-42-5	0.5	mg/kg	9.1	7.3	22.1	0% - 50%
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	7.0	5.6	22.5	0% - 50%
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	3.9	3.2	18.6	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	8.7	7.2	18.3	0% - 50%
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074B: Oxygenated Compounds (QC Lot: 1264318)									
ES1003671-010	BH47-13.0-13.2	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1264889)									
ES1003671-030	BH48-14.5-14.7	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1264318)									
ES1003671-010	BH47-13.0-13.2	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1264889)									
ES1003671-030	BH48-14.5-14.7	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1264318)									
ES1003671-010	BH47-13.0-13.2	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1264889)									
ES1003671-030	BH48-14.5-14.7	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1264318)									
ES1003671-010	BH47-13.0-13.2	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1264318) - continued									
ES1003671-010	BH47-13.0-13.2	EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1264889)									
ES1003671-030	BH48-14.5-14.7	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1264889) - continued									
ES1003671-030	BH48-14.5-14.7	EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1264318)									
ES1003671-010	BH47-13.0-13.2	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1264889)									
ES1003671-030	BH48-14.5-14.7	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1264318)									
ES1003671-010	BH47-13.0-13.2	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1264889)									
ES1003671-030	BH48-14.5-14.7	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074H: Naphthalene (QC Lot: 1264889)									
ES1003671-030	BH48-14.5-14.7	EP074: Naphthalene	91-20-3	5	mg/kg	76	72	6.1	0% - 50%
EP075(SIM)A: Phenolic Compounds (QC Lot: 1264414)									
ES1003671-001	BH46-1.0-1.2	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 1264414) - continued									
ES1003671-001	BH46-1.0-1.2	EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
ES1003671-020	BH39-11.5-11.7	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1265068)									
ES1003672-002	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
ES1003672-016	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	1.6	1.5	10.6	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	7.8	7.1	9.7	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 1265068) - continued									
ES1003672-016	Anonymous	EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	9.0	8.0	12.4	0% - 50%
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	9.5	8.6	9.5	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1264414)									
ES1003671-001	BH46-1.0-1.2	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003671-020	BH39-11.5-11.7	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1264414) - continued									
ES1003671-020	BH39-11.5-11.7	EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1265068)									
ES1003672-002	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	453	564	# 21.8	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	58.8	62.4	6.0	0% - 20%
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	10.3	10.4	0.0	0% - 20%
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	68.3	76.1	10.8	0% - 20%
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	206	326	# 45.0	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	60.3	64.7	7.0	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	121	155	# 24.7	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	104	130	# 21.3	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	45.9	48.9	6.3	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	32.2	31.6	1.9	0% - 20%
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	35.8	31.8	11.7	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	14.3	15.5	8.2	0% - 20%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	26.5	27.2	2.8	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	11.8	9.0	# 26.6	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	3.2	2.4	26.7	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	13.1	11.2	15.9	0% - 20%
ES1003672-016	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	343	291	16.3	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	32.6	25.4	# 25.1	0% - 20%
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	5.3	4.2	23.1	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	33.4	26.1	# 24.3	0% - 20%
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	191	154	# 21.1	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	25.8	20.2	# 24.2	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	54.6	41.4	# 27.6	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	46.7	36.3	# 25.0	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	23.1	18.1	# 24.4	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	15.3	11.8	# 25.7	0% - 20%
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	14.8	12.4	18.2	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	6.5	4.4	39.3	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	11.4	8.7	# 26.7	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.8	2.9	28.2	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.1	0.8	27.6	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.7	3.6	26.1	No Limit
EP075A: Phenolic Compounds (QC Lot: 1266640)									
ES1003671-010	BH47-13.0-13.2	EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075A: Phenolic Compounds (QC Lot: 1266640) - continued									
ES1003671-010	BH47-13.0-13.2	EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	0.0	No Limit
ES1003672-037	Anonymous	EP075: Phenol	108-95-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<2.5	<2.5	0.0	No Limit
		EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<2	<2	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1266640)									
ES1003671-010	BH47-13.0-13.2	EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075: Fluorene	86-73-7	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	3.8	3.4	9.5	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	1.3	1.1	12.6	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	4.8	4.3	10.8	No Limit
		EP075: Pyrene	129-00-0	0.5	mg/kg	5.3	4.6	13.1	No Limit
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	2.0	1.7	16.0	No Limit
		EP075: Chrysene	218-01-9	0.5	mg/kg	1.7	1.5	11.9	No Limit
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.7	1.4	14.0	No Limit
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1266640) - continued									
ES1003671-010	BH47-13.0-13.2	EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	2	2	0.0	No Limit
ES1003672-037	Anonymous	EP075: Naphthalene	91-20-3	0.5	mg/kg	410	340	18.9	0% - 20%
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	204	168	19.0	0% - 20%
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	90.0	79.9	11.8	0% - 20%
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	11.3	7.6	39.0	0% - 50%
		EP075: Fluorene	86-73-7	0.5	mg/kg	54.5	36.0	# 40.9	0% - 20%
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	156	133	16.2	0% - 20%
		EP075: Anthracene	120-12-7	0.5	mg/kg	41.9	26.4	# 45.5	0% - 20%
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	59.2	36.9	# 46.3	0% - 20%
		EP075: Pyrene	129-00-0	0.5	mg/kg	67.2	41.8	# 46.5	0% - 20%
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	27.6	18.7	# 38.4	0% - 20%
		EP075: Chrysene	218-01-9	0.5	mg/kg	22.8	16.4	32.6	0% - 20%
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	15.6	13.4	15.5	0% - 20%
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.4	3.7	9.0	No Limit
		EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<1.2	1.3	0.0	No Limit
		EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.2	3.7	14.7	No Limit
		EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	18	15	13.1	0% - 50%
EP075C: Phthalate Esters (QC Lot: 1266640)									
ES1003671-010	BH47-13.0-13.2	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	<5.0	0.0	No Limit
ES1003672-037	Anonymous	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	<5.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075D: Nitrosamines (QC Lot: 1266640)									
ES1003671-010	BH47-13.0-13.2	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
ES1003672-037	Anonymous	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<2.5	<2.5	0.0	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 1266640)									
ES1003671-010	BH47-13.0-13.2	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
ES1003672-037	Anonymous	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075E: Nitroaromatics and Ketones (QC Lot: 1266640) - continued									
ES1003672-037	Anonymous	EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<1.2	1.3	0.0	No Limit
		EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
EP075F: Haloethers (QC Lot: 1266640)									
ES1003671-010	BH47-13.0-13.2	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003672-037	Anonymous	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 1266640)									
ES1003671-010	BH47-13.0-13.2	EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	0.0	No Limit
ES1003672-037	Anonymous	EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075G: Chlorinated Hydrocarbons (QC Lot: 1266640) - continued									
ES1003672-037	Anonymous	EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	0.0	No Limit
EP075H: Anilines and Benzidines (QC Lot: 1266640)									
ES1003671-010	BH47-13.0-13.2	EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
ES1003672-037	Anonymous	EP075: Aniline	62-53-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	21.7	14.8	37.7	0% - 20%
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	11.1	6.9	46.8	0% - 50%
		EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 1266640)									
ES1003671-010	BH47-13.0-13.2	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075I: Organochlorine Pesticides (QC Lot: 1266640) - continued									
ES1003672-037	Anonymous	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4.4`-DDT	50-29-3	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 1266640)									
ES1003671-010	BH47-13.0-13.2	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003672-037	Anonymous	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<1.4	<1.4	0.0	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
EP075K: Miscellaneous Compounds (QC Lot: 1266640)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075K: Miscellaneous Compounds (QC Lot: 1266640) - continued									
ES1003671-010	BH47-13.0-13.2	EP075: 1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Safrole	94-59-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diallate	2303-16-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003672-037	Anonymous	EP075: 1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<2.5	<2.5	0.0	No Limit
		EP075: Methanesulfonate methyl	66-27-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: cis-Isosafrole	17627-76-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: trans-Isosafrole	4043-71-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Safrole	94-59-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Diallate	2303-16-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1264317)									
ES1003671-010	BH47-13.0-13.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1003671-018	BH39-4.0-4.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1264413)									
ES1003671-001	BH46-1.0-1.2	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1003671-020	BH39-11.5-11.7	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1264888)									
ES1003671-030	BH48-14.5-14.7	EP080: C6 - C9 Fraction	----	10	mg/kg	90	69	26.8	No Limit
ES1003672-055	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1265067)									
ES1003672-002	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	2290	2730	17.2	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	860	1090	23.7	0% - 50%
		EP071: C10 - C14 Fraction	----	50	mg/kg	980	1140	15.2	0% - 20%
ES1003672-016	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	1240	1040	17.7	0% - 50%
		EP071: C29 - C36 Fraction	----	100	mg/kg	420	360	15.5	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	670	570	16.6	0% - 50%
EP080: BTEX (QC Lot: 1264317)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080: BTEX (QC Lot: 1264317) - continued									
ES1003671-010	BH47-13.0-13.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003671-018	BH39-4.0-4.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080: BTEX (QC Lot: 1264888)									
ES1003671-030	BH48-14.5-14.7	EP080: Benzene	71-43-2	0.2	mg/kg	7.4	5.4	# 30.3	0% - 20%
		EP080: Toluene	108-88-3	0.5	mg/kg	18.8	13.9	# 29.5	0% - 20%
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	1.5	1.2	26.3	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	19.6	15.3	# 24.9	0% - 20%
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	6.6	5.3	22.2	0% - 50%
ES1003672-055	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005C: Leachable Metals by ICPAES (QC Lot: 1266943)									
ES1003503-001	Anonymous	EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Barium	7440-39-3	0.1	mg/L	0.4	0.4	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Manganese	7439-96-5	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005C: Leachable Metals by ICPAES (QC Lot: 1266943) - continued									
ES1003503-001	Anonymous	EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1003690-004	Anonymous	EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Cadmium	7440-43-9	0.05	mg/L	7.33	7.22	1.6	0% - 20%
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Barium	7440-39-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	0.4	0.4	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	1.0	1.0	0.0	0% - 50%
		EG005C: Lead	7439-92-1	0.1	mg/L	37.4	36.6	2.0	0% - 20%
		EG005C: Manganese	7439-96-5	0.1	mg/L	11.3	11.1	2.4	0% - 20%
		EG005C: Nickel	7440-02-0	0.1	mg/L	8.7	8.5	2.6	0% - 20%
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	2310	2370	2.6	0% - 20%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1266442)									
ES1003611-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	0.710	0.713	0.5	0% - 20%
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	0.026	0.026	0.0	0% - 20%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	0.042	0.041	0.0	0% - 20%
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	2.97	3.03	1.9	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.017	0.017	0.0	0% - 50%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	3.72	3.72	0.2	0% - 20%
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1003666-026	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.003	0.004	0.0	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.208	0.212	1.8	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.015	0.013	10.0	No Limit
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EG035C: Leachable Mercury by FIMS (QC Lot: 1269465)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG035C: Leachable Mercury by FIMS (QC Lot: 1269465) - continued									
ES1003671-025	BH46-19.0-19.2	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
ES1003690-005	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1266441)									
ES1003611-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1003671-032	QC100	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1265471)									
ES1003620-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1003620-012	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1265474)									
ES1003612-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1003658-004	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEX (QC Lot: 1265471)									
ES1003620-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
ES1003620-012	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
EP080: BTEX (QC Lot: 1265474)									
ES1003612-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
ES1003658-004	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1265535)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	110	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	106	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	104	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	107	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	104	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	104	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	101	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	99.6	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	105	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	102	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	107	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	104	88.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1265537)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	110	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	107	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	106	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	106	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	104	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	100	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	101	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	99.7	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	105	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	102	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	109	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	104	88.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1267059)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	106	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	107	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	109	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	106	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	104	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	97.4	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1267059) - continued								
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	102	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	13134 mg/kg	97.8	70	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	101	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	101	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	102	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	107	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	103	88.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1265536)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	80.5	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1265538)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	80.4	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1267060)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	80.5	67	118
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1266556)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	111	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1266315)								
EK025G: Free Cyanide	----	1	mg/kg	<1	2.0 mg/kg	87.8	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1266316)								
EK025G: Free Cyanide	----	1	mg/kg	<1	2.0 mg/kg	91.0	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1268169)								
EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	2.0 mg/kg	84.2	70	130
EP004: Organic Matter (QCLot: 1265016)								
EP004: Organic Matter	----	0.5	%	<0.5	4.58 %	101	86	111
EP004: Total Organic Carbon	----	0.5	%	<0.5	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1264318)								
EP074: Benzene	71-43-2	0.5	mg/kg	<0.5	1 mg/kg	85.9	64	126
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	91.0	63	135
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	86.9	64	124
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	90.1	66	126
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	88.4	67	121
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	88.9	66	124
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	85.3	64	124
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	83.2	59	129
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	82.2	63	125
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	81.8	61	127
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	84.3	62	126
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	85.9	62	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1264318) - continued								
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	81.5	60	126
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	78.6	57	129
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1264889)								
EP074: Benzene	71-43-2	0.5	mg/kg	<0.5	1 mg/kg	77.5	64	126
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	101	63	135
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	93.1	64	124
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	102	66	126
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	105	67	121
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	102	66	124
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	90.5	64	124
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	81.0	59	129
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	87.6	63	125
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	79.0	61	127
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	96.1	62	126
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	80.2	62	126
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	72.9	60	126
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	74.1	57	129
EP074B: Oxygenated Compounds (QCLot: 1264318)								
EP074: Vinyl Acetate	108-05-4	1	mg/kg	----	10 mg/kg	14.6	11	155
		5	mg/kg	<5	----	----	----	----
EP074: 2-Butanone (MEK)	78-93-3	1	mg/kg	----	10 mg/kg	126	37	169
		5	mg/kg	<5	----	----	----	----
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	1	mg/kg	----	10 mg/kg	90.3	55	133
		5	mg/kg	<5	----	----	----	----
EP074: 2-Hexanone (MBK)	591-78-6	1	mg/kg	----	10 mg/kg	95.5	57	133
		5	mg/kg	<5	----	----	----	----
EP074B: Oxygenated Compounds (QCLot: 1264889)								
EP074: Vinyl Acetate	108-05-4	1	mg/kg	----	10 mg/kg	68.0	11	155
		5	mg/kg	<5	----	----	----	----
EP074: 2-Butanone (MEK)	78-93-3	1	mg/kg	----	10 mg/kg	93.1	37	169
		5	mg/kg	<5	----	----	----	----
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	1	mg/kg	----	10 mg/kg	90.3	55	133
		5	mg/kg	<5	----	----	----	----
EP074: 2-Hexanone (MBK)	591-78-6	1	mg/kg	----	10 mg/kg	110	57	133
		5	mg/kg	<5	----	----	----	----
EP074C: Sulfonated Compounds (QCLot: 1264318)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	61.7	53	135
EP074C: Sulfonated Compounds (QCLot: 1264889)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074C: Sulfonated Compounds (QCLot: 1264889) - continued								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	99.6	53	135
EP074D: Fumigants (QCLot: 1264318)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	74.2	57	129
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	82.1	68	122
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	61.9	59	127
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	58.6	53	129
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	81.6	69	121
EP074D: Fumigants (QCLot: 1264889)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	82.5	57	129
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	90.8	68	122
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	78.1	59	127
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	78.9	53	129
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	101	69	121
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264318)								
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	----	10 mg/kg	63.8	28.9	146
		5	mg/kg	<5	----	----	----	----
EP074: Chloromethane	74-87-3	1	mg/kg	----	10 mg/kg	75.0	43	140
		5	mg/kg	<5	----	----	----	----
EP074: Vinyl chloride	75-01-4	1	mg/kg	----	10 mg/kg	81.7	41	149
		5	mg/kg	<5	----	----	----	----
EP074: Bromomethane	74-83-9	1	mg/kg	----	10 mg/kg	99.0	44	152
		5	mg/kg	<5	----	----	----	----
EP074: Chloroethane	75-00-3	1	mg/kg	----	10 mg/kg	78.3	49	149
		5	mg/kg	<5	----	----	----	----
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	----	10 mg/kg	88.9	53	139
		5	mg/kg	<5	----	----	----	----
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	72.4	57	133
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	63.2	48	134
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	93.1	62	128
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	84.5	64	126
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	77.8	66	124
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	70.1	61	125
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	75.5	62	128
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	62.0	56	128
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	90.5	70	124
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	81.5	65	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	74.6	67	123
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	89.9	70	122
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	91.6	71	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264318) - continued								
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	133	64	144
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	69.5	57	125
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	83.0	39	141
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	92.8	56	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	78.9	57	127
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	97.5	62	126
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	33.6	26.4	144
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	78.8	51	133
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	81.0	48	136
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264889)								
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	----	10 mg/kg	83.7	28.9	146
		5	mg/kg	<5	----	----	----	----
EP074: Chloromethane	74-87-3	1	mg/kg	----	10 mg/kg	114	43	140
		5	mg/kg	<5	----	----	----	----
EP074: Vinyl chloride	75-01-4	1	mg/kg	----	10 mg/kg	109	41	149
		5	mg/kg	<5	----	----	----	----
EP074: Bromomethane	74-83-9	1	mg/kg	----	10 mg/kg	86.1	44	152
		5	mg/kg	<5	----	----	----	----
EP074: Chloroethane	75-00-3	1	mg/kg	----	10 mg/kg	79.7	49	149
		5	mg/kg	<5	----	----	----	----
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	----	10 mg/kg	85.6	53	139
		5	mg/kg	<5	----	----	----	----
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	83.4	57	133
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	87.7	48	134
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	95.6	62	128
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	92.0	64	126
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	89.7	66	124
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	75.9	61	125
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	75.6	62	128
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	89.8	56	128
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	88.8	70	124
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	77.5	65	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	91.5	67	123
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	101	70	122
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	104	71	121
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	98.9	64	144
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	93.7	57	125
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	110	39	141
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	97.9	56	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264889) - continued								
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	92.6	57	127
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	101	62	126
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	86.9	26.4	144
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	113	51	133
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	77.0	48	136
EP074F: Halogenated Aromatic Compounds (QCLot: 1264318)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	89.8	67	125
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	85.2	68	122
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	87.0	63	127
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	88.1	64	126
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	86.7	66	124
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	86.5	64	126
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	85.2	67	121
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	81.0	54	134
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	86.1	58	132
EP074F: Halogenated Aromatic Compounds (QCLot: 1264889)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	95.4	67	125
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	90.1	68	122
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	81.6	63	127
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	82.7	64	126
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	80.2	66	124
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	79.2	64	126
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	84.2	67	121
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	66.0	54	134
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	73.9	58	132
EP074G: Trihalomethanes (QCLot: 1264318)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	80.2	67	123
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	65.9	60	126
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	67.8	58	124
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	80.2	57	121
EP074G: Trihalomethanes (QCLot: 1264889)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	90.4	67	123
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	90.3	60	126
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	113	58	124
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	101	57	121
EP074H: Naphthalene (QCLot: 1264889)								
EP074: Naphthalene	91-20-3	0.5	mg/kg	----	10 mg/kg	80.0	63	131
		5	mg/kg	<5	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 1264414)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	99.5	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	105	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	106	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	98.2	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	75.4	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	91.0	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	82.0	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	85.4	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	# 72.2	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	64.6	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	89.8	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	7.3	1.23	91.6
EP075(SIM)A: Phenolic Compounds (QCLot: 1265068)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	104	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	98.3	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	95.6	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	99.1	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	75.8	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	94.4	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	90.1	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	88.4	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	88.8	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	81.8	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	81.2	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	25.3	1.23	91.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1264414)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	104	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	102	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	102	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	103	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	104	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	108	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	109	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	108	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	90.7	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	# 119	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	87.7	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	# 120	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	84.0	76.4	113

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1264414) - continued								
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	73.5	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	77.1	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	78.0	72.4	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1265068)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	98.1	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	98.9	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	90.4	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	94.0	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	97.0	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	95.7	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	96.6	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	97.2	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	103	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	106	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	85.4	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	101	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	107	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	83.5	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	80.1	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	94.0	72.4	114
EP075A: Phenolic Compounds (QCLot: 1266640)								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.25 mg/kg	85.0	66.9	114
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.25 mg/kg	80.5	58.5	108
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.25 mg/kg	81.1	43	103
EP075: 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	2.5 mg/kg	94.2	35.9	109
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	72.0	49.4	109
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.25 mg/kg	32.2	.15	116
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.25 mg/kg	70.9	52.5	106
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.25 mg/kg	55.1	48.2	98.6
EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	1.25 mg/kg	73.8	59	106
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.25 mg/kg	53.0	44.4	101
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.25 mg/kg	78.6	48	107
EP075: Pentachlorophenol	87-86-5	1.0	mg/kg	<1	2.5 mg/kg	44.2	4.43	89.2
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266640)								
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.25 mg/kg	89.3	63.7	108
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.25 mg/kg	89.0	60.8	110
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.25 mg/kg	85.2	59.1	110
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.25 mg/kg	84.1	58.8	106
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.25 mg/kg	87.3	61.7	110

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266640) - continued								
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	86.1	59.2	110
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.25 mg/kg	88.4	61.9	108
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.25 mg/kg	84.2	58.3	107
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.25 mg/kg	85.0	58.5	110
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.25 mg/kg	86.8	60.4	109
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.25 mg/kg	83.3	59.5	110
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	82.0	57.2	111
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.25 mg/kg	83.2	58.4	113
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2	1	mg/kg	----	2.5 mg/kg	82.9	57.1	112
	207-08-9	1.0	mg/kg	<1	----	----	----	----
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.25 mg/kg	72.4	48.1	106
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.25 mg/kg	81.4	56.6	108
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.25 mg/kg	78.2	52.7	108
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.25 mg/kg	82.9	56.8	110
EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.25 mg/kg	81.3	54.7	110
EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.25 mg/kg	82.5	55	112
EP075C: Phthalate Esters (QCLot: 1266640)								
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.25 mg/kg	86.4	60.1	111
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.25 mg/kg	86.9	62.3	114
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.25 mg/kg	90.4	65.5	122
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.25 mg/kg	88.4	61.6	112
EP075: bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg	----	1.25 mg/kg	86.6	66.6	135
		5.0	mg/kg	<5.0	----	----	----	----
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.25 mg/kg	90.9	59	116
EP075D: Nitrosamines (QCLot: 1266640)								
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.25 mg/kg	108	39.4	124
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.25 mg/kg	90.9	62.7	112
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	----	1.25 mg/kg	90.2	42.8	102
		1.0	mg/kg	<1.0	----	----	----	----
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.25 mg/kg	104	52.4	112
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.25 mg/kg	96.6	60.6	107
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.25 mg/kg	88.2	59.6	108
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.25 mg/kg	86.8	59.4	106
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6	1.0	mg/kg	<1.0	2.5 mg/kg	46.6	38	110
	122-39-4							
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.25 mg/kg	86.2	16.3	123
EP075E: Nitroaromatics and Ketones (QCLot: 1266640)								
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.25 mg/kg	92.1	27.3	129
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.25 mg/kg	92.3	62.6	110

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 1266640) - continued								
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.25 mg/kg	91.8	64.4	112
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.25 mg/kg	89.6	64	110
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	----	1.25 mg/kg	85.0	58	114
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	----	1.25 mg/kg	87.8	55.8	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.25 mg/kg	29.7	2.24	93
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.25 mg/kg	56.4	3.12	108
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.25 mg/kg	82.8	48.3	98.5
EP075: Azobenzene	103-33-3	1	mg/kg	----	1.25 mg/kg	87.1	61.4	113
		1.0	mg/kg	<1	----	----	----	----
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.25 mg/kg	64.7	33	108
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.25 mg/kg	82.4	58.1	110
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.25 mg/kg	47.2	36.1	102
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.25 mg/kg	79.4	55.8	106
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.25 mg/kg	83.5	49.4	105
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.25 mg/kg	75.1	53.5	105
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.25 mg/kg	96.8	57.4	112
EP075F: Haloethers (QCLot: 1266640)								
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.25 mg/kg	110	63.1	113
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.25 mg/kg	88.8	62.4	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.25 mg/kg	86.3	59	111
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	80.9	56.4	109
EP075G: Chlorinated Hydrocarbons (QCLot: 1266640)								
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.25 mg/kg	87.6	60.4	106
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.25 mg/kg	89.2	62.1	107
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.25 mg/kg	91.0	61.3	107
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.25 mg/kg	87.7	53.8	107
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.25 mg/kg	86.2	62.9	108
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.25 mg/kg	71.4	39.1	110
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.25 mg/kg	85.9	59.3	110
EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	----	1.25 mg/kg	79.3	17.2	106
		2.5	mg/kg	<2.5	----	----	----	----
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.25 mg/kg	80.9	60	110
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	----	1.25 mg/kg	81.3	59.9	111
		1.0	mg/kg	<1.0	----	----	----	----
EP075H: Anilines and Benzidines (QCLot: 1266640)								
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.25 mg/kg	31.0	13.2	108
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.25 mg/kg	59.3	19.9	114

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075H: Anilines and Benzidines (QCLot: 1266640) - continued								
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	----	1.25 mg/kg	83.5	57.4	109
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	----	1.25 mg/kg	65.7	31.5	93.7
		1.0	mg/kg	<1.0	----	----	----	----
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.25 mg/kg	86.9	60.2	111
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.25 mg/kg	87.4	48.6	97.6
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.25 mg/kg	90.1	61	109
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.25 mg/kg	# 120	15.6	101
EP075I: Organochlorine Pesticides (QCLot: 1266640)								
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.25 mg/kg	86.6	59.5	110
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.25 mg/kg	85.9	53.4	113
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.25 mg/kg	85.6	58.2	112
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.25 mg/kg	87.6	56.9	114
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.25 mg/kg	81.8	52	108
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.25 mg/kg	87.1	54.9	112
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.25 mg/kg	80.9	54.6	113
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.25 mg/kg	98.2	51.7	115
EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	1.25 mg/kg	85.2	60.3	112
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.25 mg/kg	86.0	61.9	116
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.25 mg/kg	90.6	49	110
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.25 mg/kg	84.4	59.5	112
EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	1.25 mg/kg	85.8	58.5	116
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.25 mg/kg	95.6	52.6	114
EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	----	1.25 mg/kg	81.8	39.2	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075J: Organophosphorus Pesticides (QCLot: 1266640)								
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	78.2	24.6	109
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.25 mg/kg	84.7	46.4	118
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.25 mg/kg	101	50.3	116
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.25 mg/kg	81.8	41.7	119
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	98.0	52.1	121
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.25 mg/kg	77.7	43	116
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.25 mg/kg	82.0	51.1	115
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.25 mg/kg	86.6	50.9	115
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	----	----	----
		0.55	mg/kg	----	1.375 mg/kg	80.9	45.3	104
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.25 mg/kg	75.4	51.5	116
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.25 mg/kg	85.4	47.3	115
EP075K: Miscellaneous Compounds (QCLot: 1266640)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075K: Miscellaneous Compounds (QCLot: 1266640) - continued								
EP075: 1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	1.25 mg/kg	91.8	50.7	113
EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	1.25 mg/kg	76.4	52	115
EP075: Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	1.25 mg/kg	103	39.8	122
EP075: Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	1.25 mg/kg	94.4	59.6	117
EP075: cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	1.25 mg/kg	84.7	60.3	108
EP075: trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	1.25 mg/kg	82.0	53.9	113
EP075: Safrole	94-59-7	0.5	mg/kg	<0.5	1.25 mg/kg	83.8	57.8	110
EP075: Diallate	2303-16-4	0.5	mg/kg	<0.5	1.25 mg/kg	93.4	61.3	111
EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264317)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	94.3	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264413)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	96.0	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	97.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	93.0	72.6	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264888)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	93.6	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265067)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	92.0	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	89.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	99.0	72.6	117
EP080: BTEX (QCLot: 1264317)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.9	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	84.0	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	87.8	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	92.8	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	89.7	66.7	123
EP080: BTEX (QCLot: 1264888)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.6	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	86.0	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	87.0	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	87.9	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	92.3	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG005C: Leachable Metals by ICPAES (QCLot: 1266943)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	0.1 mg/L	103	70	130
EG005C: Barium	7440-39-3	0.1	mg/L	<0.1	0.1 mg/L	101	70	130
EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	0.1 mg/L	106	70	130
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.1 mg/L	106	70	130
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	0.1 mg/L	104	70	130
EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	0.1 mg/L	101	70	130
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	0.1 mg/L	102	70	130
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	0.1 mg/L	103	70	130
EG005C: Manganese	7439-96-5	0.1	mg/L	<0.1	0.1 mg/L	104	70	130
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	0.1 mg/L	97.0	70	130
EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	0.1 mg/L	90.4	70	130
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	0.1 mg/L	96.4	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1266442)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	93.0	88	110
EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	90.0	80	114
EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	96.4	85	109
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	94.6	89	107
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	95.4	91	111
EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	96.4	89	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	97.0	87	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	96.2	90	110
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	95.4	87	113
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	93.4	89	109
EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 87.3	91	109
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	94.6	85	115
EG035C: Leachable Mercury by FIMS (QCLot: 1269465)								
EG035C: Mercury	7439-97-6	0.001	mg/L	<0.0010	0.010 mg/L	111	83	119
EG035F: Dissolved Mercury by FIMS (QCLot: 1266441)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	105	86	116
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266747)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	75.9	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	75.1	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	75.2	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	76.1	63.9	115
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266747) - continued								
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	77.1	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	78.1	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	80.6	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	80.5	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	78.5	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	80.0	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	92.2	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	89.5	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	84.1	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	77.2	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	78.4	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	74.6	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264262)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	81.5	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	104	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	91.0	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264284)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	100 µg/L	98.8	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	100 µg/L	127	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	100 µg/L	# 131	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264478)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	109	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	77.0	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	84.0	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265446)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	100 µg/L	92.7	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	100 µg/L	93.0	73.9	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265446) - continued								
EP071: C29 - C36 Fraction	----	50	µg/L	<50	100 µg/L	97.1	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265471)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	95.2	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265474)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	97.4	75	127
EP080: BTEX (QCLot: 1265471)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	104	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	100	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	90.7	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	86.3	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	92.8	77.9	121
EP080: BTEX (QCLot: 1265474)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	108	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	84.5	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	87.2	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	80.5	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	95.4	77.9	121

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1265535)							
ES1003671-001	BH46-1.0-1.2	EG005T: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	105	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	88.2	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	104	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	103	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	101	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	105	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1265537)							
ES1003671-020	BH39-11.5-11.7	EG005T: Arsenic	7440-38-2	50 mg/kg	105	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	108	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	107	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	107	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	106	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	105	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	112	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1267059)							
ES1003671-028	BH39-2.5-2.7	EG005T: Arsenic	7440-38-2	50 mg/kg	106	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	112	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	109	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	112	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	110	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	108	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	113	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1265536)							
ES1003671-001	BH46-1.0-1.2	EG035T: Mercury	7439-97-6	5 mg/kg	89.0	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1265538)							
ES1003671-020	BH39-11.5-11.7	EG035T: Mercury	7439-97-6	5 mg/kg	91.5	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1267060)							
ES1003671-028	BH39-2.5-2.7	EG035T: Mercury	7439-97-6	5 mg/kg	81.3	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1266556)							
ES1003671-004	BH46-14.5-14.7	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	89.0	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1266315)							
ES1003388-003	Anonymous	EK025G: Free Cyanide	----	2.0 mg/kg	87.8	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK025G: Free cyanide by Discrete Analyser (QCLot: 1266316)							
ES1003671-007	BH47-4.0-4.2	EK025G: Free Cyanide	----	2.0 mg/kg	84.7	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1268169)							
ES1003390-004	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	2.0 mg/kg	84.9	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1264318)							
ES1003671-010	BH47-13.0-13.2	EP074: Benzene	71-43-2	2.5 mg/kg	80.4	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	83.5	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1264889)							
ES1003671-030	BH48-14.5-14.7	EP074: Benzene	71-43-2	2.5 mg/kg	# Not Determined	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	# Not Determined	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264318)							
ES1003671-010	BH47-13.0-13.2	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	74.5	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	75.7	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264889)							
ES1003671-030	BH48-14.5-14.7	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	# Not Determined	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	# Not Determined	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1264318)							
ES1003671-010	BH47-13.0-13.2	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	83.4	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1264889)							
ES1003671-030	BH48-14.5-14.7	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	# Not Determined	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1264414)							
ES1003671-001	BH46-1.0-1.2	EP075(SIM): Phenol	108-95-2	10 mg/kg	84.3	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	88.2	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	77.9	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	77.0	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	24.7	20	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1265068)							
ES1003672-002	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	100	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	94.5	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	76.6	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	81.6	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	50.1	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1264414)							
ES1003671-001	BH46-1.0-1.2	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	89.5	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	97.8	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1265068)							
ES1003672-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	# 138	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
				Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1265068) - continued							
ES1003672-002	Anonymous	EP075(SIM): Pyrene	129-00-0	10 mg/kg	# Not Determined	70	130
EP075A: Phenolic Compounds (QCLot: 1266640)							
ES1003671-010	BH47-13.0-13.2	EP075: Phenol	108-95-2	5 mg/kg	84.8	60	130
		EP075: 2-Chlorophenol	95-57-8	5 mg/kg	79.4	60	130
		EP075: 2-Nitrophenol	88-75-5	5 mg/kg	69.9	50	130
		EP075: 4-Chloro-3-Methylphenol	59-50-7	5 mg/kg	79.5	50	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	20.4	5	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266640)							
ES1003671-010	BH47-13.0-13.2	EP075: Acenaphthene	83-32-9	5 mg/kg	71.9	50	130
		EP075: Pyrene	129-00-0	5 mg/kg	72.9	50	130
EP075D: Nitrosamines (QCLot: 1266640)							
ES1003671-010	BH47-13.0-13.2	EP075: N-Nitrosodi-n-propylamine	621-64-7	5 mg/kg	75.7	50	130
EP075E: Nitroaromatics and Ketones (QCLot: 1266640)							
ES1003671-010	BH47-13.0-13.2	EP075: 2.4-Dinitrotoluene	121-14-2	5 mg/kg	102	40	130
EP075G: Chlorinated Hydrocarbons (QCLot: 1266640)							
ES1003671-010	BH47-13.0-13.2	EP075: 1.4-Dichlorobenzene	106-46-7	5 mg/kg	74.6	60	130
		EP075: 1.2.4-Trichlorobenzene	120-82-1	5 mg/kg	73.1	50	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264317)							
ES1003671-010	BH47-13.0-13.2	EP080: C6 - C9 Fraction	----	26 mg/kg	86.7	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264413)							
ES1003671-001	BH46-1.0-1.2	EP071: C10 - C14 Fraction	----	640 mg/kg	104	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	104	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	102	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264888)							
ES1003671-030	BH48-14.5-14.7	EP080: C6 - C9 Fraction	----	26 mg/kg	# Not Determined	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265067)							
ES1003672-002	Anonymous	EP071: C10 - C14 Fraction	----	640 mg/kg	114	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	108	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	86.6	70	130
EP080: BTEX (QCLot: 1264317)							
ES1003671-010	BH47-13.0-13.2	EP080: Benzene	71-43-2	2.5 mg/kg	73.3	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	75.9	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	78.6	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	79.9	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	81.6	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEX (QCLot: 1264888)							
ES1003671-030	BH48-14.5-14.7	EP080: Benzene	71-43-2	2.5 mg/kg	# Not Determined	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	# Not Determined	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	# Not Determined	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	# Not Determined	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	# Not Determined	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005C: Leachable Metals by ICPAES (QCLot: 1266943)							
ES1003503-002	Anonymous	EG005C: Arsenic	7440-38-2	1 mg/L	115	70	130
		EG005C: Barium	7440-39-3	1 mg/L	103	70	130
		EG005C: Beryllium	7440-41-7	1 mg/L	113	70	130
		EG005C: Cadmium	7440-43-9	0.250 mg/L	113	70	130
		EG005C: Chromium	7440-47-3	1 mg/L	108	70	130
		EG005C: Cobalt	7440-48-4	1 mg/L	107	70	130
		EG005C: Copper	7440-50-8	1 mg/L	115	70	130
		EG005C: Lead	7439-92-1	1 mg/L	112	70	130
		EG005C: Manganese	7439-96-5	1 mg/L	118	70	130
		EG005C: Nickel	7440-02-0	1 mg/L	106	70	130
		EG005C: Vanadium	7440-62-2	1 mg/L	108	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	108	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1266442)							
ES1003611-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	95.8	70	130
		EG020A-F: Beryllium	7440-41-7	0.2 mg/L	95.0	70	130
		EG020A-F: Barium	7440-39-3	0.2 mg/L	93.3	70	130
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	# Not Determined	70	130
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	90.7	70	130
		EG020A-F: Cobalt	7440-48-4	0.2 mg/L	91.9	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	93.0	70	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	90.4	70	130
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	# Not Determined	70	130
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	88.5	70	130
		EG020A-F: Vanadium	7440-62-2	0.2 mg/L	94.9	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	# Not Determined	70	130
EG035C: Leachable Mercury by FIMS (QCLot: 1269465)							
ES1003671-025	BH46-19.0-19.2	EG035C: Mercury	7439-97-6	0.1 mg/L	110	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035F: Dissolved Mercury by FIMS (QCLot: 1266441)							
ES1003611-001	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	109	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265471)							
ES1003620-001	Anonymous	EP080: C6 - C9 Fraction	----	250 µg/L	109	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265474)							
ES1003612-001	Anonymous	EP080: C6 - C9 Fraction	----	250 µg/L	106	70	130
EP080: BTEX (QCLot: 1265471)							
ES1003620-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	97.0	70	130
		EP080: Toluene	108-88-3	25 µg/L	81.8	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	87.7	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	87.8	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	88.9	70	130
EP080: BTEX (QCLot: 1265474)							
ES1003612-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	100	70	130
		EP080: Toluene	108-88-3	25 µg/L	91.0	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	84.0	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	78.5	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	91.2	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1003671**	Page	: 1 of 23
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2010
Sampler	: SP/LK	Issue Date	: 09-MAR-2010
Order number	: 1303951		
		No. of samples received	: 71
Quote number	: SY/259/09 V2	No. of samples analysed	: 38

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non-volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
AS 4964 - 2004 Identification of Asbestos in bulk samples							
Snap Lock Bag							
BH47-1.0-1.2, BH47-10.0-10.2	**22-FEB-2010**	**---**	---	----	**08-MAR-2010**	04-SEP-2010	✓
Snap Lock Bag							
BH48-11.5-11.7	**23-FEB-2010**	**---**	---	----	**08-MAR-2010**	04-SEP-2010	✓
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved							
BH47-4.0-4.2, BH47-10.0-10.2	**22-FEB-2010**	**01-MAR-2010**	01-MAR-2010	✓	**01-MAR-2010**	02-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH46-14.5-14.7, QC78, BH46-19.0-19.2, BH46-20.5-20.7, BH48-14.5-14.7, BH48-17.0-17.2	**23-FEB-2010**	**01-MAR-2010**	02-MAR-2010	✓	**01-MAR-2010**	02-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH39-20.5-20.7	**24-FEB-2010**	**02-MAR-2010**	03-MAR-2010	✓	**02-MAR-2010**	03-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved								
BH47-1.0-1.2,	BH47-4.0-4.2,	**22-FEB-2010**	**----**	----	----	**01-MAR-2010**	01-MAR-2010	✓
BH47-8.5-8.7,	BH47-10.0-10.2,							
BH47-13.0-13.2,	BH47-18.6-18.8,							
QC74,	BH48-1.0-1.2,							
QC76								
Soil Glass Jar - Unpreserved								
BH46-1.0-1.2,	BH46-4.0-4.2,	**23-FEB-2010**	**----**	----	----	**02-MAR-2010**	02-MAR-2010	✓
BH46-7.0-7.2,	BH46-14.5-14.7,							
BH65-0.15-0.25,	QC56,							
QC57,	QC78,							
BH46-19.0-19.2,	BH46-20.5-20.7,							
BH46-23.5-23.7,	BH39-2.5-2.7,							
BH48-8.5-8.7,	BH48-14.5-14.7,							
BH48-17.0-17.2								
Soil Glass Jar - Unpreserved								
BH39-4.0-4.2,	BH39-7.0-7.2,	**24-FEB-2010**	**----**	----	----	**02-MAR-2010**	03-MAR-2010	✓
BH39-11.5-11.7,	BH39-16.0-16.2,							
BH39-20.5-20.7,	QC101							
EG005C: Leachable Metals by ICPAES								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH46-19.0-19.2,	BH48-14.5-14.7	**03-MAR-2010**	**03-MAR-2010**	30-AUG-2010	✓	**04-MAR-2010**	30-AUG-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved								
BH47-1.0-1.2,	BH47-4.0-4.2,	**22-FEB-2010**	**02-MAR-2010**	22-MAR-2010	✓	**03-MAR-2010**	21-AUG-2010	✓
BH47-8.5-8.7,	BH47-10.0-10.2,							
BH47-13.0-13.2,	BH47-18.6-18.8,							
QC74,	BH48-1.0-1.2,							
QC76								
Soil Glass Jar - Unpreserved								
BH46-1.0-1.2,	BH46-4.0-4.2,	**23-FEB-2010**	**02-MAR-2010**	23-MAR-2010	✓	**03-MAR-2010**	22-AUG-2010	✓
BH46-7.0-7.2,	BH46-14.5-14.7,							
BH65-0.15-0.25,	QC56,							
QC57,	QC78,							
BH46-19.0-19.2,	BH46-20.5-20.7,							
BH46-23.5-23.7								
Soil Glass Jar - Unpreserved								
BH39-2.5-2.7,	BH48-8.5-8.7,	**23-FEB-2010**	**03-MAR-2010**	23-MAR-2010	✓	**04-MAR-2010**	22-AUG-2010	✓
BH48-14.5-14.7,	BH48-17.0-17.2							
Soil Glass Jar - Unpreserved								
BH39-4.0-4.2,	BH39-7.0-7.2,	**24-FEB-2010**	**02-MAR-2010**	24-MAR-2010	✓	**03-MAR-2010**	23-AUG-2010	✓
BH39-11.5-11.7,	BH39-16.0-16.2,							
BH39-20.5-20.7,	QC101							
EG035C: Leachable Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH46-19.0-19.2,	BH48-14.5-14.7	**03-MAR-2010**	**----**	----	----	**08-MAR-2010**	31-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved							
BH47-1.0-1.2, BH47-4.0-4.2, BH47-8.5-8.7, BH47-10.0-10.2, BH47-13.0-13.2, BH47-18.6-18.8, QC74, BH48-1.0-1.2, QC76	**22-FEB-2010**	**02-MAR-2010**	22-MAR-2010	✓	**04-MAR-2010**	22-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH46-1.0-1.2, BH46-4.0-4.2, BH46-7.0-7.2, BH46-14.5-14.7, BH65-0.15-0.25, QC56, QC57, QC78, BH46-19.0-19.2, BH46-20.5-20.7, BH46-23.5-23.7	**23-FEB-2010**	**02-MAR-2010**	23-MAR-2010	✓	**04-MAR-2010**	23-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH39-2.5-2.7, BH48-8.5-8.7, BH48-14.5-14.7, BH48-17.0-17.2	**23-FEB-2010**	**03-MAR-2010**	23-MAR-2010	✓	**05-MAR-2010**	23-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH39-4.0-4.2, BH39-7.0-7.2, BH39-11.5-11.7, BH39-16.0-16.2, BH39-20.5-20.7, QC101	**24-FEB-2010**	**02-MAR-2010**	24-MAR-2010	✓	**04-MAR-2010**	24-MAR-2010	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved							
BH47-13.0-13.2	**22-FEB-2010**	**03-MAR-2010**	22-MAR-2010	✓	**03-MAR-2010**	10-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH46-14.5-14.7, QC78, BH46-19.0-19.2, BH46-20.5-20.7, BH48-14.5-14.7	**23-FEB-2010**	**03-MAR-2010**	23-MAR-2010	✓	**03-MAR-2010**	10-MAR-2010	✓
EK025G: Free cyanide by Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH47-4.0-4.2, BH47-13.0-13.2	**22-FEB-2010**	**03-MAR-2010**	01-MAR-2010	×	**03-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH46-7.0-7.2, BH46-14.5-14.7, QC57, QC78, BH46-19.0-19.2, BH46-20.5-20.7, BH48-14.5-14.7	**23-FEB-2010**	**03-MAR-2010**	02-MAR-2010	×	**03-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH39-16.0-16.2, BH39-20.5-20.7, QC101	**24-FEB-2010**	**03-MAR-2010**	03-MAR-2010	✓	**03-MAR-2010**	17-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved BH47-4.0-4.2, BH47-13.0-13.2	**22-FEB-2010**	**04-MAR-2010**	01-MAR-2010	×	**04-MAR-2010**	01-MAR-2010	×
Soil Glass Jar - Unpreserved BH46-7.0-7.2, BH46-14.5-14.7, QC57, QC78, BH46-19.0-19.2, BH46-20.5-20.7, BH48-14.5-14.7	**23-FEB-2010**	**04-MAR-2010**	02-MAR-2010	×	**04-MAR-2010**	02-MAR-2010	×
Soil Glass Jar - Unpreserved BH39-16.0-16.2, BH39-20.5-20.7, QC101	**24-FEB-2010**	**04-MAR-2010**	03-MAR-2010	×	**04-MAR-2010**	03-MAR-2010	×
EN33: TCLP Leach							
LabSplit: Leach for organics and other tests BH46-19.0-19.2, BH48-14.5-14.7	**23-FEB-2010**	**---**	---	----	**03-MAR-2010**	09-MAR-2010	✓
EP004: Organic Matter							
Soil Glass Jar - Unpreserved BH47-13.0-13.2	**22-FEB-2010**	**----**	----	----	**05-MAR-2010**	01-MAR-2010	×
Soil Glass Jar - Unpreserved BH46-14.5-14.7, QC78, BH46-19.0-19.2, BH46-20.5-20.7, BH48-14.5-14.7	**23-FEB-2010**	**----**	----	----	**05-MAR-2010**	02-MAR-2010	×
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved BH47-13.0-13.2	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved TB07	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved QC78, BH46-19.0-19.2	**23-FEB-2010**	**01-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH48-14.5-14.7, TB05	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7	**24-FEB-2010**	**01-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
Soil Glass Jar - Unpreserved TB10	**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved								
BH47-13.0-13.2		**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved								
TB07		**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved								
QC78,	BH46-19.0-19.2	**23-FEB-2010**	**01-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH48-14.5-14.7,	TB05	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH39-20.5-20.7		**24-FEB-2010**	**01-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
Soil Glass Jar - Unpreserved								
TB10		**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved								
BH47-13.0-13.2		**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved								
TB07		**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved								
QC78,	BH46-19.0-19.2	**23-FEB-2010**	**01-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH48-14.5-14.7,	TB05	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH39-20.5-20.7		**24-FEB-2010**	**01-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
Soil Glass Jar - Unpreserved								
TB10		**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
EP074D: Fumigants								
Soil Glass Jar - Unpreserved								
BH47-13.0-13.2		**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved								
TB07		**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved								
QC78,	BH46-19.0-19.2	**23-FEB-2010**	**01-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH48-14.5-14.7,	TB05	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH39-20.5-20.7		**24-FEB-2010**	**01-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
Soil Glass Jar - Unpreserved								
TB10		**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074E: Halogenated Aliphatic Compounds								
Soil Glass Jar - Unpreserved BH47-13.0-13.2		**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved TB07		**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved QC78,	BH46-19.0-19.2	**23-FEB-2010**	**01-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH48-14.5-14.7,	TB05	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7		**24-FEB-2010**	**01-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
Soil Glass Jar - Unpreserved TB10		**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
EP074F: Halogenated Aromatic Compounds								
Soil Glass Jar - Unpreserved BH47-13.0-13.2		**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved TB07		**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved QC78,	BH46-19.0-19.2	**23-FEB-2010**	**01-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH48-14.5-14.7,	TB05	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7		**24-FEB-2010**	**01-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
Soil Glass Jar - Unpreserved TB10		**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
EP074G: Trihalomethanes								
Soil Glass Jar - Unpreserved BH47-13.0-13.2		**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved TB07		**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved QC78,	BH46-19.0-19.2	**23-FEB-2010**	**01-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH48-14.5-14.7,	TB05	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7		**24-FEB-2010**	**01-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
Soil Glass Jar - Unpreserved TB10		**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074H: Naphthalene								
Soil Glass Jar - Unpreserved								
TB07		**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH48-14.5-14.7,	TB05	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved								
TB10		**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved								
BH47-4.0-4.2,	BH47-8.5-8.7,	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
BH48-1.0-1.2,	QC76							
Soil Glass Jar - Unpreserved								
BH46-1.0-1.2,	BH46-7.0-7.2,	**23-FEB-2010**	**01-MAR-2010**	09-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
BH46-14.5-14.7,	QC56,							
QC57,	BH46-20.5-20.7,							
BH46-23.5-23.7,	BH48-8.5-8.7							
Soil Glass Jar - Unpreserved								
BH48-17.0-17.2		**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**04-MAR-2010**	11-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH39-4.0-4.2,	BH39-11.5-11.7,	**24-FEB-2010**	**01-MAR-2010**	10-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
BH39-16.0-16.2,	QC101							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved								
BH46-19.0-19.2,	BH48-14.5-14.7	**03-MAR-2010**	**03-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	12-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH47-4.0-4.2,	BH47-8.5-8.7,	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
BH48-1.0-1.2,	QC76							
Soil Glass Jar - Unpreserved								
BH46-1.0-1.2,	BH46-7.0-7.2,	**23-FEB-2010**	**01-MAR-2010**	09-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
BH46-14.5-14.7,	QC56,							
QC57,	BH46-20.5-20.7,							
BH46-23.5-23.7,	BH48-8.5-8.7							
Soil Glass Jar - Unpreserved								
BH48-17.0-17.2		**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**04-MAR-2010**	11-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH39-4.0-4.2,	BH39-11.5-11.7,	**24-FEB-2010**	**01-MAR-2010**	10-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
BH39-16.0-16.2,	QC101							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075A: Phenolic Compounds							
Soil Glass Jar - Unpreserved BH47-13.0-13.2	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved QC78, BH46-19.0-19.2, BH48-14.5-14.7	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved BH47-13.0-13.2	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved QC78, BH46-19.0-19.2, BH48-14.5-14.7	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075C: Phthalate Esters							
Soil Glass Jar - Unpreserved BH47-13.0-13.2	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved QC78, BH46-19.0-19.2, BH48-14.5-14.7	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075D: Nitrosamines							
Soil Glass Jar - Unpreserved BH47-13.0-13.2	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved QC78, BH46-19.0-19.2, BH48-14.5-14.7	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075E: Nitroaromatics and Ketones							
Soil Glass Jar - Unpreserved BH47-13.0-13.2	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved QC78, BH46-19.0-19.2, BH48-14.5-14.7	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075F: Haloethers							
Soil Glass Jar - Unpreserved BH47-13.0-13.2	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved QC78, BH46-19.0-19.2, BH48-14.5-14.7	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075G: Chlorinated Hydrocarbons							
Soil Glass Jar - Unpreserved BH47-13.0-13.2	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved QC78, BH46-19.0-19.2, BH48-14.5-14.7	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075H: Anilines and Benzidines							
Soil Glass Jar - Unpreserved BH47-13.0-13.2	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved QC78, BH46-19.0-19.2, BH48-14.5-14.7	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075I: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved BH47-13.0-13.2	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved QC78, BH46-19.0-19.2, BH48-14.5-14.7	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075J: Organophosphorus Pesticides							
Soil Glass Jar - Unpreserved BH47-13.0-13.2	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved QC78, BH46-19.0-19.2, BH48-14.5-14.7	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH39-20.5-20.7	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075K: Miscellaneous Compounds							
Soil Glass Jar - Unpreserved							
BH47-13.0-13.2	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved							
QC78, BH46-19.0-19.2, BH48-14.5-14.7	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH39-20.5-20.7	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved							
BH47-4.0-4.2, BH47-8.5-8.7, BH47-13.0-13.2, BH48-1.0-1.2, QC76	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	10-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH46-1.0-1.2, BH46-7.0-7.2, BH46-14.5-14.7, QC56, QC57, QC78, BH46-19.0-19.2, BH46-20.5-20.7, BH46-23.5-23.7, BH48-8.5-8.7	**23-FEB-2010**	**01-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	10-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH48-14.5-14.7, BH48-17.0-17.2	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH48-14.5-14.7, BH48-17.0-17.2	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**03-MAR-2010**	11-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH39-4.0-4.2, BH39-11.5-11.7, BH39-16.0-16.2, BH39-20.5-20.7, QC101	**24-FEB-2010**	**01-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-APR-2010	✓
EP080: BTEX							
Soil Glass Jar - Unpreserved							
BH47-4.0-4.2, BH47-8.5-8.7, BH48-1.0-1.2, QC76	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH46-1.0-1.2, BH46-7.0-7.2, BH46-14.5-14.7, QC56, QC57, BH46-20.5-20.7, BH46-23.5-23.7, BH48-8.5-8.7	**23-FEB-2010**	**01-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH48-17.0-17.2	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH39-4.0-4.2, BH39-11.5-11.7, BH39-16.0-16.2, QC101	**24-FEB-2010**	**01-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS								
Clear Plastic Bottle - Nitric Acid; Filtered								
QC80		**19-FEB-2010**	**---**	---	----	**03-MAR-2010**	18-AUG-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered								
QC59,	QC100	**23-FEB-2010**	**---**	---	----	**03-MAR-2010**	22-AUG-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered								
QC103		**24-FEB-2010**	**---**	---	----	**03-MAR-2010**	23-AUG-2010	✓
EG035F: Dissolved Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Filtered								
QC80		**19-FEB-2010**	**---**	---	----	**05-MAR-2010**	19-MAR-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered								
QC59,	QC100	**23-FEB-2010**	**---**	---	----	**05-MAR-2010**	23-MAR-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered								
QC103		**24-FEB-2010**	**---**	---	----	**05-MAR-2010**	24-MAR-2010	✓
EP080/071: Total Petroleum Hydrocarbons								
Amber Glass Bottle - Unpreserved								
QC80		**19-FEB-2010**	**01-MAR-2010**	26-FEB-2010	×	**02-MAR-2010**	10-APR-2010	✓
Amber Glass Bottle - Unpreserved								
QC59		**23-FEB-2010**	**01-MAR-2010**	02-MAR-2010	✓	**02-MAR-2010**	10-APR-2010	✓
Amber Glass Bottle - Unpreserved								
QC100		**23-FEB-2010**	**02-MAR-2010**	02-MAR-2010	✓	**02-MAR-2010**	11-APR-2010	✓
Amber Glass Bottle - Unpreserved								
QC103		**24-FEB-2010**	**03-MAR-2010**	03-MAR-2010	✓	**03-MAR-2010**	12-APR-2010	✓
Amber VOC Vial - HCl								
QC80		**19-FEB-2010**	**---**	---	----	**03-MAR-2010**	05-MAR-2010	✓
Amber VOC Vial - HCl								
QC59,	QC100	**23-FEB-2010**	**---**	---	----	**03-MAR-2010**	09-MAR-2010	✓
Amber VOC Vial - HCl								
QC103		**24-FEB-2010**	**---**	---	----	**03-MAR-2010**	10-MAR-2010	✓
EP080: BTEX								
Amber VOC Vial - HCl								
QC80		**19-FEB-2010**	**---**	---	----	**03-MAR-2010**	05-MAR-2010	✓
Amber VOC Vial - HCl								
QC59,	QC100	**23-FEB-2010**	**---**	---	----	**03-MAR-2010**	09-MAR-2010	✓
Amber VOC Vial - HCl								
QC103		**24-FEB-2010**	**---**	---	----	**03-MAR-2010**	10-MAR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Free Cyanide By Discrete Analyser	EK025G	4	37	**10.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	6	59	**10.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	4	31	**12.9**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	3	24	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	2	14	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	6	51	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	6	60	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	4	40	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	4	32	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	2	9	**22.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	2	19	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Free Cyanide By Discrete Analyser	EK025G	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	31	**6.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	3	51	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	3	60	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	32	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	2	9	**22.2**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Free Cyanide By Discrete Analyser	EK025G	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	31	**6.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	3	51	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	3	60	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	32	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB) - Continued							
Volatile Organic Compounds	EP074	2	9	22.2	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	19	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Free Cyanide By Discrete Analyser	EK025G	2	37	5.4	5.0	✓	ALS QCS3 requirement
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	20	5.0	5.0	✓	ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	31	6.5	5.0	✓	ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	14	7.1	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	3	51	5.9	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	3	60	5.0	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	40	5.0	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	32	6.3	5.0	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	2	9	22.2	5.0	✓	ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	19	5.3	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	17	11.8	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	2	16	12.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	2	15	13.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	4	40	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	16	6.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	15	6.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	9.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	4	33	12.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	40	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	16	6.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	15	6.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	9.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	4	33	12.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	40	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	16	**6.3**	**5.0**	✓	ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	15	**6.7**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	40	**5.0**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH (1:5)	EA002	SOIL	(APHA 21st ed., 4500H+) pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM (1999) Schedule B(3) (Method 103)
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)
Asbestos Identification in bulk solids	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples
Leachable Metals by ICPAES	EG005C	SOIL	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Leachable Mercury by FIMS	EG035C	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	USEPA SW846, Method 3060A. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Free Cyanide By Discrete Analyser	EK025G	SOIL	APHA 21st 4500 CN- C & N. Caustic leach extracts of the sample are distilled at natural pH. The distillates are analyzed for CN by Discrete Analyser.
WAD Cyanide By Discrete Analyser	EK028G	SOIL	APHA 21st 4500 CN - I & N. Sample are distilled with a weak organic acid, converting selected CN species to HCN. The distillates are analyzed for CN by Discrete Analyser.
Organic Matter	EP004	SOIL	AS1289.4.1.1 - 1997., Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (1999) Schedule B(3) (Method 105)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)

Analytical Methods	Method	Matrix	Method Descriptions
Volatile Organic Compounds	EP074	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Semivolatile Organic Compounds	EP075	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 502)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	USEPA SW846, Method 3060A.
Free Cyanide Preparation Method	EK025 PR	SOIL	APHA 21st ed., 4500 CN C & N. Cyanides in the soil are directly distilled from the soil at natural pH using a steam distillation aparatus.
WAD Cyanide	EK028PR	SOIL	APHA 21st ed., 4500 CN- C & N. Cyanide is selectively distilled from the sample by the action of weak acetic acid. Only poorly bound metal complexed cyanides are released.
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes	EN33a	SOIL	(USEPA SW846-1311, ALS QWI-EN/33) The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005T: Total Metals by ICP-AES	ES1003754-003	Anonymous	**Barium**	7440-39-3	31.0 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1003671-009	BH47-10.0-10.2	**Iron**	7439-89-6	37.2 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1003671-009	BH47-10.0-10.2	**Manganese**	7439-96-5	27.1 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1003754-003	Anonymous	**Manganese**	7439-96-5	44.6 %	0-20%	**RPD exceeds LOR based limits**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003671-030	BH48-14.5-14.7	**Benzene**	71-43-2	30.5 %	0-20%	**RPD exceeds LOR based limits**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003671-030	BH48-14.5-14.7	**Toluene**	108-88-3	20.3 %	0-20%	**RPD exceeds LOR based limits**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003671-030	BH48-14.5-14.7	**meta- & para-Xylene**	108-38-3 106-42-3	24.8 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	Anonymous	**Naphthalene**	91-20-3	21.8 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	Anonymous	**Acenaphthylene**	208-96-8	25.1 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	Anonymous	**Fluorene**	86-73-7	24.3 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	Anonymous	**Phenanthrene**	85-01-8	21.1 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	Anonymous	**Phenanthrene**	85-01-8	45.0 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	Anonymous	**Anthracene**	120-12-7	24.2 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	Anonymous	**Fluoranthene**	206-44-0	24.7 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	Anonymous	**Fluoranthene**	206-44-0	27.6 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	Anonymous	**Pyrene**	129-00-0	25.0 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	Anonymous	**Pyrene**	129-00-0	21.3 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	Anonymous	**Benz(a)anthracene**	56-55-3	24.4 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	Anonymous	**Chrysene**	218-01-9	25.7 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	Anonymous	**Benzo(a)pyrene**	50-32-8	26.7 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	Anonymous	**Indeno(1.2.3.cd)pyrene**	193-39-5	26.6 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003672-037	Anonymous	**Fluorene**	86-73-7	40.9 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003672-037	Anonymous	**Anthracene**	120-12-7	45.5 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003672-037	Anonymous	**Fluoranthene**	206-44-0	46.3 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003672-037	Anonymous	**Pyrene**	129-00-0	46.5 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003672-037	Anonymous	**Benz(a)anthracene**	56-55-3	38.4 %	0-20%	**RPD exceeds LOR based limits**
EP080: BTEX	ES1003671-030	BH48-14.5-14.7	**Benzene**	71-43-2	30.3 %	0-20%	**RPD exceeds LOR based limits**
EP080: BTEX	ES1003671-030	BH48-14.5-14.7	**Toluene**	108-88-3	29.5 %	0-20%	**RPD exceeds LOR based limits**
EP080: BTEX	ES1003671-030	BH48-14.5-14.7	**meta- & para-Xylene**	108-38-3 106-42-3	24.9 %	0-20%	**RPD exceeds LOR based limits**
Laboratory Control Spike (LCS) Recoveries							

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries - Continued							
EP075(SIM)A: Phenolic Compounds	1464026-007	----	**4-Chloro-3-Methylphenol**	59-50-7	72.2 %	76.4-114%	**Recovery less than lower control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1464026-007	----	**Chrysene**	218-01-9	119 %	79.8-114%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1464026-007	----	**Benzo(k)fluoranthene**	207-08-9	120 %	74.2-117%	**Recovery greater than upper control limit**
EP075H: Anilines and Benzidines	1466763-002	----	**3.3`-Dichlorobenzidine**	91-94-1	120 %	15.6-101%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003671-030	BH48-14.5-14.7	**Benzene**	71-43-2	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003671-030	BH48-14.5-14.7	**Toluene**	108-88-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP074E: Halogenated Aliphatic Compounds	ES1003671-030	BH48-14.5-14.7	**1.1-Dichloroethene**	75-35-4	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP074E: Halogenated Aliphatic Compounds	ES1003671-030	BH48-14.5-14.7	**Trichloroethene**	79-01-6	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP074F: Halogenated Aromatic Compounds	ES1003671-030	BH48-14.5-14.7	**Chlorobenzene**	108-90-7	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	Anonymous	**Acenaphthene**	83-32-9	138 %	70-130%	**Recovery greater than upper data quality objective**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	Anonymous	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	ES1003671-030	BH48-14.5-14.7	**C6 - C9 Fraction**	----	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP080: BTEX	ES1003671-030	BH48-14.5-14.7	**Benzene**	71-43-2	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP080: BTEX	ES1003671-030	BH48-14.5-14.7	**Toluene**	108-88-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003671-030	BH48-14.5-14.7	**Ethylbenzene**	100-41-4	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP080: BTEX	ES1003671-030	BH48-14.5-14.7	**meta- & para-Xylene**	108-38-3 106-42-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003671-030	BH48-14.5-14.7	**ortho-Xylene**	95-47-6	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	1466537-009	----	**Vanadium**	7440-62-2	87.3 %	91-109%	**Recovery less than lower control limit**
EP080/071: Total Petroleum Hydrocarbons	1463876-016	----	**C29 - C36 Fraction**	----	131 %	62.7-131%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	ES1003611-001	Anonymous	**Cadmium**	7440-43-9	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG020F: Dissolved Metals by ICP-MS	ES1003611-001	Anonymous	**Manganese**	7439-96-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG020F: Dissolved Metals by ICP-MS	ES1003611-001	Anonymous	**Zinc**	7440-66-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP074S: VOC Surrogates	ES1003671-025	BH46-19.0-19.2	**Toluene-D8**	2037-26-5	119 %	81-117 %	**Recovery greater than upper data quality objective**

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP080S: TPH(V)/BTEX Surrogates	ES1003671-072	QC103	**Toluene-D8**	2037-26-5	87.4 %	88-110 %	**Recovery less than lower data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1003671-017	QC59	**Toluene-D8**	2037-26-5	84.9 %	88-110 %	**Recovery less than lower data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **SOIL**

Method / **Container** / Client Sample ID(s)	*Extraction / Preparation*			*Analysis*		
	Date extracted	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EK025G: Free cyanide by Discrete Analyser						
Soil Glass Jar - Unpreserved						
BH47-4.0-4.2, BH47-13.0-13.2	03-MAR-2010	01-MAR-2010	**2**	----	----	----

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EK025G: Free cyanide by Discrete Analyser - Analysis Holding Time Compliance						
Soil Glass Jar - Unpreserved BH46-7.0-7.2, BH46-14.5-14.7, QC57, QC78, BH46-19.0-19.2, BH46-20.5-20.7, BH48-14.5-14.7	03-MAR-2010	02-MAR-2010	**1**	----	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser						
Soil Glass Jar - Unpreserved BH47-4.0-4.2, BH47-13.0-13.2	04-MAR-2010	01-MAR-2010	**3**	04-MAR-2010	01-MAR-2010	**3**
Soil Glass Jar - Unpreserved BH46-7.0-7.2, BH46-14.5-14.7, QC57, QC78, BH46-19.0-19.2, BH46-20.5-20.7, BH48-14.5-14.7	04-MAR-2010	02-MAR-2010	**2**	04-MAR-2010	02-MAR-2010	**2**
Soil Glass Jar - Unpreserved BH39-16.0-16.2, BH39-20.5-20.7, QC101	04-MAR-2010	03-MAR-2010	**1**	04-MAR-2010	03-MAR-2010	**1**
EP004: Organic Matter						
Soil Glass Jar - Unpreserved BH47-13.0-13.2	----	----	----	05-MAR-2010	01-MAR-2010	**4**
Soil Glass Jar - Unpreserved BH46-14.5-14.7, QC78, BH46-19.0-19.2, BH46-20.5-20.7, BH48-14.5-14.7	----	----	----	05-MAR-2010	02-MAR-2010	**3**

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EP080/071: Total Petroleum Hydrocarbons						
Amber Glass Bottle - Unpreserved QC80	01-MAR-2010	26-FEB-2010	**3**	----	----	----

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : **ES1003671**

Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo S4150014	Page	: 1 of 6
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: SP/LK	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 26-FEB-2010	Issue Date	: 01-MAR-2010 15:48
Client Requested Due Date	: 08-MAR-2010	Scheduled Reporting Date	: **08-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 4.9'C - Ice present
No. of coolers/boxes	: 3 HARD	No. of samples received	: 71
Sercurity Seal	: Intact.	No. of samples analysed	: 36

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Received extra sample BH50_1.0-1.3, QC80 and QC103 placed on hold, please confirm.**
- **This batch is split into ES1003673 for DI Water Leach.**
- **Sample QC87 and BH48_11.5-11.7 not received by ALS Sydney.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EA200 Asbestos Identification in Soils	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EG035C Leachable Mercury by FIMS	SOIL - EG048G Total Hexavalent Chromium (Alkaline digestion) by Discrete Analyser	SOIL - EK025G (Solids) Free CN By Discrete Analyser
ES1003671-003	23-FEB-2010 15:00	BH46-7.0-7.2								✓
ES1003671-004	23-FEB-2010 15:00	BH46-14.5-14.7		✓			✓		✓	✓
ES1003671-006	22-FEB-2010 15:00	BH47-1.0-1.2			✓					
ES1003671-007	22-FEB-2010 15:00	BH47-4.0-4.2		✓						✓
ES1003671-009	22-FEB-2010 15:00	BH47-10.0-10.2		✓	✓					
ES1003671-010	22-FEB-2010 15:00	BH47-13.0-13.2					✓		✓	✓
ES1003671-016	23-FEB-2010 15:00	QC57								✓
ES1003671-021	24-FEB-2010 15:00	BH39-16.0-16.2								✓
ES1003671-022	24-FEB-2010 15:00	BH39-20.5-20.7		✓						✓
ES1003671-023	24-FEB-2010 15:00	QC101								✓
ES1003671-024	23-FEB-2010 15:00	QC78		✓					✓	✓
ES1003671-025	23-FEB-2010 15:00	BH46-19.0-19.2		✓		✓	✓	✓	✓	✓
ES1003671-026	23-FEB-2010 15:00	BH46-20.5-20.7		✓			✓		✓	✓
ES1003671-030	23-FEB-2010 15:00	BH48-14.5-14.7		✓		✓	✓	✓	✓	✓
ES1003671-031	23-FEB-2010 15:00	BH48-17.0-17.2		✓						
ES1003671-033	23-FEB-2010 15:00	BH48-11.5-11.7			✓					
ES1003671-035	23-FEB-2010 15:00	BH46-2.5-2.8	✓							
ES1003671-036	23-FEB-2010 15:00	BH46-5.5-5.7	✓							
ES1003671-037	23-FEB-2010 15:00	BH46-6.0-6.2	✓							
ES1003671-038	23-FEB-2010 15:00	BH46-8.5-8.6	✓							
ES1003671-039	23-FEB-2010 15:00	BH46-10.0-10.2	✓							
ES1003671-040	23-FEB-2010 15:00	BH46-11.5-11.3	✓							
ES1003671-041	23-FEB-2010 15:00	BH46-13.0-13.2	✓							
ES1003671-042	23-FEB-2010 15:00	BH44-0.15-0.25	✓							
ES1003671-043	23-FEB-2010 15:00	BH42-0.15-0.25	✓							
ES1003671-044	23-FEB-2010 15:00	BH46-16.0-16.2	✓							
ES1003671-046	22-FEB-2010 15:00	BH47-5.5-5.7	✓							
ES1003671-047	22-FEB-2010 15:00	BH47-7.0-7.2	✓							
ES1003671-048	22-FEB-2010 15:00	BH47-11.5-11.7	✓							
ES1003671-049	22-FEB-2010 15:00	BH47-14.5-14.7	✓							
ES1003671-050	22-FEB-2010 15:00	BH47-16.0-16.2	✓							
ES1003671-051	22-FEB-2010 15:00	QC73	✓							
ES1003671-052	24-FEB-2010 15:00	BH39-5.5-5.7	✓							
ES1003671-053	24-FEB-2010 15:00	BH39-8.5-8.7	✓							
ES1003671-054	24-FEB-2010 15:00	BH39-10.0-10.2	✓							

			(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EA200 Asbestos Identification in Soils	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EG035C Leachable Mercury by FIMS	SOIL - EG048G Total Hexavalent Chromium (Alkaline digestion) by Discrete Analyser	SOIL - EK025G (Solids) Free CN By Discrete Analyser
ES1003671-055	24-FEB-2010 15:00	BH39-13.0-13.2	✓							
ES1003671-056	24-FEB-2010 15:00	BH39-14.5-14.7	✓							
ES1003671-057	24-FEB-2010 15:00	BH39-17.5-17.7	✓							
ES1003671-058	24-FEB-2010 15:00	BH39-19.0-19.2	✓							
ES1003671-059	24-FEB-2010 15:00	BH39-23.5-23.7	✓							
ES1003671-061	23-FEB-2010 15:00	BH46-17.5-17.7	✓							
ES1003671-062	23-FEB-2010 15:00	BH46-22.0-22.2	✓							
ES1003671-063	23-FEB-2010 15:00	BH39-1.0-1.2	✓							
ES1003671-064	23-FEB-2010 15:00	BH48-4.0-4.2	✓							
ES1003671-065	23-FEB-2010 15:00	BH48-5.5-5.7	✓							
ES1003671-066	23-FEB-2010 15:00	BH48-7.0-7.2	✓							
ES1003671-067	23-FEB-2010 15:00	BH48-10.0-10.2	✓							
ES1003671-068	23-FEB-2010 15:00	BH48-15.5-15.7	✓							
ES1003671-070	24-FEB-2010 15:00	BH50_1.0-1.3	✓							

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - EP004 (Carbon) Total Organic Carbon (Calc.)	SOIL - EP074 (solids) Volatile Organic Compounds	SOIL - EP075 (solids) Semivolatile Organic Compounds	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - S-03 13 Metals (NEPM Suite - incl. Digestion)	SOIL - S-04 TPH/BTEX	SOIL - S-09 TPH/VOC
ES1003671-001	23-FEB-2010 15:00	BH46-1.0-1.2						✓	✓	
ES1003671-002	23-FEB-2010 15:00	BH46-4.0-4.2						✓		
ES1003671-003	23-FEB-2010 15:00	BH46-7.0-7.2	✓					✓	✓	
ES1003671-004	23-FEB-2010 15:00	BH46-14.5-14.7	✓	✓				✓	✓	
ES1003671-005	23-FEB-2010 15:00	BH65-0.15-0.25						✓		
ES1003671-006	22-FEB-2010 15:00	BH47-1.0-1.2						✓		
ES1003671-007	22-FEB-2010 15:00	BH47-4.0-4.2	✓					✓	✓	
ES1003671-008	22-FEB-2010 15:00	BH47-8.5-8.7						✓	✓	
ES1003671-009	22-FEB-2010 15:00	BH47-10.0-10.2						✓		
ES1003671-010	22-FEB-2010 15:00	BH47-13.0-13.2	✓	✓		✓		✓		✓
ES1003671-011	22-FEB-2010 15:00	BH47-18.6-18.8						✓		
ES1003671-012	22-FEB-2010 15:00	QC74						✓		
ES1003671-013	22-FEB-2010 15:00	BH48-1.0-1.2						✓	✓	
ES1003671-014	22-FEB-2010 15:00	QC76						✓	✓	
ES1003671-015	23-FEB-2010 15:00	QC56						✓	✓	
ES1003671-016	23-FEB-2010 15:00	QC57	✓					✓	✓	

			SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - EP004 (Carbon) Total Organic Carbon (Calc.)	SOIL - EP074 (solids) Volatile Organic Compounds	SOIL - EP075 (solids) Semivolatile Organic Compounds	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - S-03 13 Metals (NEPM Suite - incl. Digestion)	SOIL - S-04 TPH/BTEX	SOIL - S-09 TPH/VOC
ES1003671-018	24-FEB-2010 15:00	BH39-4.0-4.2						✓	✓	
ES1003671-019	24-FEB-2010 15:00	BH39-7.0-7.2						✓		
ES1003671-020	24-FEB-2010 15:00	BH39-11.5-11.7						✓	✓	
ES1003671-021	24-FEB-2010 15:00	BH39-16.0-16.2	✓					✓	✓	
ES1003671-022	24-FEB-2010 15:00	BH39-20.5-20.7	✓			✓		✓		✓
ES1003671-023	24-FEB-2010 15:00	QC101	✓					✓	✓	
ES1003671-024	23-FEB-2010 15:00	QC78	✓	✓		✓		✓		✓
ES1003671-025	23-FEB-2010 15:00	BH46-19.0-19.2	✓	✓		✓	✓	✓		✓
ES1003671-026	23-FEB-2010 15:00	BH46-20.5-20.7	✓	✓				✓	✓	
ES1003671-027	23-FEB-2010 15:00	BH46-23.5-23.7						✓	✓	
ES1003671-028	23-FEB-2010 15:00	BH39-2.5-2.7						✓		
ES1003671-029	23-FEB-2010 15:00	BH48-8.5-8.7						✓	✓	
ES1003671-030	23-FEB-2010 15:00	BH48-14.5-14.7	✓	✓		✓	✓	✓		✓
ES1003671-031	23-FEB-2010 15:00	BH48-17.0-17.2						✓	✓	
ES1003671-034	22-FEB-2010 15:00	TB07			✓					
ES1003671-045	23-FEB-2010 15:00	TB05			✓					
ES1003671-060	24-FEB-2010 15:00	TB10			✓					

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - S-14A PAH/Phenols (16 PAH - SIM)	SOIL - TCLP TCLP Leach
ES1003671-001	23-FEB-2010 15:00	BH46-1.0-1.2	✓	
ES1003671-003	23-FEB-2010 15:00	BH46-7.0-7.2	✓	
ES1003671-004	23-FEB-2010 15:00	BH46-14.5-14.7	✓	
ES1003671-007	22-FEB-2010 15:00	BH47-4.0-4.2	✓	
ES1003671-008	22-FEB-2010 15:00	BH47-8.5-8.7	✓	
ES1003671-013	22-FEB-2010 15:00	BH48-1.0-1.2	✓	
ES1003671-014	22-FEB-2010 15:00	QC76	✓	
ES1003671-015	23-FEB-2010 15:00	QC56	✓	
ES1003671-016	23-FEB-2010 15:00	QC57	✓	
ES1003671-018	24-FEB-2010 15:00	BH39-4.0-4.2	✓	
ES1003671-020	24-FEB-2010 15:00	BH39-11.5-11.7	✓	
ES1003671-021	24-FEB-2010 15:00	BH39-16.0-16.2	✓	
ES1003671-023	24-FEB-2010 15:00	QC101	✓	

			SOIL - S-14A PAH/Phenols (16 PAH - SIM)	SOIL - TCLP TCLP Leach
ES1003671-025	23-FEB-2010 15:00	BH46-19.0-19.2		✓
ES1003671-026	23-FEB-2010 15:00	BH46-20.5-20.7	✓	
ES1003671-027	23-FEB-2010 15:00	BH46-23.5-23.7	✓	
ES1003671-029	23-FEB-2010 15:00	BH48-8.5-8.7	✓	
ES1003671-030	23-FEB-2010 15:00	BH48-14.5-14.7		✓
ES1003671-031	23-FEB-2010 15:00	BH48-17.0-17.2	✓	

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	(On Hold) WATER No analysis requested	WATER - W-03 13 Metals (NEPM Suite)	WATER - W-04 TPH/BTEX
ES1003671-017	23-FEB-2010 15:00	QC59		✓	✓
ES1003671-032	23-FEB-2010 15:00	QC100		✓	✓
ES1003671-071	19-FEB-2010 15:00	QC80	✓		
ES1003671-072	24-FEB-2010 15:00	QC103	✓		

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

To: Anthony Davis

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by: 259
Lab Quote No: SY 09 V2

Project Name: Barangaroo
Project Number: 54150014
Purchase Order Number: 1302951
Sample collected by: Sam Patel / Lauren Kontus
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: Anthony Davis tel:	☐ Yes	☐ No	☐ N/A

Environmental Division Sydney
Work Order
ES1003671

Telephone : +61-2-8784 8555

	Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	Analysis Required: pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	ASLP	TCLP	Free Cyanide	WAD Cyanide				
	(1)	BH46_1.0-1.2	23.2.10									1x250ml Amb 1Gel		X	X	X	X										
35	35	BH46_2.5-2.8																									
	(2)	BH46_4.0-4.2																									
36	36	BH46_5.5-5.7												X													
37	37	BH46_6.0-6.2																									
	(3)	BH46_7.0-7.2																									
38	38	BH46_8.5-8.6												X	X	X	X					X	X				
39	39	BH46_10.0-10.2																									
40	40	BH46_11.5-11.7																									
41	41	BH46_13.0-13.2	↓		↓					↓			↓														

Subcon / Forward Lab / Split WO
Lab / Analysis: ASBESTOS / ALS
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No: Split for ALS
Attach By PO / Internal Sheet:

HOLD
HOLD
HOLD
HOLD
HOLD
HOLD

Relinquished By:	Received by:
Name: Anthony Davis Date: 25/2/10	Name: FADI Date: 26/2/10
of: AECOM Time:	of: ALS Time: 7:30pm
Relinquished By:	**Received by:**
Name: Date:	Name: Date:
of: Time:	of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo
Project Number: 54150014
Purchase Order Number: 136359

Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: tel:			

	Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	Ice	other	Container (No. & type)	pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	ASLP	TCLP	Free Cyanide	WAD Cyanide	CrVI	Fe	TOC	VOC	Remarks & comments
	(4)	BH46_14.5-14.7	23.2.10		X					X		1x250ml Soil Jar	X	X	X	X	X					X	X	X	X	X		
42	46	BH44_0.15-0.25																										
43	47	BH42_0.15-0.25																										HOLD
44	48	BH46_16.0-16.2																										HOLD
	(5)	BH65_0.15-0.25																										HOLD
45	49	TB05	22.2.10									1x100ml Soil Jar		X													X	
																												HOLD

Relinquished By:
Name: Anthony Davis Date: 25/2/10
of: AECOM Time:

Received by:
Name: FAN Date: 26/2/10
of: ALS Time: 7:30pm

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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Pymble NSW 2073 Australia
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Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Lauren Kontus
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: tel:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	Ice	other	Container (No. & type)	pH	Metals, (M13)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	Voc	CrVI	Fe	TOC	TPH C6-C36	Remarks & comments
(6)	BH47_1.0-1.2	22.2.2010	22.2.10	X					X		1 jar		X					X										
(7)	BH47_4.0-4.2	"	"	X					X		"	X	X	X	X	X			X	X								
46 (50)	BH47_5.5-5.7	"	"	X					X		"																	HOLD
47 (51)	BH47_7.0-7.2	"	"	X					X		"																	HOLD
(8)	BH47_8.5-8.7	"	"	X					X		"		X	X	X	X												
(9)	BH47_10.0-10.2	"	"	X					X		"	X	X					X										
48 (52)	BH47_11.5-11.7	"	"	X					X		"																	HOLD
(10)	BH47_13.0-13.2	"	"	X					X		"		X				✓		X	X			X	X	✓	X	X	
49 (53)	BH47_14.5-14.7	"	"	X					X		"																	HOLD
50 (54)	BH47_16.0-16.2	"	"	X					X		"																	HOLD

Relinquished By:
Name: Lauren Kontus Date: 22.2.10
of: AECOM Time:

Received by:
Name: TNT Date: 26/2/10
of: ALS Time: 7:30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager:			tel:

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)
(11)	BH47_18.6-18.8	22.2.10	22.2.10	X					X		1 jar
55	QC73	22.2.10	"	X					X		"
(12)	QC74	"	"	X					X		"
*	QC75	"	"	X					X		"
(13)	BH48_1.0-1.2	"	"	X					X		"
(14)	QC76	"	"	X					X		"
*	QC77	"	"	X					X		"

Analysis Request

pH	Metals - M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	Remarks & comments
	X										
	X										HOLD
		PLEASE FORWARD TO LABMARK WITH ATTACHED COC									
	X	X	X	X							
X	X	X	X								
		PLEASE FORWARD TO LABMARK WITH ATTACHED COC									

Relinquished By:
Name: Lauren Kovtus Date: 22.2.10
of: AECOM Time:

Received by:
Name: FAST Date: 26/2/10
of: ALS Time: 7:30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

51

Form:

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Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by: 25/2
Lab Quote No: SY- 09 V2

Project Name: Barangaroo
Project Number: 54150014
Purchase Order Number: 1303957

Sample collected by: Sam Patel / Lauren Kendig
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: Anthony Davis tel:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtred	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	ASLP	TCLP	Free Cyanide	WAD Cyanide				Remarks & comments
15	QC 56	23-2-10		X							1x250ml Soil jar		X	X	X	X										
16	QC 57	↓		X							↓		X	X	X	X					X	X				
17	QC 59	↓			X						1A 125ml		X	X												
*	QC 58																									
												PLEASE FORWARD TO LABMARK WITH ATTACHED COC															

Relinquished By:
Name: Anthony Davis Date: 25/2/10
of: AECOM Time:

Received by:
Name: [illegible] Date: 26/2/10
of: ALS Time: 7:30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Blocks 4 & 5

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A
#N/A
#N/A
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A
7. Report Format: ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

8. Project Manager: Anthony Davis tel: 84848952

	Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals (M13)	TPH (C6-36)	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	Cr VI	BTEX	VOC	comments
	(18)	BH39_4.0-4.2	24-2-10	→	X					X		1jar		X	X	X	X								X		
52	86	BH39_5.5-5.7	24-2-10	→	X					X		1jar															Hold
	(19)	BH39_7.0-7.2	24-2-10	→	X					X		1jar		X													Hold
53	87	BH39_8.5-8.7	24-2-10	→	X					X		1jar															Hold
54	88	BH39_10.0-10.2	24-2-10	→	X					X		1jar															Hold
	(20)	BH39_11.5-11.7	24-2-10	→	X					X		1jar															
55	89	BH39_13.0-13.2	24-2-10	→	X					X		1jar		X	X	X	X								X		
56	90	BH39_14.5-14.7	24-2-10	→	X					X		1jar															Hold
	(21)	BH39_16.0-16.2	24-2-10	→	X					X		1jar															Hold
57	91	BH39_17.5-17.7	24-2-10	→	X					X		1jar		X	X	X	X			X	X				X		
																											Hold

Relinquished By:
Name: Anthony Davis Date: 25/2/10
of: AECOM Time:

Received by:
Name: [illegible] Date: 26/2/10
of: ALS Time: 7:30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Form: blocks 4 & 5 page 7 of 9

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A
#N/A
#N/A
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: Anthony Davis tel: 84848952	☐ Yes	☐ No	☐ N/A

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)
58 52	BH39_19.0-19.2	24-2-10	→	X					X		1 jar
(22)	BH39_20.5-20.7	24-2-10	→	X					X		1 jar
59 53	BH39_23.5-23.7	24-2-10	→	X					X		1 jar
(23)	QC101	24-2-10	→	X					X		1 jar
54	QC102	24-2-10	→	X					X		1 jar
(24)	QC78	23-2-10	→	X					X		1 jar
60 55	TB10	24-2-10	→	X					X		1 jar

Analysis Request

pH	Metals (M13)	TPH (C6-36) / BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	W40 Cyanide	ASLP	TCLP	Cr VI	TR	VOC	TOC	comments
															Hold
X	X	X			X		X	X					X		
															Hold
	X	X	X	X			X	X							
															PLEASE FORWARD TO LABMARK WITH ATTACHED COC
X	X	X			X		X	X			X		X	X	
													X		

Relinquished By:
Name: Anthony Davis Date: 25/2/10
of: AECOM Time:

Received by:
Name: FAST Date: 26/2/10
of: ALS Time: 7:30 pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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Form: BINGH 2 Page 8 of 9 BLOCKS 4 & 5

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Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

S41S0014

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by: 259
Lab Quote No: SY-[redacted]-09 V2

Project Name: Barangaroo
Project Number: ~~S41S0001~~
Purchase Order Number: 1303522
Sample collected by: Sam Patel / Lauren Kouty
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: Anthony Davis tel: 84848952	☐ Yes	☐ No	☐ N/A

	Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)
61	~~58~~	BH46_17.5-17.7	23-2-10									1X250ml 500ml
	(25)	BH46_19.0-19.2										
	(26)	BH46_20.5-20.7										
62	~~56~~	BH46_22.0-22.2										
	(27)	BH46_23.5-23.7										
63	~~57~~	BH39_1.0-1.2										
	(28)	BH39_2.5-2.7										
64	~~58~~	BH48_4.0-4.2										
65	~~69~~	BH48_5-5.7										
66	~~260~~	BH48_7.0-7.2										

Analysis Request

Lab. ID	pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	ASLP (M13 & PAHs)	TCLP (M13 & PAHs)	Free Cyanide	WAD Cyanide	Cr VI	Fe	TOC	VOC	TPH C6-C36	Remarks & comments
~~58~~																	HOLD
(25)	X	X	'			X		X	X	X	X	X	X	X	X	X	
(26)	X	X	X	X	X					X	X	X	X	X			
~~56~~																	HOLD
(27)		X	X	X	X												
~~57~~																	HOLD
(28)		X															
~~58~~																	HOLD
~~69~~																	HOLD
~~260~~																	HOLD

Relinquished By:
Name: Anthony Davis Date: 25/2/10
of: AECOM Time:

Received by:
Name: FAST Date: 26/2/10
of: AES Time: 7:30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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Form: Page 9 of 9

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Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259 09 V2

Project Name: Barangaroo **Project Number:** 541500014 **Purchase Order Number:** 1303522

Sample collected by: Sam Fata / Lauren Kathy **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: 8. Project Manager: Anthony Davis tel: 84848952

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	ASLP (M13+PAHs)	TCLP (M13+PAHs)	Voc	Cr VI	Fe	Free Cyanide	WAD Cyanide	TOC	TPH C6-C36	Remarks & comments
(29)	BH48_8.5-8.7	23.2.10		✓					✓		1x250ml		X	X	X	X											
67 71	BH48_10.0-10.2																										
(30)	BH48_14.5-14.7																										HOLD
68 72	BH48_15.5-15.7											X	X				X		X	X	X	X	X	X	X	X	
(31)	BH48_17.0-17.2																										HOLD
NOT RECEIVED	QC87			✓								X	X	X	X	X											
(32) (RJ)	QC100	✓			X				✓		1AE2VELP		X	X										X	X		
(33)	BH48_11.5-11.7	23.2.10		X					X		1x250ml							X									
(34)	TB07	22.2.10		X					X		1x100ml										X						
69 38	BH48_11.5-11.7	23.2.10		X					X		1JAR																HOLD

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Anthony Davis Date: 25/2/10	Name: [illegible] Date: 26/2/10	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: AECOM Time:	of: AES Time: 2.30pm		Yes/No/NA	Transport Co:	
Relinquished By:	**Received by:**	**Received in good condition?**	Yes/No/NA	**Method of Shipment**	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	**Samples received chilled?**	Yes/No/NA	**Consignment Note No.**	
of: Time:	of: Time:		Yes/No/NA	**Transport Co:**	

Printed copies of this document are uncontrolled

Environment 73 BH50_1.0-1.3 74,75 QC80 QC103 > Extras.

Revision: Oct 08
BMS-PM-DV-F046

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1003672**	Page	: 1 of 83
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo-S4150014 DECLARATION AREA	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2010
Sampler	: KP& DF	Issue Date	: 12-MAR-2010
Site	: ----		
		No. of samples received	: 110
Quote number	: SY/259/09 V2	No. of samples analysed	: 57

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
KEN HALL	Analyst	Newcastle
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Sarah Millington	Senior Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Asbestos Identification: Samples were analysed by Polarised Light Microscopy including dispersion staining. Legend for Asbestos Type: 'Am' Amosite (brown asbestos) detected, 'Ch' Chrysotile (white asbestos) detected, 'Cr' Crocidolite (blue asbestos) detected, 'UMF' Unknown mineral fibres detected - No asbestos fibres detected, 't' Trace levels detected. Confirmation by alternative techniques is recommended for samples where unknown mineral fibres are detected.**
- **EG005T: Poor precision was obtained for Iron on sample ES1003672#4 due to sample heterogeneity.**
- **EG005T: Poor precision was obtained for Iron on sample ES1003672#49 due to sample heterogeneity.**
- **EG005T: Poor precision was obtained for Iron, Lead and Manganese on sample ES1003672#39 due to sample heterogeneity. Results have not been confirmed by due to insufficient sample.**
- **EG005T: Poor precision was obtained for Lead and Nickel on sample ES1003672#35 due to sample heterogeneity.**
- **EG005T: Poor precision was obtained for Manganese on sample ES1003646#22 due to sample heterogeneity. Results have been confirmed by re-extraction and reanalysis.**
- **EG005T: Poor precision was obtained for Manganese on sample ES1003788#5 due to sample heterogeneity.**
- **EG048G: Spike failed for hexalent chromium by alkaline digest due to matrix interference.**
- **EK028G, EK025G: Analysis for sample # 3, # 33, # 39 could not be conducted as insufficient sample left to do the analysis.**
- **EP074, EP075(SIM), EP075, EP080: Poor duplicate precision due to sample heterogeneity. Confirmed by re-analysis, insufficient sample provided for re-extraction.**
- **EP074, EP080: Poor matrix spike recovery due to sample heterogeneity. Confirmed by re-analysis, insufficient sample provided for re-extraction.**
- **EP074: Napthalene result for various samples are reported from EP075(SIM) and EP075 method.**
- **EP075 (SIM): Surrogates cannot be determined due to sample matrix interference and dilution.**
- **EP075(SIM): Poor matrix spike recovery due to sample matrix interferences.**
- **EP075, EP075(SIM): Particular samples required dilution prior to extraction due to matrix interferences. LOR values have been adjusted accordingly.**
- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**
- **EP080: Level of reporting raised for toluene due to ambient background levels in the laboratory.**
- **LCS recovery for Vanadium falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH59_1.0-1.1	BH59_1.9-2.0	BH59_3.4-3.5	BH59_4.2-4.3	BH35_0.9-1.0
Client sampling date / time				22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-001	ES1003672-002	ES1003672-003	ES1003672-004	ES1003672-005
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	----	8.1	7.5	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	8.9	16.6	29.0	14.8	8.1
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	6	<5	14	<5	7
Barium	7440-39-3	10	mg/kg	50	10	<10	<10	70
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	30	21	5	6	9
Cobalt	7440-48-4	2	mg/kg	3	<2	<2	<2	10
Copper	7440-50-8	5	mg/kg	27	<5	<5	<5	9
Iron	7439-89-6	50	mg/kg	----	----	15000	----	----
Lead	7439-92-1	5	mg/kg	112	10	<5	<5	40
Manganese	7439-96-5	5	mg/kg	83	<5	106	<5	457
Nickel	7440-02-0	2	mg/kg	11	23	<2	<2	13
Vanadium	7440-62-2	5	mg/kg	11	12	9	10	19
Zinc	7440-66-6	5	mg/kg	96	27	<5	<5	89
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	1.2	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	<0.5	----	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	----	<1	----	<1	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	<1	----	<1	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	8.8	----	----
After HCl pH	----	0.1	pH Unit	----	----	1.9	----	----
Extraction Fluid Number	----	1	-	----	----	1	----	----
Final pH	----	0.1	pH Unit	----	----	6.4	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	1.8	----	----
^ Total Organic Carbon	----	0.5	%	----	----	1.1	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	82.4	----	----
Toluene	108-88-3	0.5	mg/kg	----	----	32.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	88.3	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH59_1.0-1.1	BH59_1.9-2.0	BH59_3.4-3.5	BH59_4.2-4.3	BH35_0.9-1.0
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-001	ES1003672-002	ES1003672-003	ES1003672-004	ES1003672-005
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	**103**	----	----
Styrene	100-42-5	0.5	mg/kg	----	----	**5.5**	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	**51.2**	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	**0.8**	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	**1.2**	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	**24.2**	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	**59.3**	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	<0.5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	<5	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	<0.5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	----	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	<5	----	----
Chloromethane	74-87-3	5	mg/kg	----	----	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	<5	----	----
Bromomethane	74-83-9	5	mg/kg	----	----	<5	----	----
Chloroethane	75-00-3	5	mg/kg	----	----	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	----	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	<0.5	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH59_1.0-1.1	BH59_1.9-2.0	BH59_3.4-3.5	BH59_4.2-4.3	BH35_0.9-1.0
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-001	ES1003672-002	ES1003672-003	ES1003672-004	ES1003672-005
EP074E: Halogenated Aliphatic Compounds - Continued								
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	<0.5	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	<0.5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	----	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	<0.5	----	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	<0.5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg	----	----	<0.5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	**1.6**	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	**5.0**	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	----	**7.2**	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	**8.1**	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH59_1.0-1.1	BH59_1.9-2.0	BH59_3.4-3.5	BH59_4.2-4.3	BH35_0.9-1.0
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-001	ES1003672-002	ES1003672-003	ES1003672-004	ES1003672-005
EP075(SIM)A: Phenolic Compounds - Continued								
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	<0.5	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	----	<2.0	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	**453**	----	**46.4**	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	**58.8**	----	**9.1**	----
Acenaphthene	83-32-9	0.5	mg/kg	----	**10.3**	----	**1.4**	----
Fluorene	86-73-7	0.5	mg/kg	----	**68.3**	----	**8.8**	----
Phenanthrene	85-01-8	0.5	mg/kg	----	**206**	----	**23.5**	----
Anthracene	120-12-7	0.5	mg/kg	----	**60.3**	----	**8.3**	----
Fluoranthene	206-44-0	0.5	mg/kg	----	**121**	----	**14.2**	----
Pyrene	129-00-0	0.5	mg/kg	----	**104**	----	**12.6**	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	**45.9**	----	**6.2**	----
Chrysene	218-01-9	0.5	mg/kg	----	**32.2**	----	**4.5**	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	**35.8**	----	**4.6**	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	**14.3**	----	**2.0**	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**26.5**	----	**3.4**	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	**11.8**	----	**1.2**	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	**3.2**	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	**13.1**	----	**1.4**	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	**1.8**	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<1.2	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	**8.2**	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	**7.0**	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<1.2	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	**42.5**	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<1.2	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<1.2	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	**1.3**	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<1.2	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<1.2	----	----
Pentachlorophenol	87-86-5	1	mg/kg	----	----	<2	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	**3560**	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	**967**	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH59_1.0-1.1	BH59_1.9-2.0	BH59_3.4-3.5	BH59_4.2-4.3	BH35_0.9-1.0
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-001	ES1003672-002	ES1003672-003	ES1003672-004	ES1003672-005
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	<1.2	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	**404**	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	**104**	----	----
Fluorene	86-73-7	0.5	mg/kg	----	----	**462**	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	**1400**	----	----
Anthracene	120-12-7	0.5	mg/kg	----	----	**368**	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	**669**	----	----
Pyrene	129-00-0	0.5	mg/kg	----	----	**603**	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	<1.2	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	**271**	----	----
Chrysene	218-01-9	0.5	mg/kg	----	----	**214**	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	----	**232**	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	<1.2	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	**189**	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	<1.2	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	**52.2**	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	**21.7**	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	**44.5**	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	<1.2	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	<1.2	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	<1.2	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	<1.2	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	----	<5.0	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	<1.2	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	<1.2	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	<1.2	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	----	<1.2	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	<1.2	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	<1.2	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	<1.2	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	<1.2	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	----	<2.5	----	----
Methapyrilene	91-80-5	0.5	mg/kg	----	----	<1.2	----	----
EP075E: Nitroaromatics and Ketones								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH59_1.0-1.1	BH59_1.9-2.0	BH59_3.4-3.5	BH59_4.2-4.3	BH35_0.9-1.0
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-001	ES1003672-002	ES1003672-003	ES1003672-004	ES1003672-005
EP075E: Nitroaromatics and Ketones - Continued								
2-Picoline	109-06-8	0.5	mg/kg	----	----	<1.2	----	----
Acetophenone	98-86-2	0.5	mg/kg	----	----	<1.2	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	<1.2	----	----
Isophorone	78-59-1	0.5	mg/kg	----	----	<1.2	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	----	<1.2	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	----	<1.2	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	<1.2	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	<1.2	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	<1.2	----	----
Azobenzene	103-33-3	1	mg/kg	----	----	<1	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	<1.2	----	----
Phenacetin	62-44-2	0.5	mg/kg	----	----	<1.2	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	<1.2	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	<1.2	----	----
Pronamide	23950-58-5	0.5	mg/kg	----	----	<1.2	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	**1.3**	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	<1.2	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	<1.2	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	<1.2	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	<1.2	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	<1.2	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	<1.2	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	<1.2	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	<1.2	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	<1.2	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	<1.2	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	<1.2	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	<1.2	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	----	<2.5	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	<1.2	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	----	<1.2	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	----	<1.2	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	<1.2	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	----	----	<1.2	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	----	----	<1.2	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH59_1.0-1.1 Client sampling date / time: 22-FEB-2010 15:00 ES1003672-001	Client sample ID: BH59_1.9-2.0 Client sampling date / time: 22-FEB-2010 15:00 ES1003672-002	Client sample ID: BH59_3.4-3.5 Client sampling date / time: 22-FEB-2010 15:00 ES1003672-003	Client sample ID: BH59_4.2-4.3 Client sampling date / time: 22-FEB-2010 15:00 ES1003672-004	Client sample ID: BH35_0.9-1.0 Client sampling date / time: 22-FEB-2010 15:00 ES1003672-005
EP075H: Anilines and Benzidines - Continued								
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	**327**	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	<1.2	----	----
Carbazole	86-74-8	0.5	mg/kg	----	----	**186**	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	<1.2	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	----	<1.2	----	----
beta-BHC	319-85-7	0.5	mg/kg	----	----	<1.2	----	----
gamma-BHC	58-89-9	0.5	mg/kg	----	----	<1.2	----	----
delta-BHC	319-86-8	0.5	mg/kg	----	----	<1.2	----	----
Heptachlor	76-44-8	0.5	mg/kg	----	----	<1.2	----	----
Aldrin	309-00-2	0.5	mg/kg	----	----	<1.2	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	----	<1.2	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	----	<1.2	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	----	<1.2	----	----
Dieldrin	60-57-1	0.5	mg/kg	----	----	<1.2	----	----
Endrin	72-20-8	0.5	mg/kg	----	----	<1.2	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	----	<1.2	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	----	<1.2	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	----	**4.2**	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	----	----	<1.2	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	----	<1.2	----	----
Dimethoate	60-51-5	0.5	mg/kg	----	----	<1.2	----	----
Diazinon	333-41-5	0.5	mg/kg	----	----	<1.2	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	----	<1.2	----	----
Malathion	121-75-5	0.5	mg/kg	----	----	<1.2	----	----
Fenthion	55-38-9	0.5	mg/kg	----	----	<1.2	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	----	<1.2	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	----	**1.4**	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	----	<1.4	----	----
Prothiofos	34643-46-4	0.5	mg/kg	----	----	<1.2	----	----
Ethion	563-12-2	0.5	mg/kg	----	----	<1.2	----	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	----	----	<1.2	----	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	----	----	<2.5	----	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	----	----	<1.2	----	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	----	----	<1.2	----	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	----	----	<1.2	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH59_1.0-1.1	BH59_1.9-2.0	BH59_3.4-3.5	BH59_4.2-4.3	BH35_0.9-1.0
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-001	ES1003672-002	ES1003672-003	ES1003672-004	ES1003672-005
EP075K: Miscellaneous Compounds - Continued								
trans-Isosafrole	4043-71-4	0.5	mg/kg	----	----	<1.2	----	----
Safrole	94-59-7	0.5	mg/kg	----	----	<1.2	----	----
Diallate	2303-16-4	0.5	mg/kg	----	----	**1.6**	----	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	----	----	<1.2	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	**459**	**14**	----
C10 - C14 Fraction	----	50	mg/kg	----	**980**	**9120**	**140**	----
C15 - C28 Fraction	----	100	mg/kg	----	**2290**	**19200**	**380**	----
C29 - C36 Fraction	----	100	mg/kg	----	**860**	**6140**	**130**	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	**4130**	**34500**	**650**	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	**3.4**	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	**2.9**	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	**2.4**	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	**0.9**	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	**109**	----	----
Toluene-D8	2037-26-5	0.1	%	----	----	**99.4**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	**102**	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	**97.4**	----	**91.3**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**95.0**	----	**89.4**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**97.6**	----	**81.4**	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**94.3**	----	**89.3**	----
Anthracene-d10	1719-06-8	0.1	%	----	**96.1**	----	**87.5**	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**90.3**	----	**96.4**	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	----	**99.6**	----	----
Phenol-d6	13127-88-3	0.1	%	----	----	**86.7**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**87.1**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**93.2**	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	----	**96.1**	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	----	**70.9**	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**106**	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH59_1.0-1.1	BH59_1.9-2.0	BH59_3.4-3.5	BH59_4.2-4.3	BH35_0.9-1.0
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-001	ES1003672-002	ES1003672-003	ES1003672-004	ES1003672-005
EP075T: Base/Neutral Extractable Surrogates - Continued								
Anthracene-d10	1719-06-8	0.1	%	----	----	**105**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**125**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**96.6**	**98.6**	**120**	----
Toluene-D8	2037-26-5	0.1	%	----	**113**	**101**	**111**	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	**120**	**95.0**	**113**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH35_4.9-5.0	BH35_6.4-6.5	BH35_9.9-10.0	BH52_1.0-1.2	BH52_2.2-2.6
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-006	ES1003672-007	ES1003672-008	ES1003672-009	ES1003672-010
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.5	----	7.1	----	7.4
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	14.2	14.7	15.9	12.7	20.9
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	110	90	20	50	20
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	10	10	9	8	18
Cobalt	7440-48-4	2	mg/kg	5	5	4	<2	3
Copper	7440-50-8	5	mg/kg	<5	<5	<5	57	14
Iron	7439-89-6	50	mg/kg	----	----	13200	----	12400
Lead	7439-92-1	5	mg/kg	13	12	12	132	35
Manganese	7439-96-5	5	mg/kg	268	308	154	69	150
Nickel	7440-02-0	2	mg/kg	6	7	6	4	8
Vanadium	7440-62-2	5	mg/kg	17	18	19	11	19
Zinc	7440-66-6	5	mg/kg	27	28	37	114	61
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	0.2	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	<0.5	----	<0.5
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	<1	----	----	----	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	----	----	----	<1
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	----	----	8.5
After HCl pH	----	0.1	pH Unit	----	----	----	----	1.7
Extraction Fluid Number	----	1	-	----	----	----	----	1
Final pH	----	0.1	pH Unit	----	----	----	----	4.9
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	0.9	----	<0.5
^ Total Organic Carbon	----	0.5	%	----	----	0.5	----	<0.5
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.5	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH35_4.9-5.0	BH35_6.4-6.5	BH35_9.9-10.0	BH52_1.0-1.2	BH52_2.2-2.6
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-006	ES1003672-007	ES1003672-008	ES1003672-009	ES1003672-010
EP075(SIM)A: Phenolic Compounds - Continued								
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	<1.0	----	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	----	<2.0	----	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	**1.0**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	<0.5	----	**2.3**
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	<0.5	----	**1.0**
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	<0.5	----	**4.1**
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	<0.5	----	**3.9**
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	<0.5	----	**2.4**
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	<0.5	----	**1.9**
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	----	<0.5	----	**2.4**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	<0.5	----	**1.0**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	<0.5	----	**1.6**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	<0.5	----	**0.8**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	<0.5	----	**0.9**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	<10	**78**	<10
C10 - C14 Fraction	----	50	mg/kg	<50	----	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	----	<100	**580**	<100
C29 - C36 Fraction	----	100	mg/kg	<100	----	<100	**370**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	**950**	----
C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	<50	----	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	<0.2	**0.2**	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	----	<0.5	**3.9**	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	<0.5	**2.7**	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	<0.5	**20.2**	<0.5

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH35_4.9-5.0	BH35_6.4-6.5	BH35_9.9-10.0	BH52_1.0-1.2	BH52_2.2-2.6
				Client sampling date / time	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1003672-006	ES1003672-007	ES1003672-008	ES1003672-009	ES1003672-010
EP080: BTEX - Continued									
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	<0.5	8.7	<0.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		84.3	----	85.8	----	91.6
2-Chlorophenol-D4	93951-73-6	0.1	%		78.4	----	85.4	----	86.2
2.4.6-Tribromophenol	118-79-6	0.1	%		81.2	----	84.4	----	81.2
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		84.9	----	91.8	----	92.0
Anthracene-d10	1719-06-8	0.1	%		87.6	----	91.4	----	92.4
4-Terphenyl-d14	1718-51-0	0.1	%		99.2	----	107	----	106
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		95.6	----	117	110	115
Toluene-D8	2037-26-5	0.1	%		117	----	115	119	110
4-Bromofluorobenzene	460-00-4	0.1	%		119	----	115	120	110

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH52_4.2-4.4	BH49_1.5-1.7	BH49_4.2-4.4	BH49_6.2-6.4	BH49_8.2-8.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-011	ES1003672-012	ES1003672-013	ES1003672-014	ES1003672-015
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	----	----	**8.2**	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**20.6**	**13.2**	**29.4**	**40.1**	**20.0**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	**14**	**6**
Barium	7440-39-3	10	mg/kg	**60**	**70**	**50**	<10	<10
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**19**	**14**	**3**	**23**	**30**
Cobalt	7440-48-4	2	mg/kg	<2	**6**	<2	<2	<2
Copper	7440-50-8	5	mg/kg	**190**	**56**	**15**	<5	<5
Iron	7439-89-6	50	mg/kg	----	----	----	**24400**	----
Lead	7439-92-1	5	mg/kg	**93**	**141**	**30**	**7**	**14**
Manganese	7439-96-5	5	mg/kg	**35**	**251**	**110**	**20**	**33**
Nickel	7440-02-0	2	mg/kg	**6**	**11**	**3**	**2**	<2
Vanadium	7440-62-2	5	mg/kg	**24**	**18**	**6**	**49**	**44**
Zinc	7440-66-6	5	mg/kg	**38**	**110**	**6**	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.2**	**0.2**	**0.7**	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	<0.5	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	<1	----	----	<1	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	----	----	<1	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	----	<0.5	----
^ Total Organic Carbon	----	0.5	%	----	----	----	<0.5	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	----	**1.6**	----
Toluene	108-88-3	0.5	mg/kg	----	----	----	**1.8**	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	**2.0**	----
Styrene	100-42-5	0.5	mg/kg	----	----	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	**0.8**	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	----	<0.5	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH52_4.2-4.4	BH49_1.5-1.7	BH49_4.2-4.4	BH49_6.2-6.4	BH49_8.2-8.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-011	ES1003672-012	ES1003672-013	ES1003672-014	ES1003672-015
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	----	<0.5	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	----	<0.5	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	----	**1.0**	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	----	<0.5	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	----	<0.5	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	----	<0.5	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	----	<5	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	----	<5	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	----	<5	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	----	<5	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	----	<0.5	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	----	<0.5	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	----	<0.5	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	----	----	<0.5	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	----	<5	----
Chloromethane	74-87-3	5	mg/kg	----	----	----	<5	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	----	<5	----
Bromomethane	74-83-9	5	mg/kg	----	----	----	<5	----
Chloroethane	75-00-3	5	mg/kg	----	----	----	<5	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	----	<5	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	----	<0.5	----
Iodomethane	74-88-4	0.5	mg/kg	----	----	----	<0.5	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	----	<0.5	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	----	<0.5	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	----	<0.5	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	----	<0.5	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	----	<0.5	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	----	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	----	<0.5	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	----	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH52_4.2-4.4	BH49_1.5-1.7	BH49_4.2-4.4	BH49_6.2-6.4	BH49_8.2-8.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-011	ES1003672-012	ES1003672-013	ES1003672-014	ES1003672-015
EP074E: Halogenated Aliphatic Compounds - Continued								
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	----	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	----	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	----	<0.5	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	----	<0.5	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	----	<0.5	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	----	<0.5	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	----	<0.5	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	<0.5	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	----	<0.5	----
Bromobenzene	108-86-1	0.5	mg/kg	----	----	----	<0.5	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	----	<0.5	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	----	<0.5	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	<0.5	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	----	<0.5	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	----	<0.5	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	----	<0.5	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	----	<0.5	----
Bromoform	75-25-2	0.5	mg/kg	----	----	----	<0.5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	**7.4**	**1.9**	**15.8**	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	**5.1**	**0.8**	**6.4**	----	**4.1**
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	**11.7**	**2.1**	**13.9**	----	**1.2**
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	**5.7**	**0.8**	**5.1**	----	**4.5**
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	<2.0	----	<2.0

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH52_4.2-4.4	BH49_1.5-1.7	BH49_4.2-4.4	BH49_6.2-6.4	BH49_8.2-8.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-011	ES1003672-012	ES1003672-013	ES1003672-014	ES1003672-015
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**55.8**	**9.7**	**64.7**	----	**373**
Acenaphthylene	208-96-8	0.5	mg/kg	**85.7**	**11.0**	**23.8**	----	**55.1**
Acenaphthene	83-32-9	0.5	mg/kg	**36.1**	**1.1**	**4.1**	----	**11.2**
Fluorene	86-73-7	0.5	mg/kg	**123**	**4.5**	**12.5**	----	**62.0**
Phenanthrene	85-01-8	0.5	mg/kg	**412**	**61.4**	**41.7**	----	**130**
Anthracene	120-12-7	0.5	mg/kg	**115**	**18.1**	**16.0**	----	**43.6**
Fluoranthene	206-44-0	0.5	mg/kg	**306**	**76.7**	**38.8**	----	**83.3**
Pyrene	129-00-0	0.5	mg/kg	**291**	**77.9**	**53.3**	----	**70.3**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**140**	**35.8**	**23.2**	----	**30.9**
Chrysene	218-01-9	0.5	mg/kg	**109**	**32.0**	**16.2**	----	**22.6**
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	**93.8**	**37.0**	**27.6**	----	**21.4**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**52.9**	**11.8**	**13.4**	----	**12.0**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**82.2**	**22.7**	**19.2**	----	**16.4**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**37.6**	**11.4**	**7.9**	----	**6.0**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**11.6**	**3.8**	**2.6**	----	**2.0**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**43.2**	**13.2**	**9.2**	----	**6.7**
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	----	<0.5	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	**1.4**	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	<0.5	----
Pentachlorophenol	87-86-5	1	mg/kg	----	----	----	<1	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	**19.5**	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	----	**4.0**	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	**2.3**	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	**0.8**	----
Fluorene	86-73-7	0.5	mg/kg	----	----	----	**2.7**	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	**5.7**	----
Anthracene	120-12-7	0.5	mg/kg	----	----	----	**1.7**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH52_4.2-4.4	BH49_1.5-1.7	BH49_4.2-4.4	BH49_6.2-6.4	BH49_8.2-8.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-011	ES1003672-012	ES1003672-013	ES1003672-014	ES1003672-015
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	**4.4**	----
Pyrene	129-00-0	0.5	mg/kg	----	----	----	**3.7**	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	**3.1**	----
Chrysene	218-01-9	0.5	mg/kg	----	----	----	**2.4**	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	----	----	**3**	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	**2.5**	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	**0.7**	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	**0.6**	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	----	<0.5	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	----	<0.5	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	----	<0.5	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	----	<0.5	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	----	----	<5.0	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	----	<0.5	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	----	----	<1.0	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	----	----	<1.0	----
Methapyrilene	91-80-5	0.5	mg/kg	----	----	----	<0.5	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	----	----	**0.9**	----
Acetophenone	98-86-2	0.5	mg/kg	----	----	----	<0.5	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	----	<0.5	----
Isophorone	78-59-1	0.5	mg/kg	----	----	----	<0.5	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	----	----	<1.0	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	----	----	<1.0	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH52_4.2-4.4	BH49_1.5-1.7	BH49_4.2-4.4	BH49_6.2-6.4	BH49_8.2-8.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-011	ES1003672-012	ES1003672-013	ES1003672-014	ES1003672-015
EP075E: Nitroaromatics and Ketones - Continued								
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	----	<0.5	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	----	<0.5	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	----	<0.5	----
Azobenzene	103-33-3	1	mg/kg	----	----	----	<1	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	----	<0.5	----
Phenacetin	62-44-2	0.5	mg/kg	----	----	----	<0.5	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	----	<0.5	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	----	<0.5	----
Pronamide	23950-58-5	0.5	mg/kg	----	----	----	<0.5	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	----	<0.5	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	----	<0.5	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	----	<0.5	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	----	<0.5	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	----	<0.5	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	----	<0.5	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	<0.5	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	----	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	<0.5	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	----	----	<2.5	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	----	----	<1.0	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	----	----	<0.5	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	----	<0.5	----
2-Nitroaniline	88-74-4	1.0	mg/kg	----	----	----	<1.0	----
3-Nitroaniline	99-09-2	1.0	mg/kg	----	----	----	<1.0	----
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	----	**2.1**	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	----	<0.5	----
Carbazole	86-74-8	0.5	mg/kg	----	----	----	**2.0**	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	----	<0.5	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH52_4.2-4.4	BH49_1.5-1.7	BH49_4.2-4.4	BH49_6.2-6.4	BH49_8.2-8.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-011	ES1003672-012	ES1003672-013	ES1003672-014	ES1003672-015
EP075I: Organochlorine Pesticides - Continued								
beta-BHC	319-85-7	0.5	mg/kg	----	----	----	<0.5	----
gamma-BHC	58-89-9	0.5	mg/kg	----	----	----	<0.5	----
delta-BHC	319-86-8	0.5	mg/kg	----	----	----	<0.5	----
Heptachlor	76-44-8	0.5	mg/kg	----	----	----	<0.5	----
Aldrin	309-00-2	0.5	mg/kg	----	----	----	<0.5	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	----	----	<0.5	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	----	----	<0.5	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	----	----	<0.5	----
Dieldrin	60-57-1	0.5	mg/kg	----	----	----	<0.5	----
Endrin	72-20-8	0.5	mg/kg	----	----	----	<0.5	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	----	----	<0.5	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	----	----	<0.5	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	----	----	<0.5	----
4.4`-DDT	50-29-3	1.0	mg/kg	----	----	----	<1.0	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	----	----	<0.5	----
Dimethoate	60-51-5	0.5	mg/kg	----	----	----	<0.5	----
Diazinon	333-41-5	0.5	mg/kg	----	----	----	<0.5	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	----	----	<0.5	----
Malathion	121-75-5	0.5	mg/kg	----	----	----	<0.5	----
Fenthion	55-38-9	0.5	mg/kg	----	----	----	<0.5	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	----	----	<0.5	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	----	----	<0.5	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	----	----	<0.5	----
Prothiofos	34643-46-4	0.5	mg/kg	----	----	----	<0.5	----
Ethion	563-12-2	0.5	mg/kg	----	----	----	<0.5	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	----	----	----	<0.5	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	----	----	----	<0.5	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	----	----	----	<0.5	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	----	----	----	<0.5	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	----	----	----	<0.5	----
trans-Isosafrole	4043-71-4	0.5	mg/kg	----	----	----	<0.5	----
Safrole	94-59-7	0.5	mg/kg	----	----	----	<0.5	----
Diallate	2303-16-4	0.5	mg/kg	----	----	----	<0.5	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	----	----	----	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	**10**	**11**	**13**	<10	**348**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH52_4.2-4.4	BH49_1.5-1.7	BH49_4.2-4.4	BH49_6.2-6.4	BH49_8.2-8.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-011	ES1003672-012	ES1003672-013	ES1003672-014	ES1003672-015
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	80	250	160	1160
C15 - C28 Fraction	----	100	mg/kg	6600	1460	1610	450	2650
C29 - C36 Fraction	----	100	mg/kg	2370	790	1080	150	790
^ C10 - C36 Fraction (sum)	----	50	mg/kg	8970	2330	2940	760	4600
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	1.7	<0.2	<0.2	----	49.7
Toluene	108-88-3	0.5	mg/kg	1.1	<0.5	<0.5	----	74.6
Ethylbenzene	100-41-4	0.5	mg/kg	1.0	<0.5	<0.5	----	5.2
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	1.4	<0.5	<0.5	----	61.5
ortho-Xylene	95-47-6	0.5	mg/kg	0.7	<0.5	<0.5	----	22.6
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	104	----
Toluene-D8	2037-26-5	0.1	%	----	----	----	108	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	108	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	84.8	86.1	83.1	----	85.5
2-Chlorophenol-D4	93951-73-6	0.1	%	82.5	82.6	81.5	----	82.9
2.4.6-Tribromophenol	118-79-6	0.1	%	90.5	85.5	81.5	----	91.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	84.1	90.1	89.7	----	88.0
Anthracene-d10	1719-06-8	0.1	%	86.9	88.6	87.2	----	89.3
4-Terphenyl-d14	1718-51-0	0.1	%	59.0	84.7	87.7	----	86.6
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	----	----	67.5	----
Phenol-d6	13127-88-3	0.1	%	----	----	----	54.4	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	56.6	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	----	63.1	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	----	----	63.6	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	----	----	51.9	----
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	61.0	----
Anthracene-d10	1719-06-8	0.1	%	----	----	----	58.4	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	63.4	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	95.3	102	103	112	118
Toluene-D8	2037-26-5	0.1	%	106	113	112	110	122
4-Bromofluorobenzene	460-00-4	0.1	%	108	108	108	107	117

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH49_10.2-10.4	BH49_12.2-12.4	BH58_1.0-1.2	BH58_3.2-3.4	BH58_5.2-5.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-016	ES1003672-017	ES1003672-018	ES1003672-019	ES1003672-020
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	7.5	8.4	9.5	9.8
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	16.5	20.4	17.5	23.5	20.1
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	8	<5	<5
Barium	7440-39-3	10	mg/kg	30	<10	60	50	120
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	35	19	11	9	13
Cobalt	7440-48-4	2	mg/kg	<2	<2	4	6	4
Copper	7440-50-8	5	mg/kg	<5	<5	30	70	55
Iron	7439-89-6	50	mg/kg	----	12200	----	----	----
Lead	7439-92-1	5	mg/kg	8	26	54	118	386
Manganese	7439-96-5	5	mg/kg	<5	<5	186	160	127
Nickel	7440-02-0	2	mg/kg	<2	<2	8	12	10
Vanadium	7440-62-2	5	mg/kg	54	9	25	28	21
Zinc	7440-66-6	5	mg/kg	<5	<5	49	120	261
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.6	0.1	0.2
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	----	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	<1	<1	----	----	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	----	----	<1
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	0.7	----	----	----
^ Total Organic Carbon	----	0.5	%	----	<0.5	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	10.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	16.6	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	2.0	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	21.2	----	----	----
Styrene	100-42-5	0.5	mg/kg	----	8.7	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	7.7	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	<0.5	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH49_10.2-10.4	BH49_12.2-12.4	BH58_1.0-1.2	BH58_3.2-3.4	BH58_5.2-5.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-016	ES1003672-017	ES1003672-018	ES1003672-019	ES1003672-020
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	**3.8**	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	**9.5**	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	<0.5	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	<0.5	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	<0.5	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	<5	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	<5	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	<5	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	<5	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	<0.5	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	<0.5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	<0.5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	<0.5	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	<5	----	----	----
Chloromethane	74-87-3	5	mg/kg	----	<5	----	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	<5	----	----	----
Bromomethane	74-83-9	5	mg/kg	----	<5	----	----	----
Chloroethane	75-00-3	5	mg/kg	----	<5	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	<5	----	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	<0.5	----	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	<0.5	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	<0.5	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	<0.5	----	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	<0.5	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	<0.5	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	<0.5	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	<0.5	----	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH49_10.2-10.4	BH49_12.2-12.4	BH58_1.0-1.2	BH58_3.2-3.4	BH58_5.2-5.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-016	ES1003672-017	ES1003672-018	ES1003672-019	ES1003672-020
EP074E: Halogenated Aliphatic Compounds - Continued								
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	<0.5	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	<0.5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	<0.5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	<0.5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	<0.5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	<0.5	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	<0.5	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	<0.5	----	----	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<0.5	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	<0.5	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	<0.5	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	<0.5	----	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	<0.5	----	----	----
Bromoform	75-25-2	0.5	mg/kg	----	<0.5	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	**1.6**	----	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	**7.8**	----	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	**9.5**	----	<1.0	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	**9.0**	----	<0.5	**0.6**	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	----	<2.0	<2.0	<2.0

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH49_10.2-10.4	BH49_12.2-12.4	BH58_1.0-1.2	BH58_3.2-3.4	BH58_5.2-5.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-016	ES1003672-017	ES1003672-018	ES1003672-019	ES1003672-020
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**343**	----	**2.3**	**10.9**	**1.3**
Acenaphthylene	208-96-8	0.5	mg/kg	**32.6**	----	**8.2**	**1.1**	**0.9**
Acenaphthene	83-32-9	0.5	mg/kg	**5.3**	----	**0.6**	**1.6**	**1.2**
Fluorene	86-73-7	0.5	mg/kg	**33.4**	----	**1.5**	**1.3**	**1.3**
Phenanthrene	85-01-8	0.5	mg/kg	**191**	----	**23.4**	**5.9**	**6.2**
Anthracene	120-12-7	0.5	mg/kg	**25.8**	----	**8.5**	**2.2**	**2.0**
Fluoranthene	206-44-0	0.5	mg/kg	**54.6**	----	**36.1**	**6.6**	**7.5**
Pyrene	129-00-0	0.5	mg/kg	**46.7**	----	**37.6**	**6.8**	**7.4**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**23.1**	----	**16.2**	**2.8**	**3.3**
Chrysene	218-01-9	0.5	mg/kg	**15.3**	----	**14.0**	**2.5**	**3.1**
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	**14.8**	----	**19.0**	**3.6**	**3.8**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**6.5**	----	**6.9**	**1.0**	**1.9**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**11.4**	----	**12.7**	**2.1**	**2.6**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**3.8**	----	**7.2**	**1.0**	**1.4**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**1.1**	----	**1.8**	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**4.7**	----	**9.8**	**1.4**	**1.7**
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	**2.8**	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<1.2	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	**14.4**	----	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	**25.5**	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<1.2	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	**57.6**	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<1.2	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<1.2	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<1.2	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<1.2	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<1.2	----	----	----
Pentachlorophenol	87-86-5	1	mg/kg	----	<2	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	**703**	----	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	**211**	----	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	<1.2	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	**132**	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	**16.5**	----	----	----
Fluorene	86-73-7	0.5	mg/kg	----	**125**	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	**283**	----	----	----
Anthracene	120-12-7	0.5	mg/kg	----	**59.1**	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH49_10.2-10.4	BH49_12.2-12.4	BH58_1.0-1.2	BH58_3.2-3.4	BH58_5.2-5.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-016	ES1003672-017	ES1003672-018	ES1003672-019	ES1003672-020
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluoranthene	206-44-0	0.5	mg/kg	----	**161**	----	----	----
Pyrene	129-00-0	0.5	mg/kg	----	**137**	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	<1.2	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	**48.4**	----	----	----
Chrysene	218-01-9	0.5	mg/kg	----	**37.8**	----	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	**45**	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	<1.2	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**35.8**	----	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	<1.2	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	**9.8**	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	**3.4**	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	**8.7**	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	<1.2	----	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	<1.2	----	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	<1.2	----	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	<1.2	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	0.5	mg/kg	----	<1.2	----	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	<1.2	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	----	<2.5	----	----	----
Methapyrilene	91-80-5	0.5	mg/kg	----	<1.2	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	<1.2	----	----	----
Acetophenone	98-86-2	0.5	mg/kg	----	<1.2	----	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	<1.2	----	----	----
Isophorone	78-59-1	0.5	mg/kg	----	<1.2	----	----	----
2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	----	<1.2	----	----	----
2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	----	<1.2	----	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH49_10.2-10.4	BH49_12.2-12.4	BH58_1.0-1.2	BH58_3.2-3.4	BH58_5.2-5.4
				Client sampling date / time	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1003672-016	ES1003672-017	ES1003672-018	ES1003672-019	ES1003672-020
EP075E: Nitroaromatics and Ketones - Continued									
1-Naphthylamine	134-32-7	0.5	mg/kg		----	**1.4**	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		----	<1.2	----	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		----	<1.2	----	----	----
Azobenzene	103-33-3	1	mg/kg		----	<1	----	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		----	<1.2	----	----	----
Phenacetin	62-44-2	0.5	mg/kg		----	<1.2	----	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg		----	<1.2	----	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		----	<1.2	----	----	----
Pronamide	23950-58-5	0.5	mg/kg		----	<1.2	----	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		----	<1.2	----	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg		----	<1.2	----	----	----
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		----	<1.2	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		----	<1.2	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		----	<1.2	----	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		----	<1.2	----	----	----
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		----	<1.2	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		----	<1.2	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		----	<1.2	----	----	----
Hexachloroethane	67-72-1	0.5	mg/kg		----	<1.2	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		----	<1.2	----	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg		----	<1.2	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg		----	<1.2	----	----	----
Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg		----	<1.2	----	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg		----	<1.2	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg		----	<1.2	----	----	----
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		----	<1.2	----	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg		----	<1.2	----	----	----
2-Nitroaniline	88-74-4	0.5	mg/kg		----	<1.2	----	----	----
3-Nitroaniline	99-09-2	0.5	mg/kg		----	<1.2	----	----	----
Dibenzofuran	132-64-9	0.5	mg/kg		----	**60.8**	----	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg		----	<1.2	----	----	----
Carbazole	86-74-8	0.5	mg/kg		----	**32.3**	----	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		----	<1.2	----	----	----
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.5	mg/kg		----	<1.2	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH49_10.2-10.4	BH49_12.2-12.4	BH58_1.0-1.2	BH58_3.2-3.4	BH58_5.2-5.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-016	ES1003672-017	ES1003672-018	ES1003672-019	ES1003672-020
EP075I: Organochlorine Pesticides - Continued								
beta-BHC	319-85-7	0.5	mg/kg	----	<1.2	----	----	----
gamma-BHC	58-89-9	0.5	mg/kg	----	<1.2	----	----	----
delta-BHC	319-86-8	0.5	mg/kg	----	<1.2	----	----	----
Heptachlor	76-44-8	0.5	mg/kg	----	<1.2	----	----	----
Aldrin	309-00-2	0.5	mg/kg	----	<1.2	----	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	<1.2	----	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	<1.2	----	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	<1.2	----	----	----
Dieldrin	60-57-1	0.5	mg/kg	----	<1.2	----	----	----
Endrin	72-20-8	0.5	mg/kg	----	<1.2	----	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	<1.2	----	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	<1.2	----	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	<1.2	----	----	----
4.4`-DDT	50-29-3	0.5	mg/kg	----	<1.2	----	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	<1.2	----	----	----
Dimethoate	60-51-5	0.5	mg/kg	----	<1.2	----	----	----
Diazinon	333-41-5	0.5	mg/kg	----	<1.2	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	<1.2	----	----	----
Malathion	121-75-5	0.5	mg/kg	----	<1.2	----	----	----
Fenthion	55-38-9	0.5	mg/kg	----	<1.2	----	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	<1.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	<1.2	----	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	<1.4	----	----	----
Prothiofos	34643-46-4	0.5	mg/kg	----	<1.2	----	----	----
Ethion	563-12-2	0.5	mg/kg	----	<1.2	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	**56**	----	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	**670**	----	<50	**80**	<50
C15 - C28 Fraction	----	100	mg/kg	**1240**	----	**550**	**450**	**320**
C29 - C36 Fraction	----	100	mg/kg	**420**	----	**460**	**380**	**300**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**2330**	----	**1010**	**910**	**620**
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	**5.5**	----	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	**10.8**	----	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	**1.4**	----	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	**9.9**	----	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	**4.7**	----	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH49_10.2-10.4	BH49_12.2-12.4	BH58_1.0-1.2	BH58_3.2-3.4	BH58_5.2-5.4
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-016	ES1003672-017	ES1003672-018	ES1003672-019	ES1003672-020
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	112	----	----	----
Toluene-D8	2037-26-5	0.1	%	----	112	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	112	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	87.2	----	88.7	81.8	87.4
2-Chlorophenol-D4	93951-73-6	0.1	%	90.0	----	89.0	81.0	81.7
2.4.6-Tribromophenol	118-79-6	0.1	%	94.0	----	88.2	70.8	84.2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	93.6	----	94.1	87.3	91.6
Anthracene-d10	1719-06-8	0.1	%	93.2	----	90.8	85.7	91.7
4-Terphenyl-d14	1718-51-0	0.1	%	98.0	----	94.0	92.1	96.9
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	86.3	----	----	----
Phenol-d6	13127-88-3	0.1	%	----	70.7	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	70.2	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	79.4	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	85.5	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	70.9	----	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	----	83.7	----	----	----
Anthracene-d10	1719-06-8	0.1	%	----	86.8	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	91.1	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	112	----	127	114	115
Toluene-D8	2037-26-5	0.1	%	117	----	121	114	119
4-Bromofluorobenzene	460-00-4	0.1	%	112	----	124	112	113

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH58_8.6-8.8	BH58_10.2-10.4	BH58_10.8-11.2	QC220	QC223
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-021	ES1003672-022	ES1003672-023	ES1003672-024	ES1003672-025
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**9.8**	----	**9.6**	**8.8**	**8.7**
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**21.0**	**25.1**	**16.7**	**13.8**	**28.3**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**7**	<5	<5	<5	**13**
Barium	7440-39-3	10	mg/kg	**160**	**60**	**50**	<10	<10
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**12**	**9**	**8**	**4**	**16**
Cobalt	7440-48-4	2	mg/kg	**3**	<2	**3**	<2	<2
Copper	7440-50-8	5	mg/kg	**145**	**41**	**28**	<5	<5
Iron	7439-89-6	50	mg/kg	**13600**	----	**10100**	**3740**	**19800**
Lead	7439-92-1	5	mg/kg	**585**	**131**	**66**	<5	<5
Manganese	7439-96-5	5	mg/kg	**122**	**59**	**133**	**5**	**10**
Nickel	7440-02-0	2	mg/kg	**8**	**4**	**5**	<2	<2
Vanadium	7440-62-2	5	mg/kg	**16**	**10**	**17**	**14**	**38**
Zinc	7440-66-6	5	mg/kg	**380**	**159**	**74**	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.7**	**0.5**	**0.1**	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	----	----	----	<1	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	----	<1	<1
EP004: Organic Matter								
Organic Matter	----	0.5	%	**1.8**	----	<0.5	**0.6**	**2.8**
^ Total Organic Carbon	----	0.5	%	**1.0**	----	<0.5	<0.5	**1.6**
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	<0.2	**2.4**
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	<0.5	**2.5**
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	<0.5	**2.6**
Styrene	100-42-5	0.5	mg/kg	<0.5	----	----	<0.5	**0.5**
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	<0.5	**1.0**
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	----	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH58_8.6-8.8	BH58_10.2-10.4	BH58_10.8-11.2	QC220	QC223
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-021	ES1003672-022	ES1003672-023	ES1003672-024	ES1003672-025
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	----	<0.5	**0.6**
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	----	<0.5	**1.2**
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	----	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	----	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	----	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	----	<5	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	----	<5	<5
Chloromethane	74-87-3	5	mg/kg	<5	----	----	<5	<5
Vinyl chloride	75-01-4	5	mg/kg	<5	----	----	<5	<5
Bromomethane	74-83-9	5	mg/kg	<5	----	----	<5	<5
Chloroethane	75-00-3	5	mg/kg	<5	----	----	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	----	<5	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	----	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH58_8.6-8.8	BH58_10.2-10.4	BH58_10.8-11.2	QC220	QC223
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-021	ES1003672-022	ES1003672-023	ES1003672-024	ES1003672-025
EP074E: Halogenated Aliphatic Compounds - Continued								
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	<0.5	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	----	<1.0	<1.0	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	<0.5	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	----	<2.0	<2.0	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH58_8.6-8.8	BH58_10.2-10.4	BH58_10.8-11.2	QC220	QC223
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-021	ES1003672-022	ES1003672-023	ES1003672-024	ES1003672-025
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	**1.2**	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	**0.9**	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	**0.8**	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	----	----	**0.7**	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	**3.6**	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	----	----	**1.3**	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	**7.3**	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	----	----	**8.5**	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	**3.3**	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	----	----	**2.8**	<0.5	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	**3.2**	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	**1.7**	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	**2.2**	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	**1.0**	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	**1.3**	<0.5	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	**1.0**
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	**3.4**
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	<0.5
Pentachlorophenol	87-86-5	1	mg/kg	<1	----	----	----	<1
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**1.2**	----	----	----	**29.3**
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	----	----	**5.3**
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	**2.1**	----	----	----	**2.9**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	**1.0**
Fluorene	86-73-7	0.5	mg/kg	**0.7**	----	----	----	**4.2**
Phenanthrene	85-01-8	0.5	mg/kg	**4.6**	----	----	----	**14.2**
Anthracene	120-12-7	0.5	mg/kg	**2.2**	----	----	----	**2.8**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH58_8.6-8.8	BH58_10.2-10.4	BH58_10.8-11.2	QC220	QC223
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-021	ES1003672-022	ES1003672-023	ES1003672-024	ES1003672-025
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluoranthene	206-44-0	0.5	mg/kg	**7.9**	----	----	----	**5.7**
Pyrene	129-00-0	0.5	mg/kg	**10.6**	----	----	----	**4.8**
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	**5.6**	----	----	----	**2.5**
Chrysene	218-01-9	0.5	mg/kg	**4.6**	----	----	----	**2.0**
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	**7**	----	----	----	**2**
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**5.3**	----	----	----	**1.9**
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**1.3**	----	----	----	**0.5**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**1.4**	----	----	----	<0.5
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	----	----	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	----	----	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	----	----	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	----	----	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	----	----	<0.5
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	----	----	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	----	----	<0.5
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	----	----	<1.0
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	----	----	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	----	----	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	----	----	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	----	----	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	----	----	<1.0
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	----	----	<0.5
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	----	----	<0.5
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	----	----	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	----	----	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	----	----	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	----	----	<1.0

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH58_8.6-8.8	BH58_10.2-10.4	BH58_10.8-11.2	QC220	QC223
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-021	ES1003672-022	ES1003672-023	ES1003672-024	ES1003672-025
EP075E: Nitroaromatics and Ketones - Continued								
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	----	----	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	----	----	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	----	----	<0.5
Azobenzene	103-33-3	1	mg/kg	<1	----	----	----	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	----	----	<0.5
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	----	----	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	----	----	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	----	----	<0.5
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	----	----	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	----	----	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	----	----	<0.5
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	----	----	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	----	----	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	----	----	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	----	----	<0.5
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	----	----	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	----	----	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	----	----	<0.5
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	----	----	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	----	----	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	----	----	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	----	----	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	----	----	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	----	----	<1.0
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	----	----	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	----	----	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	----	----	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	----	----	**3.1**
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	----	----	<0.5
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	----	----	**1.8**
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	----	----	<0.5
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	----	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH58_8.6-8.8	BH58_10.2-10.4	BH58_10.8-11.2	QC220	QC223
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-021	ES1003672-022	ES1003672-023	ES1003672-024	ES1003672-025
EP075I: Organochlorine Pesticides - Continued								
beta-BHC	319-85-7	0.5	mg/kg	<0.5	----	----	----	<0.5
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	----	----	----	<0.5
delta-BHC	319-86-8	0.5	mg/kg	<0.5	----	----	----	<0.5
Heptachlor	76-44-8	0.5	mg/kg	<0.5	----	----	----	<0.5
Aldrin	309-00-2	0.5	mg/kg	<0.5	----	----	----	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	----	----	----	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	----	----	----	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	----	----	----	<0.5
Dieldrin	60-57-1	0.5	mg/kg	<0.5	----	----	----	<0.5
Endrin	72-20-8	0.5	mg/kg	<0.5	----	----	----	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	----	----	----	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	----	----	----	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	----	----	----	<0.5
4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	----	----	----	<1.0
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	----	----	----	<0.5
Dimethoate	60-51-5	0.5	mg/kg	<0.5	----	----	----	<0.5
Diazinon	333-41-5	0.5	mg/kg	<0.5	----	----	----	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	----	----	----	<0.5
Malathion	121-75-5	0.5	mg/kg	<0.5	----	----	----	<0.5
Fenthion	55-38-9	0.5	mg/kg	<0.5	----	----	----	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	----	----	----	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	----	----	----	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	----	----	<0.5
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	----	----	----	<0.5
Ethion	563-12-2	0.5	mg/kg	<0.5	----	----	----	<0.5
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	----	----	----	<0.5
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	----	----	----	<0.5
cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	----	----	----	<0.5
trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	----	----	----	<0.5
Safrole	94-59-7	0.5	mg/kg	<0.5	----	----	----	<0.5
Diallate	2303-16-4	0.5	mg/kg	<0.5	----	----	----	<0.5
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	----	----	----	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	<10	<10	**11**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH58_8.6-8.8	BH58_10.2-10.4	BH58_10.8-11.2	QC220	QC223
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-021	ES1003672-022	ES1003672-023	ES1003672-024	ES1003672-025
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	----	<50	<50	**60**
C15 - C28 Fraction	----	100	mg/kg	**640**	----	**420**	<100	**260**
C29 - C36 Fraction	----	100	mg/kg	**510**	----	**430**	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**1150**	----	**850**	----	**320**
C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	<50	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**103**	----	----	**111**	**111**
Toluene-D8	2037-26-5	0.1	%	**110**	----	----	**111**	**108**
4-Bromofluorobenzene	460-00-4	0.1	%	**110**	----	----	**115**	**107**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	**92.0**	**96.6**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**89.1**	**88.0**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**83.5**	**16.0**	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**93.4**	**99.7**	----
Anthracene-d10	1719-06-8	0.1	%	----	----	**91.2**	**104**	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**96.6**	**127**	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	**113**	----	----	----	**27.0**
Phenol-d6	13127-88-3	0.1	%	**77.3**	----	----	----	**70.7**
2-Chlorophenol-D4	93951-73-6	0.1	%	**76.1**	----	----	----	**76.1**
2.4.6-Tribromophenol	118-79-6	0.1	%	**61.0**	----	----	----	**84.6**
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	**73.6**	----	----	----	**83.9**
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	**65.8**	----	----	----	**70.4**
2-Fluorobiphenyl	321-60-8	0.1	%	**68.8**	----	----	----	**78.8**
Anthracene-d10	1719-06-8	0.1	%	**71.2**	----	----	----	**79.2**
4-Terphenyl-d14	1718-51-0	0.1	%	**72.7**	----	----	----	**84.3**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**111**	----	**116**	**120**	**120**
Toluene-D8	2037-26-5	0.1	%	**113**	----	**115**	**114**	**110**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH58_8.6-8.8	BH58_10.2-10.4	BH58_10.8-11.2	QC220	QC223
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-021	ES1003672-022	ES1003672-023	ES1003672-024	ES1003672-025
EP080S: TPH(V)/BTEX Surrogates - Continued								
4-Bromofluorobenzene	460-00-4	0.1	%	**108**	----	**110**	**112**	**109**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC225	TB06	BH50_0.15-0.25	BH60_0.17-0.27	BH42_1.0-1.1
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-026	ES1003672-028	ES1003672-029	ES1003672-030	ES1003672-031
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**9.2**	----	----	----	**8.9**
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**21.0**	----	**7.7**	**12.7**	**8.1**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**6**	----	<5	<5	**5**
Barium	7440-39-3	10	mg/kg	**70**	----	**30**	**30**	**70**
Beryllium	7440-41-7	1	mg/kg	<1	----	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**8**	----	**10**	**16**	**11**
Cobalt	7440-48-4	2	mg/kg	**3**	----	**28**	**39**	**4**
Copper	7440-50-8	5	mg/kg	**59**	----	**80**	**106**	**25**
Lead	7439-92-1	5	mg/kg	**171**	----	<5	<5	**142**
Manganese	7439-96-5	5	mg/kg	**130**	----	**507**	**649**	**203**
Nickel	7440-02-0	2	mg/kg	**6**	----	**91**	**149**	**8**
Vanadium	7440-62-2	5	mg/kg	**17**	----	**22**	**28**	**18**
Zinc	7440-66-6	5	mg/kg	**121**	----	**36**	**41**	**89**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.3**	----	<0.1	<0.1	**0.2**
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	----
Styrene	100-42-5	0.5	mg/kg	----	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	<0.5	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	<0.5	----	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	<0.5	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	<0.5	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	<0.5	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	<0.5	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	<0.5	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	<5	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	<5	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	<5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC225	TB06	BH50_0.15-0.25	BH60_0.17-0.27	BH42_1.0-1.1
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-026	ES1003672-028	ES1003672-029	ES1003672-030	ES1003672-031
EP074B: Oxygenated Compounds - Continued								
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	<5	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	<0.5	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	<0.5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	<0.5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	<0.5	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	<5	----	----	----
Chloromethane	74-87-3	5	mg/kg	----	<5	----	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	<5	----	----	----
Bromomethane	74-83-9	5	mg/kg	----	<5	----	----	----
Chloroethane	75-00-3	5	mg/kg	----	<5	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	<5	----	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	<0.5	----	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	<0.5	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	<0.5	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	<0.5	----	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	<0.5	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	<0.5	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	<0.5	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	<0.5	----	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	<0.5	----	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	<0.5	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	<0.5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	<0.5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	<0.5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	<0.5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC225	TB06	BH50_0.15-0.25	BH60_0.17-0.27	BH42_1.0-1.1
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-026	ES1003672-028	ES1003672-029	ES1003672-030	ES1003672-031
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	<0.5	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	<0.5	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	<0.5	----	----	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<0.5	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	<0.5	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	<0.5	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	<0.5	----	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	<0.5	----	----	----
Bromoform	75-25-2	0.5	mg/kg	----	<0.5	----	----	----
EP074H: Naphthalene								
Naphthalene	91-20-3	5	mg/kg	----	<5	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	----	----	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	----	----	----	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**3.4**	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	**1.1**	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	**2.4**	----	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	**2.0**	----	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**11.1**	----	----	----	**1.2**
Anthracene	120-12-7	0.5	mg/kg	**3.1**	----	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	**16.5**	----	----	----	**2.9**
Pyrene	129-00-0	0.5	mg/kg	**15.5**	----	----	----	**3.2**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC225	TB06	BH50_0.15-0.25	BH60_0.17-0.27	BH42_1.0-1.1
				Client sampling date / time: 22-FEB-2010 15:00	22-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-026	ES1003672-028	ES1003672-029	ES1003672-030	ES1003672-031
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benz(a)anthracene	56-55-3	0.5	mg/kg	**6.0**	----	----	----	**2.0**
Chrysene	218-01-9	0.5	mg/kg	**4.1**	----	----	----	**1.7**
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	**5.1**	----	----	----	**2.3**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**2.4**	----	----	----	**1.0**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**3.4**	----	----	----	**1.5**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**1.2**	----	----	----	**0.6**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**1.7**	----	----	----	**0.8**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	<10
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	<50
C15 - C28 Fraction	----	100	mg/kg	**520**	----	----	----	**110**
C29 - C36 Fraction	----	100	mg/kg	**400**	----	----	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**920**	----	----	----	**110**
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	----	<0.5
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**102**	----	----	----
Toluene-D8	2037-26-5	0.1	%	----	**105**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	**102**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**95.4**	----	----	----	**87.6**
2-Chlorophenol-D4	93951-73-6	0.1	%	**95.9**	----	----	----	**97.4**
2.4.6-Tribromophenol	118-79-6	0.1	%	**78.7**	----	----	----	**64.7**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**97.2**	----	----	----	**90.7**
Anthracene-d10	1719-06-8	0.1	%	**123**	----	----	----	**93.8**
4-Terphenyl-d14	1718-51-0	0.1	%	**109**	----	----	----	**100**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**112**	----	----	----	**81.9**
Toluene-D8	2037-26-5	0.1	%	**118**	----	----	----	**110**
4-Bromofluorobenzene	460-00-4	0.1	%	**115**	----	----	----	**111**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH42_2.0-2.1	BH42_3.2-3.3	BH42_3.5-3.6	BH44_1.4-1.5	BH44_1.9-2.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-032	ES1003672-033	ES1003672-034	ES1003672-035	ES1003672-036
AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	----	----	----	----
Asbestos Type	132207-33-1	0.1	g/kg	**-**	----	----	----	----
Sample weight (dry)	----	0.01	g	**290**	----	----	----	----
APPROVED IDENTIFIER:	----	-	-	**K.HALL**	----	----	----	----
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	**8.6**	**8.6**	----	**8.2**
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	----	**20.5**	**12.2**	**10.9**	**24.1**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	**6**	**10**	<5	**5**
Barium	7440-39-3	10	mg/kg	----	<10	<10	**100**	**130**
Beryllium	7440-41-7	1	mg/kg	----	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	----	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	----	**4**	**5**	**18**	**8**
Cobalt	7440-48-4	2	mg/kg	----	<2	<2	**18**	<2
Copper	7440-50-8	5	mg/kg	----	<5	<5	**50**	**9**
Iron	7439-89-6	50	mg/kg	----	**4550**	----	----	**11300**
Lead	7439-92-1	5	mg/kg	----	**8**	<5	**127**	**17**
Manganese	7439-96-5	5	mg/kg	----	**6**	**9**	**406**	<5
Nickel	7440-02-0	2	mg/kg	----	<2	<2	**66**	<2
Vanadium	7440-62-2	5	mg/kg	----	**8**	**10**	**31**	**32**
Zinc	7440-66-6	5	mg/kg	----	<5	<5	**89**	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	<0.1	**0.1**	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	----	<0.5
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	----	----	----	----	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	<1	----	----	<1
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	**8.8**	----	----	----
After HCl pH	----	0.1	pH Unit	----	**1.8**	----	----	----
Extraction Fluid Number	----	1	-	----	**1**	----	----	----
Final pH	----	0.1	pH Unit	----	**6.1**	----	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	**4.8**	----	----	**1.4**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH42_2.0-2.1	BH42_3.2-3.3	BH42_3.5-3.6	BH44_1.4-1.5	BH44_1.9-2.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-032	ES1003672-033	ES1003672-034	ES1003672-035	ES1003672-036
EP004: Organic Matter - Continued								
^ Total Organic Carbon	----	0.5	%	----	**2.8**	----	----	**0.8**
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	**1.0**	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	**1.5**	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	**40.8**	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	**39.9**	----	----	----
Styrene	100-42-5	0.5	mg/kg	----	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	**83.6**	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	**7.3**	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	**4.9**	----	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	**31.0**	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	**92.9**	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	<0.5	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	<0.5	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	<0.5	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	<5	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	<5	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	<5	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	<5	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	<0.5	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	<0.5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	<0.5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	<0.5	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	<5	----	----	----
Chloromethane	74-87-3	5	mg/kg	----	<5	----	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	<5	----	----	----
Bromomethane	74-83-9	5	mg/kg	----	<5	----	----	----
Chloroethane	75-00-3	5	mg/kg	----	<5	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	<5	----	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH42_2.0-2.1	BH42_3.2-3.3	BH42_3.5-3.6	BH44_1.4-1.5	BH44_1.9-2.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-032	ES1003672-033	ES1003672-034	ES1003672-035	ES1003672-036
EP074E: Halogenated Aliphatic Compounds - Continued								
Iodomethane	74-88-4	0.5	mg/kg	----	<0.5	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	<0.5	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	<0.5	----	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	<0.5	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	<0.5	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	<0.5	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	<0.5	----	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	<0.5	----	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	<0.5	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	<0.5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	<0.5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	<0.5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	<0.5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	<0.5	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	<0.5	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	<0.5	----	----	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<0.5	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	<0.5	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	<0.5	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	<0.5	----	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	<0.5	----	----	----
Bromoform	75-25-2	0.5	mg/kg	----	<0.5	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH42_2.0-2.1	BH42_3.2-3.3	BH42_3.5-3.6	BH44_1.4-1.5	BH44_1.9-2.0
Client sampling date / time				23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-032	ES1003672-033	ES1003672-034	ES1003672-035	ES1003672-036
EP075(SIM)A: Phenolic Compounds - Continued								
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	----	<1.0	----	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	----	----	<2.0	----	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	**1.0**	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	**0.8**	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	----	**0.6**	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	**2.4**	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	----	<0.5	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	**0.8**	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	----	**0.8**	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	<0.5	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	----	<0.5	----	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	<0.5	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	<0.5	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	<0.5	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	<0.5	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	<0.5	----	<0.5
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<1.2	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<1.2	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	**3.2**	----	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	<2.5	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<1.2	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<1.2	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<1.2	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<1.2	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<1.2	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH42_2.0-2.1	BH42_3.2-3.3	BH42_3.5-3.6	BH44_1.4-1.5	BH44_1.9-2.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-032	ES1003672-033	ES1003672-034	ES1003672-035	ES1003672-036
EP075A: Phenolic Compounds - Continued								
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<1.2	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<1.2	----	----	----
Pentachlorophenol	87-86-5	1	mg/kg	----	<2	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	**926**	----	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	**431**	----	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	<1.2	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	**250**	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	**35.0**	----	----	----
Fluorene	86-73-7	0.5	mg/kg	----	**243**	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	**660**	----	----	----
Anthracene	120-12-7	0.5	mg/kg	----	**217**	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	**369**	----	----	----
Pyrene	129-00-0	0.5	mg/kg	----	**351**	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	<1.2	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	**157**	----	----	----
Chrysene	218-01-9	0.5	mg/kg	----	**122**	----	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	**136**	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	<1.2	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**113**	----	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	<1.2	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	**23.8**	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	**7.9**	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	**22.9**	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	<1.2	----	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	<1.2	----	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	<1.2	----	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	<1.2	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	<5.0	----	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	<1.2	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	<1.2	----	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	<1.2	----	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH42_2.0-2.1	BH42_3.2-3.3	BH42_3.5-3.6	BH44_1.4-1.5	BH44_1.9-2.0
				Client sampling date / time	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1003672-032	ES1003672-033	ES1003672-034	ES1003672-035	ES1003672-036
EP075D: Nitrosamines - Continued									
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		----	<1.2	----	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		----	<1.2	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		----	<2.5	----	----	----
Methapyrilene	91-80-5	0.5	mg/kg		----	<1.2	----	----	----
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		----	<1.2	----	----	----
Acetophenone	98-86-2	0.5	mg/kg		----	<1.2	----	----	----
Nitrobenzene	98-95-3	0.5	mg/kg		----	<1.2	----	----	----
Isophorone	78-59-1	0.5	mg/kg		----	<1.2	----	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg		----	<1.2	----	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		----	<1.2	----	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg		----	<1.2	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		----	<1.2	----	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		----	<1.2	----	----	----
Azobenzene	103-33-3	1	mg/kg		----	1	----	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		----	<1.2	----	----	----
Phenacetin	62-44-2	0.5	mg/kg		----	<1.2	----	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg		----	<1.2	----	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		----	<1.2	----	----	----
Pronamide	23950-58-5	0.5	mg/kg		----	<1.2	----	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		----	<1.2	----	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg		----	<1.2	----	----	----
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		----	<1.2	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		----	<1.2	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		----	<1.2	----	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		----	<1.2	----	----	----
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		----	<1.2	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		----	<1.2	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		----	<1.2	----	----	----
Hexachloroethane	67-72-1	0.5	mg/kg		----	<1.2	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		----	<1.2	----	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg		----	<1.2	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg		----	<1.2	----	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		----	<2.5	----	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg		----	<1.2	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH42_2.0-2.1	BH42_3.2-3.3	BH42_3.5-3.6	BH44_1.4-1.5	BH44_1.9-2.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-032	ES1003672-033	ES1003672-034	ES1003672-035	ES1003672-036
EP075G: Chlorinated Hydrocarbons - Continued								
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	<1.2	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	<1.2	----	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	<1.2	----	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	----	<1.2	----	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	----	<1.2	----	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	----	**103**	----	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	<1.2	----	----	----
Carbazole	86-74-8	0.5	mg/kg	----	**69.7**	----	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	<1.2	----	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	<1.2	----	----	----
beta-BHC	319-85-7	0.5	mg/kg	----	<1.2	----	----	----
gamma-BHC	58-89-9	0.5	mg/kg	----	<1.2	----	----	----
delta-BHC	319-86-8	0.5	mg/kg	----	<1.2	----	----	----
Heptachlor	76-44-8	0.5	mg/kg	----	<1.2	----	----	----
Aldrin	309-00-2	0.5	mg/kg	----	<1.2	----	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	<1.2	----	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	<1.2	----	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	<1.2	----	----	----
Dieldrin	60-57-1	0.5	mg/kg	----	<1.2	----	----	----
Endrin	72-20-8	0.5	mg/kg	----	<1.2	----	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	<1.2	----	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	<1.2	----	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	<1.2	----	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	----	<1.2	----	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	<1.2	----	----	----
Dimethoate	60-51-5	0.5	mg/kg	----	<1.2	----	----	----
Diazinon	333-41-5	0.5	mg/kg	----	<1.2	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	<1.2	----	----	----
Malathion	121-75-5	0.5	mg/kg	----	<1.2	----	----	----
Fenthion	55-38-9	0.5	mg/kg	----	<1.2	----	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	<1.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	<1.2	----	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	<1.4	----	----	----
Prothiofos	34643-46-4	0.5	mg/kg	----	<1.2	----	----	----
Ethion	563-12-2	0.5	mg/kg	----	<1.2	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH42_2.0-2.1	BH42_3.2-3.3	BH42_3.5-3.6	BH44_1.4-1.5	BH44_1.9-2.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-032	ES1003672-033	ES1003672-034	ES1003672-035	ES1003672-036
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	----	<1.2	----	----	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	----	<2.5	----	----	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	----	<1.2	----	----	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	----	<1.2	----	----	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	----	<1.2	----	----	----
trans-Isosafrole	4043-71-4	0.5	mg/kg	----	<1.2	----	----	----
Safrole	94-59-7	0.5	mg/kg	----	<1.2	----	----	----
Diallate	2303-16-4	0.5	mg/kg	----	<1.2	----	----	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	----	<1.2	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	**234**	<10	----	**10**
C10 - C14 Fraction	----	50	mg/kg	----	**4680**	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg	----	**13200**	<100	----	<100
C29 - C36 Fraction	----	100	mg/kg	----	**4150**	<100	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	**22000**	----	----	----
C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	<50	----	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	----	<0.2
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	----	<0.5
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**105**	----	----	----
Toluene-D8	2037-26-5	0.1	%	----	**102**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	**109**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	**67.7**	----	**89.8**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**70.0**	----	**86.9**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**51.9**	----	**70.4**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**66.7**	----	**98.1**
Anthracene-d10	1719-06-8	0.1	%	----	----	**63.8**	----	**95.3**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**80.9**	----	**113**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	**88.4**	----	----	----
Phenol-d6	13127-88-3	0.1	%	----	**64.7**	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH42_2.0-2.1	BH42_3.2-3.3	BH42_3.5-3.6	BH44_1.4-1.5	BH44_1.9-2.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-032	ES1003672-033	ES1003672-034	ES1003672-035	ES1003672-036
EP075S: Acid Extractable Surrogates - Continued								
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**67.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**72.5**	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	**77.0**	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	**64.8**	----	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	----	**79.1**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**79.4**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**93.6**	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**81.4**	**85.6**	----	**96.5**
Toluene-D8	2037-26-5	0.1	%	----	**93.8**	**96.9**	----	**89.4**
4-Bromofluorobenzene	460-00-4	0.1	%	----	**107**	**102**	----	**104**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH44_4.9-5.0	QC228	BH54_1.0-1.4	BH54_2.8-3.0	BH45_0.8-1.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-037	ES1003672-038	ES1003672-039	ES1003672-040	ES1003672-041
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	8.8	8.4	7.8	8.4	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	11.7	18.4	20.2	17.4	8.7
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	50	40	40	10	70
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	11	13	12	12	12
Cobalt	7440-48-4	2	mg/kg	<2	<2	3	<2	5
Copper	7440-50-8	5	mg/kg	<5	21	28	<5	<5
Iron	7439-89-6	50	mg/kg	8600	39600	118000	----	----
Lead	7439-92-1	5	mg/kg	<5	158	206	9	18
Manganese	7439-96-5	5	mg/kg	<5	79	652	8	283
Nickel	7440-02-0	2	mg/kg	<2	2	3	<2	6
Vanadium	7440-62-2	5	mg/kg	10	17	22	17	17
Zinc	7440-66-6	5	mg/kg	<5	21	20	<5	28
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	<1	<1	----	<1	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	----	<1	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	8.0	----	----
After HCl pH	----	0.1	pH Unit	----	----	1.9	----	----
Extraction Fluid Number	----	1	-	----	----	1	----	----
Final pH	----	0.1	pH Unit	----	----	5.0	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	0.8	2.6	2.4	----	----
^ Total Organic Carbon	----	0.5	%	<0.5	1.5	1.4	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	2.1	----	2.5	<0.2	----
Toluene	108-88-3	0.5	mg/kg	5.4	----	7.3	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	18.1	----	3.5	0.8	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH44_4.9-5.0	QC228	BH54_1.0-1.4	BH54_2.8-3.0	BH45_0.8-1.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-037	ES1003672-038	ES1003672-039	ES1003672-040	ES1003672-041
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	**25.7**	----	**25.0**	**3.2**	----
Styrene	100-42-5	0.5	mg/kg	**11.8**	----	**4.8**	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	**20.9**	----	**10.5**	**1.6**	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
n-Propylbenzene	103-65-1	0.5	mg/kg	**0.9**	----	<0.5	<0.5	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	**8.4**	----	**5.8**	**1.2**	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	**22.0**	----	**16.4**	**2.8**	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	<5	<5	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	<5	<5	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	<5	<5	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	<5	<5	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	<5	<5	----
Chloromethane	74-87-3	5	mg/kg	<5	----	<5	<5	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	<5	<5	----
Bromomethane	74-83-9	5	mg/kg	<5	----	<5	<5	----
Chloroethane	75-00-3	5	mg/kg	<5	----	<5	<5	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	<5	<5	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH44_4.9-5.0	QC228	BH54_1.0-1.4	BH54_2.8-3.0	BH45_0.8-1.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-037	ES1003672-038	ES1003672-039	ES1003672-040	ES1003672-041
EP074E: Halogenated Aliphatic Compounds - Continued								
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<4.0	**5.0**	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<4.0	<4.0	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<4.0	**7.0**	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<8.0	<8.0	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<4.0	<4.0	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<4.0	**22.8**	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<4.0	<4.0	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH44_4.9-5.0	QC228	BH54_1.0-1.4	BH54_2.8-3.0	BH45_0.8-1.0
				Client sampling date / time	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1003672-037	ES1003672-038	ES1003672-039	ES1003672-040	ES1003672-041
EP075(SIM)A: Phenolic Compounds - Continued									
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	<4.0	<4.0	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		----	<4.0	<4.0	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	<4.0	<4.0	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	<4.0	<4.0	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg		----	<8.0	<8.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	**3680**	**6370**	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		----	**468**	**1000**	----	----
Acenaphthene	83-32-9	0.5	mg/kg		----	**144**	**273**	----	----
Fluorene	86-73-7	0.5	mg/kg		----	**653**	**1290**	----	----
Phenanthrene	85-01-8	0.5	mg/kg		----	**2390**	**3130**	----	----
Anthracene	120-12-7	0.5	mg/kg		----	**509**	**1070**	----	----
Fluoranthene	206-44-0	0.5	mg/kg		----	**1780**	**2130**	----	----
Pyrene	129-00-0	0.5	mg/kg		----	**851**	**1670**	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	**467**	**912**	----	----
Chrysene	218-01-9	0.5	mg/kg		----	**341**	**549**	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		----	**488**	**824**	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	**117**	**324**	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	**253**	**533**	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	**119**	**231**	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	**36.6**	**72.5**	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	**130**	**248**	----	----
EP075A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<1.2	----	----	<1.2	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<1.2	----	----	<1.2	----
2-Methylphenol	95-48-7	0.5	mg/kg		<1.2	----	----	<1.2	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg		<2.5	----	----	<2.5	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<1.2	----	----	<1.2	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<1.2	----	----	<1.2	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<1.2	----	----	<1.2	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<1.2	----	----	<1.2	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		<1.2	----	----	<1.2	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<1.2	----	----	<1.2	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<1.2	----	----	<1.2	----
Pentachlorophenol	87-86-5	1	mg/kg		<2	----	----	<2	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		**410**	----	----	**227**	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg		**204**	----	----	**41.8**	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH44_4.9-5.0	QC228	BH54_1.0-1.4	BH54_2.8-3.0	BH45_0.8-1.0
				Client sampling date / time	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1003672-037	ES1003672-038	ES1003672-039	ES1003672-040	ES1003672-041
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<1.2	----	----	<1.2	----
Acenaphthylene	208-96-8	0.5	mg/kg		**90.0**	----	----	**29.3**	----
Acenaphthene	83-32-9	0.5	mg/kg		**11.3**	----	----	**11.1**	----
Fluorene	86-73-7	0.5	mg/kg		**54.5**	----	----	**40.2**	----
Phenanthrene	85-01-8	0.5	mg/kg		**156**	----	----	**131**	----
Anthracene	120-12-7	0.5	mg/kg		**41.9**	----	----	**32.6**	----
Fluoranthene	206-44-0	0.5	mg/kg		**59.2**	----	----	**66.1**	----
Pyrene	129-00-0	0.5	mg/kg		**67.2**	----	----	**54.5**	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<1.2	----	----	<1.2	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		**27.6**	----	----	**27.5**	----
Chrysene	218-01-9	0.5	mg/kg		**22.8**	----	----	**22.5**	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg		**18**	----	----	**28**	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<1.2	----	----	<1.2	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**15.6**	----	----	**21.7**	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<1.2	----	----	<1.2	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**3.4**	----	----	**6.6**	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<1.2	----	----	**2.2**	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**3.2**	----	----	**5.8**	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<1.2	----	----	<1.2	----
Diethyl phthalate	84-66-2	0.5	mg/kg		<1.2	----	----	<1.2	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<1.2	----	----	<1.2	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<1.2	----	----	<1.2	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		<5.0	----	----	<5.0	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<1.2	----	----	<1.2	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<1.2	----	----	<1.2	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<1.2	----	----	<1.2	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		<1.2	----	----	<1.2	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<1.2	----	----	<1.2	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<1.2	----	----	<1.2	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<1.2	----	----	<1.2	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<1.2	----	----	<1.2	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		<2.5	----	----	<2.5	----
Methapyrilene	91-80-5	0.5	mg/kg		<1.2	----	----	<1.2	----
EP075E: Nitroaromatics and Ketones									

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH44_4.9-5.0	QC228	BH54_1.0-1.4	BH54_2.8-3.0	BH45_0.8-1.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-037	ES1003672-038	ES1003672-039	ES1003672-040	ES1003672-041
EP075E: Nitroaromatics and Ketones - Continued								
2-Picoline	109-06-8	0.5	mg/kg	<1.2	----	----	<1.2	----
Acetophenone	98-86-2	0.5	mg/kg	<1.2	----	----	<1.2	----
Nitrobenzene	98-95-3	0.5	mg/kg	<1.2	----	----	<1.2	----
Isophorone	78-59-1	0.5	mg/kg	<1.2	----	----	<1.2	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.2	----	----	<1.2	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.2	----	----	<1.2	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<1.2	----	----	<1.2	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<1.2	----	----	<1.2	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<1.2	----	----	<1.2	----
Azobenzene	103-33-3	1	mg/kg	<1	----	----	<1	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<1.2	----	----	<1.2	----
Phenacetin	62-44-2	0.5	mg/kg	<1.2	----	----	<1.2	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<1.2	----	----	<1.2	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<1.2	----	----	<1.2	----
Pronamide	23950-58-5	0.5	mg/kg	<1.2	----	----	<1.2	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<1.2	----	----	<1.2	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<1.2	----	----	<1.2	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<1.2	----	----	<1.2	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<1.2	----	----	<1.2	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<1.2	----	----	<1.2	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<1.2	----	----	<1.2	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<1.2	----	----	<1.2	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<1.2	----	----	<1.2	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<1.2	----	----	<1.2	----
Hexachloroethane	67-72-1	0.5	mg/kg	<1.2	----	----	<1.2	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<1.2	----	----	<1.2	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<1.2	----	----	<1.2	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<1.2	----	----	<1.2	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	----	<2.5	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<1.2	----	----	<1.2	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.2	----	----	<1.2	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<1.2	----	----	<1.2	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<1.2	----	----	<1.2	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.2	----	----	<1.2	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.2	----	----	<1.2	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH44_4.9-5.0	QC228	BH54_1.0-1.4	BH54_2.8-3.0	BH45_0.8-1.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-037	ES1003672-038	ES1003672-039	ES1003672-040	ES1003672-041
EP075H: Anilines and Benzidines - Continued								
Dibenzofuran	132-64-9	0.5	mg/kg	**21.7**	----	----	**31.0**	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<1.2	----	----	<1.2	----
Carbazole	86-74-8	0.5	mg/kg	**11.1**	----	----	**20.0**	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<1.2	----	----	<1.2	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	<1.2	----	----	<1.2	----
beta-BHC	319-85-7	0.5	mg/kg	<1.2	----	----	<1.2	----
gamma-BHC	58-89-9	0.5	mg/kg	<1.2	----	----	<1.2	----
delta-BHC	319-86-8	0.5	mg/kg	<1.2	----	----	<1.2	----
Heptachlor	76-44-8	0.5	mg/kg	<1.2	----	----	<1.2	----
Aldrin	309-00-2	0.5	mg/kg	<1.2	----	----	<1.2	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<1.2	----	----	<1.2	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	<1.2	----	----	<1.2	----
4.4`-DDE	72-55-9	0.5	mg/kg	<1.2	----	----	<1.2	----
Dieldrin	60-57-1	0.5	mg/kg	<1.2	----	----	<1.2	----
Endrin	72-20-8	0.5	mg/kg	<1.2	----	----	<1.2	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	<1.2	----	----	<1.2	----
4.4`-DDD	72-54-8	0.5	mg/kg	<1.2	----	----	<1.2	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<1.2	----	----	<1.2	----
4.4`-DDT	50-29-3	1.0	mg/kg	<1.2	----	----	<1.2	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<1.2	----	----	<1.2	----
Dimethoate	60-51-5	0.5	mg/kg	<1.2	----	----	<1.2	----
Diazinon	333-41-5	0.5	mg/kg	<1.2	----	----	<1.2	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<1.2	----	----	<1.2	----
Malathion	121-75-5	0.5	mg/kg	<1.2	----	----	<1.2	----
Fenthion	55-38-9	0.5	mg/kg	<1.2	----	----	<1.2	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	<1.2	----	----	<1.2	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<1.2	----	----	<1.2	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	<1.4	----	----	<1.4	----
Prothiofos	34643-46-4	0.5	mg/kg	<1.2	----	----	<1.2	----
Ethion	563-12-2	0.5	mg/kg	<1.2	----	----	<1.2	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<1.2	----	----	<1.2	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<2.5	----	----	<2.5	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	<1.2	----	----	<1.2	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<1.2	----	----	<1.2	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	<1.2	----	----	<1.2	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH44_4.9-5.0	QC228	BH54_1.0-1.4	BH54_2.8-3.0	BH45_0.8-1.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-037	ES1003672-038	ES1003672-039	ES1003672-040	ES1003672-041
EP075K: Miscellaneous Compounds - Continued								
trans-Isosafrole	4043-71-4	0.5	mg/kg	<1.2	----	----	<1.2	----
Safrole	94-59-7	0.5	mg/kg	<1.2	----	----	<1.2	----
Diallate	2303-16-4	0.5	mg/kg	<1.2	----	----	<1.2	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<1.2	----	----	<1.2	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	147	212	72	13	----
C10 - C14 Fraction	----	50	mg/kg	1040	10300	4380	900	----
C15 - C28 Fraction	----	100	mg/kg	2650	27600	11700	2980	----
C29 - C36 Fraction	----	100	mg/kg	650	8940	3560	1000	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	4340	46800	19600	4880	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	4.3	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	21.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	8.0	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	62.2	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	26.4	----	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	109	----	98.3	97.0	----
Toluene-D8	2037-26-5	0.1	%	106	----	97.0	103	----
4-Bromofluorobenzene	460-00-4	0.1	%	109	----	97.3	108	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	53.6	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	89.9	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	79.6	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	97.2	----	----	----
Anthracene-d10	1719-06-8	0.1	%	----	Not Determined	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	122	----	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	93.7	----	----	87.4	----
Phenol-d6	13127-88-3	0.1	%	Not Determined	----	----	68.3	----
2-Chlorophenol-D4	93951-73-6	0.1	%	56.3	----	----	71.5	----
2.4.6-Tribromophenol	118-79-6	0.1	%	Not Determined	----	----	80.2	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	64.1	----	----	85.5	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	55.8	----	----	72.4	----
2-Fluorobiphenyl	321-60-8	0.1	%	60.1	----	----	81.3	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH44_4.9-5.0	QC228	BH54_1.0-1.4	BH54_2.8-3.0	BH45_0.8-1.0
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00
				ES1003672-037	ES1003672-038	ES1003672-039	ES1003672-040	ES1003672-041
EP075T: Base/Neutral Extractable Surrogates - Continued								
Anthracene-d10	1719-06-8	0.1	%	**91.8**	----	----	**88.2**	----
4-Terphenyl-d14	1718-51-0	0.1	%	**79.8**	----	----	**85.7**	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**102**	**97.7**	**92.1**	**107**	----
Toluene-D8	2037-26-5	0.1	%	**97.3**	**101**	**89.3**	**95.2**	----
4-Bromofluorobenzene	460-00-4	0.1	%	**108**	**108**	**97.4**	**106**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH45_3.2-3.4	BH45_7.2-7.4	BH45_13.2-13.4	QC231	BH65_3.4-3.6
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	24-FEB-2010 15:00
				ES1003672-042	ES1003672-043	ES1003672-044	ES1003672-045	ES1003672-046
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	**7.4**	----	**7.4**	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**12.1**	**14.7**	**18.1**	**20.3**	**38.6**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	**7**
Barium	7440-39-3	10	mg/kg	**60**	**50**	**40**	**60**	**690**
Beryllium	7440-41-7	1	mg/kg	<1	**1**	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	**5**
Chromium	7440-47-3	2	mg/kg	**16**	**9**	**12**	**11**	**309**
Cobalt	7440-48-4	2	mg/kg	**5**	**5**	**5**	**4**	**6**
Copper	7440-50-8	5	mg/kg	<5	**5**	<5	**7**	**161**
Iron	7439-89-6	50	mg/kg	----	**21800**	----	**12700**	----
Lead	7439-92-1	5	mg/kg	**13**	**16**	**13**	**26**	**2110**
Manganese	7439-96-5	5	mg/kg	**318**	**193**	**297**	**167**	**96**
Nickel	7440-02-0	2	mg/kg	**7**	**6**	**6**	**5**	**45**
Vanadium	7440-62-2	5	mg/kg	**19**	**15**	**18**	**15**	**19**
Zinc	7440-66-6	5	mg/kg	**29**	**51**	**32**	**36**	**1150**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**0.3**
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	<0.5	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	----	<1	----	<1	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	<1	----	<1	<1
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	<0.5	----	**0.6**	----
^ Total Organic Carbon	----	0.5	%	----	<0.5	----	<0.5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH45_3.2-3.4	BH45_7.2-7.4	BH45_13.2-13.4	QC231	BH65_3.4-3.6
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	24-FEB-2010 15:00
				ES1003672-042	ES1003672-043	ES1003672-044	ES1003672-045	ES1003672-046
EP075(SIM)A: Phenolic Compounds - Continued								
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**0.5**	<0.5	<0.5	<0.5	**10.1**
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**13.8**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**5.2**
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**29.1**
Phenanthrene	85-01-8	0.5	mg/kg	**0.5**	<0.5	**1.2**	<0.5	**98.8**
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**28.1**
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	**1.1**	<0.5	**82.9**
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	**1.0**	<0.5	**82.8**
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**40.6**
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**30.2**
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**32.3**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**17.2**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**27.0**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**13.6**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**3.7**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**17.4**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	**10**	**12**	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	**710**
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	**7500**
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	**5760**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	----	**14000**
C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**106**	**107**	**108**	**104**	**94.6**
2-Chlorophenol-D4	93951-73-6	0.1	%	**83.4**	**86.8**	**78.2**	**88.3**	**119**
2.4.6-Tribromophenol	118-79-6	0.1	%	**79.8**	**72.7**	**80.4**	**72.4**	**81.0**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH45_3.2-3.4	BH45_7.2-7.4	BH45_13.2-13.4	QC231	BH65_3.4-3.6
				Client sampling date / time: 23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	24-FEB-2010 15:00
				ES1003672-042	ES1003672-043	ES1003672-044	ES1003672-045	ES1003672-046
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**95.0**	**91.5**	**101**	**94.2**	**88.0**
Anthracene-d10	1719-06-8	0.1	%	**87.2**	**82.7**	**93.8**	**86.6**	**80.4**
4-Terphenyl-d14	1718-51-0	0.1	%	**94.1**	**90.1**	**100**	**92.6**	**88.1**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**111**	**108**	**103**	**108**	**93.8**
Toluene-D8	2037-26-5	0.1	%	**100**	**95.8**	**97.2**	**94.3**	**118**
4-Bromofluorobenzene	460-00-4	0.1	%	**113**	**107**	**111**	**105**	**112**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH65_8.2-8.6	BH65_11.2-11.4	BH65_13.4-13.6	QC234	QC230
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00
				ES1003672-047	ES1003672-048	ES1003672-049	ES1003672-050	ES1003672-051
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	**7.3**	----	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**25.5**	**16.2**	**13.0**	**16.4**	**12.0**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	**11**	<5	**12**	<5
Barium	7440-39-3	10	mg/kg	**220**	<10	**30**	**220**	**70**
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**32**	**31**	**5**	**71**	**18**
Cobalt	7440-48-4	2	mg/kg	**4**	<2	<2	**7**	**5**
Copper	7440-50-8	5	mg/kg	**47**	**6**	<5	**66**	**5**
Iron	7439-89-6	50	mg/kg	----	**43100**	----	----	----
Lead	7439-92-1	5	mg/kg	**869**	**7**	**42**	**454**	**16**
Manganese	7439-96-5	5	mg/kg	**120**	<5	<5	**53**	**321**
Nickel	7440-02-0	2	mg/kg	**27**	<2	<2	**72**	**7**
Vanadium	7440-62-2	5	mg/kg	**19**	**67**	**6**	**24**	**16**
Zinc	7440-66-6	5	mg/kg	**325**	**8**	<5	**425**	**31**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.1**	<0.1	<0.1	**0.6**	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	----	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	----	<1	<1	<1	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	<1	<1	<1	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	<0.5	----	----	----
^ Total Organic Carbon	----	0.5	%	----	<0.5	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	**0.8**	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	**3.5**	----	----	----
Styrene	100-42-5	0.5	mg/kg	----	**2.0**	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	**2.3**	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	<0.5	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH65_8.2-8.6	BH65_11.2-11.4	BH65_13.4-13.6	QC234	QC230
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00
				ES1003672-047	ES1003672-048	ES1003672-049	ES1003672-050	ES1003672-051
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	**0.8**	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	**3.0**	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	<0.5	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	<0.5	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	<0.5	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	<5	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	<5	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	<5	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	<5	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	<0.5	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	<0.5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	<0.5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	<0.5	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	<5	----	----	----
Chloromethane	74-87-3	5	mg/kg	----	<5	----	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	<5	----	----	----
Bromomethane	74-83-9	5	mg/kg	----	<5	----	----	----
Chloroethane	75-00-3	5	mg/kg	----	<5	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	<5	----	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	<0.5	----	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	<0.5	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	<0.5	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	<0.5	----	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	<0.5	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	<0.5	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	<0.5	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	<0.5	----	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH65_8.2-8.6	BH65_11.2-11.4	BH65_13.4-13.6	QC234	QC230
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00
				ES1003672-047	ES1003672-048	ES1003672-049	ES1003672-050	ES1003672-051
EP074E: Halogenated Aliphatic Compounds - Continued								
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	<0.5	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	<0.5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	<0.5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	<0.5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	<0.5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	<0.5	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	<0.5	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	<0.5	----	----	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<0.5	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	<0.5	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	<0.5	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	<0.5	----	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	<0.5	----	----	----
Bromoform	75-25-2	0.5	mg/kg	----	<0.5	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.5	<4.0	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	<4.0	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.5	<4.0	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	<1.0	<8.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	<4.0	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.5	**4.6**	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	<4.0	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.5	<4.0	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<0.5	<4.0	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	<0.5	<4.0	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	<0.5	<4.0	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	----	<2.0	<8.0	<2.0

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH65_8.2-8.6	BH65_11.2-11.4	BH65_13.4-13.6	QC234	QC230
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00
				ES1003672-047	ES1003672-048	ES1003672-049	ES1003672-050	ES1003672-051
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**2.3**	----	**34.6**	**92.2**	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	**3.0**	----	**7.3**	**61.0**	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	**0.8**	----	**2.4**	**35.3**	<0.5
Fluorene	86-73-7	0.5	mg/kg	**5.0**	----	**10.8**	**196**	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**15.6**	----	**25.1**	**644**	**1.1**
Anthracene	120-12-7	0.5	mg/kg	**5.0**	----	**6.6**	**156**	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	**17.1**	----	**6.4**	**463**	**0.9**
Pyrene	129-00-0	0.5	mg/kg	**18.3**	----	**9.4**	**452**	**0.8**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**9.2**	----	**3.8**	**208**	<0.5
Chrysene	218-01-9	0.5	mg/kg	**7.4**	----	**3.0**	**162**	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	**9.5**	----	**1.8**	**151**	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**3.9**	----	**0.6**	**68.4**	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**7.9**	----	**2.1**	**135**	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**3.9**	----	<0.5	**54.3**	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**1.4**	----	<0.5	**23.3**	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**4.7**	----	**0.5**	**62.4**	<0.5
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	<0.5	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachlorophenol	87-86-5	1	mg/kg	----	<1	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	**65.0**	----	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	**57.6**	----	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	**24.9**	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	**3.1**	----	----	----
Fluorene	86-73-7	0.5	mg/kg	----	**20.8**	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	**51.5**	----	----	----
Anthracene	120-12-7	0.5	mg/kg	----	**11.7**	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH65_8.2-8.6	BH65_11.2-11.4	BH65_13.4-13.6	QC234	QC230
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00
				ES1003672-047	ES1003672-048	ES1003672-049	ES1003672-050	ES1003672-051
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluoranthene	206-44-0	0.5	mg/kg	----	**10.8**	----	----	----
Pyrene	129-00-0	0.5	mg/kg	----	**16.9**	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	**4.7**	----	----	----
Chrysene	218-01-9	0.5	mg/kg	----	**4.5**	----	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	**3**	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**2.9**	----	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	<0.5	----	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	<0.5	----	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	<0.5	----	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	<0.5	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	<5.0	----	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	<0.5	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	<0.5	----	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	<0.5	----	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	<1.0	----	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	<0.5	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	<0.5	----	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	<0.5	----	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	<0.5	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	<1.0	----	----	----
Methapyrilene	91-80-5	0.5	mg/kg	----	<0.5	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	<0.5	----	----	----
Acetophenone	98-86-2	0.5	mg/kg	----	<0.5	----	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	<0.5	----	----	----
Isophorone	78-59-1	0.5	mg/kg	----	<0.5	----	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	<1.0	----	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	<1.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH65_8.2-8.6	BH65_11.2-11.4	BH65_13.4-13.6	QC234	QC230
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00
				ES1003672-047	ES1003672-048	ES1003672-049	ES1003672-050	ES1003672-051
EP075E: Nitroaromatics and Ketones - Continued								
1-Naphthylamine	134-32-7	0.5	mg/kg	----	<0.5	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	<0.5	----	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	<0.5	----	----	----
Azobenzene	103-33-3	1	mg/kg	----	<1	----	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	<0.5	----	----	----
Phenacetin	62-44-2	0.5	mg/kg	----	<0.5	----	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	<0.5	----	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	<0.5	----	----	----
Pronamide	23950-58-5	0.5	mg/kg	----	<0.5	----	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	<0.5	----	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	<0.5	----	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	<0.5	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	<0.5	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	<0.5	----	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	<0.5	----	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<0.5	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<0.5	----	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<0.5	----	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	<2.5	----	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	<1.0	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	<0.5	----	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	<0.5	----	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	----	<1.0	----	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	----	<1.0	----	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	----	**1.9**	----	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	<0.5	----	----	----
Carbazole	86-74-8	0.5	mg/kg	----	**0.5**	----	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	<0.5	----	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH65_8.2-8.6	BH65_11.2-11.4	BH65_13.4-13.6	QC234	QC230
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00
				ES1003672-047	ES1003672-048	ES1003672-049	ES1003672-050	ES1003672-051
EP075I: Organochlorine Pesticides - Continued								
beta-BHC	319-85-7	0.5	mg/kg	----	<0.5	----	----	----
gamma-BHC	58-89-9	0.5	mg/kg	----	<0.5	----	----	----
delta-BHC	319-86-8	0.5	mg/kg	----	<0.5	----	----	----
Heptachlor	76-44-8	0.5	mg/kg	----	<0.5	----	----	----
Aldrin	309-00-2	0.5	mg/kg	----	<0.5	----	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	<0.5	----	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	<0.5	----	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	<0.5	----	----	----
Dieldrin	60-57-1	0.5	mg/kg	----	<0.5	----	----	----
Endrin	72-20-8	0.5	mg/kg	----	<0.5	----	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	<0.5	----	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	<0.5	----	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	<0.5	----	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	----	<1.0	----	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	<0.5	----	----	----
Dimethoate	60-51-5	0.5	mg/kg	----	<0.5	----	----	----
Diazinon	333-41-5	0.5	mg/kg	----	<0.5	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	<0.5	----	----	----
Malathion	121-75-5	0.5	mg/kg	----	<0.5	----	----	----
Fenthion	55-38-9	0.5	mg/kg	----	<0.5	----	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	<0.5	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	<0.5	----	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	<0.5	----	----	----
Prothiofos	34643-46-4	0.5	mg/kg	----	<0.5	----	----	----
Ethion	563-12-2	0.5	mg/kg	----	<0.5	----	----	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	----	<0.5	----	----	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	----	<0.5	----	----	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	----	<0.5	----	----	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	----	<0.5	----	----	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	----	<0.5	----	----	----
trans-Isosafrole	4043-71-4	0.5	mg/kg	----	<0.5	----	----	----
Safrole	94-59-7	0.5	mg/kg	----	<0.5	----	----	----
Diallate	2303-16-4	0.5	mg/kg	----	<0.5	----	----	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	**14**	<10	<10	<10

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH65_8.2-8.6	BH65_11.2-11.4	BH65_13.4-13.6	QC234	QC230
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00
				ES1003672-047	ES1003672-048	ES1003672-049	ES1003672-050	ES1003672-051
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	**450**	**100**	**820**	<50
C15 - C28 Fraction	----	100	mg/kg	**560**	**1110**	**380**	**13200**	<100
C29 - C36 Fraction	----	100	mg/kg	**470**	**220**	<100	**4920**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**1030**	**1780**	**480**	**18900**	----
C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	----	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	**1.1**	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	**0.7**	<0.5	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**98.4**	----	----	----
Toluene-D8	2037-26-5	0.1	%	----	**113**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	**115**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**78.7**	----	**75.6**	**83.1**	**81.1**
2-Chlorophenol-D4	93951-73-6	0.1	%	**114**	----	**110**	**92.1**	**109**
2.4.6-Tribromophenol	118-79-6	0.1	%	**73.3**	----	**77.5**	**58.4**	**77.9**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**88.4**	----	**93.2**	**87.8**	**90.7**
Anthracene-d10	1719-06-8	0.1	%	**80.6**	----	**84.6**	**81.1**	**84.9**
4-Terphenyl-d14	1718-51-0	0.1	%	**89.6**	----	**93.5**	**86.1**	**91.1**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	**114**	----	----	----
Phenol-d6	13127-88-3	0.1	%	----	**65.2**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**72.1**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**75.1**	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	**79.9**	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	**67.0**	----	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	----	**74.0**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**73.1**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**80.6**	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**96.8**	**92.9**	**93.8**	**98.0**	**104**
Toluene-D8	2037-26-5	0.1	%	**106**	**114**	**94.3**	**97.1**	**98.7**

Analytical Results

Sub-Matrix: SOIL			Client sample ID	BH65_8.2-8.6	BH65_11.2-11.4	BH65_13.4-13.6	QC234	QC230
			Client sampling date / time	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00
Compound	CAS Number	LOR	Unit	ES1003672-047	ES1003672-048	ES1003672-049	ES1003672-050	ES1003672-051
EP080S: TPH(V)/BTEX Surrogates - Continued								
4-Bromofluorobenzene	460-00-4	0.1	%	**110**	**110**	**95.0**	**103**	**101**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH66_1.9-2.0	BH66_2.3-2.4	BH66_3.2-3.6	BH66_7.0-7.2	TB08
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-052	ES1003672-053	ES1003672-054	ES1003672-055	ES1003672-056
AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	----	----	----	----
Asbestos Type	132207-33-1	0.1	g/kg	**-**	----	----	----	----
Sample weight (dry)	----	0.01	g	**286**	----	----	----	----
APPROVED IDENTIFIER:	----	-	-	**K.HALL**	----	----	----	----
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	**9.6**	**8.4**	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	----	**27.2**	**25.0**	**18.7**	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	<5	**14**	<5	----
Barium	7440-39-3	10	mg/kg	----	**120**	**10**	<10	----
Beryllium	7440-41-7	1	mg/kg	----	<1	<1	<1	----
Cadmium	7440-43-9	1	mg/kg	----	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	----	**20**	**8**	**3**	----
Cobalt	7440-48-4	2	mg/kg	----	**6**	<2	<2	----
Copper	7440-50-8	5	mg/kg	----	**33**	**15**	<5	----
Iron	7439-89-6	50	mg/kg	----	**15500**	----	----	----
Lead	7439-92-1	5	mg/kg	----	**35**	**13**	<5	----
Manganese	7439-96-5	5	mg/kg	----	**218**	**15**	<5	----
Nickel	7440-02-0	2	mg/kg	----	**22**	**3**	<2	----
Vanadium	7440-62-2	5	mg/kg	----	**26**	**19**	**5**	----
Zinc	7440-66-6	5	mg/kg	----	**96**	**7**	<5	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	<0.1	<0.1	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	----	----
EK025G: Free cyanide by Discrete Analyser								
Free Cyanide	----	1	mg/kg	----	<1	----	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	<1	----	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	<0.5	----	----	----
^ Total Organic Carbon	----	0.5	%	----	<0.5	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH66_1.9-2.0	BH66_2.3-2.4	BH66_3.2-3.6	BH66_7.0-7.2	TB08
				Client sampling date / time: 24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003672-052	ES1003672-053	ES1003672-054	ES1003672-055	ES1003672-056
EP075(SIM)A: Phenolic Compounds - Continued								
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	----	<1.0	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	<0.5	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	----	<2.0	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	**5.3**	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	**1.5**	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	----	**0.8**	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	----	**1.5**	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	----	**9.2**	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	----	**3.5**	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	----	**12.4**	<0.5	**0.7**	----
Pyrene	129-00-0	0.5	mg/kg	----	**13.0**	<0.5	**0.7**	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	**8.8**	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	----	**6.9**	<0.5	<0.5	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	**11.9**	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	**4.2**	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**10.9**	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	**5.6**	<0.5	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	**2.2**	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	**7.3**	<0.5	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg	----	**420**	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg	----	**390**	<100	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	**810**	----	----	----
C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	<50	<50	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	<0.2	----	<0.2
Toluene	108-88-3	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	<0.5	----	<0.5

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH66_1.9-2.0	BH66_2.3-2.4	BH66_3.2-3.6	BH66_7.0-7.2	TB08
				Client sampling date / time	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	24-FEB-2010 15:00	22-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1003672-052	ES1003672-053	ES1003672-054	ES1003672-055	ES1003672-056
EP080: BTEX - Continued									
ortho-Xylene	95-47-6	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		----	85.5	85.1	81.7	----
2-Chlorophenol-D4	93951-73-6	0.1	%		----	117	118	106	----
2.4.6-Tribromophenol	118-79-6	0.1	%		----	69.5	73.3	69.0	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	87.3	91.3	89.8	----
Anthracene-d10	1719-06-8	0.1	%		----	79.4	86.5	84.3	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	89.0	92.0	91.2	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	96.8	103	104	99.2
Toluene-D8	2037-26-5	0.1	%		----	98.0	93.9	96.2	100
4-Bromofluorobenzene	460-00-4	0.1	%		----	102	100	105	111

Analytical Results

Sub-Matrix: **TCLP LEACHATE**

Compound	CAS Number	LOR	Unit	BH59_3.4-3.5	BH52_2.2-2.6	BH42_3.2-3.3	BH54_1.0-1.4	----
Client sampling date / time				03-MAR-2010 12:00	03-MAR-2010 12:00	03-MAR-2010 12:00	03-MAR-2010 12:00	----
				ES1003672-003	ES1003672-010	ES1003672-033	ES1003672-039	----
EG005C: Leachable Metals by ICPAES								
Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	----
Barium	7440-39-3	0.1	mg/L	<0.1	<0.1	<0.1	**0.3**	----
Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	----
Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	----
Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	----
Cobalt	7440-48-4	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	----
Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	----
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	**0.1**	----
Manganese	7439-96-5	0.1	mg/L	**0.3**	<0.1	<0.1	**0.4**	----
Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	----
Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	----
Zinc	7440-66-6	0.1	mg/L	<0.1	**0.1**	<0.1	**0.1**	----
EG035C: Leachable Mercury by FIMS								
Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	**8670**	**17.2**	**5140**	**7890**	----
Acenaphthylene	208-96-8	1.0	µg/L	**297**	**2.5**	**283**	**220**	----
Acenaphthene	83-32-9	1.0	µg/L	**64.4**	<1.0	**51.8**	**63.9**	----
Fluorene	86-73-7	1.0	µg/L	**189**	**2.9**	**169**	**196**	----
Phenanthrene	85-01-8	1.0	µg/L	**141**	**4.0**	**134**	**160**	----
Anthracene	120-12-7	1.0	µg/L	**30.5**	<1.0	**28.4**	**41.8**	----
Fluoranthene	206-44-0	1.0	µg/L	**18.1**	<1.0	**15.3**	**23.1**	----
Pyrene	129-00-0	1.0	µg/L	**13.6**	<1.0	**12.0**	**15.6**	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<3.8	<1.0	<3.8	<3.8	----
Chrysene	218-01-9	1.0	µg/L	<3.8	<1.0	<3.8	<3.8	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<3.8	<1.0	<3.8	<3.8	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<3.8	<1.0	<3.8	<3.8	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<3.8	<0.5	<3.8	<3.8	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<3.8	<1.0	<3.8	<3.8	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<3.8	<1.0	<3.8	<3.8	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<3.8	<1.0	<3.8	<3.8	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**56.2**	**34.4**	**38.3**	**46.2**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**112**	**52.3**	**87.2**	**111**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**94.4**	**63.7**	**99.6**	**97.7**	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**106**	**61.8**	**98.8**	**97.1**	----
Anthracene-d10	1719-06-8	0.1	%	**104**	**60.0**	**95.4**	**88.9**	----

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	BH59_3.4-3.5	BH52_2.2-2.6	BH42_3.2-3.3	BH54_1.0-1.4	----
				Client sampling date / time	03-MAR-2010 12:00	03-MAR-2010 12:00	03-MAR-2010 12:00	03-MAR-2010 12:00	----
Compound	CAS Number	LOR	Unit		ES1003672-003	ES1003672-010	ES1003672-033	ES1003672-039	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		**109**	**65.5**	**88.1**	**91.7**	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC227	QC233	----	----	----
				Client sampling date / time: 22-FEB-2010 15:00	24-FEB-2010 15:00	----	----	----
				ES1003672-027	**ES1003672-114**	**----**	**----**	**----**
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	----	----	----
Barium	7440-39-3	0.001	mg/L	<0.001	<0.001	----	----	----
Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	----	----	----
Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	----	----	----
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	----	----	----
C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	----	----	----
EP080: BTEX								
Benzene	71-43-2	1	µg/L	<1	<1	----	----	----
Toluene	108-88-3	2	µg/L	<5	<5	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**89.2**	**91.4**	----	----	----
Toluene-D8	2037-26-5	0.1	%	**95.4**	**97.9**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**98.1**	**98.8**	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	BH42_2.0-2.1 - 23-FEB-2010 15:00	A light brown coarse grain clay soil with angular quartz grains plus some white clay/quartz grains. Minor coal grains present.
EA200: Description	BH66_1.9-2.0 - 24-FEB-2010 15:00	A coarse grain mid-grey sandy clay soil with plenty of coarse and fine brick fragments slag like grains and quartz grains. Minor vegetation debris.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	23	120
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

Sub-Matrix: WATER		Recovery Limits (%)	

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

QUALITY CONTROL REPORT

Work Order	: **ES1003672**	Page	: 1 of 52
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo-S4150014 DECLARATION AREA	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2010
Sampler	: KP& DF	Issue Date	: 12-MAR-2010
Order number	: 1303951		
		No. of samples received	: 110
Quote number	: SY/259/09 V2	No. of samples analysed	: 57

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
KEN HALL	Analyst	Newcastle
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Sarah Millington	Senior Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA002 : pH (Soils) (QC Lot: 1264597)									
ES1003672-003	BH59_3.4-3.5	EA002: pH Value	----	0.1	pH Unit	8.1	8.1	0.0	0% - 20%
ES1003672-021	BH58_8.6-8.8	EA002: pH Value	----	0.1	pH Unit	9.8	9.8	0.0	0% - 20%
EA002 : pH (Soils) (QC Lot: 1265447)									
ES1003390-004	Anonymous	EA002: pH Value	----	0.1	pH Unit	7.4	7.4	0.0	0% - 20%
ES1003645-008	Anonymous	EA002: pH Value	----	0.1	pH Unit	6.6	6.6	0.0	0% - 20%
EA002 : pH (Soils) (QC Lot: 1265450)									
ES1003672-045	QC231	EA002: pH Value	----	0.1	pH Unit	7.4	7.4	0.0	0% - 20%
EA002 : pH (Soils) (QC Lot: 1265676)									
ES1003441-006	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.1	8.0	0.0	0% - 20%
ES1003672-054	BH66_3.2-3.6	EA002: pH Value	----	0.1	pH Unit	8.4	8.3	1.2	0% - 20%
EA055: Moisture Content (QC Lot: 1264533)									
ES1003672-001	BH59_1.0-1.1	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	8.9	9.1	2.3	No Limit
ES1003672-010	BH52_2.2-2.6	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	20.9	18.5	12.2	0% - 50%
EA055: Moisture Content (QC Lot: 1264534)									
ES1003672-021	BH58_8.6-8.8	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.0	23.0	8.7	0% - 20%
EA055: Moisture Content (QC Lot: 1264986)									
ES1003671-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	9.5	9.6	0.0	No Limit
ES1003671-025	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	15.3	14.4	5.9	0% - 50%
EA055: Moisture Content (QC Lot: 1264987)									
ES1003672-036	BH44_1.9-2.0	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.1	23.9	0.7	0% - 20%
ES1003684-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	18.7	18.3	2.2	0% - 50%
EA055: Moisture Content (QC Lot: 1265100)									
ES1003672-029	BH50_0.15-0.25	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	7.7	7.3	4.5	No Limit
ES1003672-054	BH66_3.2-3.6	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	25.0	27.4	8.9	0% - 20%
EA055: Moisture Content (QC Lot: 1265514)									
ES1003646-020	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	11.5	12.4	7.7	0% - 50%
ES1003699-002	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	25.5	26.2	2.8	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1266288)									
ES1003646-022	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	1	1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	360	360	0.0	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	15	17	10.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	15	9	49.6	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	7	7	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1266288) - continued									
ES1003646-022	Anonymous	EG005T: Arsenic	7440-38-2	5	mg/kg	7	7	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	16	17	6.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	14	19.6	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	73	145	# 65.8	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	43	46	6.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	17	18	9.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	26200	29900	13.3	0% - 20%
ES1003672-004	BH59_4.2-4.3	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	<10	<10	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	6	5	23.3	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	10	10	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	6	23.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	5710	3830	# 39.4	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1266290)									
ES1003672-014	BH49_6.2-6.4	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	<10	<10	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	23	23	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	2	3	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	14	17	18.8	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	7	7	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	20	45	74.8	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	49	51	4.9	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	24400	25000	2.2	0% - 20%
ES1003672-024	QC220	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	<10	<10	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	4	4	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1266290) - continued									
ES1003672-024	QC220	EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	14	14	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	3740	3370	10.2	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1266855)									
ES1003672-035	BH44_1.4-1.5	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	100	90	14.7	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	18	15	17.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	18	15	14.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	66	52	# 23.5	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	50	42	18.6	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	127	102	# 21.1	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	406	387	4.8	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	31	27	13.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	89	81	9.2	0% - 50%
		EG005T: Iron	7439-89-6	50	mg/kg	31100	26500	16.1	0% - 20%
ES1003672-039	BH54_1.0-1.4	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	40	40	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	12	8	38.2	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	3	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	28	16	56.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	206	143	# 36.4	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	652	223	# 98.2	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	22	14	42.4	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	20	15	29.4	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	118000	79400	# 38.9	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1266857)									
ES1003672-049	BH65_13.4-13.6	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	30	40	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1266857) - continued									
ES1003672-049	BH65_13.4-13.6	EG005T: Chromium	7440-47-3	2	mg/kg	5	5	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	42	46	11.4	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	6	7	21.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	1210	1540	# 24.6	0% - 20%
ES1003788-005	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	70	70	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	15	6.8	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	13	8	44.6	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	8	7	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	10	10	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	10	11.1	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	594	410	# 36.6	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	34	34	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	18	16	14.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	16900	14000	18.9	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1267064)									
ES1003748-004	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	Not Authorised	# Not Authorised	41.8	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	Not Authorised	# Not Authorised	# 46.1	0% - 20%
ES1003844-007	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	32	24	27.5	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	4120	3080	# 29.0	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1268236)									
ES1003891-001	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	221	345	# 43.8	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	Not Authorised	# Not Authorised	# 10.4	0% - 20%
ES1003937-001	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	245	238	3.0	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	208	195	6.1	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1266289)									
ES1003646-022	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1003672-004	BH59_4.2-4.3	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1266291)									
ES1003672-014	BH49_6.2-6.4	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1003672-024	QC220	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1266856)									
ES1003672-035	BH44_1.4-1.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	0.2	0.0	No Limit
ES1003672-039	BH54_1.0-1.4	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1266556)									
ES1003671-004	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003672-014	BH49_6.2-6.4	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1266557)									
ES1003672-048	BH65_11.2-11.4	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK025G: Free cyanide by Discrete Analyser (QC Lot: 1266316)									
ES1003671-007	Anonymous	EK025G: Free Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
ES1003672-002	BH59_1.9-2.0	EK025G: Free Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EK025G: Free cyanide by Discrete Analyser (QC Lot: 1266317)									
ES1003672-025	QC223	EK025G: Free Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
ES1003672-046	BH65_3.4-3.6	EK025G: Free Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1268169)									
ES1003390-004	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
ES1003671-024	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1268170)									
ES1003672-016	BH49_10.2-10.4	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
ES1003672-037	BH44_4.9-5.0	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EP004: Organic Matter (QC Lot: 1265016)									
ES1003391-010	Anonymous	EP004: Organic Matter	----	0.5	%	<0.5	0.5	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.0	No Limit
ES1003561-003	Anonymous	EP004: Organic Matter	----	0.5	%	0.6	0.6	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.0	No Limit
EP004: Organic Matter (QC Lot: 1265017)									
ES1003672-014	BH49_6.2-6.4	EP004: Organic Matter	----	0.5	%	<0.5	<0.5	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.0	No Limit
ES1003672-039	BH54_1.0-1.4	EP004: Organic Matter	----	0.5	%	2.4	2.4	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	1.4	1.4	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1264601)									
ES1003672-003	BH59_3.4-3.5	EP074: Benzene	71-43-2	0.2	mg/kg	82.4	37.4	# 75.1	0% - 20%
		EP074: Toluene	108-88-3	0.5	mg/kg	32.5	22.6	# 35.9	0% - 20%
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	88.3	54.6	# 47.2	0% - 20%
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	103	68.9	# 40.0	0% - 20%
		EP074: Styrene	100-42-5	0.5	mg/kg	5.5	4.0	30.6	No Limit
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	51.2	34.7	# 38.3	0% - 20%
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	0.8	0.5	33.8	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1264601) - continued									
ES1003672-003	BH59_3.4-3.5	EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	1.2	0.8	32.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	24.2	17.8	# 30.4	0% - 20%
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	59.3	42.8	# 32.5	0% - 20%
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1264807)									
ES1003672-033	BH42_3.2-3.3	EP074: Benzene	71-43-2	0.2	mg/kg	1.0	0.9	0.0	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	1.5	1.4	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	40.8	39.0	4.3	0% - 20%
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	39.9	40.4	1.4	0% - 20%
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	83.6	83.0	0.8	0% - 20%
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	7.3	5.7	25.1	0% - 50%
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	4.9	4.3	11.2	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	31.0	30.1	2.8	0% - 20%
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	92.9	91.3	1.7	0% - 20%
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1264889)									
ES1003671-030	Anonymous	EP074: Benzene	71-43-2	0.2	mg/kg	8.9	6.5	# 30.5	0% - 20%
		EP074: Toluene	108-88-3	0.5	mg/kg	20.8	16.9	# 20.3	0% - 20%
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	1.6	1.2	27.1	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	20.1	15.7	# 24.8	0% - 20%
		EP074: Styrene	100-42-5	0.5	mg/kg	9.1	7.3	22.1	0% - 50%
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	7.0	5.6	22.5	0% - 50%
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	3.9	3.2	18.6	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	8.7	7.2	18.3	0% - 50%
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074B: Oxygenated Compounds (QC Lot: 1264601)									
ES1003672-003	BH59_3.4-3.5	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1264807)									
ES1003672-033	BH42_3.2-3.3	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1264889)									
ES1003671-030	Anonymous	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1264601)									
ES1003672-003	BH59_3.4-3.5	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1264807)									
ES1003672-033	BH42_3.2-3.3	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1264889)									
ES1003671-030	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1264601)									
ES1003672-003	BH59_3.4-3.5	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1264807)									
ES1003672-033	BH42_3.2-3.3	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1264889)									
ES1003671-030	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1264601)									
ES1003672-003	BH59_3.4-3.5	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1264807)									
ES1003672-033	BH42_3.2-3.3	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1264807) - continued									
ES1003672-033	BH42_3.2-3.3	EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1264889)									
ES1003671-030	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1264889) - continued									
ES1003671-030	Anonymous	EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1264601)									
ES1003672-003	BH59_3.4-3.5	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1264807)									
ES1003672-033	BH42_3.2-3.3	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1264889)									
ES1003671-030	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1264601)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074G: Trihalomethanes (QC Lot: 1264601) - continued									
ES1003672-003	BH59_3.4-3.5	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	3.0	143	No Limit
EP074G: Trihalomethanes (QC Lot: 1264807)									
ES1003672-033	BH42_3.2-3.3	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1264889)									
ES1003671-030	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074H: Naphthalene (QC Lot: 1264807)									
ES1003672-033	BH42_3.2-3.3	EP074: Naphthalene	91-20-3	5	mg/kg	83	107	# 25.6	0% - 20%
EP075(SIM)A: Phenolic Compounds (QC Lot: 1265068)									
ES1003672-002	BH59_1.9-2.0	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
ES1003672-016	BH49_10.2-10.4	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	1.6	1.5	10.6	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	7.8	7.1	9.7	0% - 50%
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	9.0	8.0	12.4	0% - 50%
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 1265068) - continued									
ES1003672-016	BH49_10.2-10.4	EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	9.5	8.6	9.5	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1265557)									
ES1003672-024	QC220	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
ES1003672-039	BH54_1.0-1.4	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	5.0	11.2	76.6	0% - 20%
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	7.0	<4.0	54.1	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	22.8	<4.0	140	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<8.0	<8.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<8.0	<8.0	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1266314)									
ES1003672-042	BH45_3.2-3.4	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 1266314) - continued									
ES1003672-042	BH45_3.2-3.4	EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
ES1003672-053	BH66_2.3-2.4	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1265068)									
ES1003672-002	BH59_1.9-2.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	453	564	# 21.8	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	58.8	62.4	6.0	0% - 20%
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	10.3	10.4	0.0	0% - 20%
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	68.3	76.1	10.8	0% - 20%
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	206	326	# 45.0	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	60.3	64.7	7.0	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	121	155	# 24.7	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	104	130	# 21.3	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	45.9	48.9	6.3	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	32.2	31.6	1.9	0% - 20%
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	35.8	31.8	11.7	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	14.3	15.5	8.2	0% - 20%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	26.5	27.2	2.8	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	11.8	9.0	# 26.6	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	3.2	2.4	26.7	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	13.1	11.2	15.9	0% - 20%
ES1003672-016	BH49_10.2-10.4	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	343	291	16.3	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	32.6	25.4	# 25.1	0% - 20%
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	5.3	4.2	23.1	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	33.4	26.1	# 24.3	0% - 20%
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	191	154	# 21.1	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	25.8	20.2	# 24.2	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	54.6	41.4	# 27.6	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	46.7	36.3	# 25.0	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	23.1	18.1	# 24.4	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1265068) - continued									
ES1003672-016	BH49_10.2-10.4	EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	15.3	11.8	# 25.7	0% - 20%
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	14.8	12.4	18.2	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	6.5	4.4	39.3	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	11.4	8.7	# 26.7	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.8	2.9	28.2	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.1	0.8	27.6	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.7	3.6	26.1	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1265557)									
ES1003672-024	QC220	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.6	24.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003672-039	BH54_1.0-1.4	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	6370	8690	# 30.8	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1000	1390	# 32.3	0% - 20%
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	273	177	# 42.9	0% - 20%
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	1290	1990	# 42.8	0% - 20%
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	3130	4640	# 38.9	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1070	1580	# 38.8	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2130	3170	# 39.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	1670	2620	# 44.6	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	912	1370	# 40.0	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	549	922	# 50.8	0% - 20%
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	824	1130	# 31.6	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	324	376	14.9	0% - 20%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	533	329	# 47.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	231	146	# 44.9	0% - 20%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	72.5	46.5	43.7	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1265557) - continued									
ES1003672-039	BH54_1.0-1.4	EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	248	174	# 35.4	0% - 20%
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1266314)									
ES1003672-042	BH45_3.2-3.4	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	0.5	0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003672-053	BH66_2.3-2.4	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	5.3	5.2	0.0	0% - 50%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.5	1.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	0.8	0.8	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	1.5	1.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	9.2	9.5	3.1	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	3.5	3.4	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	12.4	12.6	2.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	13.0	13.4	3.6	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	8.8	8.8	0.0	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	6.9	7.0	0.0	0% - 50%
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	11.9	12.0	1.5	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.2	4.2	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	10.9	11.1	1.7	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.6	5.6	0.0	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	2.2	2.1	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	7.3	7.4	0.0	0% - 50%
EP075A: Phenolic Compounds (QC Lot: 1266640)									
ES1003671-010	Anonymous	EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075A: Phenolic Compounds (QC Lot: 1266640) - continued									
ES1003671-010	Anonymous	EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	0.0	No Limit
ES1003672-037	BH44_4.9-5.0	EP075: Phenol	108-95-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<2.5	<2.5	0.0	No Limit
		EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<2	<2	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1266640)									
ES1003671-010	Anonymous	EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075: Fluorene	86-73-7	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	3.8	3.4	9.5	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	1.3	1.1	12.6	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	4.8	4.3	10.8	No Limit
		EP075: Pyrene	129-00-0	0.5	mg/kg	5.3	4.6	13.1	No Limit
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	2.0	1.7	16.0	No Limit
		EP075: Chrysene	218-01-9	0.5	mg/kg	1.7	1.5	11.9	No Limit
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.7	1.4	14.0	No Limit
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1266640) - continued									
ES1003671-010	Anonymous	EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	2	2	0.0	No Limit
ES1003672-037	BH44_4.9-5.0	EP075: Naphthalene	91-20-3	0.5	mg/kg	410	340	18.9	0% - 20%
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	204	168	19.0	0% - 20%
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	90.0	79.9	11.8	0% - 20%
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	11.3	7.6	39.0	0% - 50%
		EP075: Fluorene	86-73-7	0.5	mg/kg	54.5	36.0	# 40.9	0% - 20%
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	156	133	16.2	0% - 20%
		EP075: Anthracene	120-12-7	0.5	mg/kg	41.9	26.4	# 45.5	0% - 20%
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	59.2	36.9	# 46.3	0% - 20%
		EP075: Pyrene	129-00-0	0.5	mg/kg	67.2	41.8	# 46.5	0% - 20%
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	27.6	18.7	# 38.4	0% - 20%
		EP075: Chrysene	218-01-9	0.5	mg/kg	22.8	16.4	32.6	0% - 20%
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	15.6	13.4	15.5	0% - 20%
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.4	3.7	9.0	No Limit
		EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<1.2	1.3	0.0	No Limit
		EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.2	3.7	14.7	No Limit
		EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	18	15	13.1	0% - 50%
EP075C: Phthalate Esters (QC Lot: 1266640)									
ES1003671-010	Anonymous	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	<5.0	0.0	No Limit
ES1003672-037	BH44_4.9-5.0	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	<5.0	0.0	No Limit
EP075D: Nitrosamines (QC Lot: 1266640)									
ES1003671-010	Anonymous	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075D: Nitrosamines (QC Lot: 1266640) - continued									
ES1003671-010	Anonymous	EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
ES1003672-037	BH44_4.9-5.0	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<2.5	<2.5	0.0	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 1266640)									
ES1003671-010	Anonymous	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
ES1003672-037	BH44_4.9-5.0	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075E: Nitroaromatics and Ketones (QC Lot: 1266640) - continued									
ES1003672-037	BH44_4.9-5.0	EP075: Isophorone	78-59-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<1.2	1.3	0.0	No Limit
		EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
EP075F: Haloethers (QC Lot: 1266640)									
ES1003671-010	Anonymous	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003672-037	BH44_4.9-5.0	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 1266640)									
ES1003671-010	Anonymous	EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	0.0	No Limit
ES1003672-037	BH44_4.9-5.0	EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075G: Chlorinated Hydrocarbons (QC Lot: 1266640) - continued									
ES1003672-037	BH44_4.9-5.0	EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	0.0	No Limit
EP075H: Anilines and Benzidines (QC Lot: 1266640)									
ES1003671-010	Anonymous	EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
ES1003672-037	BH44_4.9-5.0	EP075: Aniline	62-53-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	21.7	14.8	37.7	0% - 20%
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	11.1	6.9	46.8	0% - 50%
		EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 1266640)									
ES1003671-010	Anonymous	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
ES1003672-037	BH44_4.9-5.0	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075I: Organochlorine Pesticides (QC Lot: 1266640) - continued									
ES1003672-037	BH44_4.9-5.0	EP075: beta-BHC	319-85-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4.4`-DDT	50-29-3	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 1266640)									
ES1003671-010	Anonymous	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003672-037	BH44_4.9-5.0	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<1.4	<1.4	0.0	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
EP075K: Miscellaneous Compounds (QC Lot: 1266640)									
ES1003671-010	Anonymous	EP075: 1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075K: Miscellaneous Compounds (QC Lot: 1266640) - continued									
ES1003671-010	Anonymous	EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Safrole	94-59-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diallate	2303-16-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003672-037	BH44_4.9-5.0	EP075: 1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<2.5	<2.5	0.0	No Limit
		EP075: Methanesulfonate methyl	66-27-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: cis-Isosafrole	17627-76-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: trans-Isosafrole	4043-71-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Safrole	94-59-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Diallate	2303-16-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1264600)									
ES1003672-003	BH59_3.4-3.5	EP080: C6 - C9 Fraction	----	10	mg/kg	459	315	# 37.2	0% - 20%
ES1003672-023	BH58_10.8-11.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1264806)									
ES1003672-033	BH42_3.2-3.3	EP080: C6 - C9 Fraction	----	10	mg/kg	234	228	2.6	0% - 20%
ES1003672-036	BH44_1.9-2.0	EP080: C6 - C9 Fraction	----	10	mg/kg	10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1264888)									
ES1003671-030	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	90	69	26.8	No Limit
ES1003672-055	BH66_7.0-7.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1265067)									
ES1003672-002	BH59_1.9-2.0	EP071: C15 - C28 Fraction	----	100	mg/kg	2290	2730	17.2	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	860	1090	23.7	0% - 50%
		EP071: C10 - C14 Fraction	----	50	mg/kg	980	1140	15.2	0% - 20%
ES1003672-016	BH49_10.2-10.4	EP071: C15 - C28 Fraction	----	100	mg/kg	1240	1040	17.7	0% - 50%
		EP071: C29 - C36 Fraction	----	100	mg/kg	420	360	15.5	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	670	570	16.6	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1265556)									
ES1003672-024	QC220	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1003672-039	BH54_1.0-1.4	EP071: C15 - C28 Fraction	----	100	mg/kg	11700	10900	6.8	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	3560	3280	8.0	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1265556) - continued									
ES1003672-039	BH54_1.0-1.4	EP071: C10 - C14 Fraction	----	50	mg/kg	4380	4130	5.9	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1266313)									
ES1003672-042	BH45_3.2-3.4	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1003672-053	BH66_2.3-2.4	EP071: C15 - C28 Fraction	----	100	mg/kg	420	400	4.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	390	370	5.8	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEX (QC Lot: 1264600)									
ES1003672-003	BH59_3.4-3.5	EP080: Benzene	71-43-2	0.2	mg/kg	83.2	51.9	# 46.3	0% - 20%
		EP080: Toluene	108-88-3	0.5	mg/kg	28.9	20.3	# 35.2	0% - 20%
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	76.6	50.3	# 41.5	0% - 20%
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	101	67.2	# 40.0	0% - 20%
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	48.2	32.9	# 37.7	0% - 20%
ES1003672-023	BH58_10.8-11.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080: BTEX (QC Lot: 1264806)									
ES1003672-033	BH42_3.2-3.3	EP080: Benzene	71-43-2	0.2	mg/kg	0.5	0.8	37.2	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	1.4	1.3	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	41.2	39.5	4.4	0% - 20%
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	42.9	43.1	0.6	0% - 20%
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	81.5	83.5	2.5	0% - 20%
ES1003672-036	BH44_1.9-2.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080: BTEX (QC Lot: 1264888)									
ES1003671-030	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	7.4	5.4	# 30.3	0% - 20%
		EP080: Toluene	108-88-3	0.5	mg/kg	18.8	13.9	# 29.5	0% - 20%
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	1.5	1.2	26.3	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080: BTEX (QC Lot: 1264888) - continued									
ES1003671-030	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	19.6	15.3	# 24.9	0% - 20%
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	6.6	5.3	22.2	0% - 50%
ES1003672-055	BH66_7.0-7.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005C: Leachable Metals by ICPAES (QC Lot: 1266943)									
ES1003503-001	Anonymous	EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Barium	7440-39-3	0.1	mg/L	0.4	0.4	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Manganese	7439-96-5	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1003690-004	Anonymous	EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Cadmium	7440-43-9	0.05	mg/L	7.33	7.22	1.6	0% - 20%
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Barium	7440-39-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	0.4	0.4	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	1.0	1.0	0.0	0% - 50%
		EG005C: Lead	7439-92-1	0.1	mg/L	37.4	36.6	2.0	0% - 20%
		EG005C: Manganese	7439-96-5	0.1	mg/L	11.3	11.1	2.4	0% - 20%
		EG005C: Nickel	7440-02-0	0.1	mg/L	8.7	8.5	2.6	0% - 20%
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	2310	2370	2.6	0% - 20%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1266442)									
ES1003611-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	0.710	0.713	0.5	0% - 20%
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1266442) - continued									
ES1003611-001	Anonymous	EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	0.026	0.026	0.0	0% - 20%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	0.042	0.041	0.0	0% - 20%
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	2.97	3.03	1.9	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.017	0.017	0.0	0% - 50%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	3.72	3.72	0.2	0% - 20%
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1003666-026	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.003	0.004	0.0	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.208	0.212	1.8	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.015	0.013	10.0	No Limit
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EG035C: Leachable Mercury by FIMS (QC Lot: 1269465)									
ES1003671-025	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
ES1003690-005	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1266441)									
ES1003611-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1003671-032	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1265474)									
ES1003612-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1003658-004	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEX (QC Lot: 1265474)									
ES1003612-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
ES1003658-004	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080: BTEX (QC Lot: 1265474) - continued									
ES1003658-004	Anonymous	EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1266288)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	107	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	103	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	102	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	104	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	101	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	96.3	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	98.6	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	13134 mg/kg	115	70	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	97.0	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	102	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	100	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	103	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	98.3	88.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1266290)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	108	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	105	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	104	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	105	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	102	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	97.2	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	101	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	13134 mg/kg	116	70	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	98.4	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	101	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	100	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	105	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	98.8	88.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1266855)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	113	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	111	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	109	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	108	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	108	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	104	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1266855) - continued								
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	106	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	102	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	109	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	104	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	109	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	101	88.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1266857)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	110	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	109	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	107	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	106	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	105	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	100	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	103	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	99.2	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	107	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	102	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	108	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	98.2	88.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1266289)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	76.3	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1266291)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	75.1	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1266856)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	79.4	67	118
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1266556)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	111	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1266557)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	93.0	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1266316)								
EK025G: Free Cyanide	----	1	mg/kg	<1	2.0 mg/kg	91.0	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1266317)								
EK025G: Free Cyanide	----	1	mg/kg	<1	2.0 mg/kg	99.0	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1268169)								
EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	2.0 mg/kg	84.2	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1268170)								
EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	2.0 mg/kg	94.3	70	130
EP004: Organic Matter (QCLot: 1265016)								
EP004: Organic Matter	----	0.5	%	<0.5	4.58 %	101	86	111
EP004: Total Organic Carbon	----	0.5	%	<0.5	----	----	----	----
EP004: Organic Matter (QCLot: 1265017)								
EP004: Organic Matter	----	0.5	%	<0.5	4.58 %	99.8	86	111
EP004: Total Organic Carbon	----	0.5	%	<0.5	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1264601)								
EP074: Benzene	71-43-2	0.5	mg/kg	<0.5	1 mg/kg	103	64	126
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	89.3	63	135
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	99.5	64	124
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	94.4	66	126
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	83.6	67	121
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	96.0	66	124
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	84.7	64	124
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	73.8	59	129
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	81.5	63	125
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	71.5	61	127
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	91.2	62	126
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	74.0	62	126
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	68.3	60	126
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	67.1	57	129
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1264807)								
EP074: Benzene	71-43-2	0.5	mg/kg	<0.5	1 mg/kg	96.2	64	126
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	112	63	135
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	90.8	64	124
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	101	66	126
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	105	67	121
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	106	66	124
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	84.8	64	124
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	72.7	59	129
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	84.2	63	125
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	70.7	61	127
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	97.6	62	126
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	72.7	62	126
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	72.0	60	126
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	86.0	57	129

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1264889)								
EP074: Benzene	71-43-2	0.5	mg/kg	<0.5	1 mg/kg	77.5	64	126
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	101	63	135
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	93.1	64	124
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	102	66	126
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	105	67	121
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	102	66	124
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	90.5	64	124
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	81.0	59	129
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	87.6	63	125
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	79.0	61	127
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	96.1	62	126
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	80.2	62	126
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	72.9	60	126
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	74.1	57	129
EP074B: Oxygenated Compounds (QCLot: 1264601)								
EP074: Vinyl Acetate	108-05-4	1	mg/kg	----	10 mg/kg	56.0	11	155
		5	mg/kg	<5	----	----	----	----
EP074: 2-Butanone (MEK)	78-93-3	1	mg/kg	----	10 mg/kg	90.4	37	169
		5	mg/kg	<5	----	----	----	----
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	1	mg/kg	----	10 mg/kg	90.0	55	133
		5	mg/kg	<5	----	----	----	----
EP074: 2-Hexanone (MBK)	591-78-6	1	mg/kg	----	10 mg/kg	93.5	57	133
		5	mg/kg	<5	----	----	----	----
EP074B: Oxygenated Compounds (QCLot: 1264807)								
EP074: Vinyl Acetate	108-05-4	1	mg/kg	----	10 mg/kg	69.9	11	155
		5	mg/kg	<5	----	----	----	----
EP074: 2-Butanone (MEK)	78-93-3	1	mg/kg	----	10 mg/kg	101	37	169
		5	mg/kg	<5	----	----	----	----
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	1	mg/kg	----	10 mg/kg	110	55	133
		5	mg/kg	<5	----	----	----	----
EP074: 2-Hexanone (MBK)	591-78-6	1	mg/kg	----	10 mg/kg	109	57	133
		5	mg/kg	<5	----	----	----	----
EP074B: Oxygenated Compounds (QCLot: 1264889)								
EP074: Vinyl Acetate	108-05-4	1	mg/kg	----	10 mg/kg	68.0	11	155
		5	mg/kg	<5	----	----	----	----
EP074: 2-Butanone (MEK)	78-93-3	1	mg/kg	----	10 mg/kg	93.1	37	169
		5	mg/kg	<5	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074B: Oxygenated Compounds (QCLot: 1264889) - continued								
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	1	mg/kg	----	10 mg/kg	90.3	55	133
		5	mg/kg	<5	----	----	----	----
EP074: 2-Hexanone (MBK)	591-78-6	1	mg/kg	----	10 mg/kg	110	57	133
		5	mg/kg	<5	----	----	----	----
EP074C: Sulfonated Compounds (QCLot: 1264601)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	102	53	135
EP074C: Sulfonated Compounds (QCLot: 1264807)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	91.1	53	135
EP074C: Sulfonated Compounds (QCLot: 1264889)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	99.6	53	135
EP074D: Fumigants (QCLot: 1264601)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	75.5	57	129
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	86.6	68	122
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	77.3	59	127
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	75.0	53	129
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	89.6	69	121
EP074D: Fumigants (QCLot: 1264807)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	80.5	57	129
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	97.7	68	122
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	85.3	59	127
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	88.0	53	129
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	102	69	121
EP074D: Fumigants (QCLot: 1264889)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	82.5	57	129
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	90.8	68	122
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	78.1	59	127
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	78.9	53	129
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	101	69	121
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264601)								
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	----	10 mg/kg	72.9	28.9	146
		5	mg/kg	<5	----	----	----	----
EP074: Chloromethane	74-87-3	1	mg/kg	----	10 mg/kg	87.9	43	140
		5	mg/kg	<5	----	----	----	----
EP074: Vinyl chloride	75-01-4	1	mg/kg	----	10 mg/kg	115	41	149
		5	mg/kg	<5	----	----	----	----
EP074: Bromomethane	74-83-9	1	mg/kg	----	10 mg/kg	104	44	152
		5	mg/kg	<5	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264601) - continued								
EP074: Chloroethane	75-00-3	1	mg/kg	----	10 mg/kg	79.5	49	149
		5	mg/kg	<5	----	----	----	----
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	----	10 mg/kg	92.9	53	139
		5	mg/kg	<5	----	----	----	----
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	88.4	57	133
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	81.9	48	134
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	99.8	62	128
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	89.8	64	126
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	90.7	66	124
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	72.6	61	125
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	80.2	62	128
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	97.2	56	128
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	83.1	70	124
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	89.9	65	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	88.6	67	123
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	93.2	70	122
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	90.9	71	121
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	98.2	64	144
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	92.9	57	125
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	112	39	141
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	102	56	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	82.9	57	127
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	93.3	62	126
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	38.4	26.4	144
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	106	51	133
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	75.0	48	136
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264807)								
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	----	10 mg/kg	71.6	28.9	146
		5	mg/kg	<5	----	----	----	----
EP074: Chloromethane	74-87-3	1	mg/kg	----	10 mg/kg	77.0	43	140
		5	mg/kg	<5	----	----	----	----
EP074: Vinyl chloride	75-01-4	1	mg/kg	----	10 mg/kg	94.1	41	149
		5	mg/kg	<5	----	----	----	----
EP074: Bromomethane	74-83-9	1	mg/kg	----	10 mg/kg	102	44	152
		5	mg/kg	<5	----	----	----	----
EP074: Chloroethane	75-00-3	1	mg/kg	----	10 mg/kg	83.0	49	149
		5	mg/kg	<5	----	----	----	----
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	----	10 mg/kg	71.4	53	139
		5	mg/kg	<5	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264807) - continued								
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	86.8	57	133
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	70.6	48	134
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	80.0	62	128
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	85.2	64	126
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	85.8	66	124
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	67.3	61	125
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	76.8	62	128
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	84.7	56	128
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	75.0	70	124
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	88.8	65	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	102	67	123
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	113	70	122
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	112	71	121
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	103	64	144
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	93.4	57	125
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	100	39	141
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	97.9	56	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	101	57	127
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	118	62	126
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	79.6	26.4	144
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	120	51	133
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	76.0	48	136
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264889)								
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	----	10 mg/kg	83.7	28.9	146
		5	mg/kg	<5	----	----	----	----
EP074: Chloromethane	74-87-3	1	mg/kg	----	10 mg/kg	114	43	140
		5	mg/kg	<5	----	----	----	----
EP074: Vinyl chloride	75-01-4	1	mg/kg	----	10 mg/kg	109	41	149
		5	mg/kg	<5	----	----	----	----
EP074: Bromomethane	74-83-9	1	mg/kg	----	10 mg/kg	86.1	44	152
		5	mg/kg	<5	----	----	----	----
EP074: Chloroethane	75-00-3	1	mg/kg	----	10 mg/kg	79.7	49	149
		5	mg/kg	<5	----	----	----	----
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	----	10 mg/kg	85.6	53	139
		5	mg/kg	<5	----	----	----	----
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	83.4	57	133
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	87.7	48	134
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	95.6	62	128
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	92.0	64	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264889) - continued								
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	89.7	66	124
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	75.9	61	125
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	75.6	62	128
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	89.8	56	128
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	88.8	70	124
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	77.5	65	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	91.5	67	123
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	101	70	122
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	104	71	121
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	98.9	64	144
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	93.7	57	125
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	110	39	141
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	97.9	56	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	92.6	57	127
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	101	62	126
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	86.9	26.4	144
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	113	51	133
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	77.0	48	136
EP074F: Halogenated Aromatic Compounds (QCLot: 1264601)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	89.4	67	125
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	81.1	68	122
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	75.2	63	127
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	74.0	64	126
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	72.8	66	124
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	72.3	64	126
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	72.9	67	121
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	59.6	54	134
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	63.6	58	132
EP074F: Halogenated Aromatic Compounds (QCLot: 1264807)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	92.4	67	125
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	91.6	68	122
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	77.2	63	127
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	79.1	64	126
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	79.0	66	124
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	80.3	64	126
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	83.8	67	121
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	68.4	54	134
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	74.6	58	132
EP074F: Halogenated Aromatic Compounds (QCLot: 1264889)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074F: Halogenated Aromatic Compounds (QCLot: 1264889) - continued								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	95.4	67	125
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	90.1	68	122
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	81.6	63	127
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	82.7	64	126
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	80.2	66	124
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	79.2	64	126
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	84.2	67	121
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	66.0	54	134
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	73.9	58	132
EP074G: Trihalomethanes (QCLot: 1264601)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	94.3	67	123
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	89.8	60	126
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	114	58	124
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	97.5	57	121
EP074G: Trihalomethanes (QCLot: 1264807)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	89.0	67	123
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	95.4	60	126
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	116	58	124
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	108	57	121
EP074G: Trihalomethanes (QCLot: 1264889)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	90.4	67	123
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	90.3	60	126
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	113	58	124
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	101	57	121
EP074H: Naphthalene (QCLot: 1264807)								
EP074: Naphthalene	91-20-3	0.5	mg/kg	----	10 mg/kg	78.5	63	131
		5	mg/kg	<5	----	----	----	----
EP075(SIM)A: Phenolic Compounds (QCLot: 1265068)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	104	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	98.3	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	95.6	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	99.1	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	75.8	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	94.4	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	90.1	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	88.4	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	88.8	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	81.8	62.2	115

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 1265068) - continued								
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	81.2	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	25.3	1.23	91.6
EP075(SIM)A: Phenolic Compounds (QCLot: 1265557)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	95.0	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	95.3	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	93.6	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	99.0	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	75.2	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	93.6	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	82.2	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	89.4	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	83.1	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	73.0	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	72.8	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	12.4	1.23	91.6
EP075(SIM)A: Phenolic Compounds (QCLot: 1266314)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	105	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	100	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	108	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	100	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	89.6	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	107	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	95.7	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	99.4	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	91.1	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	87.1	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	86.3	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	34.3	1.23	91.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1265068)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	98.1	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	98.9	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	90.4	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	94.0	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	97.0	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	95.7	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	96.6	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	97.2	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	103	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	106	79.8	114

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1265068) - continued								
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	85.4	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	101	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	107	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	83.5	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	80.1	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	94.0	72.4	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1265557)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	109	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	97.5	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	95.1	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	95.4	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	101	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	102	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	101	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	97.4	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	102	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	102	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	92.8	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	95.8	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	89.8	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	# 67.7	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	77.2	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	85.2	72.4	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266314)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	110	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	111	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	110	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	112	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	# 117	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	111	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	# 118	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	# 116	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	109	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	109	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	115	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	98.6	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	112	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	84.6	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	85.4	71.7	113

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266314) - continued								
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	80.1	72.4	114
EP075A: Phenolic Compounds (QCLot: 1266640)								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.25 mg/kg	85.0	66.9	114
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.25 mg/kg	80.5	58.5	108
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.25 mg/kg	81.1	43	103
EP075: 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	2.5 mg/kg	94.2	35.9	109
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	72.0	49.4	109
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.25 mg/kg	32.2	.15	116
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.25 mg/kg	70.9	52.5	106
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.25 mg/kg	55.1	48.2	98.6
EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	1.25 mg/kg	73.8	59	106
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.25 mg/kg	53.0	44.4	101
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.25 mg/kg	78.6	48	107
EP075: Pentachlorophenol	87-86-5	1.0	mg/kg	<1	2.5 mg/kg	44.2	4.43	89.2
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266640)								
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.25 mg/kg	89.3	63.7	108
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.25 mg/kg	89.0	60.8	110
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.25 mg/kg	85.2	59.1	110
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.25 mg/kg	84.1	58.8	106
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.25 mg/kg	87.3	61.7	110
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	86.1	59.2	110
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.25 mg/kg	88.4	61.9	108
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.25 mg/kg	84.2	58.3	107
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.25 mg/kg	85.0	58.5	110
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.25 mg/kg	86.8	60.4	109
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.25 mg/kg	83.3	59.5	110
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	82.0	57.2	111
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.25 mg/kg	83.2	58.4	113
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2	1	mg/kg	----	2.5 mg/kg	82.9	57.1	112
	207-08-9	1.0	mg/kg	<1	----	----	----	----
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.25 mg/kg	72.4	48.1	106
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.25 mg/kg	81.4	56.6	108
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.25 mg/kg	78.2	52.7	108
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.25 mg/kg	82.9	56.8	110
EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.25 mg/kg	81.3	54.7	110
EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.25 mg/kg	82.5	55	112
EP075C: Phthalate Esters (QCLot: 1266640)								
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.25 mg/kg	86.4	60.1	111
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.25 mg/kg	86.9	62.3	114

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075C: Phthalate Esters (QCLot: 1266640) - continued								
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.25 mg/kg	90.4	65.5	122
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.25 mg/kg	88.4	61.6	112
EP075: bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg	----	1.25 mg/kg	86.6	66.6	135
		5.0	mg/kg	<5.0	----	----	----	----
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.25 mg/kg	90.9	59	116
EP075D: Nitrosamines (QCLot: 1266640)								
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.25 mg/kg	108	39.4	124
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.25 mg/kg	90.9	62.7	112
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	----	1.25 mg/kg	90.2	42.8	102
		1.0	mg/kg	<1.0	----	----	----	----
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.25 mg/kg	104	52.4	112
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.25 mg/kg	96.6	60.6	107
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.25 mg/kg	88.2	59.6	108
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.25 mg/kg	86.8	59.4	106
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6	1.0	mg/kg	<1.0	2.5 mg/kg	46.6	38	110
	122-39-4							
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.25 mg/kg	86.2	16.3	123
EP075E: Nitroaromatics and Ketones (QCLot: 1266640)								
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.25 mg/kg	92.1	27.3	129
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.25 mg/kg	92.3	62.6	110
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.25 mg/kg	91.8	64.4	112
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.25 mg/kg	89.6	64	110
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	----	1.25 mg/kg	85.0	58	114
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	----	1.25 mg/kg	87.8	55.8	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.25 mg/kg	29.7	2.24	93
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.25 mg/kg	56.4	3.12	108
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.25 mg/kg	82.8	48.3	98.5
EP075: Azobenzene	103-33-3	1	mg/kg	----	1.25 mg/kg	87.1	61.4	113
		1.0	mg/kg	<1	----	----	----	----
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.25 mg/kg	64.7	33	108
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.25 mg/kg	82.4	58.1	110
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.25 mg/kg	47.2	36.1	102
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.25 mg/kg	79.4	55.8	106
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.25 mg/kg	83.5	49.4	105
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.25 mg/kg	75.1	53.5	105
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.25 mg/kg	96.8	57.4	112
EP075F: Haloethers (QCLot: 1266640)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075F: Haloethers (QCLot: 1266640) - continued								
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.25 mg/kg	110	63.1	113
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.25 mg/kg	88.8	62.4	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.25 mg/kg	86.3	59	111
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	80.9	56.4	109
EP075G: Chlorinated Hydrocarbons (QCLot: 1266640)								
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.25 mg/kg	87.6	60.4	106
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.25 mg/kg	89.2	62.1	107
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.25 mg/kg	91.0	61.3	107
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.25 mg/kg	87.7	53.8	107
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.25 mg/kg	86.2	62.9	108
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.25 mg/kg	71.4	39.1	110
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.25 mg/kg	85.9	59.3	110
EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	----	1.25 mg/kg	79.3	17.2	106
		2.5	mg/kg	<2.5	----	----	----	----
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.25 mg/kg	80.9	60	110
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	----	1.25 mg/kg	81.3	59.9	111
		1.0	mg/kg	<1.0	----	----	----	----
EP075H: Anilines and Benzidines (QCLot: 1266640)								
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.25 mg/kg	31.0	13.2	108
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.25 mg/kg	59.3	19.9	114
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	----	1.25 mg/kg	83.5	57.4	109
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	----	1.25 mg/kg	65.7	31.5	93.7
		1.0	mg/kg	<1.0	----	----	----	----
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.25 mg/kg	86.9	60.2	111
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.25 mg/kg	87.4	48.6	97.6
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.25 mg/kg	90.1	61	109
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.25 mg/kg	# 120	15.6	101
EP075I: Organochlorine Pesticides (QCLot: 1266640)								
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.25 mg/kg	86.6	59.5	110
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.25 mg/kg	85.9	53.4	113
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.25 mg/kg	85.6	58.2	112
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.25 mg/kg	87.6	56.9	114
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.25 mg/kg	81.8	52	108
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.25 mg/kg	87.1	54.9	112
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.25 mg/kg	80.9	54.6	113
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.25 mg/kg	98.2	51.7	115
EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	1.25 mg/kg	85.2	60.3	112
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.25 mg/kg	86.0	61.9	116

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075I: Organochlorine Pesticides (QCLot: 1266640) - continued								
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.25 mg/kg	90.6	49	110
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.25 mg/kg	84.4	59.5	112
EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	1.25 mg/kg	85.8	58.5	116
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.25 mg/kg	95.6	52.6	114
EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	----	1.25 mg/kg	81.8	39.2	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075J: Organophosphorus Pesticides (QCLot: 1266640)								
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	78.2	24.6	109
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.25 mg/kg	84.7	46.4	118
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.25 mg/kg	101	50.3	116
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.25 mg/kg	81.8	41.7	119
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	98.0	52.1	121
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.25 mg/kg	77.7	43	116
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.25 mg/kg	82.0	51.1	115
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.25 mg/kg	86.6	50.9	115
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	----	----	----
		0.55	mg/kg	----	1.375 mg/kg	80.9	45.3	104
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.25 mg/kg	75.4	51.5	116
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.25 mg/kg	85.4	47.3	115
EP075K: Miscellaneous Compounds (QCLot: 1266640)								
EP075: 1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	1.25 mg/kg	91.8	50.7	113
EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	1.25 mg/kg	76.4	52	115
EP075: Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	1.25 mg/kg	103	39.8	122
EP075: Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	1.25 mg/kg	94.4	59.6	117
EP075: cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	1.25 mg/kg	84.7	60.3	108
EP075: trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	1.25 mg/kg	82.0	53.9	113
EP075: Safrole	94-59-7	0.5	mg/kg	<0.5	1.25 mg/kg	83.8	57.8	110
EP075: Diallate	2303-16-4	0.5	mg/kg	<0.5	1.25 mg/kg	93.4	61.3	111
EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264600)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	82.1	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264806)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	90.8	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264888)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	93.6	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265067)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	92.0	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	89.0	75.3	113

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265067) - continued								
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	99.0	72.6	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265556)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	96.0	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	97.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	83.0	72.6	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1266313)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	101	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	103	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	88.0	72.6	117
EP080: BTEX (QCLot: 1264600)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	74.5	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	79.5	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	78.4	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	80.6	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	82.0	66.7	123
EP080: BTEX (QCLot: 1264806)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	88.9	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	87.0	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	87.0	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	87.2	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	91.2	66.7	123
EP080: BTEX (QCLot: 1264888)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.6	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	86.0	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	87.0	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	87.9	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	92.3	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005C: Leachable Metals by ICPAES (QCLot: 1266943)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	0.1 mg/L	103	70	130
EG005C: Barium	7440-39-3	0.1	mg/L	<0.1	0.1 mg/L	101	70	130
EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	0.1 mg/L	106	70	130
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.1 mg/L	106	70	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)
				Result	Concentration	LCS	Low	High
EG005C: Leachable Metals by ICPAES (QCLot: 1266943) - continued								
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	0.1 mg/L	104	70	130
EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	0.1 mg/L	101	70	130
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	0.1 mg/L	102	70	130
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	0.1 mg/L	103	70	130
EG005C: Manganese	7439-96-5	0.1	mg/L	<0.1	0.1 mg/L	104	70	130
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	0.1 mg/L	97.0	70	130
EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	0.1 mg/L	90.4	70	130
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	0.1 mg/L	96.4	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1266442)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	93.0	88	110
EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	90.0	80	114
EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	96.4	85	109
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	94.6	89	107
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	95.4	91	111
EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	96.4	89	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	97.0	87	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	96.2	90	110
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	95.4	87	113
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	93.4	89	109
EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 87.3	91	109
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	94.6	85	115
EG035C: Leachable Mercury by FIMS (QCLot: 1269465)								
EG035C: Mercury	7439-97-6	0.001	mg/L	<0.0010	0.010 mg/L	111	83	119
EG035F: Dissolved Mercury by FIMS (QCLot: 1266441)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	105	86	116
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266747)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	75.9	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	75.1	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	75.2	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	76.1	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	77.1	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	78.1	64.3	116
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266747) - continued								
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	80.6	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	80.5	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	78.5	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	80.0	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	92.2	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	89.5	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	84.1	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	77.2	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	78.4	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	74.6	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265472)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	80.5	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	84.0	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	96.0	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265474)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	97.4	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1266164)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	100 µg/L	115	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	100 µg/L	107	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	100 µg/L	111	62.7	131
EP080: BTEX (QCLot: 1265474)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	108	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	84.5	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	87.2	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	80.5	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	95.4	77.9	121

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1266288)							
ES1003646-022	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	94.4	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	106	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	104	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	99.1	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	98.5	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	98.7	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1266290)							
ES1003672-014	BH49_6.2-6.4	EG005T: Arsenic	7440-38-2	50 mg/kg	99.4	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	100	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	103	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	108	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	98.6	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	97.9	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	97.6	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1266855)							
ES1003672-035	BH44_1.4-1.5	EG005T: Arsenic	7440-38-2	50 mg/kg	103	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	99.5	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	112	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	91.3	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	98.0	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	92.8	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1266857)							
ES1003672-049	BH65_13.4-13.6	EG005T: Arsenic	7440-38-2	50 mg/kg	95.7	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	105	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	105	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	107	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	105	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	102	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	101	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1266289)							
ES1003646-022	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	82.3	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1266291)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1266291) - continued							
ES1003672-014	BH49_6.2-6.4	EG035T: Mercury	7439-97-6	5 mg/kg	85.5	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1266856)							
ES1003672-035	BH44_1.4-1.5	EG035T: Mercury	7439-97-6	5 mg/kg	86.8	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1266556)							
ES1003671-004	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	89.0	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1266557)							
ES1003672-048	BH65_11.2-11.4	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	# 52.0	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1266316)							
ES1003671-007	Anonymous	EK025G: Free Cyanide	----	2.0 mg/kg	84.7	70	130
EK025G: Free cyanide by Discrete Analyser (QCLot: 1266317)							
ES1003672-025	QC223	EK025G: Free Cyanide	----	2.0 mg/kg	99.8	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1268169)							
ES1003390-004	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	2.0 mg/kg	84.9	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1268170)							
ES1003672-016	BH49_10.2-10.4	EK028G: Weak Acid Dissociable Cyanide	----	2.0 mg/kg	80.4	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1264601)							
ES1003672-003	BH59_3.4-3.5	EP074: Benzene	71-43-2	2.5 mg/kg	# Not Determined	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	# Not Determined	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1264807)							
ES1003672-033	BH42_3.2-3.3	EP074: Benzene	71-43-2	2.5 mg/kg	87.8	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	96.3	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1264889)							
ES1003671-030	Anonymous	EP074: Benzene	71-43-2	2.5 mg/kg	# Not Determined	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	# Not Determined	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264601)							
ES1003672-003	BH59_3.4-3.5	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	# 48.4	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	75.2	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264807)							
ES1003672-033	BH42_3.2-3.3	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	87.0	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	88.4	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1264889)							
ES1003671-030	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	# Not Determined	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	# Not Determined	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1264601)							
ES1003672-003	BH59_3.4-3.5	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	# 60.8	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP074F: Halogenated Aromatic Compounds (QCLot: 1264807)							
ES1003672-033	BH42_3.2-3.3	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	95.1	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1264889)							
ES1003671-030	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	# Not Determined	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1265068)							
ES1003672-002	BH59_1.9-2.0	EP075(SIM): Phenol	108-95-2	10 mg/kg	100	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	94.5	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	76.6	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	81.6	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	50.1	20	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1265557)							
ES1003672-024	QC220	EP075(SIM): Phenol	108-95-2	10 mg/kg	97.0	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	93.1	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	72.4	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	86.3	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	40.7	20	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1266314)							
ES1003672-042	BH45_3.2-3.4	EP075(SIM): Phenol	108-95-2	10 mg/kg	112	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	102	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	83.8	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	92.6	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	51.4	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1265068)							
ES1003672-002	BH59_1.9-2.0	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	# 138	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	# Not Determined	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1265557)							
ES1003672-024	QC220	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	85.2	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	79.9	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266314)							
ES1003672-042	BH45_3.2-3.4	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	102	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	107	70	130
EP075A: Phenolic Compounds (QCLot: 1266640)							
ES1003671-010	Anonymous	EP075: Phenol	108-95-2	5 mg/kg	84.8	60	130
		EP075: 2-Chlorophenol	95-57-8	5 mg/kg	79.4	60	130
		EP075: 2-Nitrophenol	88-75-5	5 mg/kg	69.9	50	130
		EP075: 4-Chloro-3-Methylphenol	59-50-7	5 mg/kg	79.5	50	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	20.4	5	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266640)							

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266640) - continued							
ES1003671-010	Anonymous	EP075: Acenaphthene	83-32-9	5 mg/kg	71.9	50	130
		EP075: Pyrene	129-00-0	5 mg/kg	72.9	50	130
EP075D: Nitrosamines (QCLot: 1266640)							
ES1003671-010	Anonymous	EP075: N-Nitrosodi-n-propylamine	621-64-7	5 mg/kg	75.7	50	130
EP075E: Nitroaromatics and Ketones (QCLot: 1266640)							
ES1003671-010	Anonymous	EP075: 2.4-Dinitrotoluene	121-14-2	5 mg/kg	102	40	130
EP075G: Chlorinated Hydrocarbons (QCLot: 1266640)							
ES1003671-010	Anonymous	EP075: 1.4-Dichlorobenzene	106-46-7	5 mg/kg	74.6	60	130
		EP075: 1.2.4-Trichlorobenzene	120-82-1	5 mg/kg	73.1	50	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264600)							
ES1003672-003	BH59_3.4-3.5	EP080: C6 - C9 Fraction	----	26 mg/kg	# Not Determined	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264806)							
ES1003672-033	BH42_3.2-3.3	EP080: C6 - C9 Fraction	----	26 mg/kg	# Not Determined	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1264888)							
ES1003671-030	Anonymous	EP080: C6 - C9 Fraction	----	26 mg/kg	# Not Determined	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265067)							
ES1003672-002	BH59_1.9-2.0	EP071: C10 - C14 Fraction	----	640 mg/kg	114	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	108	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	86.6	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265556)							
ES1003672-024	QC220	EP071: C10 - C14 Fraction	----	640 mg/kg	88.4	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	84.7	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	80.0	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1266313)							
ES1003672-042	BH45_3.2-3.4	EP071: C10 - C14 Fraction	----	640 mg/kg	98.8	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	109	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	111	70	130
EP080: BTEX (QCLot: 1264600)							
ES1003672-003	BH59_3.4-3.5	EP080: Benzene	71-43-2	2.5 mg/kg	# Not Determined	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	# Not Determined	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	# Not Determined	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	# Not Determined	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	# Not Determined	70	130
EP080: BTEX (QCLot: 1264806)							
ES1003672-033	BH42_3.2-3.3	EP080: Benzene	71-43-2	2.5 mg/kg	102	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEX (QCLot: 1264806) - continued							
ES1003672-033	BH42_3.2-3.3	EP080: Toluene	108-88-3	2.5 mg/kg	71.1	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	# Not Determined	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	# Not Determined	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	# Not Determined	70	130
EP080: BTEX (QCLot: 1264888)							
ES1003671-030	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	# Not Determined	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	# Not Determined	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	# Not Determined	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	# Not Determined	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	# Not Determined	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005C: Leachable Metals by ICPAES (QCLot: 1266943)							
ES1003503-002	Anonymous	EG005C: Arsenic	7440-38-2	1 mg/L	115	70	130
		EG005C: Barium	7440-39-3	1 mg/L	103	70	130
		EG005C: Beryllium	7440-41-7	1 mg/L	113	70	130
		EG005C: Cadmium	7440-43-9	0.250 mg/L	113	70	130
		EG005C: Chromium	7440-47-3	1 mg/L	108	70	130
		EG005C: Cobalt	7440-48-4	1 mg/L	107	70	130
		EG005C: Copper	7440-50-8	1 mg/L	115	70	130
		EG005C: Lead	7439-92-1	1 mg/L	112	70	130
		EG005C: Manganese	7439-96-5	1 mg/L	118	70	130
		EG005C: Nickel	7440-02-0	1 mg/L	106	70	130
		EG005C: Vanadium	7440-62-2	1 mg/L	108	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	108	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1266442)							
ES1003611-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	95.8	70	130
		EG020A-F: Beryllium	7440-41-7	0.2 mg/L	95.0	70	130
		EG020A-F: Barium	7440-39-3	0.2 mg/L	93.3	70	130
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	# Not Determined	70	130
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	90.7	70	130
		EG020A-F: Cobalt	7440-48-4	0.2 mg/L	91.9	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	93.0	70	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	90.4	70	130
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	# Not Determined	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020F: Dissolved Metals by ICP-MS (QCLot: 1266442) - continued							
ES1003611-001	Anonymous	EG020A-F: Nickel	7440-02-0	0.2 mg/L	88.5	70	130
		EG020A-F: Vanadium	7440-62-2	0.2 mg/L	94.9	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	# Not Determined	70	130
EG035C: Leachable Mercury by FIMS (QCLot: 1269465)							
ES1003671-025	Anonymous	EG035C: Mercury	7439-97-6	0.1 mg/L	110	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1266441)							
ES1003611-001	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	109	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1265474)							
ES1003612-001	Anonymous	EP080: C6 - C9 Fraction	----	250 µg/L	106	70	130
EP080: BTEX (QCLot: 1265474)							
ES1003612-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	100	70	130
		EP080: Toluene	108-88-3	25 µg/L	91.0	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	84.0	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	78.5	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	91.2	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1003672**	Page	: 1 of 31
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo-S4150014 DECLARATION AREA	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2010
Sampler	: KP& DF	Issue Date	: 12-MAR-2010
Order number	: 1303951		
		No. of samples received	: 110
Quote number	: SY/259/09 V2	No. of samples analysed	: 57

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non-volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
AS 4964 - 2004 Identification of Asbestos in bulk samples							
Snap Lock Bag							
BH42_2.0-2.1	**23-FEB-2010**	**---**	---	----	**08-MAR-2010**	04-SEP-2010	✓
Snap Lock Bag							
BH66_1.9-2.0	**24-FEB-2010**	**---**	---	----	**08-MAR-2010**	04-SEP-2010	✓
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved							
BH59_3.4-3.5, BH59_4.2-4.3, BH35_4.9-5.0, BH35_9.9-10.0, BH52_2.2-2.6, BH49_6.2-6.4, BH49_12.2-12.4, BH58_1.0-1.2, BH58_3.2-3.4, BH58_5.2-5.4, BH58_8.6-8.8, BH58_10.8-11.2, QC220, QC223, QC225	**22-FEB-2010**	**01-MAR-2010**	01-MAR-2010	✓	**02-MAR-2010**	02-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH42_1.0-1.1, BH42_3.2-3.3, BH42_3.5-3.6, BH44_1.9-2.0, BH44_4.9-5.0, QC228, BH54_1.0-1.4, BH54_2.8-3.0, BH45_7.2-7.4, QC231	**23-FEB-2010**	**02-MAR-2010**	02-MAR-2010	✓	**02-MAR-2010**	02-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH65_11.2-11.4, BH66_2.3-2.4, BH66_3.2-3.6	**24-FEB-2010**	**02-MAR-2010**	03-MAR-2010	✓	**02-MAR-2010**	03-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved								
BH59_1.0-1.1,	BH59_1.9-2.0,	**22-FEB-2010**	**----**	----	----	**01-MAR-2010**	01-MAR-2010	✓
BH59_3.4-3.5,	BH59_4.2-4.3,							
BH35_0.9-1.0,	BH35_4.9-5.0,							
BH35_6.4-6.5,	BH35_9.9-10.0,							
BH52_1.0-1.2,	BH52_2.2-2.6,							
BH52_4.2-4.4,	BH49_1.5-1.7,							
BH49_4.2-4.4,	BH49_6.2-6.4,							
BH49_8.2-8.4,	BH49_10.2-10.4,							
BH49_12.2-12.4,	QC220,							
BH58_1.0-1.2,								
BH58_3.2-3.4,	BH58_5.2-5.4,							
BH58_8.6-8.8,	BH58_10.2-10.4,							
BH58_10.8-11.2,	QC223, QC225							
Soil Glass Jar - Unpreserved								
BH42_1.0-1.1,	BH42_3.2-3.3,	**23-FEB-2010**	**----**	----	----	**02-MAR-2010**	02-MAR-2010	✓
BH42_3.5-3.6,	BH44_1.4-1.5,							
BH44_1.9-2.0,	BH44_4.9-5.0,							
QC228,	BH54_1.0-1.4,							
BH54_2.8-3.0,	BH45_0.8-1.0,							
BH45_3.2-3.4,	BH45_7.2-7.4,							
BH45_13.2-13.4,	QC231							
Soil Glass Jar - Unpreserved								
BH50_0.15-0.25,	BH60_0.17-0.27,	**24-FEB-2010**	**----**	----	----	**02-MAR-2010**	03-MAR-2010	✓
BH65_3.4-3.6,	BH65_8.2-8.6,							
BH65_11.2-11.4,	BH65_13.4-13.6,							
QC234,	QC230,							
BH66_2.3-2.4,	BH66_3.2-3.6,							
BH66_7.0-7.2								
EG005C: Leachable Metals by ICPAES								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH59_3.4-3.5,	BH52_2.2-2.6,	**03-MAR-2010**	**03-MAR-2010**	30-AUG-2010	✓	**04-MAR-2010**	30-AUG-2010	✓
BH42_3.2-3.3,	BH54_1.0-1.4							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved								
BH59_1.0-1.1,	BH59_1.9-2.0,	**22-FEB-2010**	**03-MAR-2010**	22-MAR-2010	✓	**03-MAR-2010**	21-AUG-2010	✓
BH59_3.4-3.5,	BH59_4.2-4.3,							
BH35_0.9-1.0,	BH35_4.9-5.0,							
BH35_6.4-6.5,	BH35_9.9-10.0,							
BH52_1.0-1.2,	BH52_2.2-2.6,							
BH52_4.2-4.4,	BH49_1.5-1.7,							
BH49_4.2-4.4,	BH49_6.2-6.4,							
BH49_8.2-8.4,	BH49_10.2-10.4,							
BH49_12.2-12.4,	QC220,							
BH58_1.0-1.2,								
BH58_3.2-3.4,	BH58_5.2-5.4,							
BH58_8.6-8.8,	BH58_10.2-10.4,							
BH58_10.8-11.2,	QC223, QC225							
Soil Glass Jar - Unpreserved								
BH42_1.0-1.1,	BH42_3.2-3.3,	**23-FEB-2010**	**03-MAR-2010**	23-MAR-2010	✓	**03-MAR-2010**	22-AUG-2010	✓
BH42_3.5-3.6								
Soil Glass Jar - Unpreserved								
BH44_1.4-1.5,	BH44_1.9-2.0,	**23-FEB-2010**	**03-MAR-2010**	23-MAR-2010	✓	**04-MAR-2010**	22-AUG-2010	✓
BH44_4.9-5.0,	QC228,							
BH54_1.0-1.4,	BH54_2.8-3.0,							
BH45_0.8-1.0,	BH45_3.2-3.4,							
BH45_7.2-7.4,	BH45_13.2-13.4,							
QC231								
Soil Glass Jar - Unpreserved								
BH50_0.15-0.25,	BH60_0.17-0.27	**24-FEB-2010**	**03-MAR-2010**	24-MAR-2010	✓	**03-MAR-2010**	23-AUG-2010	✓
Soil Glass Jar - Unpreserved								
BH65_3.4-3.6,	BH65_8.2-8.6,	**24-FEB-2010**	**03-MAR-2010**	24-MAR-2010	✓	**04-MAR-2010**	23-AUG-2010	✓
BH65_11.2-11.4,	BH65_13.4-13.6,							
QC234,	QC230,							
BH66_2.3-2.4,	BH66_3.2-3.6,							
BH66_7.0-7.2								
EG035C: Leachable Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH59_3.4-3.5,	BH52_2.2-2.6,	**03-MAR-2010**	**----**	----	----	**08-MAR-2010**	31-MAR-2010	✓
BH42_3.2-3.3,	BH54_1.0-1.4							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved								
BH59_1.0-1.1,	BH59_1.9-2.0,	**22-FEB-2010**	**03-MAR-2010**	22-MAR-2010	✓	**04-MAR-2010**	22-MAR-2010	✓
BH59_3.4-3.5,	BH59_4.2-4.3,							
BH35_0.9-1.0,	BH35_4.9-5.0,							
BH35_6.4-6.5,	BH35_9.9-10.0,							
BH52_1.0-1.2,	BH52_2.2-2.6,							
BH52_4.2-4.4,	BH49_1.5-1.7,							
BH49_4.2-4.4,	BH49_6.2-6.4,							
BH49_8.2-8.4,	BH49_10.2-10.4,							
BH49_12.2-12.4,	QC220,							
BH58_1.0-1.2,								
BH58_3.2-3.4,	BH58_5.2-5.4,							
BH58_8.6-8.8,	BH58_10.2-10.4,							
BH58_10.8-11.2,	QC223, QC225							
Soil Glass Jar - Unpreserved								
BH42_1.0-1.1,	BH42_3.2-3.3,	**23-FEB-2010**	**03-MAR-2010**	23-MAR-2010	✓	**04-MAR-2010**	23-MAR-2010	✓
BH42_3.5-3.6,	BH44_1.4-1.5,							
BH44_1.9-2.0,	BH44_4.9-5.0,							
QC228,	BH54_1.0-1.4,							
BH54_2.8-3.0,	BH45_0.8-1.0,							
BH45_3.2-3.4,	BH45_7.2-7.4,							
BH45_13.2-13.4,	QC231							
Soil Glass Jar - Unpreserved								
BH50_0.15-0.25,	BH60_0.17-0.27,	**24-FEB-2010**	**03-MAR-2010**	24-MAR-2010	✓	**04-MAR-2010**	24-MAR-2010	✓
BH65_3.4-3.6,	BH65_8.2-8.6,							
BH65_11.2-11.4,	BH65_13.4-13.6,							
QC234,	QC230,							
BH66_2.3-2.4,	BH66_3.2-3.6,							
BH66_7.0-7.2								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG048: Hexavalent Chromium (Alkaline Digest)								
Soil Glass Jar - Unpreserved								
BH59_3.4-3.5,	BH35_9.9-10.0,	**22-FEB-2010**	**03-MAR-2010**	22-MAR-2010	✓	**03-MAR-2010**	10-MAR-2010	✓
BH52_2.2-2.6,	BH49_6.2-6.4,							
BH49_12.2-12.4,	BH58_8.6-8.8,							
BH58_10.8-11.2,	QC220,							
QC223								
Soil Glass Jar - Unpreserved								
BH42_3.2-3.3,	BH44_1.9-2.0,	**23-FEB-2010**	**03-MAR-2010**	23-MAR-2010	✓	**03-MAR-2010**	10-MAR-2010	✓
BH44_4.9-5.0,	QC228,							
BH54_1.0-1.4,	BH45_7.2-7.4,							
QC231								
Soil Glass Jar - Unpreserved								
BH65_11.2-11.4,	BH66_2.3-2.4	**24-FEB-2010**	**03-MAR-2010**	24-MAR-2010	✓	**03-MAR-2010**	10-MAR-2010	✓
EK025G: Free cyanide by Discrete Analyser								
Soil Glass Jar - Unpreserved								
BH59_1.9-2.0,	BH59_3.4-3.5,	**22-FEB-2010**	**03-MAR-2010**	01-MAR-2010	×	**03-MAR-2010**	17-MAR-2010	✓
BH59_4.2-4.3,	BH35_4.9-5.0,							
BH52_2.2-2.6,	BH52_4.2-4.4,							
BH49_6.2-6.4,	BH49_10.2-10.4,							
BH49_12.2-12.4,	BH58_5.2-5.4,							
QC220,	QC223							
Soil Glass Jar - Unpreserved								
BH42_3.2-3.3,	BH44_1.9-2.0,	**23-FEB-2010**	**03-MAR-2010**	02-MAR-2010	×	**03-MAR-2010**	17-MAR-2010	✓
BH44_4.9-5.0,	QC228,							
BH54_1.0-1.4,	BH54_2.8-3.0,							
BH45_7.2-7.4,	QC231							
Soil Glass Jar - Unpreserved								
BH65_3.4-3.6,	BH65_11.2-11.4,	**24-FEB-2010**	**03-MAR-2010**	03-MAR-2010	✓	**03-MAR-2010**	17-MAR-2010	✓
BH65_13.4-13.6,	QC234,							
BH66_2.3-2.4								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Soil Glass Jar - Unpreserved								
BH59_1.9-2.0,	BH59_3.4-3.5,	**22-FEB-2010**	**04-MAR-2010**	01-MAR-2010	×	**04-MAR-2010**	01-MAR-2010	×
BH59_4.2-4.3,	BH35_4.9-5.0,							
BH52_2.2-2.6,	BH52_4.2-4.4,							
BH49_6.2-6.4,	BH49_10.2-10.4,							
BH49_12.2-12.4,	BH58_5.2-5.4,							
QC220,	QC223							
Soil Glass Jar - Unpreserved								
BH42_3.2-3.3,	BH44_1.9-2.0,	**23-FEB-2010**	**04-MAR-2010**	02-MAR-2010	×	**04-MAR-2010**	02-MAR-2010	×
BH44_4.9-5.0,	QC228,							
BH54_1.0-1.4,	BH54_2.8-3.0,							
BH45_7.2-7.4,	QC231							
Soil Glass Jar - Unpreserved								
BH65_3.4-3.6,	BH65_11.2-11.4,	**24-FEB-2010**	**04-MAR-2010**	03-MAR-2010	×	**04-MAR-2010**	03-MAR-2010	×
BH65_13.4-13.6,	QC234,							
BH66_2.3-2.4								
EN33: TCLP Leach								
LabSplit: Leach for organics and other tests								
BH59_3.4-3.5,	BH52_2.2-2.6	**22-FEB-2010**	**---**	---	----	**03-MAR-2010**	08-MAR-2010	✓
LabSplit: Leach for organics and other tests								
BH42_3.2-3.3,	BH54_1.0-1.4	**23-FEB-2010**	**---**	---	----	**03-MAR-2010**	09-MAR-2010	✓
EP004: Organic Matter								
Soil Glass Jar - Unpreserved								
BH59_3.4-3.5,	BH35_9.9-10.0,	**22-FEB-2010**	**----**	----	----	**05-MAR-2010**	01-MAR-2010	×
BH52_2.2-2.6,	BH49_6.2-6.4,							
BH49_12.2-12.4,	BH58_8.6-8.8,							
BH58_10.8-11.2,	QC220,							
QC223								
Soil Glass Jar - Unpreserved								
BH42_3.2-3.3,	BH44_1.9-2.0,	**23-FEB-2010**	**----**	----	----	**05-MAR-2010**	02-MAR-2010	×
BH44_4.9-5.0,	QC228,							
BH54_1.0-1.4,	BH45_7.2-7.4,							
QC231								
Soil Glass Jar - Unpreserved								
BH65_11.2-11.4,	BH66_2.3-2.4	**24-FEB-2010**	**----**	----	----	**05-MAR-2010**	03-MAR-2010	×

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC220, QC223	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved TB06	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_1.0-1.4, BH54_2.8-3.0	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
EP074B: Oxygenated Compounds							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC220, QC223	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved TB06	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_1.0-1.4, BH54_2.8-3.0	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
EP074C: Sulfonated Compounds							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC220, QC223	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved TB06	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_1.0-1.4, BH54_2.8-3.0	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074D: Fumigants							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC220, QC223	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved TB06	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_1.0-1.4, BH54_2.8-3.0	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
EP074E: Halogenated Aliphatic Compounds							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC220, QC223	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved TB06	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_1.0-1.4, BH54_2.8-3.0	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
EP074F: Halogenated Aromatic Compounds							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC220, QC223	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved TB06	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_1.0-1.4, BH54_2.8-3.0	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074G: Trihalomethanes							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC220, QC223	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved TB06	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_1.0-1.4, BH54_2.8-3.0	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
EP074H: Naphthalene							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC223	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved TB06	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_2.8-3.0	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved								
QC220,	QC225	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**03-MAR-2010**	11-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH59_1.9-2.0,	BH59_4.2-4.3,	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**04-MAR-2010**	11-APR-2010	✓
BH35_4.9-5.0,	BH35_9.9-10.0,							
BH52_2.2-2.6,	BH52_4.2-4.4,							
BH49_1.5-1.7,	BH49_4.2-4.4,							
BH49_8.2-8.4,	BH49_10.2-10.4,							
BH58_1.0-1.2,	BH58_3.2-3.4,							
BH58_5.2-5.4,	BH58_10.8-11.2							
Soil Glass Jar - Unpreserved								
BH42_1.0-1.1,	BH42_3.5-3.6,	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**03-MAR-2010**	11-APR-2010	✓
BH44_1.9-2.0,	QC228,							
BH54_1.0-1.4								
Soil Glass Jar - Unpreserved								
BH45_3.2-3.4,	BH45_7.2-7.4,	**23-FEB-2010**	**03-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	12-APR-2010	✓
BH45_13.2-13.4,	QC231							
Soil Glass Jar - Unpreserved								
BH65_3.4-3.6,	BH65_8.2-8.6,	**24-FEB-2010**	**03-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	12-APR-2010	✓
BH65_13.4-13.6,	QC234,							
QC230,	BH66_2.3-2.4,							
BH66_7.0-7.2								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
BH59_3.4-3.5, BH52_2.2-2.6, BH42_3.2-3.3, BH54_1.0-1.4	**03-MAR-2010**	**03-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	12-APR-2010	✓
Soil Glass Jar - Unpreserved							
QC220, QC225	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**03-MAR-2010**	11-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH59_1.9-2.0, BH59_4.2-4.3, BH35_4.9-5.0, BH35_9.9-10.0, BH52_2.2-2.6, BH52_4.2-4.4, BH49_1.5-1.7, BH49_4.2-4.4, BH49_8.2-8.4, BH49_10.2-10.4, BH58_1.0-1.2, BH58_3.2-3.4, BH58_5.2-5.4, BH58_10.8-11.2	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**04-MAR-2010**	11-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH42_1.0-1.1, BH42_3.5-3.6, BH44_1.9-2.0, QC228, BH54_1.0-1.4	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**03-MAR-2010**	11-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH45_3.2-3.4, BH45_7.2-7.4, BH45_13.2-13.4, QC231	**23-FEB-2010**	**03-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	12-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH65_3.4-3.6, BH65_8.2-8.6, BH65_13.4-13.6, QC234, QC230, BH66_2.3-2.4, BH66_3.2-3.6, BH66_7.0-7.2	**24-FEB-2010**	**03-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	12-APR-2010	✓
EP075A: Phenolic Compounds							
Soil Glass Jar - Unpreserved							
BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC223	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH42_3.2-3.3, BH44_4.9-5.0, BH54_2.8-3.0	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH65_11.2-11.4	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC223	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_2.8-3.0	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075C: Phthalate Esters							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC223	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_2.8-3.0	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075D: Nitrosamines							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC223	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_2.8-3.0	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075E: Nitroaromatics and Ketones							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC223	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_2.8-3.0	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075F: Haloethers							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC223	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_2.8-3.0	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075G: Chlorinated Hydrocarbons							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC223	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_2.8-3.0	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075H: Anilines and Benzidines							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC223	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_2.8-3.0	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075I: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC223	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_2.8-3.0	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075J: Organophosphorus Pesticides							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, QC223	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_2.8-3.0	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075K: Miscellaneous Compounds							
Soil Glass Jar - Unpreserved BH59_3.4-3.5, BH49_6.2-6.4, BH58_8.6-8.8, QC223	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH42_3.2-3.3, BH44_4.9-5.0, BH54_2.8-3.0	**23-FEB-2010**	**04-MAR-2010**	09-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH65_11.2-11.4	**24-FEB-2010**	**04-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved								
BH59_3.4-3.5,	BH59_4.2-4.3,	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
BH35_4.9-5.0,	BH35_9.9-10.0,							
BH52_2.2-2.6,	BH49_6.2-6.4,							
BH58_1.0-1.2,	BH58_3.2-3.4,							
BH58_5.2-5.4,	BH58_8.6-8.8,							
BH58_10.8-11.2,	QC220,							
QC223,	QC225							
Soil Glass Jar - Unpreserved								
BH59_1.9-2.0,	BH52_1.0-1.2,	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
BH52_4.2-4.4,	BH49_1.5-1.7,							
BH49_4.2-4.4,	BH49_8.2-8.4,							
BH49_10.2-10.4								
Soil Glass Jar - Unpreserved								
BH59_1.9-2.0,	BH59_3.4-3.5,	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**03-MAR-2010**	11-APR-2010	✓
BH59_4.2-4.3,	BH35_4.9-5.0,							
BH35_9.9-10.0,	BH52_1.0-1.2,							
BH52_2.2-2.6,	BH52_4.2-4.4,							
BH49_1.5-1.7,	BH49_4.2-4.4,							
BH49_6.2-6.4,	BH49_8.2-8.4,							
BH49_10.2-10.4,	BH58_1.0-1.2,							
BH58_3.2-3.4,	BH58_5.2-5.4,							
BH58_8.6-8.8,	QC220, BH58_10.8-11.2,							
QC223,								
QC225								
Soil Glass Jar - Unpreserved								
BH42_1.0-1.1,	BH42_3.2-3.3,	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
BH42_3.5-3.6,	BH44_1.9-2.0,							
BH44_4.9-5.0,	QC228,							
BH54_1.0-1.4,	BH54_2.8-3.0,							
BH45_3.2-3.4,	BH45_7.2-7.4,							
BH45_13.2-13.4,	QC231							
Soil Glass Jar - Unpreserved								
BH42_1.0-1.1,	BH42_3.2-3.3,	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**03-MAR-2010**	11-APR-2010	✓
BH42_3.5-3.6,	BH44_1.9-2.0,							
BH44_4.9-5.0,	QC228,							
BH54_1.0-1.4,	BH54_2.8-3.0							
Soil Glass Jar - Unpreserved								
BH45_3.2-3.4,	BH45_7.2-7.4,	**23-FEB-2010**	**03-MAR-2010**	09-MAR-2010	✓	**04-MAR-2010**	12-APR-2010	✓
BH45_13.2-13.4,	QC231							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons - Continued							
Soil Glass Jar - Unpreserved BH65_3.4-3.6, BH65_8.2-8.6, BH65_11.2-11.4, BH65_13.4-13.6, QC234, QC230, BH66_2.3-2.4, BH66_3.2-3.6, BH66_7.0-7.2	**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓
Soil Glass Jar - Unpreserved BH65_3.4-3.6, BH65_8.2-8.6, BH65_11.2-11.4, BH65_13.4-13.6, QC234, QC230, BH66_2.3-2.4, BH66_3.2-3.6, BH66_7.0-7.2	**24-FEB-2010**	**03-MAR-2010**	10-MAR-2010	✓	**04-MAR-2010**	12-APR-2010	✓
EP080: BTEX							
Soil Glass Jar - Unpreserved BH59_4.2-4.3, BH35_4.9-5.0, BH35_9.9-10.0, BH52_2.2-2.6, BH58_1.0-1.2, BH58_3.2-3.4, BH58_5.2-5.4, BH58_10.8-11.2, QC225	**22-FEB-2010**	**01-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH59_1.9-2.0, BH52_1.0-1.2, BH52_4.2-4.4, BH49_1.5-1.7, BH49_4.2-4.4, BH49_8.2-8.4, BH49_10.2-10.4, TB08	**22-FEB-2010**	**02-MAR-2010**	08-MAR-2010	✓	**02-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH42_1.0-1.1, BH42_3.5-3.6, BH44_1.9-2.0, QC228, BH45_3.2-3.4, BH45_7.2-7.4, QC231	**23-FEB-2010**	**02-MAR-2010**	09-MAR-2010	✓	**02-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved BH65_3.4-3.6, BH65_13.4-13.6, QC234, BH66_2.3-2.4, BH66_3.2-3.6	**24-FEB-2010**	**02-MAR-2010**	10-MAR-2010	✓	**02-MAR-2010**	10-MAR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered							
QC227	**22-FEB-2010**	**---**	---	----	**03-MAR-2010**	21-AUG-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered							
QC233	**24-FEB-2010**	**---**	---	----	**03-MAR-2010**	23-AUG-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered							
QC227	**22-FEB-2010**	**---**	---	----	**05-MAR-2010**	22-MAR-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered							
QC233	**24-FEB-2010**	**---**	---	----	**05-MAR-2010**	24-MAR-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved							
QC227	**22-FEB-2010**	**01-MAR-2010**	01-MAR-2010	✓	**03-MAR-2010**	10-APR-2010	✓
Amber Glass Bottle - Unpreserved							
QC233	**24-FEB-2010**	**03-MAR-2010**	03-MAR-2010	✓	**04-MAR-2010**	12-APR-2010	✓
Amber VOC Vial - HCl							
QC227	**22-FEB-2010**	**---**	---	----	**03-MAR-2010**	08-MAR-2010	✓
Amber VOC Vial - HCl							
QC233	**24-FEB-2010**	**---**	---	----	**03-MAR-2010**	10-MAR-2010	✓
EP080: BTEX							
Amber VOC Vial - HCl							
QC227	**22-FEB-2010**	**---**	---	----	**03-MAR-2010**	08-MAR-2010	✓
Amber VOC Vial - HCl							
QC233	**24-FEB-2010**	**---**	---	----	**03-MAR-2010**	10-MAR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Free Cyanide By Discrete Analyser	EK025G	4	31	**12.9**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	3	25	**12.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	11	101	**10.9**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	4	35	**11.4**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	6	50	**12.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	7	50	**14.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	2	14	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	6	58	**10.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	8	79	**10.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	6	60	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	6	45	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	3	16	**18.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	4	37	**10.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Free Cyanide By Discrete Analyser	EK025G	2	31	**6.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	25	**8.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	2	35	**5.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	3	50	**6.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	3	58	**5.2**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	79	**5.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	3	60	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	3	45	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	3	16	**18.8**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Free Cyanide By Discrete Analyser	EK025G	2	31	**6.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	25	**8.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	2	35	**5.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	3	50	**6.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	3	58	**5.2**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	79	**5.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	3	60	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	3	45	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Volatile Organic Compounds	EP074	3	16	**18.8**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Free Cyanide By Discrete Analyser	EK025G	2	31	**6.5**	**5.0**	✓	ALS QCS3 requirement
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	25	**8.0**	**5.0**	✓	ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	3	50	**6.0**	**5.0**	✓	ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	14	**7.1**	**5.0**	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	3	58	**5.2**	**5.0**	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	79	**5.1**	**5.0**	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	3	60	**5.0**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	3	45	**6.7**	**5.0**	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	3	16	**18.8**	**5.0**	✓	ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	2	37	**5.4**	**5.0**	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	17	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	2	16	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	31	**6.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	31	**6.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	16	**6.3**	**5.0**	✓	ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	15	**6.7**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH (1:5)	EA002	SOIL	(APHA 21st ed., 4500H+) pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM (1999) Schedule B(3) (Method 103)
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)
Asbestos Identification in bulk solids	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples
Leachable Metals by ICPAES	EG005C	SOIL	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Leachable Mercury by FIMS	EG035C	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	USEPA SW846, Method 3060A. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Free Cyanide By Discrete Analyser	EK025G	SOIL	APHA 21st 4500 CN- C & N. Caustic leach extracts of the sample are distilled at natural pH. The distillates are analyzed for CN by Discrete Analyser.
WAD Cyanide By Discrete Analyser	EK028G	SOIL	APHA 21st 4500 CN - I & N. Sample are distilled with a weak organic acid, converting selected CN species to HCN. The distillates are analyzed for CN by Discrete Analyser.
Organic Matter	EP004	SOIL	AS1289.4.1.1 - 1997., Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (1999) Schedule B(3) (Method 105)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)

Analytical Methods	Method	Matrix	Method Descriptions
Volatile Organic Compounds	EP074	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Semivolatile Organic Compounds	EP075	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 502)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	USEPA SW846, Method 3060A.
Free Cyanide Preparation Method	EK025 PR	SOIL	APHA 21st ed., 4500 CN C & N. Cyanides in the soil are directly distilled from the soil at natural pH using a steam distillation aparatus.
WAD Cyanide	EK028PR	SOIL	APHA 21st ed., 4500 CN- C & N. Cyanide is selectively distilled from the sample by the action of weak acetic acid. Only poorly bound metal complexed cyanides are released.
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes	EN33a	SOIL	(USEPA SW846-1311, ALS QWI-EN/33) The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005T: Total Metals by ICP-AES	ES1003672-039	BH54_1.0-1.4	**Iron**	7439-89-6	38.9 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1003672-004	BH59_4.2-4.3	**Iron**	7439-89-6	39.4 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1003672-049	BH65_13.4-13.6	**Iron**	7439-89-6	24.6 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1003672-035	BH44_1.4-1.5	**Lead**	7439-92-1	21.1 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1003672-039	BH54_1.0-1.4	**Lead**	7439-92-1	36.4 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1003788-005	Anonymous	**Manganese**	7439-96-5	36.6 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1003646-022	Anonymous	**Manganese**	7439-96-5	65.8 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1003672-039	BH54_1.0-1.4	**Manganese**	7439-96-5	98.2 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1003672-035	BH44_1.4-1.5	**Nickel**	7440-02-0	23.5 %	0-20%	**RPD exceeds LOR based limits**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003672-003	BH59_3.4-3.5	**Benzene**	71-43-2	75.1 %	0-20%	**RPD exceeds LOR based limits**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003671-030	Anonymous	**Benzene**	71-43-2	30.5 %	0-20%	**RPD exceeds LOR based limits**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003671-030	Anonymous	**Toluene**	108-88-3	20.3 %	0-20%	**RPD exceeds LOR based limits**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003672-003	BH59_3.4-3.5	**Toluene**	108-88-3	35.9 %	0-20%	**RPD exceeds LOR based limits**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003672-003	BH59_3.4-3.5	**Ethylbenzene**	100-41-4	47.2 %	0-20%	**RPD exceeds LOR based limits**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003672-003	BH59_3.4-3.5	**meta- & para-Xylene**	108-38-3 106-42-3	40.0 %	0-20%	**RPD exceeds LOR based limits**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003671-030	Anonymous	**meta- & para-Xylene**	108-38-3 106-42-3	24.8 %	0-20%	**RPD exceeds LOR based limits**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003672-003	BH59_3.4-3.5	**ortho-Xylene**	95-47-6	38.3 %	0-20%	**RPD exceeds LOR based limits**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003672-003	BH59_3.4-3.5	**1.3.5-Trimethylbenzene**	108-67-8	30.4 %	0-20%	**RPD exceeds LOR based limits**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003672-003	BH59_3.4-3.5	**1.2.4-Trimethylbenzene**	95-63-6	32.5 %	0-20%	**RPD exceeds LOR based limits**
EP074H: Naphthalene	ES1003672-033	BH42_3.2-3.3	**Naphthalene**	91-20-3	25.6 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	BH59_1.9-2.0	**Naphthalene**	91-20-3	21.8 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Naphthalene**	91-20-3	30.8 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	BH49_10.2-10.4	**Acenaphthylene**	208-96-8	25.1 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Acenaphthylene**	208-96-8	32.3 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Acenaphthene**	83-32-9	42.9 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	BH49_10.2-10.4	**Fluorene**	86-73-7	24.3 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Fluorene**	86-73-7	42.8 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	BH59_1.9-2.0	**Phenanthrene**	85-01-8	45.0 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Phenanthrene**	85-01-8	38.9 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	BH49_10.2-10.4	**Phenanthrene**	85-01-8	21.1 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	BH49_10.2-10.4	**Anthracene**	120-12-7	24.2 %	0-20%	**RPD exceeds LOR based limits**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs - Continued							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Anthracene**	120-12-7	38.8 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	BH49_10.2-10.4	**Fluoranthene**	206-44-0	27.6 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Fluoranthene**	206-44-0	39.2 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	BH59_1.9-2.0	**Fluoranthene**	206-44-0	24.7 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	BH49_10.2-10.4	**Pyrene**	129-00-0	25.0 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	BH59_1.9-2.0	**Pyrene**	129-00-0	21.3 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Pyrene**	129-00-0	44.6 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Benz(a)anthracene**	56-55-3	40.0 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	BH49_10.2-10.4	**Benz(a)anthracene**	56-55-3	24.4 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	BH49_10.2-10.4	**Chrysene**	218-01-9	25.7 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Chrysene**	218-01-9	50.8 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Benzo(b)fluoranthene**	205-99-2	31.6 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Benzo(a)pyrene**	50-32-8	47.4 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-016	BH49_10.2-10.4	**Benzo(a)pyrene**	50-32-8	26.7 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Indeno(1.2.3.cd)pyrene**	193-39-5	44.9 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	BH59_1.9-2.0	**Indeno(1.2.3.cd)pyrene**	193-39-5	26.6 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-039	BH54_1.0-1.4	**Benzo(g.h.i)perylene**	191-24-2	35.4 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003672-037	BH44_4.9-5.0	**Fluorene**	86-73-7	40.9 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003672-037	BH44_4.9-5.0	**Anthracene**	120-12-7	45.5 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003672-037	BH44_4.9-5.0	**Fluoranthene**	206-44-0	46.3 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003672-037	BH44_4.9-5.0	**Pyrene**	129-00-0	46.5 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003672-037	BH44_4.9-5.0	**Benz(a)anthracene**	56-55-3	38.4 %	0-20%	**RPD exceeds LOR based limits**
EP080/071: Total Petroleum Hydrocarbons	ES1003672-003	BH59_3.4-3.5	**C6 - C9 Fraction**	----	37.2 %	0-20%	**RPD exceeds LOR based limits**
EP080: BTEX	ES1003672-003	BH59_3.4-3.5	**Benzene**	71-43-2	46.3 %	0-20%	**RPD exceeds LOR based limits**
EP080: BTEX	ES1003671-030	Anonymous	**Benzene**	71-43-2	30.3 %	0-20%	**RPD exceeds LOR based limits**
EP080: BTEX	ES1003672-003	BH59_3.4-3.5	**Toluene**	108-88-3	35.2 %	0-20%	**RPD exceeds LOR based limits**
EP080: BTEX	ES1003671-030	Anonymous	**Toluene**	108-88-3	29.5 %	0-20%	**RPD exceeds LOR based limits**
EP080: BTEX	ES1003672-003	BH59_3.4-3.5	**Ethylbenzene**	100-41-4	41.5 %	0-20%	**RPD exceeds LOR based limits**
EP080: BTEX	ES1003671-030	Anonymous	**meta- & para-Xylene**	108-38-3 106-42-3	24.9 %	0-20%	**RPD exceeds LOR based limits**
EP080: BTEX	ES1003672-003	BH59_3.4-3.5	**meta- & para-Xylene**	108-38-3 106-42-3	40.0 %	0-20%	**RPD exceeds LOR based limits**
EP080: BTEX	ES1003672-003	BH59_3.4-3.5	**ortho-Xylene**	95-47-6	37.7 %	0-20%	**RPD exceeds LOR based limits**
Laboratory Control Spike (LCS) Recoveries							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1466404-007	----	**Phenanthrene**	85-01-8	117 %	79.4-114%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1466404-007	----	**Fluoranthene**	206-44-0	118 %	78.8-113%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1466404-007	----	**Pyrene**	129-00-0	116 %	78.9-113%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1465407-007	----	**Indeno(1.2.3.cd)pyrene**	193-39-5	67.7 %	71-113%	**Recovery less than lower control limit**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries - Continued							
EP075H: Anilines and Benzidines	1466763-002	----	**3.3`-Dichlorobenzidine**	91-94-1	120 %	15.6-101%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
EG048: Hexavalent Chromium (Alkaline Digest)	ES1003672-048	BH65_11.2-11.4	**Hexavalent Chromium**	18540-29-9	52.0 %	70-130%	**Recovery less than lower data quality objective**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003672-003	BH59_3.4-3.5	**Benzene**	71-43-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003671-030	Anonymous	**Benzene**	71-43-2	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003672-003	BH59_3.4-3.5	**Toluene**	108-88-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003671-030	Anonymous	**Toluene**	108-88-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP074E: Halogenated Aliphatic Compounds	ES1003671-030	Anonymous	**1.1-Dichloroethene**	75-35-4	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP074E: Halogenated Aliphatic Compounds	ES1003672-003	BH59_3.4-3.5	**1.1-Dichloroethene**	75-35-4	48.4 %	70-130%	**Recovery less than lower data quality objective**
EP074E: Halogenated Aliphatic Compounds	ES1003671-030	Anonymous	**Trichloroethene**	79-01-6	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP074F: Halogenated Aromatic Compounds	ES1003671-030	Anonymous	**Chlorobenzene**	108-90-7	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP074F: Halogenated Aromatic Compounds	ES1003672-003	BH59_3.4-3.5	**Chlorobenzene**	108-90-7	60.8 %	70-130%	**Recovery less than lower data quality objective**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	BH59_1.9-2.0	**Acenaphthene**	83-32-9	138 %	70-130%	**Recovery greater than upper data quality objective**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003672-002	BH59_1.9-2.0	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	ES1003672-033	BH42_3.2-3.3	**C6 - C9 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	ES1003671-030	Anonymous	**C6 - C9 Fraction**	----	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP080/071: Total Petroleum Hydrocarbons	ES1003672-003	BH59_3.4-3.5	**C6 - C9 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP080: BTEX	ES1003672-003	BH59_3.4-3.5	**Benzene**	71-43-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003671-030	Anonymous	**Benzene**	71-43-2	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP080: BTEX	ES1003672-003	BH59_3.4-3.5	**Toluene**	108-88-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003671-030	Anonymous	**Toluene**	108-88-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003672-003	BH59_3.4-3.5	**Ethylbenzene**	100-41-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003672-033	BH42_3.2-3.3	**Ethylbenzene**	100-41-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003671-030	Anonymous	**Ethylbenzene**	100-41-4	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP080: BTEX	ES1003672-003	BH59_3.4-3.5	**meta- & para-Xylene**	108-38-3 106-42-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003671-030	Anonymous	**meta- & para-Xylene**	108-38-3 106-42-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003672-033	BH42_3.2-3.3	**meta- & para-Xylene**	108-38-3 106-42-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003672-033	BH42_3.2-3.3	**ortho-Xylene**	95-47-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003671-030	Anonymous	**ortho-Xylene**	95-47-6	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP080: BTEX	ES1003672-003	BH59_3.4-3.5	**ortho-Xylene**	95-47-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	1466537-009	----	**Vanadium**	7440-62-2	87.3 %	91-109%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EG020F: Dissolved Metals by ICP-MS	ES1003611-001	Anonymous	**Cadmium**	7440-43-9	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG020F: Dissolved Metals by ICP-MS	ES1003611-001	Anonymous	**Manganese**	7439-96-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG020F: Dissolved Metals by ICP-MS	ES1003611-001	Anonymous	**Zinc**	7440-66-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP075(SIM)S: Phenolic Compound Surrogates	ES1003672-024	QC220	**2.4.6-Tribromophenol**	118-79-6	16.0 %	19-122 %	**Recovery less than lower data quality objective**
EP075(SIM)T: PAH Surrogates	ES1003672-038	QC228	**Anthracene-d10**	1719-06-8	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1003672-037	BH44_4.9-5.0	**Phenol-d6**	13127-88-3	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1003672-037	BH44_4.9-5.0	**2.4.6-Tribromophenol**	118-79-6	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP080S: TPH(V)/BTEX Surrogates	ES1003672-018	BH58_1.0-1.2	**1.2-Dichloroethane-D4**	17060-07-0	127 %	80-120 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1003672-025	QC223	**1.2-Dichloroethane-D4**	17060-07-0	120 %	80-120 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1003672-016	BH49_10.2-10.4	**Toluene-D8**	2037-26-5	117 %	81-117 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1003672-018	BH58_1.0-1.2	**Toluene-D8**	2037-26-5	121 %	81-117 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1003672-020	BH58_5.2-5.4	**Toluene-D8**	2037-26-5	119 %	81-117 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1003672-026	QC225	**Toluene-D8**	2037-26-5	118 %	81-117 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1003672-046	BH65_3.4-3.6	**Toluene-D8**	2037-26-5	118 %	81-117 %	**Recovery greater than upper data quality objective**

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted - Continued							
EP080S: TPH(V)/BTEX Surrogates	ES1003672-009	BH52_1.0-1.2	**Toluene-D8**	2037-26-5	119 %	81-117 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1003672-015	BH49_8.2-8.4	**Toluene-D8**	2037-26-5	122 %	81-117 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1003672-018	BH58_1.0-1.2	**4-Bromofluorobenzene**	460-00-4	124 %	74-121 %	**Recovery greater than upper data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **SOIL**

Method / **Container** / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EK025G: Free cyanide by Discrete Analyser						
Soil Glass Jar - Unpreserved						
BH59_1.9-2.0, BH59_3.4-3.5, BH59_4.2-4.3, BH35_4.9-5.0, BH52_2.2-2.6, BH52_4.2-4.4, BH49_6.2-6.4, BH49_10.2-10.4, BH49_12.2-12.4, BH58_5.2-5.4, QC220, QC223	03-MAR-2010	01-MAR-2010	**2**	----	----	----
Soil Glass Jar - Unpreserved						
BH42_3.2-3.3, BH44_1.9-2.0, BH44_4.9-5.0, QC228, BH54_1.0-1.4, BH54_2.8-3.0, BH45_7.2-7.4, QC231	03-MAR-2010	02-MAR-2010	**1**	----	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser						
Soil Glass Jar - Unpreserved						
BH59_1.9-2.0, BH59_3.4-3.5, BH59_4.2-4.3, BH35_4.9-5.0, BH52_2.2-2.6, BH52_4.2-4.4, BH49_6.2-6.4, BH49_10.2-10.4, BH49_12.2-12.4, BH58_5.2-5.4, QC220, QC223	04-MAR-2010	01-MAR-2010	**3**	04-MAR-2010	01-MAR-2010	**3**
Soil Glass Jar - Unpreserved						
BH42_3.2-3.3, BH44_1.9-2.0, BH44_4.9-5.0, QC228, BH54_1.0-1.4, BH54_2.8-3.0, BH45_7.2-7.4, QC231	04-MAR-2010	02-MAR-2010	**2**	04-MAR-2010	02-MAR-2010	**2**

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser - Analysis Holding Time						
Soil Glass Jar - Unpreserved						
BH65_3.4-3.6, BH65_11.2-11.4, BH65_13.4-13.6, QC234, BH66_2.3-2.4	04-MAR-2010	03-MAR-2010	**1**	04-MAR-2010	03-MAR-2010	**1**
EP004: Organic Matter						
Soil Glass Jar - Unpreserved						
BH59_3.4-3.5, BH35_9.9-10.0, BH52_2.2-2.6, BH49_6.2-6.4, BH49_12.2-12.4, BH58_8.6-8.8, BH58_10.8-11.2, QC220, QC223	----	----	----	05-MAR-2010	01-MAR-2010	**4**
Soil Glass Jar - Unpreserved						
BH42_3.2-3.3, BH44_1.9-2.0, BH44_4.9-5.0, QC228, BH54_1.0-1.4, BH45_7.2-7.4, QC231	----	----	----	05-MAR-2010	02-MAR-2010	**3**
Soil Glass Jar - Unpreserved						
BH65_11.2-11.4, BH66_2.3-2.4	----	----	----	05-MAR-2010	03-MAR-2010	**2**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1003672**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo-S4150014 DECLARATION AREA	Page	: 1 of 8
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: KP& DF	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 26-FEB-2010	Issue Date	: 05-MAR-2010 13:37
Client Requested Due Date	: 08-MAR-2010	Scheduled Reporting Date	: **08-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 4.7'C - Ice present
No. of coolers/boxes	: 6 HARD	No. of samples received	: 110
Sercurity Seal	: Intact.	No. of samples analysed	: 57

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **ALS confirmed that sample ES1003672-113 is a soil labeled QC238. While ES1003672-114 is a water labeled QC233. The soil sample QC238 is on hold and the water QC233 will be analysed for TPH/BTEX and 13 metals as per Anthony.**
- **This batch is split into ES1003674 for DI Water Leach and ES1003675 for SPOCAS.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EA200 Asbestos Identification in Soils	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EG035C Leachable Mercury by FIMS	SOIL - EG048G Total Hexavalent Chromium (Alkaline digestion) by Discrete Analyser	SOIL - EK025G (Solids) Free CN By Discrete Analyser
ES1003672-002	22-FEB-2010 15:00	BH59_1.9-2.0								✓
ES1003672-003	03-MAR-2010 12:00	BH59_3.4-3.5				✓		✓		
	22-FEB-2010 15:00	BH59_3.4-3.5		✓			✓		✓	✓
ES1003672-004	22-FEB-2010 15:00	BH59_4.2-4.3		✓						✓
ES1003672-006	22-FEB-2010 15:00	BH35_4.9-5.0		✓						✓
ES1003672-008	22-FEB-2010 15:00	BH35_9.9-10.0		✓			✓		✓	
ES1003672-010	03-MAR-2010 12:00	BH52_2.2-2.6				✓		✓		
	22-FEB-2010 15:00	BH52_2.2-2.6		✓			✓		✓	✓
ES1003672-011	22-FEB-2010 15:00	BH52_4.2-4.4								✓
ES1003672-014	22-FEB-2010 15:00	BH49_6.2-6.4		✓			✓		✓	✓
ES1003672-016	22-FEB-2010 15:00	BH49_10.2-10.4								✓
ES1003672-017	22-FEB-2010 15:00	BH49_12.2-12.4		✓			✓		✓	✓
ES1003672-018	22-FEB-2010 15:00	BH58_1.0-1.2		✓						
ES1003672-019	22-FEB-2010 15:00	BH58_3.2-3.4		✓						
ES1003672-020	22-FEB-2010 15:00	BH58_5.2-5.4		✓						✓
ES1003672-021	22-FEB-2010 15:00	BH58_8.6-8.8		✓			✓		✓	
ES1003672-023	22-FEB-2010 15:00	BH58_10.8-11.2		✓			✓		✓	
ES1003672-024	22-FEB-2010 15:00	QC220		✓			✓		✓	✓
ES1003672-025	22-FEB-2010 15:00	QC223		✓			✓		✓	✓
ES1003672-026	22-FEB-2010 15:00	QC225		✓						
ES1003672-031	23-FEB-2010 15:00	BH42_1.0-1.1		✓						
ES1003672-032	23-FEB-2010 15:00	BH42_2.0-2.1			✓					
ES1003672-033	03-MAR-2010 12:00	BH42_3.2-3.3				✓		✓		
	23-FEB-2010 15:00	BH42_3.2-3.3		✓			✓		✓	✓
ES1003672-034	23-FEB-2010 15:00	BH42_3.5-3.6		✓						
ES1003672-036	23-FEB-2010 15:00	BH44_1.9-2.0		✓			✓		✓	✓
ES1003672-037	23-FEB-2010 15:00	BH44_4.9-5.0		✓			✓		✓	✓
ES1003672-038	23-FEB-2010 15:00	QC228		✓			✓		✓	✓
ES1003672-039	03-MAR-2010 12:00	BH54_1.0-1.4				✓		✓		
	23-FEB-2010 15:00	BH54_1.0-1.4		✓			✓		✓	✓
ES1003672-040	23-FEB-2010 15:00	BH54_2.8-3.0		✓						✓
ES1003672-043	23-FEB-2010 15:00	BH45_7.2-7.4		✓			✓		✓	✓
ES1003672-045	23-FEB-2010 15:00	QC231		✓			✓		✓	✓
ES1003672-046	24-FEB-2010 15:00	BH65_3.4-3.6								✓
ES1003672-048	24-FEB-2010 15:00	BH65_11.2-11.4		✓			✓		✓	✓

			(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EA200 Asbestos Identification in Soils	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EG035C Leachable Mercury by FIMS	SOIL - EG048G Total Hexavalent Chromium (Alkaline digestion) by Discrete Analyser	SOIL - EK025G (Solids) Free CN By Discrete Analyser
ES1003672-049	24-FEB-2010 15:00	BH65_13.4-13.6								✓
ES1003672-050	24-FEB-2010 15:00	QC234								✓
ES1003672-052	24-FEB-2010 15:00	BH66_1.9-2.0			✓					
ES1003672-053	24-FEB-2010 15:00	BH66_2.3-2.4		✓			✓		✓	✓
ES1003672-054	24-FEB-2010 15:00	BH66_3.2-3.6		✓						
ES1003672-061	22-FEB-2010 15:00	BH59_1.3-1.4	✓							
ES1003672-062	22-FEB-2010 15:00	BH59_2.8-2.9	✓							
ES1003672-063	22-FEB-2010 15:00	BH35_1.9-2.0	✓							
ES1003672-064	22-FEB-2010 15:00	BH35_3.4-3.5	✓							
ES1003672-065	22-FEB-2010 15:00	BH35_7.9-8.0	✓							
ES1003672-066	22-FEB-2010 15:00	BH52_3.2-3.4	✓							
ES1003672-067	22-FEB-2010 15:00	BH49_0.8-1.0	✓							
ES1003672-068	22-FEB-2010 15:00	BH49_2.5-2.7	✓							
ES1003672-069	22-FEB-2010 15:00	BH49_3.2-3.4	✓							
ES1003672-070	22-FEB-2010 15:00	BH49_4.8-5.0	✓							
ES1003672-071	22-FEB-2010 15:00	BH49_7.2-7.4	✓							
ES1003672-072	22-FEB-2010 15:00	BH49_9.2-9.4	✓							
ES1003672-073	22-FEB-2010 15:00	BH49_11.2-11.4	✓							
ES1003672-074	22-FEB-2010 15:00	BH58_2.4-2.6	✓							
ES1003672-075	22-FEB-2010 15:00	BH58_4.6-4.8	✓							
ES1003672-076	22-FEB-2010 15:00	BH58_6.2-6.4	✓							
ES1003672-077	22-FEB-2010 15:00	BH58_7.4-7.6	✓							
ES1003672-078	22-FEB-2010 15:00	BH58_9.4-9.6	✓							
ES1003672-079	22-FEB-2010 15:00	QC222	✓							
ES1003672-080	22-FEB-2010 15:00	QC200	✓							
ES1003672-081	22-FEB-2010 15:00	QC201	✓							
ES1003672-082	24-FEB-2010 15:00	BH56_0.06-0.16	✓							
ES1003672-083	23-FEB-2010 15:00	BH42_2.4-2.5	✓							
ES1003672-084	23-FEB-2010 15:00	BH42_3.0-3.1	✓							
ES1003672-085	23-FEB-2010 15:00	QC204	✓							
ES1003672-086	23-FEB-2010 15:00	QC205	✓							
ES1003672-087	23-FEB-2010 15:00	BH44_2.9-3.0	✓							
ES1003672-088	23-FEB-2010 15:00	BH44_5.4-5.5	✓							
ES1003672-089	23-FEB-2010 15:00	QC202	✓							
ES1003672-090	23-FEB-2010 15:00	QC203	✓							
ES1003672-091	23-FEB-2010 15:00	QC229	✓							
ES1003672-092	23-FEB-2010 15:00	BH45_2.2-2.4	✓							
ES1003672-093	23-FEB-2010 15:00	BH45_4.4-4.6	✓							
ES1003672-094	23-FEB-2010 15:00	BH45_5.6-5.8	✓							
ES1003672-095	23-FEB-2010 15:00	BH45_6.3-6.5	✓							
ES1003672-096	23-FEB-2010 15:00	BH45_10.5-10.7	✓							

			(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EA200 Asbestos Identification in Soils	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EG035C Leachable Mercury by FIMS	SOIL - EG048G Total Hexavalent Chromium (Alkaline digestion) by Discrete Analyser	SOIL - EK025G (Solids) Free CN By Discrete Analyser
ES1003672-097	23-FEB-2010 15:00	BH45_11.2-11.4	✓							
ES1003672-098	23-FEB-2010 15:00	BH45_12.2-12.4	✓							
ES1003672-099	24-FEB-2010 15:00	BH65_0.8-1.0	✓							
ES1003672-100	24-FEB-2010 15:00	BH65_4.2-4.4	✓							
ES1003672-101	24-FEB-2010 15:00	BH65_5.6-5.8	✓							
ES1003672-102	24-FEB-2010 15:00	BH65_6.2-6.4	✓							
ES1003672-103	24-FEB-2010 15:00	BH65_7.5-7.7	✓							
ES1003672-104	24-FEB-2010 15:00	BH65_9.5-9.7	✓							
ES1003672-105	24-FEB-2010 15:00	BH65_12.5-12.7	✓							
ES1003672-106	24-FEB-2010 15:00	QC235	✓							
ES1003672-107	24-FEB-2010 15:00	QC236	✓							
ES1003672-108	24-FEB-2010 15:00	BH66_0.1-0.2	✓							
ES1003672-109	24-FEB-2010 15:00	BH66_0.9-1.0	✓							
ES1003672-110	24-FEB-2010 15:00	BH66_2.7-2.9	✓							
ES1003672-111	24-FEB-2010 15:00	BH66_5.2-5.4	✓							
ES1003672-112	24-FEB-2010 15:00	QC237	✓							
ES1003672-113	24-FEB-2010 15:00	QC238	✓							

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - EP004 (Carbon) Total Organic Carbon (Calc.)	SOIL - EP074 (solids) Volatile Organic Compounds	SOIL - EP075 (solids) Semivolatile Organic Compounds	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP080 BTEX	SOIL - S-03 13 Metals (NEPM Suite - incl. Digestion)	SOIL - S-04 TPH/BTEX
ES1003672-001	22-FEB-2010 15:00	BH59_1.0-1.1							✓	
ES1003672-002	22-FEB-2010 15:00	BH59_1.9-2.0	✓						✓	✓
ES1003672-003	03-MAR-2010 12:00	BH59_3.4-3.5					✓			
	22-FEB-2010 15:00	BH59_3.4-3.5	✓	✓		✓			✓	
ES1003672-004	22-FEB-2010 15:00	BH59_4.2-4.3	✓						✓	✓
ES1003672-005	22-FEB-2010 15:00	BH35_0.9-1.0							✓	
ES1003672-006	22-FEB-2010 15:00	BH35_4.9-5.0	✓						✓	✓
ES1003672-007	22-FEB-2010 15:00	BH35_6.4-6.5							✓	
ES1003672-008	22-FEB-2010 15:00	BH35_9.9-10.0		✓					✓	✓
ES1003672-009	22-FEB-2010 15:00	BH52_1.0-1.2							✓	✓
ES1003672-010	03-MAR-2010 12:00	BH52_2.2-2.6					✓			
	22-FEB-2010 15:00	BH52_2.2-2.6	✓	✓					✓	✓
ES1003672-011	22-FEB-2010 15:00	BH52_4.2-4.4	✓						✓	✓

			SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - EP004 (Carbon) Total Organic Carbon (Calc.)	SOIL - EP074 (solids) Volatile Organic Compounds	SOIL - EP075 (solids) Semivolatile Organic Compounds	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP080 BTEX	SOIL - S-03 13 Metals (NEPM Suite - incl. Digestion)	SOIL - S-04 TPH/BTEX
ES1003672-012	22-FEB-2010 15:00	BH49_1.5-1.7							✓	✓
ES1003672-013	22-FEB-2010 15:00	BH49_4.2-4.4							✓	✓
ES1003672-014	22-FEB-2010 15:00	BH49_6.2-6.4	✓	✓		✓			✓	
ES1003672-015	22-FEB-2010 15:00	BH49_8.2-8.4							✓	✓
ES1003672-016	22-FEB-2010 15:00	BH49_10.2-10.4	✓						✓	✓
ES1003672-017	22-FEB-2010 15:00	BH49_12.2-12.4	✓	✓					✓	
ES1003672-018	22-FEB-2010 15:00	BH58_1.0-1.2							✓	✓
ES1003672-019	22-FEB-2010 15:00	BH58_3.2-3.4							✓	✓
ES1003672-020	22-FEB-2010 15:00	BH58_5.2-5.4	✓						✓	✓
ES1003672-021	22-FEB-2010 15:00	BH58_8.6-8.8		✓		✓			✓	
ES1003672-022	22-FEB-2010 15:00	BH58_10.2-10.4							✓	
ES1003672-023	22-FEB-2010 15:00	BH58_10.8-11.2		✓					✓	✓
ES1003672-024	22-FEB-2010 15:00	QC220	✓	✓					✓	
ES1003672-025	22-FEB-2010 15:00	QC223	✓	✓		✓			✓	
ES1003672-026	22-FEB-2010 15:00	QC225							✓	✓
ES1003672-028	22-FEB-2010 15:00	TB06			✓					
ES1003672-029	24-FEB-2010 15:00	BH50_0.15-0.25							✓	
ES1003672-030	24-FEB-2010 15:00	BH60_0.17-0.27							✓	
ES1003672-031	23-FEB-2010 15:00	BH42_1.0-1.1							✓	✓
ES1003672-033	03-MAR-2010 12:00	BH42_3.2-3.3					✓			
	23-FEB-2010 15:00	BH42_3.2-3.3	✓	✓		✓			✓	
ES1003672-034	23-FEB-2010 15:00	BH42_3.5-3.6							✓	✓
ES1003672-035	23-FEB-2010 15:00	BH44_1.4-1.5							✓	
ES1003672-036	23-FEB-2010 15:00	BH44_1.9-2.0	✓	✓					✓	✓
ES1003672-037	23-FEB-2010 15:00	BH44_4.9-5.0	✓	✓		✓			✓	
ES1003672-038	23-FEB-2010 15:00	QC228	✓	✓					✓	✓
ES1003672-039	03-MAR-2010 12:00	BH54_1.0-1.4					✓			
	23-FEB-2010 15:00	BH54_1.0-1.4	✓	✓					✓	
ES1003672-040	23-FEB-2010 15:00	BH54_2.8-3.0	✓			✓			✓	
ES1003672-041	23-FEB-2010 15:00	BH45_0.8-1.0							✓	
ES1003672-042	23-FEB-2010 15:00	BH45_3.2-3.4							✓	✓
ES1003672-043	23-FEB-2010 15:00	BH45_7.2-7.4	✓	✓					✓	✓
ES1003672-044	23-FEB-2010 15:00	BH45_13.2-13.4							✓	
ES1003672-045	23-FEB-2010 15:00	QC231	✓	✓					✓	✓
ES1003672-046	24-FEB-2010 15:00	BH65_3.4-3.6	✓						✓	✓
ES1003672-047	24-FEB-2010 15:00	BH65_8.2-8.6							✓	
ES1003672-048	24-FEB-2010 15:00	BH65_11.2-11.4	✓	✓		✓			✓	
ES1003672-049	24-FEB-2010 15:00	BH65_13.4-13.6	✓						✓	✓
ES1003672-050	24-FEB-2010 15:00	QC234	✓						✓	✓
ES1003672-051	24-FEB-2010 15:00	QC230							✓	
ES1003672-053	24-FEB-2010 15:00	BH66_2.3-2.4	✓	✓					✓	✓

			SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - EP004 (Carbon) Total Organic Carbon (Calc.)	SOIL - EP074 (solids) Volatile Organic Compounds	SOIL - EP075 (solids) Semivolatile Organic Compounds	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP080 BTEX	SOIL - S-03 13 Metals (NEPM Suite - incl. Digestion)	SOIL - S-04 TPH/BTEX
ES1003672-054	24-FEB-2010 15:00	BH66_3.2-3.6							✓	
ES1003672-055	24-FEB-2010 15:00	BH66_7.0-7.2							✓	
ES1003672-056	22-FEB-2010 15:00	TB08						✓		

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - S-07 TPH/BTEX/PAH (SIM)	SOIL - S-09 TPH/VOC	SOIL - S-14A PAH/Phenols (16 PAH - SIM)	SOIL - S-23 SVOC/VOC	SOIL - TCLP TCLP Leach	SOIL - TPH only TPH (C6 - C36)
ES1003672-002	22-FEB-2010 15:00	BH59_1.9-2.0			✓			
ES1003672-003	22-FEB-2010 15:00	BH59_3.4-3.5		✓			✓	
ES1003672-004	22-FEB-2010 15:00	BH59_4.2-4.3			✓			
ES1003672-006	22-FEB-2010 15:00	BH35_4.9-5.0			✓			
ES1003672-008	22-FEB-2010 15:00	BH35_9.9-10.0			✓			
ES1003672-010	22-FEB-2010 15:00	BH52_2.2-2.6			✓		✓	
ES1003672-011	22-FEB-2010 15:00	BH52_4.2-4.4			✓			
ES1003672-012	22-FEB-2010 15:00	BH49_1.5-1.7			✓			
ES1003672-013	22-FEB-2010 15:00	BH49_4.2-4.4			✓			
ES1003672-014	22-FEB-2010 15:00	BH49_6.2-6.4		✓				
ES1003672-015	22-FEB-2010 15:00	BH49_8.2-8.4			✓			
ES1003672-016	22-FEB-2010 15:00	BH49_10.2-10.4			✓			
ES1003672-017	22-FEB-2010 15:00	BH49_12.2-12.4				✓		
ES1003672-018	22-FEB-2010 15:00	BH58_1.0-1.2			✓			
ES1003672-019	22-FEB-2010 15:00	BH58_3.2-3.4			✓			
ES1003672-020	22-FEB-2010 15:00	BH58_5.2-5.4			✓			
ES1003672-021	22-FEB-2010 15:00	BH58_8.6-8.8		✓				
ES1003672-023	22-FEB-2010 15:00	BH58_10.8-11.2			✓			
ES1003672-024	22-FEB-2010 15:00	QC220		✓	✓			
ES1003672-025	22-FEB-2010 15:00	QC223		✓				
ES1003672-026	22-FEB-2010 15:00	QC225			✓			
ES1003672-031	23-FEB-2010 15:00	BH42_1.0-1.1			✓			
ES1003672-033	23-FEB-2010 15:00	BH42_3.2-3.3		✓			✓	
ES1003672-034	23-FEB-2010 15:00	BH42_3.5-3.6			✓			
ES1003672-036	23-FEB-2010 15:00	BH44_1.9-2.0			✓			
ES1003672-037	23-FEB-2010 15:00	BH44_4.9-5.0		✓				
ES1003672-038	23-FEB-2010 15:00	QC228			✓			

			SOIL - S-07 TPH/BTEX/PAH (SIM)	SOIL - S-09 TPH/VOC	SOIL - S-14A PAH/Phenols (16 PAH - SIM)	SOIL - S-23 SVOC/VOC	SOIL - TCLP TCLP Leach	SOIL - TPH only TPH (C6 - C36)
ES1003672-039	23-FEB-2010 15:00	BH54_1.0-1.4		✓	✓			
ES1003672-040	23-FEB-2010 15:00	BH54_2.8-3.0		✓				
ES1003672-042	23-FEB-2010 15:00	BH45_3.2-3.4			✓			
ES1003672-043	23-FEB-2010 15:00	BH45_7.2-7.4			✓			
ES1003672-044	23-FEB-2010 15:00	BH45_13.2-13.4			✓			✓
ES1003672-045	23-FEB-2010 15:00	QC231			✓			
ES1003672-046	24-FEB-2010 15:00	BH65_3.4-3.6			✓			
ES1003672-047	24-FEB-2010 15:00	BH65_8.2-8.6			✓			✓
ES1003672-048	24-FEB-2010 15:00	BH65_11.2-11.4		✓				
ES1003672-049	24-FEB-2010 15:00	BH65_13.4-13.6			✓			
ES1003672-050	24-FEB-2010 15:00	QC234			✓			
ES1003672-051	24-FEB-2010 15:00	QC230			✓			✓
ES1003672-053	24-FEB-2010 15:00	BH66_2.3-2.4			✓			
ES1003672-054	24-FEB-2010 15:00	BH66_3.2-3.6	✓					
ES1003672-055	24-FEB-2010 15:00	BH66_7.0-7.2			✓			✓

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - W-03 13 Metals (NEPM Suite)	WATER - W-04 TPH/BTEX
ES1003672-027	22-FEB-2010 15:00	QC227	✓	✓
ES1003672-114	24-FEB-2010 15:00	QC233	✓	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

(1)

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo – Declaration area **Project Number:** 54150014 **Purchase Order Number:** 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQ'D 8. Project Manager: ANTHONY DAVIS tel 84848999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	Total Cyanide	ASLP (metals + PAHs)	TCLP (M13 + PAHs)	Cr VI	VOC	Fe	TOC	96 hr Toxicity	Remarks & comments
(1)	BH59_1.0-1.1	22/12/10		X					X		1 x 250mL Tub		X															
61	BH59_1.3-1.4		Subcon / Forward Lab / Split WO																									
(2)	BH59_1.9-2.0		Lab / Analysis: Asbestos / ACM only										X	X	X	X			X	X								
62	BH59_2.8-2.9		Organised By / Date:																									
(3)	BH59_3.4-3.5		Relinquished By / Date:										X	X				X		X	X	X	X	X	X	X	X	X	
(4)	BH59_4.2-4.3		Connote / Courier:										X	X	X	X	X			X	X							
(5)	BH35_0.9-1.0		WO No: Batch split for ASL											X														
63	BH35_1.9-2.0		Attach By PO / Internal Sheet:																									
64	BH35_3.4-3.5																											
(6)	BH35_4.9-5.0	↓		↓					↓				X	X	X	X	X			X	X							

Relinquished By:
Name: Anthony Davis Date: 25/12/10
of: AECOM Time:

Received by: Fazi 26/12/10
Name: Date: 7:20pm
of: Time:

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ C
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ C
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Environmental Division
Sydney
Work Order
ES1003672

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Environment

Telephone : +61-2-8784 8555

(2)

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo – Declaration Area **Project Number:** S41500014 **Purchase Order Number:** 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: tel:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals M12	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	Diss Cyanide	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Cr VI	Voc	Fe	TOC	Remarks & comments
(7)	BH35_6.4-6.5	22/10/10		X					X				X														
65	BH35_7.9-8.0																										
(8)	BH35_9.9-10.0											X	X	X	X	X						X		X	X	
(9)	BH52_1.0-1.2												X	X													
(10)	BH52_2.2-2.6											X	X	X	X	X			X	X	X	X	X		X	X	
66	BH52_3.2-3.4																										
(11)	BH52_4.2-4.4												X	X	X	X			X	X							
67	BH49_0.8-1.0																										
(12)	BH49_1.5-1.7												X	X	X	X											
68	BH49_2.5-2.7	↓		↓					↓			1x 250ml BOL TM															

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Anthony Davis Date: 25/2/10	Name: FAOI Date: 26/2/10	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: AECOM Time:	of: ALS Time: 7:30pm		Yes/No/NA	Transport Co:	
Relinquished By:	**Received by:**	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: Time:		Yes/No/NA	Transport Co:	

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(3)

Form:

AECOM

Chain of Custody & Analysis Request Form

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Tel: 61 2 8484 8999
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Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo – Declaration Area **Project Number:** S41508814 **Purchase Order Number:** 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQ'D 8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals	M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	M4D Cyanide	ASLP	TCLP	VOC	CVI	Fe	TOC	Remarks & comments
69	BH49_3.2-3.4	22/10/2	10	X					X		250ml JAR																	
(13)	BH49_4.2-4.4	"		"					"		X "		X	X	X	X												
70	BH49_4.8-5.0	"		"					"		— "																	
(14)	BH49_6.2-6.4 →	Received BHS2	6.2-6.4								JAR/BAG	X	X					X		X	X			X	X	X	X	X	X — ASS BAG sample frozen
71	BH49_7.2-7.4 →	Received BHS2	7.2-7.4																									
(15)	BH49_8.2-8.4 →	Received BHS2	8.2-8.4																									
72	BH49_9.2-9.4 →	Received BHS2	9.2-9.4								250ML TUB		X	X	X	X												
(16)	BH49_10.2-10.4 →	Received BHS2	10.2-10.4										X	X	X	X			X	X								
73	BH49_11.2-11.4 →	Received BHS2	11.2-11.4																									
(17)	BH49_12.2-12.4 →	Received BHS2	12.2-12.4						↓		1x 80ML JAR	X	X					X		X	X			X	X	X	X	

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: ANTHONY DAVIS Date: 25/2/10	Name: FAST 26/2/10 Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: AECOM Time:	of: ALS 7.30pm Time:		Yes/No/NA	Transport Co:	
Relinquished By:	**Received by:**	**Received in good condition?**	Yes/No/NA	**Method of Shipment**	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	**Samples received chilled?**	Yes/No/NA	**Consignment Note No.**	
of: Time:	of: Time:		Yes/No/NA	**Transport Co:**	

(4)

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo – Declaration Area **Project Number:** S415.0014 **Purchase Order Number:** 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQUIRED 8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)
(18)	BH58-1.0-1.2	22/02/10		X					X		
74	BH58_2.4-2.6										
(19)	BH58_3.2-3.4										
75	BH58_4.6-4.8										
(20)	BH58_5.2-5.4										
76	BH58_6.2-6.4										
77	BH58_7.4-7.6										
(21)	BH58_8.6-8.8										
78	BH58_9.4-9.6										
(22)	BH58_10.2-10.4	↓		↓					↓		1x 250mL soil jar

Analysis Request

Lab. ID	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	w4d Cyanide	ASLP	TCLP	CrVI	VOC	TPH	TOC	TPH C6-C36	Remarks & comments
(18)	X	X	X	X	X												
74																	
(19)	X	X	X	X	X												
75																	
(20)	X	X	X	X	X			X	X								
76																	
77																	
(21)	X	X				X						X	X	X	X	X	
78																	
(22)		X															

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: ANTHONY DAVIS Date: 25/2/10	Name: FAST 26/2/10 Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: AECOM Time:	of: ALS 7:30pm Time:		Yes/No/NA	Transport Co:	
Relinquished By:	**Received by:**	**Received in good condition?**	**Yes/No/NA**	**Method of Shipment**	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	**Samples received chilled?**	**Yes/No/NA**	**Consignment Note No.**	
of: Time:	of: Time:		**Yes/No/NA**	**Transport Co:**	

(5)

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd. Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo – Occlusion in Area **Project Number:** S41500614 **Purchase Order Number:** 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: ESDAT FORMAT REQ'D 8. Project Manager: ANTHONY DAVIS tel: 8484 8999	☐ Yes	☐ No	☐ N/A

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)
(23)	BH58_10.8-11.2	22/12/10		X					X		
(24)	QC220										
X	QC221										
79	QC222										
(25)	QC223										
X	QC224										
(26)	QC225										
X	QC226			↓							
(27)	QC227				X				↓		2x vials
(28)	TB06	↓		X							1x plastic
											1x amber

(2)

Analysis Request

pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	Weak Cyanide	ASLP (M13 + PAH)	TCLP (M13 + PAH)	CrVI	VOC	FR	TOC	TPH C6 - C35
X	X	X	X	X							X		X	X	
X	X	X	X	X			X	X			X	X	X	X	
PLEASE FORWARD TO LAB AND/OR TA REPLICATE COC															
X	X				X		X	X			X	X	X	X	X
PLEASE FORWARD TO LAB AND/OR TA REPLICATE COC															
X	X	X	X	X											
PLEASE FORWARD TO LAB AND/OR TA REPLICATE COC															
	X	X										X			

Relinquished By:	Received by:
Name: ANTHONY DAVIS	Name: TASSI
Date: 25/12/10	Date: 26/12/10
of: AECOM	of: ALS
Time:	Time: 7:39am
Relinquished By:	**Received by:**
Name:	Name:
Date:	Date:
of:	of:
Time:	Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

(6)

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo – Declaration Area **Project Number:** S41 50014 **Purchase Order Number:** 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: ESDAT FORMAT REQUIRED 8. Project Manager: ANTHONY DAVIS tel: 8484 8999			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: fil'ed	acid	Ice	other	Container (No. & type)
80	QC200	22/02/10		X					X		1x 250ml
81	QC201	↓		↓					↓		3x TRIP

Analysis Request

pH	Metals (M8)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP			HOLD		Remarks & comments
													X		
													X		

Relinquished By:
Name: ANTHONY DAVIS Date: 25/2/10
of: AECOM Time:

Received by:
Name: FASI Date: 26/2/10
of: ALS Time: 7:39am

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co: -	

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Form:

(7)

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A
#N/A
#N/A
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Barangaroo – Declaration Area
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements? ☐ Fax ☐ Hard-copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: 8. Project Manager: Anthony Davis tel: 8484 8952

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	Ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-36)	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Cr VI	BTEX	Noc	TOC	Fe	TRH C6-C36	comments
(29)	BH50_0.15-0.25	24.2.10	→	X					X		1 jar		X																
82	BH56_0.06-0.16	24.2.10	→	X					X		1 jar																		
(30)	BH60_0.17-0.27	24.2.10	→	X					X		1 jar		X																
(31)	BH42_1.0-1.1	23.2.10	→	X					X		1 jar	X	X	X	X	X								X					
(32)	BH42_2.0-2.1	23.2.10	→	X					X		1 jar							X											
83	BH42_2.4-2.5	23.2.10	→	X					X		1 jar																		
84	BH42_3.0-3.1	23.2.10	→	X					X		1 jar																		
(33)	BH42_3.2-3.3	23.2.10	→	X					X		1 jar	X	X				X		X	X	X	X	X		X	Y	X	X	
(34)	BH42_3.5-3.6	23.2.10	→	X					X		1 jar	X	X	X	X	X								X					
85	QC204	23.2.10	→	X					X		1 jar																		

Relinquished By:
Name: Anthony Davis Date: 25/2/10
of: AECOM Time:

Received by:
Name: MASI Date: 26/2/10
of: ALS Time: 7:30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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Form:

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AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A
#N/A
#N/A
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Barangaroo – Declaration Area
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: ANTHONY DAVIS tel: 8484 8952	☐ Yes	☐ No	☐ N/A

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: Ice	Preservation: other	Container (No. & type)	pH	Metals (M13)	TPH (C6-36)	PAH	Phenols	SVOC	asbestos	Free Cyanide	Wad Cyanide	ASLP	TCLP	Cr VI	BTEX	VOC	TOC	Fe	TPH C6 - C36	comments
86	QC205	23-2-10	→	X					X		1 jar																		
(35)	BH44_1-4-1.5	23-2-10	→	X					X		1 jar		X																
(36)	BH44_1-9-2.0	23-2-10	→	X					X		1 jar	X	X	X	X	X			X	X			X	X		X	X		
87	BH44_2.9-3.0	23-2-10	→	X					X		1 jar																		
(37)	BH44_4.9-5.0	23-2-10	→	X					X		1 jar	X	X				X		X	X			X		X	X	X	X	
88	BH44_5.4-5.5	23-2-10	→	X					X		1 jar																		
89	QC202	23-2-10	→	X					X		1 jar																		
90	QC203	23-2-10	→	X					X		1 jar																		
(38)	QC228	23-2-10	→	X					X		1 jar	X	X	X	X	X			X	X			X	X		X	X		
91	QC229	23-2-10	→	X					X		1 jar																		

HOLD

Relinquished By:
Name: ANTHONY DAVIS Date: 25/2/10
of: AECOM Time:

Received by:
Name: FAJI Date: 26/2/10
of: ALS Time: 7:30AM

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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Form:

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Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo – Declaration Area **Project Number:** 34150014 **Purchase Order Number:** 1303951

Sample collected by: KATE PIGRAM & DANIEL FOX **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____ days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQUIRED 8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)
(39)	BH54_1.0-1.4	23/02/10		X					X		
(40)	BH54_2.8-3.0										
(41)	BH45_0.8-1.0										
92	BH45_2.2-2.4										
(42)	BH45_3.2-3.4										
93	BH45_4.4-4.6										
94	BH45_5.6-5.8										
95	BH45_6.3-6.5										
(43)	BH45_7.2-7.4										
96	BH45_10.5-10.7	↓		↓					↓		

Analysis Request

Lab. ID	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Cr VI	VOC	Fe	TOC	TPH C6-C36	Remarks & comments
(39)	X	X	X	X	X			X	X	X	X	X	X	X	X		
(40)	X	X				X		X	X				X			X	
(41)		X															
92																	
(42)		X	X	X	X												
93																	
94																	
95																	
(43)	X	X	X	X	X			X	X			X		X	X		
96																	

Relinquished By:
Name: ANTHONY DAVIS Date: 25/2/10
of: AECOM Time:

Received by:
Name: FAST Date: 26/2/10
of: RMS Time: 7:30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Form:

(18) AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A
#N/A
#N/A
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Barangaroo – Declaration Area
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format:
8. Project Manager: ANTHONY DAVIS tel: 8484 8952

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtred	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-36)	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	Cr VI	BTEX	F1	TOC	VOC	comments
97	BH45_11.2-11.4	23.2.10 →		X					X		1 jar																	
98	BH45_12.2-12.4	23.2.10 →		X					X		1 jar																	
(49)	BH45_13.2-13.4	23.2.10 →		X					X		1 jar		X	X	X	X												
(45)	QC231	23.2.10 →		X					X		1 jar	X	X	X	X	X			X	X			X	X	X	X		
x	QC232	23.2.10 →		X					X		1 jar	PLEASE FORWARD TO LABMARK WITH ACCOMPANYING COC																
99	BH65_0.8-1.0	24.2.10 →		X					X		1 jar																	
(46)	BH65_3.4-3.6	24.2.10 →		X					X		1 jar		X	X	X	X			X	X			X					
100	BH65_4.2-4.4	24.2.10 →		X					X		1 jar																	
101	BH65_5.6-5.8	24.2.10 →		X					X		1 jar																	
102	BH65_6.2-6.4	24.2.10 →		X					X		1 jar																	

Relinquished By:
Name: ANTHONY DAVIS Date: 25/2/10
of: AECOM Time:

Received by:
Name: FAST Date: 26/2/10
of: ALS Time: 7.30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A
#N/A
#N/A
Email: anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Barangaroo – Declaration Area
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: 8. Project Manager: ANTHONY DAVIS tel: 8484 8952

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	Ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-36)	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	Cr VI	BTEX	VOC	FR	ToC	comments
103	BH65_7.5-7.7	24.2.10 →		X					X		1 jar																	
(47)	BH65_8.2-8.6	24.2.10 →		X					X		1 jar	.	X	X	X	X												
104	BH65_9.5-9.7	24.2.10 →		X					X		1 jar																	
(48)	BH65_11.2-11.4	24.2.10 →		X					X		1 jar	X	X	X			X		X	X			X		X	X	X	
105	BH65_12.5-12.7	24.2.10 →		X					X		1 jar																	
(49)	BH65_13.4-13.6	24.2.10 →		X					X		1 jar		X	X	X	X			X	X				X				
(50)	QC234	24.2.10 →		X					X		1 jar		X	X	X	X			X	X				X				
106	QC235	24.2.10 →		X					X		1 jar																	
107	QC236	24.2.10 →		X					X		1 jar																	
(51)	QC230	23.2.10 →		X					X		1 jar		X	X	X	X												

Relinquished By:
Name: ANTHONY DAVIS Date: 25/2/10
of: AECOM Time:

Received by:
Name: [illegible] Date: 26/2/10
of: ALS Time: 7:30pm

Received in good condition? Yes/No/NA
Samples received chilled? Yes/No/NA
Method of Shipment: ☐ Courier ☐ Postal ☐ By Hand
Consignment Note No.
Transport Co:

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition? Yes/No/NA
Samples received chilled? Yes/No/NA
Method of Shipment: ☐ Courier ☐ Postal ☐ By Hand
Consignment Note No.
Transport Co:

Form: (R2)

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A
#N/A
#N/A
Email: anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project: Barangaroo – Declaration Area
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: ANTHONY DAVIS tel: 87848952			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtred	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-36)	PAH	Phenols	SVOC	asbestos	Free Cyanide	Cyanide (WAD)	ASLP	TCLP	Cr VI	BTEX	VOC	Fe	TOC	comments
108	BH66_0.1-0.2	24.2.10	→	X					X		1 jar																	
109	BH66_0.9-1.0	24.2.10	→	X					X		1 jar																	
(52)	BH66_1.9-2.0	24.2.10	→	X					X		1 jar							X										
(53)	BH66_2.3-2.4	24.2.10	→	X					X		1 jar	X	X	X	X	X			X	X			X	X		X	X	
110	BH66_2.7-2.9	24.2.10	→	X					X		1 jar																	
(54)	BH66_3.2-3.6	24.2.10	→	X					X		1 jar	X	X	X	X									X				
111	BH66_5.2-5.4	24.2.10	→	X					X		1 jar																	
(55)	BH66_7.0-7.2	24.2.10	→	X					X		1 jar		X	X	X	X												
112	QC237	24.2.10	→	X					X		1 jar																	
(56)	TB08	22.2.10	→	X					X		1 Jar													X				

Relinquished By:
Name: ANTHONY DAVIS Date: 25/2/10
of: AECOM Time:

Received by:
Name: FAJI Date: 26/2/10
of: AES Time: 7:30 am

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Printed copies of this document are uncontrolled

Revision: Oct 09
BMS-PM-DV-F046

Environment 113 QC233
114 QC238 > extra samples

CERTIFICATE OF ANALYSIS

Work Order	: **ES1003674**	Page	: 1 of 6
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo-S4150014 Declaration Area	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2010
Sampler	: KP& DF	Issue Date	: 08-MAR-2010
Site	: ----		
		No. of samples received	: 4
Quote number	: SY/259/09 V2	No. of samples analysed	: 4

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG020T : LCS recovery for Vanadium falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**
- **EP075(SIM): Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.**

Analytical Results

Sub-Matrix: **DI WATER LEACHATE**

Compound	CAS Number	LOR	Unit	Client sample ID: BH59-3.4-3.5	BH52_2.2-2.6	BH42_3.2-3.3	BH54_1.0-1.4	----
				Client sampling date / time: 03-MAR-2010 12:00	03-MAR-2010 12:00	03-MAR-2010 12:00	04-MAR-2010 12:00	----
				ES1003674-001	ES1003674-002	ES1003674-004	ES1003674-005	----
EG020W: Water Leachable Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	**0.001**	**0.002**	**0.002**	**0.017**	----
Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	----
Barium	7440-39-3	0.001	mg/L	**0.596**	**1.12**	**0.753**	**1.95**	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	**0.0002**	----
Chromium	7440-47-3	0.001	mg/L	**0.002**	**0.006**	**0.006**	**0.020**	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	**0.003**	----
Copper	7440-50-8	0.001	mg/L	<0.001	**0.004**	**0.002**	**0.016**	----
Lead	7439-92-1	0.001	mg/L	<0.001	**0.009**	**0.006**	**0.015**	----
Manganese	7439-96-5	0.001	mg/L	**0.005**	**0.011**	**0.004**	**0.054**	----
Nickel	7440-02-0	0.001	mg/L	<0.001	**0.002**	**0.001**	**0.008**	----
Vanadium	7440-62-2	0.01	mg/L	<0.01	**0.03**	**0.01**	**0.12**	----
Zinc	7440-66-6	0.005	mg/L	**0.081**	**0.476**	**0.168**	**0.908**	----
EG035W: Water Leachable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	**5220**	**32.4**	**5210**	**8550**	----
Acenaphthylene	208-96-8	1.0	µg/L	**258**	**4.5**	**265**	**184**	----
Acenaphthene	83-32-9	1.0	µg/L	**45.9**	**1.1**	**48.5**	**98.0**	----
Fluorene	86-73-7	1.0	µg/L	**163**	**5.6**	**164**	**168**	----
Phenanthrene	85-01-8	1.0	µg/L	**172**	**8.0**	**134**	**151**	----
Anthracene	120-12-7	1.0	µg/L	**32.2**	**1.8**	**28.9**	**32.5**	----
Fluoranthene	206-44-0	1.0	µg/L	**15.4**	**2.5**	**14.9**	**20.7**	----
Pyrene	129-00-0	1.0	µg/L	**12.0**	**1.8**	**12.4**	**14.5**	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<3.7	<1.0	<3.8	<3.8	----
Chrysene	218-01-9	1.0	µg/L	<3.7	<1.0	<3.8	<3.8	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<3.7	<1.0	<3.8	<3.8	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<3.7	<1.0	<3.8	<3.8	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<3.7	<0.5	<3.8	<3.8	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<3.7	<1.0	<3.8	<3.8	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<3.7	<1.0	<3.8	<3.8	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<3.7	<1.0	<3.8	<3.8	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**22.9**	**31.4**	**52.9**	**56.5**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**75.7**	**50.8**	**69.7**	**80.6**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**84.2**	**54.4**	**83.2**	**68.0**	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**100**	**63.2**	**96.3**	**88.4**	----
Anthracene-d10	1719-06-8	0.1	%	**96.7**	**59.4**	**92.6**	**86.1**	----

Analytical Results

Sub-Matrix: DI WATER LEACHATE				Client sample ID	BH59-3.4-3.5	BH52_2.2-2.6	BH42_3.2-3.3	BH54_1.0-1.4	----
				Client sampling date / time	03-MAR-2010 12:00	03-MAR-2010 12:00	03-MAR-2010 12:00	04-MAR-2010 12:00	----
Compound	CAS Number	LOR	Unit		ES1003674-001	ES1003674-002	ES1003674-004	ES1003674-005	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		**89.2**	**66.4**	**88.3**	**94.3**	----

Analytical Results

Sub-Matrix: SOIL			Client sample ID	BH59-3.4-3.5	BH52_2.2-2.6	BH42_3.2-3.3	BH54_1.0-1.4	----
			Client sampling date / time	22-FEB-2010 15:00	22-FEB-2010 15:00	23-FEB-2010 15:00	23-FEB-2010 15:00	----
Compound	CAS Number	LOR	Unit	ES1003674-001	ES1003674-002	ES1003674-004	ES1003674-005	----
EN60: Bottle Leaching Procedure								
Final pH	----	0.1	pH Unit	**8.2**	**8.2**	**8.7**	**8.8**	----

Surrogate Control Limits

Sub-Matrix: **DI WATER LEACHATE**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

QUALITY CONTROL REPORT

Work Order	: **ES1003674**	Page	: 1 of 7
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo-S4150014 Declaration Area	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2010
Sampler	: KP& DF	Issue Date	: 08-MAR-2010
Order number	: 1303951		
		No. of samples received	: 4
Quote number	: SY/259/09 V2	No. of samples analysed	: 4

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020W: Water Leachable Metals by ICP-MS (QC Lot: 1267849)									
ES1003673-001	Anonymous	EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	0.0001	<0.0001	0.0	No Limit
		EG020A-W: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Barium	7440-39-3	0.001	mg/L	0.167	0.169	1.1	0% - 20%
		EG020A-W: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Manganese	7439-96-5	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-W: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Zinc	7440-66-6	0.005	mg/L	0.045	0.046	0.0	No Limit
		EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EG035W: Water Leachable Mercury by FIMS (QC Lot: 1267951)									
ES1003673-001	Anonymous	EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1267849)								
EG020A-W: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	98.7	87	111
EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	98.2	75	125
EG020A-W: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	98.9	86	114
EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	94.5	90	106
EG020A-W: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	105	94	114
EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	105	89	117
EG020A-W: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	99.0	90	112
EG020A-W: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	106	88	120
EG020A-W: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	106	90	120
EG020A-W: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	101	86	116
EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 90.2	92	112
EG020A-W: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	100	82	116
EG035W: Water Leachable Mercury by FIMS (QCLot: 1267951)								
EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	109	82	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266747)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	75.9	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	75.1	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	75.2	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	76.1	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	77.1	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	78.1	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	80.6	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	80.5	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	78.5	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	80.0	62.5	116
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1266747) - continued								
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	92.2	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	89.5	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	84.1	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	77.2	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	78.4	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	74.6	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1267954)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	96.6	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	90.3	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	88.0	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	85.3	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	89.7	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	92.3	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	93.5	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	96.1	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	89.6	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	90.9	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	90.6	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	77.8	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	91.5	63.3	117
		0.5	µg/L	<0.5	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1267954) - continued								
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	86.4	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	87.2	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	89.3	59.1	118
		1	µg/L	<1.0	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1267849)							
ES1003673-001	Anonymous	EG020A-W: Arsenic	7440-38-2	1 mg/L	102	70	130
		EG020A-W: Beryllium	7440-41-7	1 mg/L	100	70	130
		EG020A-W: Barium	7440-39-3	1 mg/L	101	70	130
		EG020A-W: Cadmium	7440-43-9	0.250 mg/L	97.4	70	130
		EG020A-W: Chromium	7440-47-3	1 mg/L	97.8	70	130
		EG020A-W: Cobalt	7440-48-4	1 mg/L	98.8	70	130
		EG020A-W: Copper	7440-50-8	1 mg/L	103	70	130
		EG020A-W: Lead	7439-92-1	1 mg/L	94.9	70	130
		EG020A-W: Manganese	7439-96-5	1 mg/L	99.1	70	130
		EG020A-W: Nickel	7440-02-0	1 mg/L	103	70	130
		EG020A-W: Vanadium	7440-62-2	1 mg/L	96.2	70	130
		EG020A-W: Zinc	7440-66-6	1 mg/L	104	70	130
EG035W: Water Leachable Mercury by FIMS (QCLot: 1267951)							
ES1003673-002	Anonymous	EG035W: Mercury	7439-97-6	0.0100 mg/L	103	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1003674**	Page	: 1 of 5
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo-S4150014 Declaration Area	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2010
Sampler	: KP& DF	Issue Date	: 08-MAR-2010
Order number	: 1303951		
		No. of samples received	: 4
Quote number	: SY/259/09 V2	No. of samples analysed	: 4

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020W: Water Leachable Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH59-3.4-3.5, BH52_2.2-2.6, BH42_3.2-3.3	**03-MAR-2010**	**04-MAR-2010**	30-AUG-2010	✓	**04-MAR-2010**	30-AUG-2010	✓
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH54_1.0-1.4	**04-MAR-2010**	**04-MAR-2010**	31-AUG-2010	✓	**04-MAR-2010**	31-AUG-2010	✓
EG035W: Water Leachable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH59-3.4-3.5, BH52_2.2-2.6, BH42_3.2-3.3	**03-MAR-2010**	**----**	----	----	**05-MAR-2010**	31-MAR-2010	✓
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH54_1.0-1.4	**04-MAR-2010**	**----**	----	----	**05-MAR-2010**	01-APR-2010	✓
EN60: Bottle Leaching Procedure							
LabSplit: Leach for organics and other tests							
BH59-3.4-3.5, BH52_2.2-2.6	**22-FEB-2010**	**---**	---	----	**03-MAR-2010**	08-MAR-2010	✓
LabSplit: Leach for organics and other tests							
BH42_3.2-3.3	**23-FEB-2010**	**---**	---	----	**03-MAR-2010**	09-MAR-2010	✓
LabSplit: Leach for organics and other tests							
BH54_1.0-1.4	**23-FEB-2010**	**---**	---	----	**04-MAR-2010**	09-MAR-2010	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
BH59-3.4-3.5, BH52_2.2-2.6, BH42_3.2-3.3	**03-MAR-2010**	**03-MAR-2010**	10-MAR-2010	✓	**05-MAR-2010**	12-APR-2010	✓
Amber Glass Bottle - Unpreserved							
BH54_1.0-1.4	**04-MAR-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Water Leachable Mercury by FIMS	EG035W	1	6	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	6	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	12	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Mercury by FIMS	EG035W	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	12	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Mercury by FIMS	EG035W	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Water Leachable Mercury by FIMS	EG035W	1	6	**16.7**	**5.0**	✓	ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	6	**16.7**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	SOIL	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Water Leachable Mercury by FIMS	EG035W	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in DI Water Leachate	EN25W	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Deionised Water Leach	EN60-Dla	SOIL	AS4439.3 Preparation of Leachates
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020W: Water Leachable Metals by ICP-MS	1468303-002	----	**Vanadium**	7440-62-2	90.2 %	92-112%	**Recovery less than lower control limit**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1003674**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo-S4150014 Declaration Area	Page	: 1 of 2
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: KP& DF	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 26-FEB-2010	Issue Date	: 01-MAR-2010 18:19
Client Requested Due Date	: 08-MAR-2010	Scheduled Reporting Date	: **08-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 4.7'C - Ice present
No. of coolers/boxes	: 6 HARD	No. of samples received	: 4
Sercurity Seal	: Intact.	No. of samples analysed	: 4

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **This batch is for DI Water Leach split from ES1003672.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EG020W Water Leachable Metals by ICPMS	SOIL - EG035W Water Leachable Mercury by FIMS	SOIL - EP075 SIM PAH only SIM - PAH only
ES1003674-001	22-FEB-2010 15:00	BH59-3.4-3.5	✓	✓	✓
ES1003674-002	22-FEB-2010 15:00	BH52_2.2-2.6	✓	✓	✓
ES1003674-004	22-FEB-2010 15:00	BH42_3.2-3.3	✓	✓	✓
ES1003674-005	22-FEB-2010 15:00	BH54_1.0-1.4	✓	✓	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

(1)

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo – Declaration area
Project Number: 54150014
Purchase Order Number: 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQ'D
8. Project Manager: ANTHONY DAVIS tel 84898999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)
	BH159_1.0-1.1	22/12/10		X					X		
	BH159_1.3-1.4	↓	Subcon / Forward Lab / Split WO								
	BH159_1.9-2.0		Lab / Analysis: Asbestos / ALS only								
	BH159_2.8-2.9		Organised By / Date:								
	BH159_3.4-3.5		Relinquished By / Date:								
	BH159_4.2-4.3		Connote / Courier:								
	BH135_0.9-1.0		WO No: Bulk split for ASL								
	BH135_1.9-2.0		Attach By PO / Internal Sheets:								
	BH135_3.4-3.5										
	BH135_4.9-5.0	↓		↓					↓		

Analysis Request

pH	Metals M8	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	Cyanide (total)	ASLP (metals + PAHs)	TCLP (M3 + PAHs)	Cr VI	VOC	Fe	Tot	Remarks & comments
	X														ASLP only
	X	X	X	X			X	X							
X	X				X		X	X	X	X	X	X	X	X	
Y	X	X	X	X	X			X	X						
	X														
X	X	X	X	X			X	X							

Relinquished By:
Name: Anthony Davis Date: 25/2/10
of: AECOM Time:

Received by: FAX 26/2/10
Name: Date:
of: Time: 7:20pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Environmental Division
Sydney
Work Order
ES1003674

Telephone : +61-2-8784 8555

(2)

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo – Declaration Area **Project Number:** S41500014 **Purchase Order Number:** 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: tel:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	pH	Metals M12	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	(wat) Cyanide	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Cr VI	VOC	Fe	TOC	Remarks & comments
	BH25_6.4-6.5	22/02/10		X					X				X														
	BH25_7.9-8.0										1x 250ml SOIL JAR																
	BH25_9.9-10.0											X	X	X	X	X							X		X	X	
	BH152_1.0-1.2												X	X													
(2)	BH152_2.2-2.6											X	X	X	X	X			X	X	X	X	X		X	X	
	BH152_3.2-3.4																										
	BH152_4.2-4.4												X	X	X	X			X	X							
	BH149_0.8-1.0																										
	BH149_1.5-1.7										1x 250ml SOIL JAR		X	X	X	X											
	BH149_2.5-2.7																										

Relinquished By:
Name: ANTHONY DAVIS Date: 25/2/10
of: AECOM Time:

Received by:
Name: FADI Date: 26/2/10
of: ALS Time: 7:30pm

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

(3)

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo – Declaration Area **Project Number:** S41568814 **Purchase Order Number:** 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: ESDAT FORMAT REQ'D 8. Project Manager: ANTHONY DAVIS tel: 8484 8999	☐ Yes	☐ No	☐ N/A

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No) & type	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	VOC	CVI	TOC	Remarks & comments
	BH49_3.2-3.4	22/10	10	X					X		1x 250mL JAR															
	BH49_4.2-4.4	"									1x 60mL JAR		X	X	X	X										
	BH49_4.8-5.0	"									1x 60mL JAR															
(3)	BH49_6.2-6.4	Received @ HS2-61-6.4									ZIPLOCK BAG	X	X				X		X	X			X	X	X	X	X X - Soil sample frozen
	BH49_7.2-7.4																										
	BH49_8.2-8.4										1x 250mL JAR		X	X	X	X											
	BH49_9.2-9.4										1x 60mL JAR																
	BH49_10.2-10.4										1x 250mL JAR		X	X	X	X			X	X							
	BH49_11.2-11.4										1x 60mL JAR																
	BH49_12.2-12.4										1x 250mL JAR	X	X				X		X	X			X	X	X	X	

Relinquished By:		Received by:			
Name: ANTHONY DAVIS	Date: 25/2/10	Name: FAST		Date: 26/2/10	
of: AECOM	Time:	of: ALS		Time: 7:30pm	
Relinquished By:		**Received by:**			
Name:	Date:	Name:		Date:	
of:	Time:	of:		Time:	

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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Environment

Form:

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Chain of Custody & Analysis Request Form

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Pymble NSW 2073 Australia

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Fax: 61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo — Declaration Area **Project Number:** S419.0014 **Purchase Order Number:** 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQUIRED 8. Project Manager: ANTHONY DAVIS tel: 82848999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	ice	other	Container (No. & type)
	BH58-1.0-1.2	22/02/10		X					X		
	BH58_2.4-2.6			|					|		
	BH58_3.2-3.4			|					|		1x 250mL - SOIL JAR
	BH58_4.6-4.8			|					|		
	BH58_5.2-5.4			|					|		
	BH58_6.2-6.4			|					|		
	BH58_7.4-7.6			|					|		
	BH58_8.6-8.8			|					|		
	BH58_9.4-9.6			|					|		
	BH58_10.2-10.4	↓		↓					↓		

Analysis Request

Lab. ID	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	w4D Cyanide	ASLP	TCLP	CrVI	VOC	HFR	TOC	TPH C6-C36
	X	X	X	X	X											
	X	X	X	X	X											
	X	X	X	X	X			X	X							
	X	X				X						X	X	X	X	X
		X														

Remarks & comments

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: ANTHONY DAVIS Date: 25/2/10	Name: FAST 26/2/10 Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: AECOM Time:	of: ALS 7:30pm Time:		Yes/No/NA	Transport Co:	
Relinquished By:	**Received by:**	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: Time:		Yes/No/NA	Transport Co:	

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Environment

(5)

Form:

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Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd. Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo – Declaration Area **Project Number:** S41500014

Purchase Order Number: 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQ'D 8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)
	BH58_10.8-11.2	22/12/10		X					X		
	QC220										
X	QC221										
	QC222										
	QC223										
X	QC224										
	QC225										
X	QC226										
	QC227				X				✓		2x vials
	TB06	↓		X							1x plastic

(2)

Analysis Request

Lab. ID	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	Filt Cyanide	ASLP (M13+PAH)	TCLP (M13+PAH)	CrVI	Voc	Fe	TOC	TPH C6-C36	Remarks & comments
	X	X	X	X	X							X		X	X		
	X	X	X	X	X			X	X			X	X	X	X		
X	PLEASE FORWARD TO LAB AND TO APPROPRIATE COC																
	X	X				X		X	X			X	X	X	X	X	
X	PLEASE FORWARD TO LAB AND TO APPROPRIATE COC																
	X	X	X	X	X												
X	PLEASE FORWARD TO LAB AND TO APPROPRIATE COC																
		X	X										X				

Relinquished By:		Received by:		Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: ANTHONY DAVIS	Date: 25/2/10	Name: DAVIS	Date: 26/2/10	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: AECOM	Time:	of: ALS	Time: 7:39am		Yes/No/NA	Transport Co:	
Relinquished By:		**Received by:**		Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name:	Date:	Name:	Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of:	Time:	of:	Time:		Yes/No/NA	Transport Co:	

(6)

Form:

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Chain of Custody & Analysis Request Form

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Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo – Declaration Area **Project Number:** S41 50014 **Purchase Order Number:** 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT DETAILED 8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	Ice	other	Container (No. & type)	Analysis Request: pH	Metals (M8)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP			HOLD	Remarks & comments
[redacted]	QC200	22/02/10		X					X		1X 250ML														X	
[redacted]	QC201	↓		↓					↓		3DI JAR														X	

Relinquished By:
Name: ANTHONY DAVIS Date: 25/2/10
of: AECOM Time:

Received by:
Name: TASI Date: 26/2/10
of: ALS Time: 7:35pm

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co: -	

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Form:

(7)

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Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A
#N/A
#N/A
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Barangaroo – Declaration Area
Project Number: S4150014
Purchase Order Number: 1303951

Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format:
8. Project Manager: Anthony Davis tel: 8484 8952

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-36)	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Cr VI	BTEX	%c	TOC	Fe	TRH C6-C36	comments
	BH50_0.15-0.25	24.2.10	→	X					X		1 jar		X																
	BH56_0.06-0.16	24.2.10	→	X					X		1jar																		
	BH60_0.17-0.27	24.2.10	→	X					X		1jar		X																
	BH42_1.0-1.1	23.2.10	→	X					X		1jar	X	X	X	X	X								X					
	BH42_2.0-2.1	23.2.10	→	X					X		1jar							X											
	BH42_2.4-2.5	23.2.10	→	X					X		1jar																		
	BH42_3.0-3.1	23.2.10	→	X					X		1jar																		
(4)	BH42_3.2-3.3	23.2.10	→	X					X		1jar	X	X				X		X	X	X	X	X		X	Y	X	X	
	BH42_3.5-3.6	23.2.10	→	X					X		1jar	X	X	X	X	X								X					
	QC204	23.2.10	→	X					X		1jar																		

Relinquished By:
Name: Anthony Davis Date: 25/2/10
of: AECOM Time:

Received by:
Name: MAJI Date: 26/2/10
of: ALS Time: 7:30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A
#N/A
#N/A
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Barangaroo – Declaration Area **Project Number:** S4150014

Purchase Order Number: 1303951

Sample collected by: Kate Pigram **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: ANTHONY DAVIS tel: 8488 8952	☐ Yes	☐ No	☐ N/A

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-36)	PAH	Phenols	SVOC	asbestos	Free Cyanide	Total Cyanide	ASLP	TCLP	Cr VI	BTEX	VOC	TOC	Fe	TPH C6-C36
	QC205	23-2-10	→	X					X		1jar																	
	BH44_1.4-1.5	23-2-10	→	X					X		1jar		X															
	BH44_1.9-2.0	23-2-10	→	X					X		1jar	X	X	X	X	X			X	X			X	✓		X	X	
	BH44_2.9-3.0	23-2-10	→	X					X		0jar																	
	BH44_4.9-5.0	23-2-10	→	X					X		1jar	X	X				X		X	X			X		X	X	X	X
	BH44_5.4-5.5	23-2-10	→	X					X		1jar																	
	QC202	23-2-10	→	X					X		1jar																	
	QC203	23-2-10	→	X					X		1jar																	
	QC228	23-2-10	→	X					X		1jar	X	X	X	X	X			X	X			X	X		X	X	
	QC229	23-2-10	→	X					X		1jar																	HOLD

Relinquished By:
Name: ANTHONY DAVIS Date: 25/2/10
of: AECOM Time:

Received by:
Name: FAST Date: 26/2/10
of: ALS Time: 7:30AM

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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Tel: 61 2 8484 8999
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Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Prelimninary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo – Declaration Area **Project Number:** 34150014 **Purchase Order Number:** 1303951

Sample collected by: KATE PIGRAM & DANIEL **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications: FOX

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQUIRED 8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	Ice	other	Container (No. & type)
(5)	BHEA_1.0-1.4	26/02/10		X					X		
	BHEA_2.8-3.0										
	BH45_0.8-1.0										
	BH45_2.2-2.4										
	BH45_3.2-3.4										
	BH45_4.4-4.6										
	BH45_5.6-5.8										
	BH45_6.3-6.5										
	BH45_7.2-7.4										
	BH45_10.5-10.7	↓		↓					↓		

Analysis Request

Lab. ID	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Cr VI	VOC	Fe	TOC	TPH C6-C36	Remarks & comments
(5)	X	X	X	X	X			X	X	X	X	X	X	X	X		
	X	X				X		X	X				X			X	
		X															
		X	X	X	X												
	X	X	X	X	X			X	X			✓		α	X		

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: ANTHONY DAVIS Date: 25/2/10	Name: FAST Date: 26/2/10	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: AECOM Time:	of: AMS Time: 7:30pm		Yes/No/NA	Transport Co:	
Relinquished By:	**Received by:**	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: Time:		Yes/No/NA	Transport Co:	

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~~Revision: Oct 09~~
BMS-PM-DV-F046

Environment

Form:

(18) AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A
#N/A
#N/A
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Barangaroo – Declaration Area
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: ANTHONY DAVIS tel: 8484 8952	☐ Yes	☐ No	☐ N/A

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals (M13)	TPH (C6-36)	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	Cr VI	BTEX	Py	Toc	VOC	comments
	BH45_11.2-11.4	23.2.10	→	X					X		1 jar																	
	BH45_12.2-12.4	23.2.10	→	X					X		1 jar																	
	BH45_13.2-13.4	23.2.10	→	X					X		1 jar		X	X	X	X												
	QC231	23.2.10	→	X					X		1 jar	X	X	X	X	X			X	X			X	X	X	X		
X	QC232	23.2.10	→	X					X		1 jar	PLEASE FORWARD TO LABMARK WITH ACCOMPANYING COC																
	BH65_0.8-1.0	24.2.10	→	X					X		1 jar																	
	BH65_3.4-3.6	24.2.10	→	X					X		1 jar		X	X	X	X			X	X				X				
	BH65_4.2-4.4	24.2.10	→	X					X		1 jar																	
	BH65_5.6-5.8	24.2.10	→	X					X		1 jar																	
	BH65_6.2-6.4	24.2.10	→	X					X		1 jar																	

Relinquished By:
Name: ANTHONY DAVIS Date: 25/2/10
of: AECOM Time:

Received by:
Name: FAST Date: 26/2/10
of: ALS Time: 7.30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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Environment

~~Revision: Oct 09~~
BMS-PM-DV-F046

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A

#N/A
#N/A
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Barangaroo – Declaration Area
Project Number: S4150014
Purchase Order Number: 1303951

Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: 8. Project Manager: ANTHONY DAVIS tel: 8484 8952

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-36)	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	Cr VI	BTEX	VOC	Fe	ToC	comments
	BH65_7.5-7.7	24.2.10	→	X					X		1 jar																	
	BH65_8.2-8.6	24.2.10	→	X					X		1 jar		X	X	X	X												
	BH65_9.5-9.7	24.2.10	→	X					X		1 jar																	
	BH65_11.2-11.4	24.2.10	→	X					X		1 jar	X	X	X			X		X	X			X		X	X	X	
	BH65_12.5-12.7	24.2.10	→	X					X		1 jar																	
	BH65_13.4-13.6	24.2.10	→	X					X		1 jar		X	X	X	X			X	X				X				
	QC234	24.2.10	→	X					X		1 jar		X	X	X	X			X	X				X				
	QC235	24.2.10	→	X					X		1 jar																	
	QC236	24.2.10	→	X					X		1 jar																	
	QC230	23.2.10	→	X					X		1 jar		X	X	X	X												

Relinquished By:
Name: ANTHONY DAVIS Date: 25/2/10
of: AECOM Time:

Received by:
Name: FADI Date: 26/2/10
of: AECOM Time: 7:30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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Environment

~~Revision: Oct 09~~
BMS-PM-DV-F046

Form: (R2)

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
#N/A
#N/A
#N/A
#N/A
Email: anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Barangaroo – Decloration Area
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: ANTHONY DAVIS tel: 84848452	☐ Yes	☐ No	☐ N/A

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-36)	PAH	Phenols	SVOC	asbestos	Free Cyanide	Total Cyanide	ASLP	TCLP	Cr VI	BTEX	VOC	Fe	TOC	comments
	BH66_0.1-0.2	24.2.10	→	X					X		1 jar																	
	BH66_0.9-1.0	24.2.10	→	X					X		1 jar																	
	BH66_1.9-2.0	24.2.10	→	X					X		1 jar							X										
	BH66_2.3-2.4	24.2.10	→	X					X		1 jar	X	X	X	X	X			X	X			X	X		X	X	
	BH66_2.7-2.9	24.2.10	→	X					X		1 jar																	
	BH66_3.2-3.6	24.2.10	→	X					X		1 jar	X	X	X	X									X				
	BH66_5.2-5.4	24.2.10	→	X					X		1 jar																	
	BH66_7.0-7.2	24.2.10	→	X					X		1 jar		X	X	X	X												
	QC237	24.2.10	→	X					X		1 jar																	
	TB08	22.2.10	→	X					X		1 Jar													X				

Relinquished By:
Name: ANTHONY DAVIS Date: 25/2/10
of: AECOM Time:

Received by:
Name: FAST Date: 26/2/10
of: ALS Time: 7:30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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Environment

Revision: Oct 09
BMS-PM-DV-F046

(2)

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: LABMARK
Lab. Address:
Contact Name:
Lab. Ref: LEIGHTON PL, ASBESTOS
Tel: 94766533
Fax: 94768219
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo – Declaration Area **Project Number:** S4150014

Purchase Order Number: 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT CEO'D 8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)
	QC221	22/02/10		X					X		
	QC224	↓		↓					↓		
	QC224	↓		↓					↓		
		↓		↓					↓		
	QC232	↓		↓					↓		

Analysis Request

Lab. ID	pH	Metals (excl. Hg)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	Cr VI	VOC	Fe	TOC	TPH (C6-C36)	Remarks & comments
	X	X	X	X	X			X	X			X	X	X	X		
	X	X				X		X	X			X	X	X	X	X	
	X	X	X	X	X												
	V	X	X	X	X			X	X			X		X	X		

Relinquished By:
Name: ANTHONY DAVIS Date: 25/2/10
of: AECOM Time:

Received by:
Name: [illegible] Date: 26/2/10
of: AES Time: 7:00pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

CERTIFICATE OF ANALYSIS

Work Order	: **ES1003675**	Page	: 1 of 4
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo-S4150014 Declaration Area	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2010
Sampler	: KP& DF	Issue Date	: 12-MAR-2010
Site	: ----		
		No. of samples received	: 1
Quote number	: SY/259/09 V2	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Analysis conducted by ALS Brisbane, NATA Site No. 818.**
- **Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil', multiply 'reported results' x 'wet bulk density of soil in t/m3'.**
- **Retained Acidity not required because pH KCl greater than or equal to 4.5**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH49-6.2-6.4 BH52_6.2-6.4	----	----	----	----
			Client sampling date / time	22-FEB-2010 15:00	----	----	----	----
				ES1003675-001	----	----	----	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**8.7**	----	----	----	----
pH OX (23B)	----	0.1	pH Unit	**7.5**	----	----	----	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	----	----	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	----	----	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.13**	----	----	----	----
Peroxide Sulfur (23De)	----	0.02	% S	**1.34**	----	----	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**1.21**	----	----	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**758**	----	----	----	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.26**	----	----	----	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**5.12**	----	----	----	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	**4.86**	----	----	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**2420**	----	----	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**3.89**	----	----	----	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.13**	----	----	----	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.32**	----	----	----	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.19**	----	----	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**157**	----	----	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.25**	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**8.16**	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**1630**	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**2.61**	----	----	----	----
EA029-H: Acid Base Accounting								

Analytical Results

Sub-Matrix: SOIL	Client sample ID	BH49-6.2-6.4 BH52_6.2-6.4	----	----	----	----
	Client sampling date / time	22-FEB-2010 15:00	----	----	----	----
Compound	CAS Number / LOR / Unit	ES1003675-001	----	----	----	----
EA029-H: Acid Base Accounting - Continued						
ANC Fineness Factor	---- / 0.5 / -	**1.5**	----	----	----	----
Net Acidity (sulfur units)	---- / 0.02 / % S	<0.02	----	----	----	----
Net Acidity (acidity units)	---- / 10 / mole H+ / t	<10	----	----	----	----
Liming Rate	---- / 1 / kg CaCO3/t	<1	----	----	----	----

QUALITY CONTROL REPORT

Work Order	: **ES1003675**	Page	: 1 of 5
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo-S4150014 Declaration Area	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2010
Sampler	: KP& DF	Issue Date	: 12-MAR-2010
Order number	: 1303951		
		No. of samples received	: 1
Quote number	: SY/259/09 V2	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 1274352)									
EB1004070-001	Anonymous	EA029: pH KCl (23A)	----	0.1	pH Unit	6.6	6.6	0.0	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	4.2	4.1	2.4	0% - 20%
EA029-B: Acidity Trail (QC Lot: 1274352)									
EB1004070-001	Anonymous	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.0	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.0	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.0	No Limit
EA029-C: Sulfur Trail (QC Lot: 1274352)									
EB1004070-001	Anonymous	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-D: Calcium Values (QC Lot: 1274352)									
EB1004070-001	Anonymous	EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.53	0.53	0.0	0% - 20%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.60	0.64	5.3	0% - 20%
		EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.08	0.11	34.2	No Limit
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.06	0.08	34.2	No Limit
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	38	54	34.2	No Limit
EA029-E: Magnesium Values (QC Lot: 1274352)									
EB1004070-001	Anonymous	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.20	0.20	0.0	0% - 50%
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.21	0.22	5.6	0% - 50%
		EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	0.02	0.0	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	0.03	0.0	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	19	60.5	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-B: Acidity Trail (QCLot: 1274352)								
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	----	----	----
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	----	----	----
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 1274352)								
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029-D: Calcium Values (QCLot: 1274352)								
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 1274352)								
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 1274352)								
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) Results are required to be reported.**

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1003675**	Page	: 1 of 5
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo-S4150014 Declaration Area	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2010
Sampler	: KP& DF	Issue Date	: 12-MAR-2010
Order number	: 1303951		
		No. of samples received	: 1
Quote number	: SY/259/09 V2	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-A: pH Measurements							
Snap Lock Bag - frozen							
BH49-6.2-6.4 - BH52_6.2-6.4	**22-FEB-2010**	**10-MAR-2010**	22-FEB-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
EA029-B: Acidity Trail							
Snap Lock Bag - frozen							
BH49-6.2-6.4 - BH52_6.2-6.4	**22-FEB-2010**	**10-MAR-2010**	22-FEB-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
EA029-C: Sulfur Trail							
Snap Lock Bag - frozen							
BH49-6.2-6.4 - BH52_6.2-6.4	**22-FEB-2010**	**10-MAR-2010**	22-FEB-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
EA029-D: Calcium Values							
Snap Lock Bag - frozen							
BH49-6.2-6.4 - BH52_6.2-6.4	**22-FEB-2010**	**10-MAR-2010**	22-FEB-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
EA029-E: Magnesium Values							
Snap Lock Bag - frozen							
BH49-6.2-6.4 - BH52_6.2-6.4	**22-FEB-2010**	**10-MAR-2010**	22-FEB-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
EA029-F: Excess Acid Neutralising Capacity							
Snap Lock Bag - frozen							
BH49-6.2-6.4 - BH52_6.2-6.4	**22-FEB-2010**	**10-MAR-2010**	22-FEB-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
EA029-G: Retained Acidity							
Snap Lock Bag - frozen							
BH49-6.2-6.4 - BH52_6.2-6.4	**22-FEB-2010**	**10-MAR-2010**	22-FEB-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
EA029-H: Acid Base Accounting							
Snap Lock Bag - frozen							
BH49-6.2-6.4 - BH52_6.2-6.4	**22-FEB-2010**	**10-MAR-2010**	22-FEB-2011	✓	**12-MAR-2010**	08-JUN-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.

Preparation Methods	Method	Matrix	Method Descriptions
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1003675**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo-S4150014 Declaration Area	Page	: 1 of 2
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: KP& DF	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 26-FEB-2010	Issue Date	: 02-MAR-2010 14:40
Client Requested Due Date	: 15-MAR-2010	Scheduled Reporting Date	: **15-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 4.7'C - Ice present
No. of coolers/boxes	: 6 HARD	No. of samples received	: 1
Sercurity Seal	: Intact.	No. of samples analysed	: 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **SPOCAS analysis will be conducted by ALS Brisbane.**
- **Sample(s) have been received within recommended holding times.**
- **This batch is for SPOCAS split from ES1003672.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EA029 SPOCAS
ES1003675-001	22-FEB-2010 15:00	BH49-6.2-6.4 BH52_6...	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

Spoon ASS ONLY

(3)

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo – Declaration Area **Project Number:** S41500814 **Purchase Order Number:** 1303951

Sample collected by: DANIEL FOX & KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: ESDAT FORMAT REQ'D 8. Project Manager: ANTHONY DAVIS tel: 8484 8999	☐ Yes	☐ No	☐ N/A

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No) & type
69	BH49_3.2-3.4	22/10/2	10	X					X		250mL PVC
	BH49_4.2-4.4										250mL PVC
	BH49_4.8-5.0					CONTRACT WORK –					250mL PVC
	BH49_6.2-6.4	→	Received BHS2_6.2-6.4			WO: EC100967J				TAL BAG	250mL PVC
	BH49_7.2-7.4	→	Received BHS2_7.2-7.4			LAB: ALS Brisbane					250mL PVC
	BH49_8.2-8.4	→	Received BHS2_8.2-8.4			DATE: 26/2/10					250mL PVC
	BH49_9.2-9.4	→	Received BHS2_9.2-9.4			SPLIT: From					250mL PVC
	BH49_10.2-10.4	→	Received BHS2_10.2-10.4			ES 1003672					250mL PVC
	BH49_11.2-11.4	→	Received BHS2_11.2-11.4								250mL PVC
	BH49_12.2-12.4	→	Received BHS2 12.2-12.4								250mL PVC

Analysis Request

pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	VOC	CVI	Fe	TOC	Remarks & comments
	X	X	X	X											
X	X				X		X	X			X	X	X	X	X – ASS BAG Sample frozen
	X	X	X	X											
	X	X	X	X			X	X							
X	X				X		X	X			X	X	X		

Relinquished By:		**Received by:**	
Name: ANTHONY DAVIS	Date: 25/2/10	Name: DAVI	Date: 26/2/10
of: AECOM	Time:	of: ALS	Time: 7:30pm
Relinquished By:		**Received by:**	
Name:	Date:	Name:	Date:
of:	Time:	of:	Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Environmental Division
Sydney
Work Order
ES1003675

~~Printed copies of this document are uncontrolled~~

CERTIFICATE OF ANALYSIS

Work Order	: **ES1003970**	Page	: 1 of 6
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2010
Sampler	: KP	Issue Date	: 11-MAR-2010
Site	: ----		
		No. of samples received	: 3
Quote number	: SY/259/09 V2	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EP075(SIM): Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.**
- **LCS recovery for Vanadium falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**

Analytical Results

Sub-Matrix: DI WATER LEACHATE				Client sample ID	BH55_2.2-2.4	BH62_5.4-5.6	BH69_1.0-1.15	----	----
				Client sampling date / time	06-MAR-2010 12:00	06-MAR-2010 12:00	06-MAR-2010 12:00	----	----
Compound	CAS Number	LOR	Unit		ES1003970-001	ES1003970-002	ES1003970-003	----	----
EG020W: Water Leachable Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	**0.005**	**0.003**	----	----
Beryllium	7440-41-7	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Barium	7440-39-3	0.001	mg/L		**0.833**	**0.188**	**0.052**	----	----
Cadmium	7440-43-9	0.0001	mg/L		**0.0034**	**0.0033**	<0.0001	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	**0.001**	----	----
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	**0.004**	----	----
Lead	7439-92-1	0.001	mg/L		**0.002**	**0.002**	<0.001	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Vanadium	7440-62-2	0.01	mg/L		<0.01	**0.02**	**0.02**	----	----
Zinc	7440-66-6	0.005	mg/L		**0.013**	<0.005	**0.013**	----	----
EG035W: Water Leachable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		**7190**	**41.7**	**45.0**	----	----
Acenaphthylene	208-96-8	1.0	µg/L		**218**	**3.0**	**11.5**	----	----
Acenaphthene	83-32-9	1.0	µg/L		**38.2**	**5.1**	**5.7**	----	----
Fluorene	86-73-7	1.0	µg/L		**129**	**7.2**	**16.3**	----	----
Phenanthrene	85-01-8	1.0	µg/L		**103**	**17.0**	**26.8**	----	----
Anthracene	120-12-7	1.0	µg/L		**19.5**	**4.0**	**6.0**	----	----
Fluoranthene	206-44-0	1.0	µg/L		**13.4**	**5.2**	**6.5**	----	----
Pyrene	129-00-0	1.0	µg/L		**9.8**	**4.4**	**5.0**	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<3.8	<1.0	<1.0	----	----
Chrysene	218-01-9	1.0	µg/L		<3.8	<1.0	<1.0	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L		<3.8	<1.0	<1.0	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<3.8	<1.0	<1.0	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<3.8	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<3.8	<1.0	<1.0	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<3.8	<1.0	<1.0	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<3.8	<1.0	<1.0	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**32.5**	**17.2**	**17.5**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**54.9**	**43.9**	**46.8**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**70.9**	**61.4**	**66.1**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**71.1**	**72.2**	**72.7**	----	----
Anthracene-d10	1719-06-8	0.1	%		**74.5**	**68.0**	**65.2**	----	----

Analytical Results

Sub-Matrix: DI WATER LEACHATE			Client sample ID	BH55_2.2-2.4	BH62_5.4-5.6	BH69_1.0-1.15	----	----
			Client sampling date / time	06-MAR-2010 12:00	06-MAR-2010 12:00	06-MAR-2010 12:00	----	----
Compound	CAS Number	LOR	Unit	ES1003970-001	ES1003970-002	ES1003970-003	----	----
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	**71.9**	**76.4**	**78.0**	----	----

Analytical Results

Sub-Matrix: SOIL			Client sample ID	BH55_2.2-2.4	BH62_5.4-5.6	BH69_1.0-1.15	----	----
			Client sampling date / time	25-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	----	----
Compound	CAS Number	LOR	Unit	ES1003970-001	ES1003970-002	ES1003970-003	----	----
EN60: Bottle Leaching Procedure								
Final pH	----	0.1	pH Unit	**8.5**	**10.2**	**11.0**	----	----

Surrogate Control Limits

Sub-Matrix: **DI WATER LEACHATE**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

QUALITY CONTROL REPORT

Work Order	: **ES1003970**	Page	: 1 of 6
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2010
Sampler	: KP	Issue Date	: 11-MAR-2010
Order number	: 1303951		
		No. of samples received	: 3
Quote number	: SY/259/09 V2	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020W: Water Leachable Metals by ICP-MS (QC Lot: 1270985)									
ES1003970-001	BH55_2.2-2.4	EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	0.0034	0.0031	8.3	0% - 20%
		EG020A-W: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Barium	7440-39-3	0.001	mg/L	0.833	0.857	2.8	0% - 20%
		EG020A-W: Chromium	7440-47-3	0.001	mg/L	<0.001	0.001	0.0	No Limit
		EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Lead	7439-92-1	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-W: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Zinc	7440-66-6	0.005	mg/L	0.013	0.015	14.8	No Limit
		EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EG035W: Water Leachable Mercury by FIMS (QC Lot: 1270986)									
ES1003839-002	Anonymous	EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1003839-021	Anonymous	EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1270985)								
EG020A-W: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	95.7	87	111
EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	91.2	75	125
EG020A-W: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	96.7	86	114
EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	92.6	90	106
EG020A-W: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	102	94	114
EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	101	89	117
EG020A-W: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	98.5	90	112
EG020A-W: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	103	88	120
EG020A-W: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	103	90	120
EG020A-W: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	96.2	86	116
EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 85.2	92	112
EG020A-W: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	98.8	82	116
EG035W: Water Leachable Mercury by FIMS (QCLot: 1270986)								
EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	91.7	82	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1270825)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	97.0	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	89.7	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	86.6	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	86.9	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	86.9	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	91.4	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	89.0	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	88.7	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	86.2	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	87.2	62.5	116
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1270825) - continued								
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	86.3	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	80.5	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	84.4	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	101	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	89.7	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	104	59.1	118
		1	µg/L	<1.0	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1270985)							
ES1003970-001	BH55_2.2-2.4	EG020A-W: Arsenic	7440-38-2	1 mg/L	99.9	70	130
		EG020A-W: Beryllium	7440-41-7	1 mg/L	101	70	130
		EG020A-W: Barium	7440-39-3	1 mg/L	101	70	130
		EG020A-W: Cadmium	7440-43-9	0.250 mg/L	99.4	70	130
		EG020A-W: Chromium	7440-47-3	1 mg/L	100	70	130
		EG020A-W: Cobalt	7440-48-4	1 mg/L	98.1	70	130
		EG020A-W: Copper	7440-50-8	1 mg/L	103	70	130
		EG020A-W: Lead	7439-92-1	1 mg/L	95.7	70	130
		EG020A-W: Manganese	7439-96-5	1 mg/L	98.0	70	130
		EG020A-W: Nickel	7440-02-0	1 mg/L	102	70	130
		EG020A-W: Vanadium	7440-62-2	1 mg/L	95.4	70	130
		EG020A-W: Zinc	7440-66-6	1 mg/L	106	70	130
EG035W: Water Leachable Mercury by FIMS (QCLot: 1270986)							
ES1003970-002	BH62_5.4-5.6	EG035W: Mercury	7439-97-6	0.0100 mg/L	90.6	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1003970**	Page	: 1 of 5
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2010
Sampler	: KP	Issue Date	: 11-MAR-2010
Order number	: 1303951		
		No. of samples received	: 3
Quote number	: SY/259/09 V2	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020W: Water Leachable Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH55_2.2-2.4, BH62_5.4-5.6, BH69_1.0-1.15	**06-MAR-2010**	**08-MAR-2010**	02-SEP-2010	✓	**08-MAR-2010**	02-SEP-2010	✓
EG035W: Water Leachable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH55_2.2-2.4, BH62_5.4-5.6, BH69_1.0-1.15	**06-MAR-2010**	**----**	----	----	**09-MAR-2010**	03-APR-2010	✓
EN60: Bottle Leaching Procedure							
LabSplit: Leach for organics and other tests							
BH55_2.2-2.4	**25-FEB-2010**	**---**	---	----	**06-MAR-2010**	11-MAR-2010	✓
LabSplit: Leach for organics and other tests							
BH62_5.4-5.6, BH69_1.0-1.15	**26-FEB-2010**	**---**	---	----	**06-MAR-2010**	12-MAR-2010	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
BH55_2.2-2.4, BH62_5.4-5.6, BH69_1.0-1.15	**06-MAR-2010**	**08-MAR-2010**	13-MAR-2010	✓	**09-MAR-2010**	17-APR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Water Leachable Mercury by FIMS	EG035W	2	19	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	3	**33.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Mercury by FIMS	EG035W	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	3	**33.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Mercury by FIMS	EG035W	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	3	**33.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Water Leachable Mercury by FIMS	EG035W	1	19	**5.3**	**5.0**	✓	ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	3	**33.3**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	SOIL	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Water Leachable Mercury by FIMS	EG035W	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in DI Water Leachate	EN25W	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Deionised Water Leach	EN60-Dla	SOIL	AS4439.3 Preparation of Leachates
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020W: Water Leachable Metals by ICP-MS	1472073-002	----	**Vanadium**	7440-62-2	85.2 %	92-112%	**Recovery less than lower control limit**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1003970**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	Page	: 1 of 2
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: KP	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 03-MAR-2010	Issue Date	: 04-MAR-2010 19:23
Client Requested Due Date	: 11-MAR-2010	Scheduled Reporting Date	: **11-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 6.9'C - Ice present
No. of coolers/boxes	: 3 HARD	No. of samples received	: 3
Sercurity Seal	: Not intact.	No. of samples analysed	: 3

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **This batch is for DI Water Leach split from ES1003971.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EG020A-W Water Leachable Metals by ICP-MS - Suite A	SOIL - EG035W Water Leachable Mercury by FIMS	SOIL - EP075 SIM PAH only SIM - PAH only
ES1003970-001	04-MAR-2010 15:00	BH55_2.2-2.4	✓	✓	✓
ES1003970-002	04-MAR-2010 15:00	BH62_5.4-5.6	✓	✓	✓
ES1003970-003	04-MAR-2010 15:00	BH69_1.0-1.15	✓	✓	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

Declaration Area

BATCH 1

ASLP only

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951

Sample collected by: KATE PIGRAM
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQUIRED 8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Analysis Request

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Cyanide (total)	WAD Cyanide	ASLP (M13 PAHs)	TCLP (M13+PAHs)	Aluminium/Antimony/Selenium/Silver	VOC	TPH(C6-C36)	FC	Remarks & comments
	BH55_1.0-1.2	25/02/10		X					X				X	X	X	X			X	X							
(1)	BH55_2.2-2.9	↓		Subcon / Forward Lab / Split WO								X	X				X		X	X	X	X	X	X	X	X	X	
	BH55_2.7-2.9	↓		Lab / Analysis: ALS/ALS/ALS_new									X	✓	X	X			X	X							
	BH62_1.0-1.2	26/02/10		Organised By / Date:									X	X	X	X			X	X							
	BH62_2.0-2.2			Relinquished By / Date:																							HOLD
	BH62_3.4-3.8			Connote / Courier:									X	X	X	X											
	BH62_4.7-4.9			WO No: SY/47 JF ASLP																							HOLD
(2)	BH62_5.4-5.6			Attach By PO / Internal Sheet:								X	X	X	X	X			X	X	X	X					
	BH62_6.5-6.7																										HOLD
	BH62_8.8-9.0	↓		↓					↓				X														

Relinquished By:
Name: Anthony Davis Date: 3/3/10
of: Time:

Received by:
Name: [signature] Date: 3/3/10
of: ALS Time: 6:30pm

Received in good condition? Courier ☐ Postal ☐ By Hand
Samples received chilled?

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition? Courier ☐ Postal ☐ By Hand
Samples received chilled?

Environmental Division
Sydney
Work Order
ES1003970

Telephone : +61-2-8784 8555

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~~Revision: Oct 08~~
BMS-PM-DV-F046

Environment

Declaration Area

BATCH 1

(2)

AECOM

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQUIRED 8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filted	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)
	BH62_9.9-10.1	26/02/10		X					X		1LT 250mL ES1-DNP
	BH62_11.0-11.2										
	BH62_11.8-12.0										
	SW09 0.2-0.4										
	SW09 1.3-1.5										
	BH50_1.3-1.5										

Analysis Request

Lab. ID	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Cyanide (free)	WAD Cyanide	ASLP	TCLP	VOC	TPH (C6 - C36)	Fe	Cr VI	Remarks & comments: TOC	Remarks & comments: TOTAL CYANIDE
																	HOLD
																	HOLD
	X	X				X		X	X			X	X	X			
	X	X	X	X	X												
		X															
	X	X	X	X	X			X	X					X		X	X

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Anthony Davis Date: 3/3/10	Name: FAOi Date: 3/3/10	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: AES Time: 6:30pm		Yes/No/NA	Transport Co:	
Relinquished By:	**Received by:**	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: Time:		Yes/No/NA	Transport Co:	

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BATCH 1

BH69/MW69 Blocks 4 & 5 downgradient of DRA.

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: Lauren K **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: tel:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Cyanide (Total)	WAD Cyanide	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Voc	TPH C6-C36	Toc	Fe	Remarks & comments
③	BH69-1.0-1.5	26.2.10		X					X		1Jar		X	X	X	X			X	X	X	X			X		
	BH69-4.0-4.2	26.2.10		X					X		1Jar	X	X	X	X	X		X										
	BH69-10.0-10.2	26.2.10		X					X		1Jar	X	X				X		X	X			X	X		X	

Relinquished By:
Name: Anthony Davis Date: 3/3/10
of: Time:

Received by:
Name: FAdi Date: 3/3/10
of: AES Time: 6:30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Declaration Area

BATCH 1

(4)

AECOM

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo

Project Number: ~~34428501~~ 84150014

Purchase Order Number: 1303951

Sample collected by: KATE PIGRAM

Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQ'D 8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals. M&P+Fe	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	Voc	Total Cyanide	Toc	CrVI	Remarks & comments
	QC239	24/02/10			X				X		2x VIAL 1x plastic bottle		X	X													
		"																									
	QC242	25/02/10		X					X		1x 250mL SOIL JAR																HOLD
					X																						
	QC244	26/02/10		X							1V																HOLD
	QC245										250mL																HOLD
											SOIL																
	QC247										TUB																HOLD
	TB09	22/02/10		X							1x 40mL SOIL												X				

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Anthony Davis	Name: FAST	Samples received chilled?	Yes/No/NA	Consignment Note No.	
Date: 3/3/10	Date: 3/3/10		Yes/No/NA	Transport Co:	
of:	of: AM				
Time:	Time: 6:30pm				

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name:	Name:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
Date:	Date:		Yes/No/NA	Transport Co:	
of:	of:				
Time:	Time:				

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~~Revision: Oct 09~~
BMS-PM-DV-F046

Environment

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1003971**	Page	: 1 of 36
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2010
Sampler	: KP	Issue Date	: 12-MAR-2010
Site	: ----		
		No. of samples received	: 25
Quote number	: SY/259/09 V2	No. of samples analysed	: 16

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Edwandy Fadjar	Senior Organic Chemist	Organics
Hoa Nguyen	Inorganic Chemist	Inorganics
KEN HALL	Analyst	Newcastle
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Asbestos Identification: Samples were analysed by Polarised Light Microscopy including dispersion staining. Legend for Asbestos Type: 'Am' Amosite (brown asbestos) detected, 'Ch' Chrysotile (white asbestos) detected, 'Cr' Crocidolite (blue asbestos) detected, 'UMF' Unknown mineral fibres detected - No asbestos fibres detected, 't' Trace levels detected. Confirmation by alternative techniques is recommended for samples where unknown mineral fibres are detected.**
- **EG005T: Poor precision was obtained for Aluminium on sample ES1003900#1 due to sample heterogeneity.**
- **EK028G: Analysis could not be conducted for sample BH62_5.4.5.6 due to insufficient sample left after all other testings performed.**
- **EP074: Naphthalene results for various samples has been reported from EP075 method.**
- **EP075(SIM), EP075: Particular samples required dilution prior to extraction due to matrix interferences. LOR values have been adjusted accordingly. Poor Dulicate recorvery and Matrix spike recovery was not determined due to sample matrix interferences.**
- **EP075(SIM): Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.**
- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**
- **EP080: Level of reporting raised for toluene due to ambient background levels in the laboratory.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH55_1.0-1.2	BH55_2.2-2.4	BH55_2.7-2.9	BH62_1.0-1.2	BH62_3.4-3.8
				Client sampling date / time: 25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-001	ES1003971-002	ES1003971-003	ES1003971-004	ES1003971-005
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	8.5	----	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	14.9	12.8	17.6	9.7	31.1
EG005T: Total Metals by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	----	1430	----	----	----
Antimony	7440-36-0	5	mg/kg	----	<5	----	----	----
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	40	10	20	30	130
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	5	5	10	7	11
Cobalt	7440-48-4	2	mg/kg	<2	<2	<2	<2	2
Copper	7440-50-8	5	mg/kg	<5	<5	11	16	10
Iron	7439-89-6	50	mg/kg	----	6640	----	----	----
Lead	7439-92-1	5	mg/kg	20	9	30	102	1300
Manganese	7439-96-5	5	mg/kg	15	<5	6	25	146
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	<2	6
Selenium	7782-49-2	5	mg/kg	----	<5	----	----	----
Silver	7440-22-4	2	mg/kg	----	<2	----	----	----
Vanadium	7440-62-2	5	mg/kg	10	8	6	16	19
Zinc	7440-66-6	5	mg/kg	<5	<5	<5	68	97
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.4	<0.1	0.1	0.2	<0.1
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	127	249	22	9	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	8	<1	<1	<1	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	8.9	----	----	----
After HCl pH	----	0.1	pH Unit	----	1.5	----	----	----
Extraction Fluid Number	----	1	-	----	1	----	----	----
Final pH	----	0.1	pH Unit	----	5.2	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	22.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	2.3	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	29.6	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	48.8	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH55_1.0-1.2	BH55_2.2-2.4	BH55_2.7-2.9	BH62_1.0-1.2	BH62_3.4-3.8
				Client sampling date / time: 25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-001	ES1003971-002	ES1003971-003	ES1003971-004	ES1003971-005
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
Styrene	100-42-5	0.5	mg/kg	----	**6.2**	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	**51.6**	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	**0.6**	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	**1.4**	----	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	**31.2**	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	**76.5**	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	<0.5	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	<0.5	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	<0.5	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	<5	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	<5	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	<5	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	<5	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	<0.5	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	<0.5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	<0.5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	<0.5	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	<5	----	----	----
Chloromethane	74-87-3	5	mg/kg	----	<5	----	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	<5	----	----	----
Bromomethane	74-83-9	5	mg/kg	----	<5	----	----	----
Chloroethane	75-00-3	5	mg/kg	----	<5	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	<5	----	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	<0.5	----	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	<0.5	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	<0.5	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	<0.5	----	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	<0.5	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH55_1.0-1.2	BH55_2.2-2.4	BH55_2.7-2.9	BH62_1.0-1.2	BH62_3.4-3.8
				Client sampling date / time: 25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-001	ES1003971-002	ES1003971-003	ES1003971-004	ES1003971-005
EP074E: Halogenated Aliphatic Compounds - Continued								
Trichloroethene	79-01-6	0.5	mg/kg	----	<0.5	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	<0.5	----	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	<0.5	----	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	<0.5	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	<0.5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	<0.5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	<0.5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	<0.5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	<0.5	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	<0.5	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	<0.5	----	----	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<0.5	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	<0.5	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	<0.5	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	<0.5	----	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	<0.5	----	----	----
Bromoform	75-25-2	0.5	mg/kg	----	<0.5	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	**23.5**	----	<4.0	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<4.0	----	<4.0	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	**28.3**	----	<4.0	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	**33.2**	----	<8.0	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<4.0	----	<4.0	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	**41.3**	----	**8.4**	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<4.0	----	<4.0	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<4.0	----	<4.0	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<4.0	----	<4.0	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH55_1.0-1.2	BH55_2.2-2.4	BH55_2.7-2.9	BH62_1.0-1.2	BH62_3.4-3.8
				Client sampling date / time: 25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-001	ES1003971-002	ES1003971-003	ES1003971-004	ES1003971-005
EP075(SIM)A: Phenolic Compounds - Continued								
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<4.0	----	<4.0	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<4.0	----	<4.0	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<8.0	----	<8.0	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**4510**	----	**4810**	**0.7**	<0.5
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<4.0	----	<4.0	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	**473**	----	**386**	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	**80.7**	----	**67.1**	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	**460**	----	**440**	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**2030**	----	**1840**	**0.9**	<0.5
Anthracene	120-12-7	0.5	mg/kg	**482**	----	**341**	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	**1280**	----	**783**	**0.9**	<0.5
Pyrene	129-00-0	0.5	mg/kg	**1220**	----	**677**	**0.9**	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	**425**	----	**294**	**0.5**	<0.5
Chrysene	218-01-9	0.5	mg/kg	**282**	----	**200**	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	**300**	----	**187**	**0.5**	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**107**	----	**117**	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**252**	----	**160**	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**95.0**	----	**53.3**	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**23.3**	----	**14.5**	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**123**	----	**65.0**	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**12100**	----	**10400**	**4.4**	<0.5
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<1.2	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<1.2	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<1.2	----	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	<2.5	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<1.2	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	**4.2**	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<1.2	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<1.2	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<1.2	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<1.2	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<1.2	----	----	----
Pentachlorophenol	87-86-5	1	mg/kg	----	<2	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	**1740**	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH55_1.0-1.2	BH55_2.2-2.4	BH55_2.7-2.9	BH62_1.0-1.2	BH62_3.4-3.8
				Client sampling date / time: 25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-001	ES1003971-002	ES1003971-003	ES1003971-004	ES1003971-005
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	**308**	----	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	<1.2	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	**149**	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	**25.3**	----	----	----
Fluorene	86-73-7	0.5	mg/kg	----	**151**	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	**463**	----	----	----
Anthracene	120-12-7	0.5	mg/kg	----	**119**	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	**274**	----	----	----
Pyrene	129-00-0	0.5	mg/kg	----	**237**	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	<1.2	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	**107**	----	----	----
Chrysene	218-01-9	0.5	mg/kg	----	**87.0**	----	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	**102**	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	<1.2	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**84.0**	----	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	<1.2	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	**17.5**	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	**5.4**	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	**17.2**	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	<1.2	----	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	<1.2	----	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	<1.2	----	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	<1.2	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	<5.0	----	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	<1.2	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	<1.2	----	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	<1.2	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	<2.5	----	----	----
Methapyrilene	91-80-5	0.5	mg/kg	----	<1.2	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH55_1.0-1.2	BH55_2.2-2.4	BH55_2.7-2.9	BH62_1.0-1.2	BH62_3.4-3.8
				Client sampling date / time: 25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-001	ES1003971-002	ES1003971-003	ES1003971-004	ES1003971-005
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	<1.2	----	----	----
Acetophenone	98-86-2	0.5	mg/kg	----	<1.2	----	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	<1.2	----	----	----
Isophorone	78-59-1	0.5	mg/kg	----	<1.2	----	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	<1.2	----	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	<1.2	----	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	----	<1.2	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	<1.2	----	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	<1.2	----	----	----
Azobenzene	103-33-3	1	mg/kg	----	<1	----	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	<1.2	----	----	----
Phenacetin	62-44-2	0.5	mg/kg	----	<1.2	----	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	**1.2**	----	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	<1.2	----	----	----
Pronamide	23950-58-5	0.5	mg/kg	----	<1.2	----	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	<1.2	----	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	<1.2	----	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	<1.2	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	<1.2	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	<1.2	----	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	<1.2	----	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<1.2	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<1.2	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<1.2	----	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	<1.2	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<1.2	----	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	<1.2	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<1.2	----	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	<2.5	----	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	<1.2	----	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	<1.2	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	<1.2	----	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	<1.2	----	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	----	<1.2	----	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	----	<1.2	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH55_1.0-1.2	BH55_2.2-2.4	BH55_2.7-2.9	BH62_1.0-1.2	BH62_3.4-3.8
				Client sampling date / time: 25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-001	ES1003971-002	ES1003971-003	ES1003971-004	ES1003971-005
EP075H: Anilines and Benzidines - Continued								
Dibenzofuran	132-64-9	0.5	mg/kg	----	**124**	----	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	<1.2	----	----	----
Carbazole	86-74-8	0.5	mg/kg	----	**67.6**	----	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	<1.2	----	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	<1.2	----	----	----
beta-BHC	319-85-7	0.5	mg/kg	----	<1.2	----	----	----
gamma-BHC	58-89-9	0.5	mg/kg	----	<1.2	----	----	----
delta-BHC	319-86-8	0.5	mg/kg	----	<1.2	----	----	----
Heptachlor	76-44-8	0.5	mg/kg	----	<1.2	----	----	----
Aldrin	309-00-2	0.5	mg/kg	----	<1.2	----	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	<1.2	----	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	<1.2	----	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	<1.2	----	----	----
Dieldrin	60-57-1	0.5	mg/kg	----	<1.2	----	----	----
Endrin	72-20-8	0.5	mg/kg	----	<1.2	----	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	<1.2	----	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	<1.2	----	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	<1.2	----	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	----	<1.2	----	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	<1.2	----	----	----
Dimethoate	60-51-5	0.5	mg/kg	----	<1.2	----	----	----
Diazinon	333-41-5	0.5	mg/kg	----	<1.2	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	<1.2	----	----	----
Malathion	121-75-5	0.5	mg/kg	----	<1.2	----	----	----
Fenthion	55-38-9	0.5	mg/kg	----	<1.2	----	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	<1.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	<1.2	----	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	<1.4	----	----	----
Prothiofos	34643-46-4	0.5	mg/kg	----	<1.2	----	----	----
Ethion	563-12-2	0.5	mg/kg	----	<1.2	----	----	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	----	<1.2	----	----	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	----	<2.5	----	----	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	----	<1.2	----	----	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	----	<1.2	----	----	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	----	<1.2	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH55_1.0-1.2	BH55_2.2-2.4	BH55_2.7-2.9	BH62_1.0-1.2	BH62_3.4-3.8
				Client sampling date / time: 25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-001	ES1003971-002	ES1003971-003	ES1003971-004	ES1003971-005
EP075K: Miscellaneous Compounds - Continued								
trans-Isosafrole	4043-71-4	0.5	mg/kg	----	<1.2	----	----	----
Safrole	94-59-7	0.5	mg/kg	----	<1.2	----	----	----
Diallate	2303-16-4	0.5	mg/kg	----	<1.2	----	----	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	----	<1.2	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	**109**	**304**	**104**	<10	<10
C10 - C14 Fraction	----	50	mg/kg	**11300**	**6420**	**9150**	<50	<50
C15 - C28 Fraction	----	100	mg/kg	**19400**	**10600**	**14800**	<100	**140**
C29 - C36 Fraction	----	100	mg/kg	**5550**	**3740**	**4750**	<100	**240**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**36200**	**20800**	**28700**	----	**380**
C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	<50	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	**7.8**	----	**9.4**	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	**14.0**	----	**2.0**	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	**2.8**	----	**8.9**	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	**24.1**	----	**19.8**	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	**10.8**	----	**21.1**	<0.5	<0.5
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**90.1**	----	----	----
Toluene-D8	2037-26-5	0.1	%	----	**109**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	**97.0**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**91.2**	----	**86.4**	**79.7**	**91.8**
2-Chlorophenol-D4	93951-73-6	0.1	%	**96.2**	----	**92.1**	**82.4**	**90.2**
2.4.6-Tribromophenol	118-79-6	0.1	%	**88.7**	----	**94.0**	**91.1**	**57.5**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**99.3**	----	**98.1**	**86.8**	**96.0**
Anthracene-d10	1719-06-8	0.1	%	**105**	----	**101**	**88.6**	**97.7**
4-Terphenyl-d14	1718-51-0	0.1	%	**102**	----	**99.5**	**98.2**	**109**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	**54.9**	----	----	----
Phenol-d6	13127-88-3	0.1	%	----	**56.2**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**55.6**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**59.4**	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	**54.6**	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	**52.6**	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH55_1.0-1.2	BH55_2.2-2.4	BH55_2.7-2.9	BH62_1.0-1.2	BH62_3.4-3.8
				Client sampling date / time: 25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-001	ES1003971-002	ES1003971-003	ES1003971-004	ES1003971-005
EP075T: Base/Neutral Extractable Surrogates - Continued								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**60.6**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**94.7**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**94.8**	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**93.2**	**86.0**	**95.7**	**98.8**	**99.6**
Toluene-D8	2037-26-5	0.1	%	**102**	**100**	**97.8**	**105**	**103**
4-Bromofluorobenzene	460-00-4	0.1	%	**101**	**92.0**	**91.0**	**105**	**100**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH62_5.4-5.6	BH62_8.8-9.0	BH62_11.8-12.0	SV09_0.2-0.4	SV09_1.3-1.5
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-006	ES1003971-007	ES1003971-008	ES1003971-009	ES1003971-010
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**9.1**	----	**8.9**	**4.0**	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**16.1**	**14.5**	**16.0**	**12.2**	**28.0**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**6**	<5	<5	<5	**18**
Barium	7440-39-3	10	mg/kg	**150**	**60**	**50**	**60**	**110**
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	**2**
Chromium	7440-47-3	2	mg/kg	**13**	**8**	**7**	**28**	**139**
Cobalt	7440-48-4	2	mg/kg	**3**	**2**	<2	**2**	<2
Copper	7440-50-8	5	mg/kg	**37**	**22**	**6**	**17**	**42**
Iron	7439-89-6	50	mg/kg	----	----	**3300**	----	----
Lead	7439-92-1	5	mg/kg	**364**	**78**	**120**	**144**	**499**
Manganese	7439-96-5	5	mg/kg	**92**	**112**	**9**	**26**	**13**
Nickel	7440-02-0	2	mg/kg	**9**	**6**	<2	**15**	<2
Vanadium	7440-62-2	5	mg/kg	**28**	**22**	**13**	**8**	**149**
Zinc	7440-66-6	5	mg/kg	**244**	**56**	**174**	**14**	**7**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	**0.2**	<0.1
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	----	<1	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	<1	----	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	**9.8**	----	----	----	----
After HCl pH	----	0.1	pH Unit	**1.6**	----	----	----	----
Extraction Fluid Number	----	1	-	**1**	----	----	----	----
Final pH	----	0.1	pH Unit	**5.8**	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	----	----
Styrene	100-42-5	0.5	mg/kg	----	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	<0.5	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH62_5.4-5.6	BH62_8.8-9.0	BH62_11.8-12.0	SV09_0.2-0.4	SV09_1.3-1.5
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-006	ES1003971-007	ES1003971-008	ES1003971-009	ES1003971-010
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	<0.5	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	<0.5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	<5	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	<0.5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	<5	----	----
Chloromethane	74-87-3	5	mg/kg	----	----	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	<5	----	----
Bromomethane	74-83-9	5	mg/kg	----	----	<5	----	----
Chloroethane	75-00-3	5	mg/kg	----	----	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	----	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	<0.5	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	<0.5	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH62_5.4-5.6	BH62_8.8-9.0	BH62_11.8-12.0	SV09_0.2-0.4	SV09_1.3-1.5
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-006	ES1003971-007	ES1003971-008	ES1003971-009	ES1003971-010
EP074E: Halogenated Aliphatic Compounds - Continued								
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	<0.5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	----	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	<0.5	----	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	<0.5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg	----	----	<0.5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	----	**1.4**	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	----	----	<2.0	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH62_5.4-5.6	BH62_8.8-9.0	BH62_11.8-12.0	SV09_0.2-0.4	SV09_1.3-1.5
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-006	ES1003971-007	ES1003971-008	ES1003971-009	ES1003971-010
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Naphthalene	91-20-3	0.5	mg/kg	**0.5**	----	----	**5.8**	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	**0.6**	----	----	**9.9**	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	**1.4**	----
Fluorene	86-73-7	0.5	mg/kg	**0.5**	----	----	**3.4**	----
Phenanthrene	85-01-8	0.5	mg/kg	**6.1**	----	----	**69.1**	----
Anthracene	120-12-7	0.5	mg/kg	**2.2**	----	----	**18.5**	----
Fluoranthene	206-44-0	0.5	mg/kg	**10.8**	----	----	**97.5**	----
Pyrene	129-00-0	0.5	mg/kg	**10.3**	----	----	**92.2**	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**5.1**	----	----	**45.3**	----
Chrysene	218-01-9	0.5	mg/kg	**4.0**	----	----	**33.9**	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	**4.3**	----	----	**43.7**	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**2.2**	----	----	**18.0**	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**2.9**	----	----	**25.4**	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**1.3**	----	----	**12.6**	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	**4.2**	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**1.7**	----	----	**14.5**	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**52.5**	----	----	**495**	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	<0.5	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachlorophenol	87-86-5	1	mg/kg	----	----	<1	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	<0.5	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	<0.5	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH62_5.4-5.6	BH62_8.8-9.0	BH62_11.8-12.0	SV09_0.2-0.4	SV09_1.3-1.5
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-006	ES1003971-007	ES1003971-008	ES1003971-009	ES1003971-010
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	----	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	----	----	<0.5	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	----	----	<0.5	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	----	<1	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	<0.5	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	<0.5	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	<0.5	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	<0.5	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	<0.5	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	<0.5	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	----	<5.0	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	<0.5	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	----	<1.0	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	----	<1.0	----	----
Methapyrilene	91-80-5	0.5	mg/kg	----	----	<0.5	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	----	<0.5	----	----
Acetophenone	98-86-2	0.5	mg/kg	----	----	<0.5	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH62_5.4-5.6	BH62_8.8-9.0	BH62_11.8-12.0	SV09_0.2-0.4	SV09_1.3-1.5
Client sampling date / time				26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-006	ES1003971-007	ES1003971-008	ES1003971-009	ES1003971-010
EP075E: Nitroaromatics and Ketones - Continued								
Isophorone	78-59-1	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	----	<1.0	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	----	<1.0	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	<0.5	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	<0.5	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	<0.5	----	----
Azobenzene	103-33-3	1	mg/kg	----	----	<1	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	<0.5	----	----
Phenacetin	62-44-2	0.5	mg/kg	----	----	<0.5	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	<0.5	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	<0.5	----	----
Pronamide	23950-58-5	0.5	mg/kg	----	----	<0.5	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	<0.5	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	<0.5	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	<0.5	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	<0.5	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	<0.5	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	<0.5	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	<0.5	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	<0.5	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	<0.5	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	----	<2.5	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	<0.5	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	----	<1.0	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	----	<0.5	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	<0.5	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	----	----	<1.0	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	----	----	<1.0	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	<0.5	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	<0.5	----	----
Carbazole	86-74-8	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH62_5.4-5.6	BH62_8.8-9.0	BH62_11.8-12.0	SV09_0.2-0.4	SV09_1.3-1.5
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-006	ES1003971-007	ES1003971-008	ES1003971-009	ES1003971-010
EP075H: Anilines and Benzidines - Continued								
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	<0.5	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	----	<0.5	----	----
beta-BHC	319-85-7	0.5	mg/kg	----	----	<0.5	----	----
gamma-BHC	58-89-9	0.5	mg/kg	----	----	<0.5	----	----
delta-BHC	319-86-8	0.5	mg/kg	----	----	<0.5	----	----
Heptachlor	76-44-8	0.5	mg/kg	----	----	<0.5	----	----
Aldrin	309-00-2	0.5	mg/kg	----	----	<0.5	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	----	<0.5	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	----	<0.5	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	----	<0.5	----	----
Dieldrin	60-57-1	0.5	mg/kg	----	----	<0.5	----	----
Endrin	72-20-8	0.5	mg/kg	----	----	<0.5	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	----	<0.5	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	----	<0.5	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	----	<0.5	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	----	----	<1.0	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	----	<0.5	----	----
Dimethoate	60-51-5	0.5	mg/kg	----	----	<0.5	----	----
Diazinon	333-41-5	0.5	mg/kg	----	----	<0.5	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	----	<0.5	----	----
Malathion	121-75-5	0.5	mg/kg	----	----	<0.5	----	----
Fenthion	55-38-9	0.5	mg/kg	----	----	<0.5	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	----	<0.5	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	----	<0.5	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	----	<0.5	----	----
Prothiofos	34643-46-4	0.5	mg/kg	----	----	<0.5	----	----
Ethion	563-12-2	0.5	mg/kg	----	----	<0.5	----	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	----	----	<0.5	----	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	----	----	<0.5	----	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	----	----	<0.5	----	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	----	----	<0.5	----	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	----	----	<0.5	----	----
trans-Isosafrole	4043-71-4	0.5	mg/kg	----	----	<0.5	----	----
Safrole	94-59-7	0.5	mg/kg	----	----	<0.5	----	----
Diallate	2303-16-4	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH62_5.4-5.6	BH62_8.8-9.0	BH62_11.8-12.0	SV09_0.2-0.4	SV09_1.3-1.5
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
				ES1003971-006	ES1003971-007	ES1003971-008	ES1003971-009	ES1003971-010
EP075K: Miscellaneous Compounds - Continued								
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	----	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	<50	**120**	----
C15 - C28 Fraction	----	100	mg/kg	**390**	----	<100	**1920**	----
C29 - C36 Fraction	----	100	mg/kg	**330**	----	<100	**1240**	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**720**	----	----	**3280**	----
C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	<50	----	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	**0.5**	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	<0.5	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	**92.1**	----	----
Toluene-D8	2037-26-5	0.1	%	----	----	**102**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	**95.9**	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**90.0**	----	----	**84.4**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**95.4**	----	----	**84.4**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**98.0**	----	----	**96.5**	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**100**	----	----	**89.3**	----
Anthracene-d10	1719-06-8	0.1	%	**103**	----	----	**88.5**	----
4-Terphenyl-d14	1718-51-0	0.1	%	**115**	----	----	**78.6**	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	----	**97.2**	----	----
Phenol-d6	13127-88-3	0.1	%	----	----	**75.9**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**83.0**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**79.2**	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	----	**70.6**	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	----	**71.4**	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**89.6**	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	**126**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**133**	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	BH62_5.4-5.6	BH62_8.8-9.0	BH62_11.8-12.0	SV09_0.2-0.4	SV09_1.3-1.5
				Client sampling date / time	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00
					ES1003971-006	ES1003971-007	ES1003971-008	ES1003971-009	ES1003971-010
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**94.8**	----	**95.8**	**99.4**	----
Toluene-D8	2037-26-5	0.1	%		**98.3**	----	**94.4**	**91.9**	----
4-Bromofluorobenzene	460-00-4	0.1	%		**94.2**	----	**94.7**	**90.0**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	BH50_1.3-1.5	BH69_1.0-1.15	BH69_4.0-4.2	BH69_10.0-10.2	TB09
				Client sampling date / time	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	22-FEB-2010 15:00
					ES1003971-011	ES1003971-012	ES1003971-013	ES1003971-014	ES1003971-016
AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos Detected	1332-21-4	0.1	g/kg		----	----	No	----	----
Asbestos Type	132207-33-1	0.1	g/kg		----	----	-	----	----
Sample weight (dry)	----	0.01	g		----	----	52.2	----	----
APPROVED IDENTIFIER:	----	-	-		----	----	K.HALL	----	----
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		6.2	----	6.8	8.1	----
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		12.7	7.4	20.5	14.3	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	----
Barium	7440-39-3	10	mg/kg		<10	50	90	<10	----
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg		3	10	12	7	----
Cobalt	7440-48-4	2	mg/kg		<2	3	2	<2	----
Copper	7440-50-8	5	mg/kg		<5	24	29	<5	----
Iron	7439-89-6	50	mg/kg		2310	----	----	4590	----
Lead	7439-92-1	5	mg/kg		<5	104	235	6	----
Manganese	7439-96-5	5	mg/kg		<5	71	61	6	----
Nickel	7440-02-0	2	mg/kg		<2	8	15	<2	----
Vanadium	7440-62-2	5	mg/kg		6	14	23	8	----
Zinc	7440-66-6	5	mg/kg		<5	79	189	8	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	0.1	0.2	<0.1	----
EK026G: Total Cyanide By Discrete Analyser									
Total Cyanide	57-12-5	1	mg/kg		<1	8	----	<1	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser									
Weak Acid Dissociable Cyanide	----	1	mg/kg		<1	<1	----	<1	----
EN33: TCLP Leach									
Initial pH	----	0.1	pH Unit		----	9.9	----	----	----
After HCl pH	----	0.1	pH Unit		----	1.6	----	----	----
Extraction Fluid Number	----	1	-		----	1	----	----	----
Final pH	----	0.1	pH Unit		----	5.4	----	----	----
EP004: Organic Matter									
Organic Matter	----	0.5	%		<0.5	<0.5	----	----	----
^ Total Organic Carbon	----	0.5	%		<0.5	<0.5	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH50_1.3-1.5	BH69_1.0-1.15	BH69_4.0-4.2	BH69_10.0-10.2	TB09
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003971-011	ES1003971-012	ES1003971-013	ES1003971-014	ES1003971-016
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
Benzene	71-43-2	0.2	mg/kg	----	----	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	----	----	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	<0.5	<0.5
Styrene	100-42-5	0.5	mg/kg	----	----	----	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	<0.5	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	----	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	----	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	----	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	----	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	----	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	----	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	----	<0.5	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	----	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	----	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	----	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	----	<5	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	----	<0.5	<0.5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	----	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	----	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	----	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	----	<5	<5
Chloromethane	74-87-3	5	mg/kg	----	----	----	<5	<5
Vinyl chloride	75-01-4	5	mg/kg	----	----	----	<5	<5
Bromomethane	74-83-9	5	mg/kg	----	----	----	<5	<5
Chloroethane	75-00-3	5	mg/kg	----	----	----	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	----	<5	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg	----	----	----	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	----	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	----	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	----	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH50_1.3-1.5	BH69_1.0-1.15	BH69_4.0-4.2	BH69_10.0-10.2	TB09
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003971-011	ES1003971-012	ES1003971-013	ES1003971-014	ES1003971-016
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	----	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	----	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	----	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg	----	----	----	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg	----	----	----	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	----	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	----	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	----	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	----	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	----	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	----	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	----	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	----	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg	----	----	----	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	----	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	----	<0.5	<0.5
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	----	<0.5	<0.5
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	----	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	----	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg	----	----	----	<0.5	<0.5
EP074H: Naphthalene								
Naphthalene	91-20-3	5	mg/kg	----	----	----	----	<5
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH50_1.3-1.5	BH69_1.0-1.15	BH69_4.0-4.2	BH69_10.0-10.2	TB09
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003971-011	ES1003971-012	ES1003971-013	ES1003971-014	ES1003971-016
EP075(SIM)A: Phenolic Compounds - Continued								
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	<1.0	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	**2.9**	<0.5	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	**2.3**	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	**1.8**	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	**11.3**	**1.4**	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	**3.3**	**0.6**	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	**11.6**	**2.0**	----	----
Pyrene	129-00-0	0.5	mg/kg	**0.5**	**10.8**	**2.6**	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**0.6**	**5.8**	**1.5**	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	**4.8**	**1.2**	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	**5.8**	**1.9**	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	**1.7**	**1.1**	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	**3.4**	**1.4**	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	**1.4**	**0.7**	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	**1.9**	**0.9**	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**1.1**	**68.8**	**15.3**	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	----	<0.5	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH50_1.3-1.5	BH69_1.0-1.15	BH69_4.0-4.2	BH69_10.0-10.2	TB09
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003971-011	ES1003971-012	ES1003971-013	ES1003971-014	ES1003971-016
EP075A: Phenolic Compounds - Continued								
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	<0.5	----
Pentachlorophenol	87-86-5	1	mg/kg	----	----	----	<1	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	<0.5	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	----	<0.5	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	**5.9**	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	**1.6**	----
Fluorene	86-73-7	0.5	mg/kg	----	----	----	**4.6**	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	**24.4**	----
Anthracene	120-12-7	0.5	mg/kg	----	----	----	**4.7**	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	**11.3**	----
Pyrene	129-00-0	0.5	mg/kg	----	----	----	**12.4**	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	**3.1**	----
Chrysene	218-01-9	0.5	mg/kg	----	----	----	**2.8**	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	----	----	**2**	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	**1.4**	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	<0.5	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	----	<0.5	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	----	<0.5	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	----	<0.5	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	----	<0.5	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	----	----	<5.0	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	----	<0.5	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	----	----	<1.0	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH50_1.3-1.5	BH69_1.0-1.15	BH69_4.0-4.2	BH69_10.0-10.2	TB09
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003971-011	ES1003971-012	ES1003971-013	ES1003971-014	ES1003971-016
EP075D: Nitrosamines - Continued								
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	----	----	<1.0	----
Methapyrilene	91-80-5	0.5	mg/kg	----	----	----	<0.5	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	----	----	<0.5	----
Acetophenone	98-86-2	0.5	mg/kg	----	----	----	<0.5	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	----	<0.5	----
Isophorone	78-59-1	0.5	mg/kg	----	----	----	<0.5	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	----	----	<1.0	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	----	----	<1.0	----
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	----	<0.5	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	----	<0.5	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	----	<0.5	----
Azobenzene	103-33-3	1	mg/kg	----	----	----	<1	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	----	<0.5	----
Phenacetin	62-44-2	0.5	mg/kg	----	----	----	<0.5	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	----	<0.5	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	----	<0.5	----
Pronamide	23950-58-5	0.5	mg/kg	----	----	----	<0.5	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	----	<0.5	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	----	<0.5	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	----	<0.5	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	----	<0.5	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	----	<0.5	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	----	<0.5	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	<0.5	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	----	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	<0.5	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	----	----	<2.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH50_1.3-1.5	BH69_1.0-1.15	BH69_4.0-4.2	BH69_10.0-10.2	TB09
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003971-011	ES1003971-012	ES1003971-013	ES1003971-014	ES1003971-016
EP075G: Chlorinated Hydrocarbons - Continued								
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	----	----	<1.0	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	----	----	<0.5	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	----	<0.5	----
2-Nitroaniline	88-74-4	1.0	mg/kg	----	----	----	<1.0	----
3-Nitroaniline	99-09-2	1.0	mg/kg	----	----	----	<1.0	----
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	----	**0.8**	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	----	<0.5	----
Carbazole	86-74-8	0.5	mg/kg	----	----	----	<0.5	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	----	<0.5	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	----	----	<0.5	----
beta-BHC	319-85-7	0.5	mg/kg	----	----	----	<0.5	----
gamma-BHC	58-89-9	0.5	mg/kg	----	----	----	<0.5	----
delta-BHC	319-86-8	0.5	mg/kg	----	----	----	<0.5	----
Heptachlor	76-44-8	0.5	mg/kg	----	----	----	<0.5	----
Aldrin	309-00-2	0.5	mg/kg	----	----	----	<0.5	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	----	----	<0.5	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	----	----	<0.5	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	----	----	<0.5	----
Dieldrin	60-57-1	0.5	mg/kg	----	----	----	<0.5	----
Endrin	72-20-8	0.5	mg/kg	----	----	----	<0.5	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	----	----	<0.5	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	----	----	<0.5	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	----	----	<0.5	----
4.4`-DDT	50-29-3	1.0	mg/kg	----	----	----	<1.0	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	----	----	<0.5	----
Dimethoate	60-51-5	0.5	mg/kg	----	----	----	<0.5	----
Diazinon	333-41-5	0.5	mg/kg	----	----	----	<0.5	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	----	----	<0.5	----
Malathion	121-75-5	0.5	mg/kg	----	----	----	<0.5	----
Fenthion	55-38-9	0.5	mg/kg	----	----	----	<0.5	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	----	----	<0.5	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	----	----	<0.5	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	----	----	<0.5	----
Prothiofos	34643-46-4	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH50_1.3-1.5	BH69_1.0-1.15	BH69_4.0-4.2	BH69_10.0-10.2	TB09
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003971-011	ES1003971-012	ES1003971-013	ES1003971-014	ES1003971-016
EP075J: Organophosphorus Pesticides - Continued								
Ethion	563-12-2	0.5	mg/kg	----	----	----	<0.5	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	----	----	----	<0.5	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	----	----	----	<0.5	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	----	----	----	<0.5	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	----	----	----	<0.5	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	----	----	----	<0.5	----
trans-Isosafrole	4043-71-4	0.5	mg/kg	----	----	----	<0.5	----
Safrole	94-59-7	0.5	mg/kg	----	----	----	<0.5	----
Diallate	2303-16-4	0.5	mg/kg	----	----	----	<0.5	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	----	----	----	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg	<100	**260**	**320**	**420**	----
C29 - C36 Fraction	----	100	mg/kg	<100	**200**	**270**	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	**460**	**590**	**420**	----
C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	**114**	**94.3**
Toluene-D8	2037-26-5	0.1	%	----	----	----	**110**	**109**
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	**99.4**	**106**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**81.9**	**93.9**	**88.0**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**86.5**	**93.8**	**92.5**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**92.2**	**70.0**	**92.2**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**96.8**	**98.4**	**96.1**	----	----
Anthracene-d10	1719-06-8	0.1	%	**101**	**99.6**	**98.4**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**108**	**110**	**107**	----	----
EP075S: Acid Extractable Surrogates								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH50_1.3-1.5	BH69_1.0-1.15	BH69_4.0-4.2	BH69_10.0-10.2	TB09
				Client sampling date / time: 26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	26-FEB-2010 15:00	22-FEB-2010 15:00
				ES1003971-011	ES1003971-012	ES1003971-013	ES1003971-014	ES1003971-016
EP075S: Acid Extractable Surrogates - Continued								
2-Fluorophenol	367-12-4	0.1	%	----	----	----	**69.8**	----
Phenol-d6	13127-88-3	0.1	%	----	----	----	**56.9**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	**62.6**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	----	**65.4**	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	----	----	**55.1**	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	----	----	**55.7**	----
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	**69.6**	----
Anthracene-d10	1719-06-8	0.1	%	----	----	----	**95.9**	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	**101**	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**107**	**95.0**	**114**	**90.8**	----
Toluene-D8	2037-26-5	0.1	%	**98.3**	**105**	**102**	**102**	----
4-Bromofluorobenzene	460-00-4	0.1	%	**99.3**	**102**	**95.7**	**96.6**	----

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	BH55_2.2-2.4	BH62_5.4-5.6	BH69_1.0-1.15	----	----
				Client sampling date / time	06-MAR-2010 12:00	06-MAR-2010 12:00	06-MAR-2010 12:00	----	----
Compound	CAS Number	LOR	Unit		ES1003971-002	ES1003971-006	ES1003971-012	----	----
EG005C: Leachable Metals by ICPAES									
Arsenic	7440-38-2	0.1	mg/L		<0.1	<0.1	<0.1	----	----
Barium	7440-39-3	0.1	mg/L		**0.7**	**0.6**	**0.4**	----	----
Beryllium	7440-41-7	0.05	mg/L		<0.05	<0.05	<0.05	----	----
Cadmium	7440-43-9	0.05	mg/L		<0.05	<0.05	<0.05	----	----
Chromium	7440-47-3	0.1	mg/L		<0.1	<0.1	<0.1	----	----
Cobalt	7440-48-4	0.1	mg/L		<0.1	<0.1	<0.1	----	----
Copper	7440-50-8	0.1	mg/L		<0.1	<0.1	<0.1	----	----
Lead	7439-92-1	0.1	mg/L		<0.1	**4.2**	**0.8**	----	----
Manganese	7439-96-5	0.1	mg/L		<0.1	**0.8**	**1.0**	----	----
Nickel	7440-02-0	0.1	mg/L		<0.1	<0.1	<0.1	----	----
Vanadium	7440-62-2	0.1	mg/L		<0.1	<0.1	<0.1	----	----
Zinc	7440-66-6	0.1	mg/L		**0.2**	**4.8**	**1.7**	----	----
EG035C: Leachable Mercury by FIMS									
Mercury	7439-97-6	0.0010	mg/L		<0.0010	<0.0010	<0.0010	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		**8760**	**14.9**	**20.8**	----	----
Acenaphthylene	208-96-8	1.0	µg/L		**287**	**1.2**	**3.9**	----	----
Acenaphthene	83-32-9	1.0	µg/L		**49.5**	**1.9**	**2.1**	----	----
Fluorene	86-73-7	1.0	µg/L		**166**	**2.5**	**6.1**	----	----
Phenanthrene	85-01-8	1.0	µg/L		**134**	**5.4**	**11.3**	----	----
Anthracene	120-12-7	1.0	µg/L		**26.0**	**1.3**	**2.0**	----	----
Fluoranthene	206-44-0	1.0	µg/L		**17.1**	**1.6**	**2.8**	----	----
Pyrene	129-00-0	1.0	µg/L		**11.8**	**1.2**	**2.2**	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<3.7	<1.0	<1.0	----	----
Chrysene	218-01-9	1.0	µg/L		<3.7	<1.0	<1.0	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L		<3.7	<1.0	<1.0	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<3.7	<1.0	<1.0	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<3.7	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<3.7	<1.0	<1.0	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<3.7	<1.0	<1.0	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<3.7	<1.0	<1.0	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**36.0**	**29.1**	**30.1**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**83.8**	**53.1**	**51.9**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**82.4**	**73.0**	**73.8**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**97.0**	**70.1**	**68.9**	----	----
Anthracene-d10	1719-06-8	0.1	%		**95.6**	**68.8**	**65.5**	----	----

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	BH55_2.2-2.4	BH62_5.4-5.6	BH69_1.0-1.15	----	----
				Client sampling date / time	06-MAR-2010 12:00	06-MAR-2010 12:00	06-MAR-2010 12:00	----	----
Compound	CAS Number	LOR	Unit		ES1003971-002	ES1003971-006	ES1003971-012	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		**100**	**77.2**	**76.4**	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC239	----	----	----	----
				Client sampling date / time: 24-FEB-2010 15:00	----	----	----	----
				ES1003971-015	**----**	**----**	**----**	**----**
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	----
Beryllium	7440-41-7	0.001	mg/L	<0.001	----	----	----	----
Barium	7440-39-3	0.001	mg/L	<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L	<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	----	----	----	----
Vanadium	7440-62-2	0.01	mg/L	<0.01	----	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	----	----	----	----
Iron	7439-89-6	0.05	mg/L	<0.05	----	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080: BTEX								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<5	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**111**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	**98.8**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**104**	----	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	BH69_4.0-4.2 - 26-FEB-2010 15:00	A light grey coarse grain sandy soil with some small rocks and grains of slag coke and pitch. Some vegetation remains present.

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	23	120
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

Sub-Matrix: **TCLP LEACHATE**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

Sub-Matrix: **WATER**

		Recovery Limits (%)

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

QUALITY CONTROL REPORT

Work Order	: **ES1003971**	Page	: 1 of 28
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2010
Sampler	: KP	Issue Date	: 12-MAR-2010
Order number	: 1303951		
		No. of samples received	: 25
Quote number	: SY/259/09 V2	No. of samples analysed	: 16

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Edwandy Fadjar	Senior Organic Chemist	Organics
Hoa Nguyen	Inorganic Chemist	Inorganics
KEN HALL	Analyst	Newcastle
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA002 : pH (Soils) (QC Lot: 1268805)									
ES1003971-002	BH55_2.2-2.4	EA002: pH Value	----	0.1	pH Unit	8.5	8.5	0.0	0% - 20%
EA055: Moisture Content (QC Lot: 1268897)									
ES1003971-001	BH55_1.0-1.2	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	14.9	13.5	10.3	0% - 50%
ES1003971-010	SV09_1.3-1.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	28.0	30.1	7.2	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1270834)									
ES1003900-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	120	110	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	103	90	13.4	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	16	17	10.6	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Antimony	7440-36-0	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	7	18.8	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	26	27	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	324	312	3.9	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	44	41	8.7	No Limit
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	56	57	0.0	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	19	19	0.0	No Limit
		EG005T: Aluminium	7429-90-5	50	mg/kg	1940	1550	# 22.5	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	77900	82600	5.9	0% - 20%
ES1003971-001	BH55_1.0-1.2	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	40	40	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	5	5	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	2	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Antimony	7440-36-0	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	20	20	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	15	11	30.0	No Limit
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1270834) - continued									
ES1003971-001	BH55_1.0-1.2	EG005T: Vanadium	7440-62-2	5	mg/kg	10	10	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Aluminium	7429-90-5	50	mg/kg	1390	1400	0.0	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	3550	3390	4.6	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1270836)									
ES1003971-011	BH50_1.3-1.5	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	<10	<10	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	3	4	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	6	7	16.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	2310	2420	4.4	0% - 20%
ES1004018-007	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	90	90	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	13	14	13.8	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	3	3	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	6	6	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	34	36	5.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	37	51	31.8	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	145	150	3.3	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	28	28	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	63	64	2.7	0% - 50%
		EG005T: Iron	7439-89-6	50	mg/kg	9850	10200	4.1	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1270835)									
ES1003900-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.2	0.0	No Limit
ES1003971-001	BH55_1.0-1.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.4	0.7	63.8	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1270837)									
ES1003971-011	BH50_1.3-1.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1004018-007	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK026G: Total Cyanide By Discrete Analyser (QC Lot: 1268978)									
ES1003971-001	BH55_1.0-1.2	EK026G: Total Cyanide	57-12-5	1	mg/kg	127	131	3.0	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK026G: Total Cyanide By Discrete Analyser (QC Lot: 1268978) - continued									
ES1003971-014	BH69_10.0-10.2	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1271111)									
ES1003971-001	BH55_1.0-1.2	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	8	8	0.0	No Limit
ES1003971-014	BH69_10.0-10.2	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EP004: Organic Matter (QC Lot: 1269549)									
ES1003971-011	BH50_1.3-1.5	EP004: Organic Matter	----	0.5	%	<0.5	<0.5	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1268802)									
ES1003971-002	BH55_2.2-2.4	EP074: Benzene	71-43-2	0.2	mg/kg	22.2	26.8	19.0	0% - 20%
		EP074: Toluene	108-88-3	0.5	mg/kg	2.3	3.2	34.6	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	29.6	34.6	15.6	0% - 20%
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	48.8	57.5	16.3	0% - 20%
		EP074: Styrene	100-42-5	0.5	mg/kg	6.2	7.4	17.9	0% - 50%
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	51.6	60.3	15.5	0% - 20%
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	1.4	1.6	12.2	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	31.2	35.5	12.9	0% - 20%
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	76.5	89.1	15.2	0% - 20%
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1268802)									
ES1003971-002	BH55_2.2-2.4	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1268802)									
ES1003971-002	BH55_2.2-2.4	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1268802)									
ES1003971-002	BH55_2.2-2.4	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1268802)									
ES1003971-002	BH55_2.2-2.4	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1268802) - continued									
ES1003971-002	BH55_2.2-2.4	EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1268802)									
ES1003971-002	BH55_2.2-2.4	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1268802)									
ES1003971-002	BH55_2.2-2.4	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074G: Trihalomethanes (QC Lot: 1268802) - continued									
ES1003971-002	BH55_2.2-2.4	EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074H: Naphthalene (QC Lot: 1268802)									
ES1003971-002	BH55_2.2-2.4	EP074: Naphthalene	91-20-3	5	mg/kg	728	733	0.7	0% - 20%
EP075(SIM)A: Phenolic Compounds (QC Lot: 1268784)									
ES1003971-001	BH55_1.0-1.2	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	23.5	25.1	6.6	0% - 20%
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	28.3	28.3	0.0	0% - 20%
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	41.3	36.9	11.4	0% - 20%
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	33.2	33.9	2.2	0% - 20%
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<8.0	<8.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1268784)									
ES1003971-001	BH55_1.0-1.2	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	4510	5630	# 22.0	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	473	556	16.1	0% - 20%
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	80.7	83.5	3.4	0% - 20%
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	460	497	7.8	0% - 20%
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2030	2550	# 22.8	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	482	528	9.1	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	1280	1650	# 25.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	1220	1530	# 22.2	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	425	445	4.5	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	282	308	8.9	0% - 20%
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	300	308	2.5	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	107	139	# 25.6	0% - 20%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	252	269	6.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	95.0	101	6.1	0% - 20%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	23.3	24.8	6.2	0% - 20%
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	123	127	3.2	0% - 20%
EP075A: Phenolic Compounds (QC Lot: 1268785)									
ES1003971-002	BH55_2.2-2.4	EP075: Phenol	108-95-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<2.5	<2.5	0.0	No Limit
		EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075A: Phenolic Compounds (QC Lot: 1268785) - continued									
ES1003971-002	BH55_2.2-2.4	EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	4.2	4.7	10.6	No Limit
		EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<2	<2	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1268785)									
ES1003971-002	BH55_2.2-2.4	EP075: Naphthalene	91-20-3	0.5	mg/kg	1740	2120	19.6	0% - 20%
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	308	374	19.4	0% - 20%
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	149	186	# 21.8	0% - 20%
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	25.3	29.2	14.4	0% - 20%
		EP075: Fluorene	86-73-7	0.5	mg/kg	151	187	# 21.2	0% - 20%
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	463	569	# 20.4	0% - 20%
		EP075: Anthracene	120-12-7	0.5	mg/kg	119	145	19.2	0% - 20%
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	274	338	# 20.8	0% - 20%
		EP075: Pyrene	129-00-0	0.5	mg/kg	237	292	# 20.6	0% - 20%
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	107	131	# 20.4	0% - 20%
		EP075: Chrysene	218-01-9	0.5	mg/kg	87.0	103	17.3	0% - 20%
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	84.0	104	# 21.6	0% - 20%
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	17.5	18.2	4.1	0% - 20%
		EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	5.4	5.8	6.9	0% - 50%
		EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	17.2	17.4	1.0	0% - 20%
		EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	102	123	19.0	0% - 20%
EP075C: Phthalate Esters (QC Lot: 1268785)									
ES1003971-002	BH55_2.2-2.4	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	<5.0	0.0	No Limit
EP075D: Nitrosamines (QC Lot: 1268785)									
ES1003971-002	BH55_2.2-2.4	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075D: Nitrosamines (QC Lot: 1268785) - continued									
ES1003971-002	BH55_2.2-2.4	EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<2.5	<2.5	0.0	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 1268785)									
ES1003971-002	BH55_2.2-2.4	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	1.2	<1.2	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	1	0.0	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.2	2.0	45.6	No Limit
EP075F: Haloethers (QC Lot: 1268785)									
ES1003971-002	BH55_2.2-2.4	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 1268785)									
ES1003971-002	BH55_2.2-2.4	EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075G: Chlorinated Hydrocarbons (QC Lot: 1268785) - continued									
ES1003971-002	BH55_2.2-2.4	EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	0.0	No Limit
EP075H: Anilines and Benzidines (QC Lot: 1268785)									
ES1003971-002	BH55_2.2-2.4	EP075: Aniline	62-53-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	124	141	13.1	0% - 20%
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	67.6	77.1	13.0	0% - 20%
		EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 1268785)									
ES1003971-002	BH55_2.2-2.4	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 4.4`-DDT	50-29-3	1.0	mg/kg	<1.2	<1.2	0.0	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 1268785)									
ES1003971-002	BH55_2.2-2.4	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<1.4	<1.4	0.0	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075J: Organophosphorus Pesticides (QC Lot: 1268785) - continued									
ES1003971-002	BH55_2.2-2.4	EP075: Ethion	563-12-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
EP075K: Miscellaneous Compounds (QC Lot: 1268785)									
ES1003971-002	BH55_2.2-2.4	EP075: 1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<2.5	<2.5	0.0	No Limit
		EP075: Methanesulfonate methyl	66-27-3	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: cis-Isosafrole	17627-76-8	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: trans-Isosafrole	4043-71-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Safrole	94-59-7	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: Diallate	2303-16-4	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
		EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<1.2	<1.2	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1268783)									
ES1003971-001	BH55_1.0-1.2	EP071: C15 - C28 Fraction	----	100	mg/kg	19400	19100	1.8	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	5550	5570	0.4	0% - 20%
		EP071: C10 - C14 Fraction	----	50	mg/kg	11300	11000	2.5	0% - 20%
ES1003971-013	BH69_4.0-4.2	EP071: C15 - C28 Fraction	----	100	mg/kg	320	340	6.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	270	270	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1268801)									
ES1003971-002	BH55_2.2-2.4	EP080: C6 - C9 Fraction	----	10	mg/kg	304	332	9.0	0% - 20%
ES1003971-013	BH69_4.0-4.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEX (QC Lot: 1268801)									
ES1003971-002	BH55_2.2-2.4	EP080: Benzene	71-43-2	0.2	mg/kg	20.6	25.0	19.0	0% - 20%
		EP080: Toluene	108-88-3	0.5	mg/kg	2.8	3.4	22.2	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	24.5	28.7	15.6	0% - 20%
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	40.9	48.1	16.1	0% - 20%
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	43.5	50.8	15.5	0% - 20%
ES1003971-013	BH69_4.0-4.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005C: Leachable Metals by ICPAES (QC Lot: 1270995)									
ES1003839-011	Anonymous	EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Cadmium	7440-43-9	0.05	mg/L	0.06	0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005C: Leachable Metals by ICPAES (QC Lot: 1270995) - continued									
ES1003839-011	Anonymous	EG005C: Arsenic	7440-38-2	0.1	mg/L	0.2	0.2	0.0	No Limit
		EG005C: Barium	7440-39-3	0.1	mg/L	0.8	0.8	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	0.4	0.4	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	0.2	0.2	0.0	No Limit
		EG005C: Lead	7439-92-1	0.1	mg/L	0.8	0.8	0.0	No Limit
		EG005C: Manganese	7439-96-5	0.1	mg/L	44.0	42.7	3.1	0% - 20%
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	31.3	30.7	1.9	0% - 20%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1270005)									
ES1003818-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	0.071	0.072	0.0	0% - 20%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.025	0.026	0.0	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.057	0.056	1.9	0% - 50%
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
		EG020A-F: Iron	7439-89-6	0.05	mg/L	0.60	0.58	4.4	0% - 50%
ES1003971-015	QC239	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
		EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	<0.05	0.0	No Limit
EG035C: Leachable Mercury by FIMS (QC Lot: 1274065)									
ES1003900-001	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG035C: Leachable Mercury by FIMS (QC Lot: 1274065) - continued									
ES1004031-004	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1270004)									
ES1003818-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1003971-015	QC239	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1270220)									
ES1003943-006	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1003951-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	710	750	4.4	0% - 20%
EP080: BTEX (QC Lot: 1270220)									
ES1003943-006	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
ES1003951-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	9	8	13.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	6	4	36.1	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1270834)								
EG005T: Aluminium	7429-90-5	50	mg/kg	<50	2041 mg/kg	110	70	130
EG005T: Antimony	7440-36-0	5	mg/kg	<5	----	----	----	----
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	107	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	115	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	97.1	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	105	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	105	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	106	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	107	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	102	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	94.1	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	107	88.3	116
EG005T: Selenium	7782-49-2	5	mg/kg	<5	2.94 mg/kg	121	70	130
EG005T: Silver	7440-22-4	2	mg/kg	<2	5.60 mg/kg	104	70	130
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	114	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	106	88.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1270836)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	109	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	118	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	99.4	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	108	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	107	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	109	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	108	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	105	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	96.6	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	110	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	117	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	108	88.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1270835)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	68.0	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1270837)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)
				Result	Concentration	LCS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1270837) - continued								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	71.7	67	118
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1268978)								
EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	20.0 mg/kg	106	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1271111)								
EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	2.0 mg/kg	91.6	70	130
EP004: Organic Matter (QCLot: 1269549)								
EP004: Organic Matter	----	0.5	%	<0.5	4.58 %	94.8	86	111
EP004: Total Organic Carbon	----	0.5	%	<0.5	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1268802)								
EP074: Benzene	71-43-2	0.5	mg/kg	<0.5	1 mg/kg	110	64	126
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	84.2	63	135
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	96.4	64	124
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	91.2	66	126
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	95.1	67	121
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	101	66	124
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	90.2	64	124
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	94.4	59	129
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	105	63	125
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	95.1	61	127
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	122	62	126
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	95.6	62	126
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	91.5	60	126
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	87.5	57	129
EP074B: Oxygenated Compounds (QCLot: 1268802)								
EP074: Vinyl Acetate	108-05-4	1	mg/kg	----	10 mg/kg	51.4	11	155
		5	mg/kg	<5	----	----	----	----
EP074: 2-Butanone (MEK)	78-93-3	1	mg/kg	----	10 mg/kg	73.6	37	169
		5	mg/kg	<5	----	----	----	----
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	1	mg/kg	----	10 mg/kg	65.2	55	133
		5	mg/kg	<5	----	----	----	----
EP074: 2-Hexanone (MBK)	591-78-6	1	mg/kg	----	10 mg/kg	63.2	57	133
		5	mg/kg	<5	----	----	----	----
EP074C: Sulfonated Compounds (QCLot: 1268802)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	65.9	53	135
EP074D: Fumigants (QCLot: 1268802)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	87.1	57	129
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	81.9	68	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074D: Fumigants (QCLot: 1268802) - continued								
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	77.7	59	127
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	79.9	53	129
EP074E: Halogenated Aliphatic Compounds (QCLot: 1268802)								
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	----	10 mg/kg	69.5	28.9	146
		5	mg/kg	<5	----	----	----	----
EP074: Chloromethane	74-87-3	1	mg/kg	----	10 mg/kg	66.3	43	140
		5	mg/kg	<5	----	----	----	----
EP074: Vinyl chloride	75-01-4	1	mg/kg	----	10 mg/kg	65.7	41	149
		5	mg/kg	<5	----	----	----	----
EP074: Bromomethane	74-83-9	1	mg/kg	----	10 mg/kg	80.4	44	152
		5	mg/kg	<5	----	----	----	----
EP074: Chloroethane	75-00-3	1	mg/kg	----	10 mg/kg	93.6	49	149
		5	mg/kg	<5	----	----	----	----
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	----	10 mg/kg	69.6	53	139
		5	mg/kg	<5	----	----	----	----
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	65.9	57	133
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	60.8	48	134
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	89.4	62	128
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	73.3	64	126
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	73.0	66	124
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	94.2	61	125
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	117	62	128
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	104	56	128
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	88.1	70	124
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	77.0	65	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	78.6	67	123
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	75.1	70	122
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	97.0	71	121
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	119	64	144
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	83.0	57	125
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	97.0	39	141
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	98.5	56	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	67.1	57	127
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	72.4	62	126
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	55.3	26.4	144
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	89.7	51	133
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	87.9	48	136
EP074F: Halogenated Aromatic Compounds (QCLot: 1268802)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	89.3	67	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)
				Result	Concentration	LCS	Low	High
EP074F: Halogenated Aromatic Compounds (QCLot: 1268802) - continued								
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	96.2	68	122
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	95.7	63	127
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	93.1	64	126
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	93.2	66	124
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	88.4	64	126
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	90.4	67	121
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	80.6	54	134
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	88.8	58	132
EP074G: Trihalomethanes (QCLot: 1268802)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	78.1	67	123
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	76.7	60	126
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	84.0	58	124
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	81.7	57	121
EP074H: Naphthalene (QCLot: 1268802)								
EP074: Naphthalene	91-20-3	0.5	mg/kg	----	1 mg/kg	118	63	131
		5	mg/kg	<5	----	----	----	----
EP075(SIM)A: Phenolic Compounds (QCLot: 1268784)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	96.7	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	87.7	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	87.3	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	90.2	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	84.6	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	88.8	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	91.4	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	90.5	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	93.3	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	76.5	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	76.8	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	10.7	1.23	91.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1268784)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	102	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	99.0	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	86.6	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	91.8	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	96.7	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	97.7	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	93.8	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	93.1	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	109	77.2	112

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1268784) - continued								
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	100	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	98.1	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	104	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	82.0	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	71.7	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	73.4	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	82.3	72.4	114
EP075A: Phenolic Compounds (QCLot: 1268785)								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.25 mg/kg	74.7	66.9	114
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.25 mg/kg	70.9	58.5	108
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.25 mg/kg	70.7	43	103
EP075: 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	2.5 mg/kg	67.0	35.9	109
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	72.4	49.4	109
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.25 mg/kg	21.8	.15	116
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.25 mg/kg	62.3	52.5	106
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.25 mg/kg	49.2	48.2	98.6
EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	1.25 mg/kg	69.5	59	106
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.25 mg/kg	52.9	44.4	101
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.25 mg/kg	58.4	48	107
EP075: Pentachlorophenol	87-86-5	1.0	mg/kg	<1	2.5 mg/kg	29.2	4.43	89.2
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1268785)								
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.25 mg/kg	71.5	63.7	108
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.25 mg/kg	71.5	60.8	110
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.25 mg/kg	68.7	59.1	110
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.25 mg/kg	69.4	58.8	106
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.25 mg/kg	69.1	61.7	110
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	65.7	59.2	110
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.25 mg/kg	70.7	61.9	108
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.25 mg/kg	68.0	58.3	107
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.25 mg/kg	66.2	58.5	110
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.25 mg/kg	79.0	60.4	109
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.25 mg/kg	67.6	59.5	110
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	64.8	57.2	111
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.25 mg/kg	68.3	58.4	113
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2	1	mg/kg	----	2.5 mg/kg	67.3	57.1	112
	207-08-9	1.0	mg/kg	<1	----	----	----	----
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.25 mg/kg	62.6	48.1	106
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.25 mg/kg	70.0	56.6	108
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.25 mg/kg	63.7	52.7	108

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1268785) - continued								
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.25 mg/kg	67.2	56.8	110
EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.25 mg/kg	64.7	54.7	110
EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.25 mg/kg	69.1	55	112
EP075C: Phthalate Esters (QCLot: 1268785)								
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.25 mg/kg	74.4	60.1	111
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.25 mg/kg	75.3	62.3	114
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.25 mg/kg	75.7	65.5	122
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.25 mg/kg	70.4	61.6	112
EP075: bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg	----	1.25 mg/kg	95.2	66.6	135
		5.0	mg/kg	<5.0	----	----	----	----
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.25 mg/kg	79.2	59	116
EP075D: Nitrosamines (QCLot: 1268785)								
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.25 mg/kg	76.9	39.4	124
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.25 mg/kg	70.5	62.7	112
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	----	1.25 mg/kg	58.4	42.8	102
		1.0	mg/kg	<1.0	----	----	----	----
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.25 mg/kg	79.3	52.4	112
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.25 mg/kg	74.2	60.6	107
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.25 mg/kg	71.0	59.6	108
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.25 mg/kg	69.3	59.4	106
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6	1.0	mg/kg	<1.0	2.5 mg/kg	47.6	38	110
	122-39-4							
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.25 mg/kg	52.2	16.3	123
EP075E: Nitroaromatics and Ketones (QCLot: 1268785)								
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.25 mg/kg	94.4	27.3	129
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.25 mg/kg	72.1	62.6	110
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.25 mg/kg	86.3	64.4	112
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.25 mg/kg	78.0	64	110
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	----	1.25 mg/kg	73.5	58	114
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	----	1.25 mg/kg	80.2	55.8	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.25 mg/kg	36.3	2.24	93
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.25 mg/kg	50.0	3.12	108
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.25 mg/kg	71.3	48.3	98.5
EP075: Azobenzene	103-33-3	1	mg/kg	----	1.25 mg/kg	73.4	61.4	113
		1.0	mg/kg	<1	----	----	----	----
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.25 mg/kg	67.6	33	108
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.25 mg/kg	73.1	58.1	110

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 1268785) - continued								
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.25 mg/kg	37.3	36.1	102
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.25 mg/kg	68.8	55.8	106
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.25 mg/kg	94.1	49.4	105
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.25 mg/kg	94.5	53.5	105
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.25 mg/kg	71.9	57.4	112
EP075F: Haloethers (QCLot: 1268785)								
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.25 mg/kg	78.7	63.1	113
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.25 mg/kg	79.5	62.4	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.25 mg/kg	69.4	59	111
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	68.8	56.4	109
EP075G: Chlorinated Hydrocarbons (QCLot: 1268785)								
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.25 mg/kg	70.7	60.4	106
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.25 mg/kg	69.4	62.1	107
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.25 mg/kg	73.5	61.3	107
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.25 mg/kg	74.4	53.8	107
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.25 mg/kg	68.8	62.9	108
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.25 mg/kg	68.1	39.1	110
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.25 mg/kg	72.2	59.3	110
EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	----	1.25 mg/kg	70.5	17.2	106
		2.5	mg/kg	<2.5	----	----	----	----
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.25 mg/kg	70.4	60	110
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	----	1.25 mg/kg	71.0	59.9	111
		1.0	mg/kg	<1.0	----	----	----	----
EP075H: Anilines and Benzidines (QCLot: 1268785)								
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.25 mg/kg	44.6	13.2	108
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.25 mg/kg	62.5	19.9	114
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	----	1.25 mg/kg	70.8	57.4	109
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	----	1.25 mg/kg	57.7	31.5	93.7
		1.0	mg/kg	<1.0	----	----	----	----
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.25 mg/kg	69.6	60.2	111
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.25 mg/kg	90.7	48.6	97.6
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.25 mg/kg	72.2	61	109
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.25 mg/kg	72.4	15.6	101
EP075I: Organochlorine Pesticides (QCLot: 1268785)								
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.25 mg/kg	73.3	59.5	110
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.25 mg/kg	78.8	53.4	113
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.25 mg/kg	73.3	58.2	112
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.25 mg/kg	75.1	56.9	114

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075I: Organochlorine Pesticides (QCLot: 1268785) - continued								
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.25 mg/kg	70.3	52	108
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.25 mg/kg	72.7	54.9	112
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.25 mg/kg	67.8	54.6	113
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.25 mg/kg	75.9	51.7	115
EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	1.25 mg/kg	69.2	60.3	112
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.25 mg/kg	75.7	61.9	116
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.25 mg/kg	75.1	49	110
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.25 mg/kg	73.5	59.5	112
EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	1.25 mg/kg	72.2	58.5	116
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.25 mg/kg	84.2	52.6	114
EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	----	1.25 mg/kg	78.5	39.2	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075J: Organophosphorus Pesticides (QCLot: 1268785)								
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	69.3	24.6	109
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.25 mg/kg	75.1	46.4	118
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.25 mg/kg	89.5	50.3	116
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.25 mg/kg	68.1	41.7	119
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	78.7	52.1	121
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.25 mg/kg	63.1	43	116
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.25 mg/kg	67.8	51.1	115
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.25 mg/kg	67.9	50.9	115
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	----	----	----
		0.55	mg/kg	----	1.375 mg/kg	70.8	45.3	104
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.25 mg/kg	68.8	51.5	116
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.25 mg/kg	69.4	47.3	115
EP075K: Miscellaneous Compounds (QCLot: 1268785)								
EP075: 1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	1.25 mg/kg	71.4	50.7	113
EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	1.25 mg/kg	60.0	52	115
EP075: Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	1.25 mg/kg	94.7	39.8	122
EP075: Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	1.25 mg/kg	79.1	59.6	117
EP075: cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	1.25 mg/kg	67.6	60.3	108
EP075: trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	1.25 mg/kg	84.8	53.9	113
EP075: Safrole	94-59-7	0.5	mg/kg	<0.5	1.25 mg/kg	73.8	57.8	110
EP075: Diallate	2303-16-4	0.5	mg/kg	<0.5	1.25 mg/kg	80.8	61.3	111
EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1268783)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	112	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	89.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	105	72.6	117

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1268801)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	86.2	68.4	128
EP080: BTEX (QCLot: 1268801)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	81.5	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	97.2	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	90.9	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	89.3	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	92.3	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005C: Leachable Metals by ICPAES (QCLot: 1270995)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	0.1 mg/L	107	70	130
EG005C: Barium	7440-39-3	0.1	mg/L	<0.1	0.1 mg/L	102	70	130
EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	0.1 mg/L	118	70	130
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.1 mg/L	117	70	130
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	0.1 mg/L	117	70	130
EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	0.1 mg/L	113	70	130
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	0.1 mg/L	116	70	130
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	0.1 mg/L	114	70	130
EG005C: Manganese	7439-96-5	0.1	mg/L	<0.1	0.1 mg/L	99.0	70	130
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	0.1 mg/L	114	70	130
EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	0.1 mg/L	99.5	70	130
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	0.1 mg/L	102	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1270005)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	102	88	110
EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	99.4	80	114
EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	99.6	85	109
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	98.7	89	107
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	104	91	111
EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	102	89	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	99.9	87	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	106	90	110
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	102	87	113
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	98.0	89	109
EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 91.0	91	109
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	103	85	115
EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	0.5 mg/L	98.9	84	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG035C: Leachable Mercury by FIMS (QCLot: 1274065)								
EG035C: Mercury	7439-97-6	0.001	mg/L	<0.0010	0.010 mg/L	98.5	83	119
EG035F: Dissolved Mercury by FIMS (QCLot: 1270004)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	104	86	116
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1270825)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	97.0	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	89.7	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	86.6	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	86.9	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	86.9	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	91.4	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	89.0	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	88.7	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	86.2	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	87.2	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	86.3	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	80.5	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	84.4	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	101	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	89.7	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	104	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1268796)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	100 µg/L	100	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	100 µg/L	115	73.9	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1268796) - continued								
EP071: C29 - C36 Fraction	----	50	µg/L	<50	100 µg/L	129	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1270220)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	107	75	127
EP080: BTEX (QCLot: 1270220)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	104	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	107	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	96.7	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	92.5	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	95.7	77.9	121

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1270834)							
ES1003900-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	106	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	114	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	128	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	121	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	117	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	105	70	130
		EG005T: Selenium	7782-49-2	50 mg/kg	129	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	116	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1270836)							
ES1003971-011	BH50_1.3-1.5	EG005T: Arsenic	7440-38-2	50 mg/kg	90.8	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	95.1	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	101	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	99.7	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	98.6	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	105	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1270835)							
ES1003900-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	83.6	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1270837)							
ES1003971-011	BH50_1.3-1.5	EG035T: Mercury	7439-97-6	5 mg/kg	76.8	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1268978)							
ES1003971-001	BH55_1.0-1.2	EK026G: Total Cyanide	57-12-5	20.0 mg/kg	# Not Determined	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1271111)							
ES1003971-001	BH55_1.0-1.2	EK028G: Weak Acid Dissociable Cyanide	----	2.0 mg/kg	# Not Determined	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1268802)							
ES1003971-002	BH55_2.2-2.4	EP074: Benzene	71-43-2	2.5 mg/kg	# Not Determined	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	73.4	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1268802)							
ES1003971-002	BH55_2.2-2.4	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	71.2	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	73.5	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1268802)							
ES1003971-002	BH55_2.2-2.4	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	83.5	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1268784)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 1268784) - continued							
ES1003971-001	BH55_1.0-1.2	EP075(SIM): Phenol	108-95-2	10 mg/kg	# Not Determined	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	# Not Determined	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	# Not Determined	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	# Not Determined	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	# Not Determined	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1268784)							
ES1003971-001	BH55_1.0-1.2	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	# Not Determined	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	# Not Determined	70	130
EP075A: Phenolic Compounds (QCLot: 1268785)							
ES1003971-002	BH55_2.2-2.4	EP075: Phenol	108-95-2	5 mg/kg	112	60	130
		EP075: 2-Chlorophenol	95-57-8	5 mg/kg	95.2	60	130
		EP075: 2-Nitrophenol	88-75-5	5 mg/kg	83.7	50	130
		EP075: 4-Chloro-3-Methylphenol	59-50-7	5 mg/kg	88.0	50	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	# Not Determined	5	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1268785)							
ES1003971-002	BH55_2.2-2.4	EP075: Acenaphthene	83-32-9	5 mg/kg	# Not Determined	50	130
		EP075: Pyrene	129-00-0	5 mg/kg	# Not Determined	50	130
EP075D: Nitrosamines (QCLot: 1268785)							
ES1003971-002	BH55_2.2-2.4	EP075: N-Nitrosodi-n-propylamine	621-64-7	5 mg/kg	90.0	50	130
EP075E: Nitroaromatics and Ketones (QCLot: 1268785)							
ES1003971-002	BH55_2.2-2.4	EP075: 2.4-Dinitrotoluene	121-14-2	5 mg/kg	84.4	40	130
EP075G: Chlorinated Hydrocarbons (QCLot: 1268785)							
ES1003971-002	BH55_2.2-2.4	EP075: 1.4-Dichlorobenzene	106-46-7	5 mg/kg	86.3	60	130
		EP075: 1.2.4-Trichlorobenzene	120-82-1	5 mg/kg	86.0	50	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1268783)							
ES1003971-001	BH55_1.0-1.2	EP071: C10 - C14 Fraction	----	640 mg/kg	# Not Determined	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	# Not Determined	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	93.6	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1268801)							
ES1003971-002	BH55_2.2-2.4	EP080: C6 - C9 Fraction	----	26 mg/kg	# Not Determined	70	130
EP080: BTEX (QCLot: 1268801)							
ES1003971-002	BH55_2.2-2.4	EP080: Benzene	71-43-2	2.5 mg/kg	# Not Determined	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	88.7	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	# Not Determined	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	# Not Determined	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	# Not Determined	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005C: Leachable Metals by ICPAES (QCLot: 1270995)							
ES1003931-001	Anonymous	EG005C: Arsenic	7440-38-2	1 mg/L	126	70	130
		EG005C: Barium	7440-39-3	1 mg/L	117	70	130
		EG005C: Beryllium	7440-41-7	1 mg/L	126	70	130
		EG005C: Cadmium	7440-43-9	0.250 mg/L	128	70	130
		EG005C: Chromium	7440-47-3	1 mg/L	126	70	130
		EG005C: Cobalt	7440-48-4	1 mg/L	125	70	130
		EG005C: Copper	7440-50-8	1 mg/L	129	70	130
		EG005C: Lead	7439-92-1	1 mg/L	127	70	130
		EG005C: Manganese	7439-96-5	1 mg/L	112	70	130
		EG005C: Nickel	7440-02-0	1 mg/L	124	70	130
		EG005C: Vanadium	7440-62-2	1 mg/L	123	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	121	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1270005)							
ES1003818-002	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	97.4	70	130
		EG020A-F: Beryllium	7440-41-7	0.2 mg/L	95.8	70	130
		EG020A-F: Barium	7440-39-3	0.2 mg/L	91.6	70	130
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	92.4	70	130
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	94.8	70	130
		EG020A-F: Cobalt	7440-48-4	0.2 mg/L	97.1	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	96.3	70	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	92.9	70	130
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	92.5	70	130
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	93.0	70	130
		EG020A-F: Vanadium	7440-62-2	0.2 mg/L	97.4	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	96.6	70	130
EG035C: Leachable Mercury by FIMS (QCLot: 1274065)							
ES1003900-001	Anonymous	EG035C: Mercury	7439-97-6	0.1 mg/L	109	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1270004)							
ES1003818-002	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	84.7	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1270220)							
ES1003943-008	Anonymous	EP080: C6 - C9 Fraction	----	250 µg/L	110	70	130
EP080: BTEX (QCLot: 1270220)							
ES1003943-008	Anonymous	EP080: Benzene	71-43-2	25 µg/L	72.9	70	130
		EP080: Toluene	108-88-3	25 µg/L	79.2	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	78.1	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	72.3	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	82.4	70	130

INTERPRETIVE QUALITY CONTROL REPORT

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Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2010
Sampler	: KP	Issue Date	: 12-MAR-2010
Order number	: 1303951		
		No. of samples received	: 25
Quote number	: SY/259/09 V2	No. of samples analysed	: 16

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
AS 4964 - 2004 Identification of Asbestos in bulk samples							
Snap Lock Bag							
BH69_4.0-4.2	**26-FEB-2010**	**---**	---	----	**11-MAR-2010**	07-SEP-2010	✓
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved							
BH55_2.2-2.4	**25-FEB-2010**	**04-MAR-2010**	04-MAR-2010	✓	**04-MAR-2010**	05-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH62_5.4-5.6, BH62_11.8-12.0, SV09_0.2-0.4, BH50_1.3-1.5, BH69_4.0-4.2, BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	05-MAR-2010	✓	**04-MAR-2010**	05-MAR-2010	✓
EA055: Moisture Content							
Soil Glass Jar - Unpreserved							
BH55_1.0-1.2, BH55_2.2-2.4, BH55_2.7-2.9	**25-FEB-2010**	**----**	----	----	**04-MAR-2010**	04-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH62_1.0-1.2, BH62_3.4-3.8, BH62_5.4-5.6, BH62_8.8-9.0, BH62_11.8-12.0, SV09_0.2-0.4, SV09_1.3-1.5, BH50_1.3-1.5, BH69_1.0-1.15, BH69_4.0-4.2, BH69_10.0-10.2	**26-FEB-2010**	**----**	----	----	**04-MAR-2010**	05-MAR-2010	✓
EG005C: Leachable Metals by ICPAES							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH55_2.2-2.4, BH62_5.4-5.6, BH69_1.0-1.15	**06-MAR-2010**	**08-MAR-2010**	02-SEP-2010	✓	**08-MAR-2010**	02-SEP-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved							
BH55_1.0-1.2, BH55_2.2-2.4, BH55_2.7-2.9	**25-FEB-2010**	**08-MAR-2010**	25-MAR-2010	✓	**08-MAR-2010**	24-AUG-2010	✓
Soil Glass Jar - Unpreserved							
BH62_1.0-1.2, BH62_3.4-3.8, BH62_5.4-5.6, BH62_8.8-9.0, BH62_11.8-12.0, SV09_0.2-0.4, SV09_1.3-1.5, BH50_1.3-1.5, BH69_1.0-1.15, BH69_4.0-4.2, BH69_10.0-10.2	**26-FEB-2010**	**08-MAR-2010**	26-MAR-2010	✓	**08-MAR-2010**	25-AUG-2010	✓
EG035C: Leachable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH55_2.2-2.4, BH62_5.4-5.6, BH69_1.0-1.15	**06-MAR-2010**	**----**	----	----	**11-MAR-2010**	03-APR-2010	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved							
BH55_1.0-1.2, BH55_2.2-2.4, BH55_2.7-2.9	**25-FEB-2010**	**08-MAR-2010**	25-MAR-2010	✓	**10-MAR-2010**	25-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH62_1.0-1.2, BH62_3.4-3.8, BH62_5.4-5.6, BH62_8.8-9.0, BH62_11.8-12.0, SV09_0.2-0.4, SV09_1.3-1.5, BH50_1.3-1.5, BH69_1.0-1.15, BH69_4.0-4.2, BH69_10.0-10.2	**26-FEB-2010**	**08-MAR-2010**	26-MAR-2010	✓	**10-MAR-2010**	26-MAR-2010	✓
EK026G: Total Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH55_1.0-1.2, BH55_2.2-2.4, BH55_2.7-2.9	**25-FEB-2010**	**04-MAR-2010**	04-MAR-2010	✓	**05-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH62_1.0-1.2, BH62_5.4-5.6, BH62_11.8-12.0, BH50_1.3-1.5, BH69_1.0-1.15, BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	05-MAR-2010	✓	**05-MAR-2010**	18-MAR-2010	✓
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH55_1.0-1.2, BH55_2.2-2.4, BH55_2.7-2.9	**25-FEB-2010**	**08-MAR-2010**	04-MAR-2010	×	**08-MAR-2010**	04-MAR-2010	×
Soil Glass Jar - Unpreserved							
BH62_1.0-1.2, BH62_5.4-5.6, BH62_11.8-12.0, BH50_1.3-1.5, BH69_1.0-1.15, BH69_10.0-10.2	**26-FEB-2010**	**08-MAR-2010**	05-MAR-2010	×	**08-MAR-2010**	05-MAR-2010	×

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach								
LabSplit: Leach for organics and other tests								
BH55_2.2-2.4		**25-FEB-2010**	**---**	---	----	**06-MAR-2010**	11-MAR-2010	✓
LabSplit: Leach for organics and other tests								
BH62_5.4-5.6,	BH69_1.0-1.15	**26-FEB-2010**	**---**	---	----	**06-MAR-2010**	12-MAR-2010	✓
EP004: Organic Matter								
Soil Glass Jar - Unpreserved								
BH50_1.3-1.5,	BH69_1.0-1.15	**26-FEB-2010**	**----**	----	----	**08-MAR-2010**	05-MAR-2010	×
EP074A: Monocyclic Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved								
TB09		**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH55_2.2-2.4		**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH62_11.8-12.0,	BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**05-MAR-2010**	12-MAR-2010	✓
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved								
TB09		**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH55_2.2-2.4		**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH62_11.8-12.0,	BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**05-MAR-2010**	12-MAR-2010	✓
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved								
TB09		**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH55_2.2-2.4		**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH62_11.8-12.0,	BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**05-MAR-2010**	12-MAR-2010	✓
EP074D: Fumigants								
Soil Glass Jar - Unpreserved								
TB09		**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH55_2.2-2.4		**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH62_11.8-12.0,	BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**05-MAR-2010**	12-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074E: Halogenated Aliphatic Compounds							
Soil Glass Jar - Unpreserved TB09	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH55_2.2-2.4	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved BH62_11.8-12.0, BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**05-MAR-2010**	12-MAR-2010	✓
EP074F: Halogenated Aromatic Compounds							
Soil Glass Jar - Unpreserved TB09	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH55_2.2-2.4	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved BH62_11.8-12.0, BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**05-MAR-2010**	12-MAR-2010	✓
EP074G: Trihalomethanes							
Soil Glass Jar - Unpreserved TB09	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH55_2.2-2.4	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved BH62_11.8-12.0, BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**05-MAR-2010**	12-MAR-2010	✓
EP074H: Naphthalene							
Soil Glass Jar - Unpreserved TB09	**22-FEB-2010**	**04-MAR-2010**	08-MAR-2010	✓	**05-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH55_2.2-2.4	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved BH62_11.8-12.0, BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**05-MAR-2010**	12-MAR-2010	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved BH55_1.0-1.2, BH55_2.7-2.9	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH62_1.0-1.2, BH62_3.4-3.8, BH62_5.4-5.6, SV09_0.2-0.4, BH50_1.3-1.5, BH69_1.0-1.15, BH69_4.0-4.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved								
BH55_2.2-2.4, BH69_1.0-1.15	BH62_5.4-5.6,	**06-MAR-2010**	**08-MAR-2010**	13-MAR-2010	✓	**09-MAR-2010**	17-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH55_1.0-1.2,	BH55_2.7-2.9	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH62_1.0-1.2, BH62_5.4-5.6, BH50_1.3-1.5, BH69_4.0-4.2	BH62_3.4-3.8, SV09_0.2-0.4, BH69_1.0-1.15,	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
EP075A: Phenolic Compounds								
Soil Glass Jar - Unpreserved								
BH55_2.2-2.4		**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH62_11.8-12.0,	BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
EP075B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved								
BH55_2.2-2.4		**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH62_11.8-12.0,	BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
EP075C: Phthalate Esters								
Soil Glass Jar - Unpreserved								
BH55_2.2-2.4		**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH62_11.8-12.0,	BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
EP075D: Nitrosamines								
Soil Glass Jar - Unpreserved								
BH55_2.2-2.4		**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH62_11.8-12.0,	BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
EP075E: Nitroaromatics and Ketones								
Soil Glass Jar - Unpreserved								
BH55_2.2-2.4		**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH62_11.8-12.0,	BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
EP075F: Haloethers								
Soil Glass Jar - Unpreserved								
BH55_2.2-2.4		**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH62_11.8-12.0,	BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075G: Chlorinated Hydrocarbons							
Soil Glass Jar - Unpreserved BH55_2.2-2.4	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH62_11.8-12.0, BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
EP075H: Anilines and Benzidines							
Soil Glass Jar - Unpreserved BH55_2.2-2.4	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH62_11.8-12.0, BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
EP075I: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved BH55_2.2-2.4	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH62_11.8-12.0, BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
EP075J: Organophosphorus Pesticides							
Soil Glass Jar - Unpreserved BH55_2.2-2.4	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH62_11.8-12.0, BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
EP075K: Miscellaneous Compounds							
Soil Glass Jar - Unpreserved BH55_2.2-2.4	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
Soil Glass Jar - Unpreserved BH62_11.8-12.0, BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**10-MAR-2010**	13-APR-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved BH55_1.0-1.2, BH55_2.2-2.4, BH55_2.7-2.9	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved BH62_1.0-1.2, BH62_3.4-3.8, BH62_5.4-5.6, BH62_11.8-12.0, SV09_0.2-0.4, BH50_1.3-1.5, BH69_1.0-1.15, BH69_4.0-4.2, BH69_10.0-10.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEX							
Soil Glass Jar - Unpreserved							
BH55_1.0-1.2, BH55_2.7-2.9	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH62_1.0-1.2, BH62_3.4-3.8, BH62_5.4-5.6, SV09_0.2-0.4, BH50_1.3-1.5, BH69_1.0-1.15, BH69_4.0-4.2	**26-FEB-2010**	**04-MAR-2010**	12-MAR-2010	✓	**05-MAR-2010**	12-MAR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered							
QC239	**24-FEB-2010**	**---**	---	----	**07-MAR-2010**	23-AUG-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered							
QC239	**24-FEB-2010**	**---**	---	----	**08-MAR-2010**	24-MAR-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved							
QC239	**24-FEB-2010**	**03-MAR-2010**	03-MAR-2010	✓	**05-MAR-2010**	03-MAR-2010	✘
Amber VOC Vial - HCl							
QC239	**24-FEB-2010**	**---**	---	----	**05-MAR-2010**	10-MAR-2010	✓
EP080: BTEX							
Amber VOC Vial - HCl							
QC239	**24-FEB-2010**	**---**	---	----	**05-MAR-2010**	10-MAR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	2	19	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	8	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	9	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	1	9	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	3	**33.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	4	40	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	39	**10.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	12	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	12	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	4	**25.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	2	18	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Organic Matter	EP004	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	3	**33.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	39	**5.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Organic Matter	EP004	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	3	**33.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	39	**5.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Matrix Spikes (MS) - Continued							
PAH/Phenols (SIM)	EP075(SIM)	1	9	11.1	5.0	✓	ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	3	33.3	5.0	✓	ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	11	9.1	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	40	5.0	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	39	5.1	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	12	8.3	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	12	8.3	5.0	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	4	25.0	5.0	✓	ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	18	5.6	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	17	11.8	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	2	17	11.8	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	8	12.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	8	12.5	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	2	50.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	8	12.5	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	2	50.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	17	5.9	5.0	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.0	5.0	✓	ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	17	5.9	5.0	✓	ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	8	12.5	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
TPH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH (1:5)	EA002	SOIL	(APHA 21st ed., 4500H+) pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM (1999) Schedule B(3) (Method 103)
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)
Asbestos Identification in bulk solids	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples
Leachable Metals by ICPAES	EG005C	SOIL	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Leachable Mercury by FIMS	EG035C	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Total Cyanide By Discrete Analyser	EK026G	SOIL	APHA 21st 4500 CN - C & N. Caustic leach extracts of the sample are distilled with sulphuric acid, converting all CN species to HCN. The distillates are analyzed for CN by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Method 403)
WAD Cyanide By Discrete Analyser	EK028G	SOIL	APHA 21st 4500 CN - I & N. Sample are distilled with a weak organic acid, converting selected CN species to HCN. The distillates are analyzed for CN by Discrete Analyser.
Organic Matter	EP004	SOIL	AS1289.4.1.1 - 1997., Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (1999) Schedule B(3) (Method 105)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)
Volatile Organic Compounds	EP074	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)

Analytical Methods	Method	Matrix	Method Descriptions
Semivolatile Organic Compounds	EP075	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 502)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for TCN in Soils	EK026PR	SOIL	APHA 21st ed., 4500 CN- C & N. Samples are extracted by end-over-end tumbling with NaOH.
WAD Cyanide	EK028PR	SOIL	APHA 21st ed., 4500 CN- C & N. Cyanide is selectively distilled from the sample by the action of weak acetic acid. Only poorly bound metal complexed cyanides are released.
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TCLP for Non & Semivolatile Analytes	EN33a	SOIL	(USEPA SW846-1311, ALS QWI-EN/33) The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005T: Total Metals by ICP-AES	ES1003900-001	Anonymous	**Aluminium**	7429-90-5	22.5 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003971-001	BH55_1.0-1.2	**Naphthalene**	91-20-3	22.0 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003971-001	BH55_1.0-1.2	**Phenanthrene**	85-01-8	22.8 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003971-001	BH55_1.0-1.2	**Fluoranthene**	206-44-0	25.4 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003971-001	BH55_1.0-1.2	**Pyrene**	129-00-0	22.2 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003971-001	BH55_1.0-1.2	**Benzo(k)fluoranthene**	207-08-9	25.6 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003971-002	BH55_2.2-2.4	**Acenaphthylene**	208-96-8	21.8 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003971-002	BH55_2.2-2.4	**Fluorene**	86-73-7	21.2 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003971-002	BH55_2.2-2.4	**Phenanthrene**	85-01-8	20.4 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003971-002	BH55_2.2-2.4	**Fluoranthene**	206-44-0	20.8 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003971-002	BH55_2.2-2.4	**Pyrene**	129-00-0	20.6 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003971-002	BH55_2.2-2.4	**Benz(a)anthracene**	56-55-3	20.4 %	0-20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003971-002	BH55_2.2-2.4	**Benzo(a)pyrene**	50-32-8	21.6 %	0-20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EK026G: Total Cyanide By Discrete Analyser	ES1003971-001	BH55_1.0-1.2	**Total Cyanide**	57-12-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK028G: Weak Acid Dissociable Cyanide By Discrete A	ES1003971-001	BH55_1.0-1.2	**Weak Acid Dissociable Cyanide**	----	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1003971-002	BH55_2.2-2.4	**Benzene**	71-43-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP075(SIM)A: Phenolic Compounds	ES1003971-001	BH55_1.0-1.2	**Phenol**	108-95-2	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP075(SIM)A: Phenolic Compounds	ES1003971-001	BH55_1.0-1.2	**2-Chlorophenol**	95-57-8	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP075(SIM)A: Phenolic Compounds	ES1003971-001	BH55_1.0-1.2	**2-Nitrophenol**	88-75-5	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP075(SIM)A: Phenolic Compounds	ES1003971-001	BH55_1.0-1.2	**4-Chloro-3-Methylphenol**	59-50-7	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP075(SIM)A: Phenolic Compounds	ES1003971-001	BH55_1.0-1.2	**Pentachlorophenol**	87-86-5	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003971-001	BH55_1.0-1.2	**Acenaphthene**	83-32-9	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1003971-001	BH55_1.0-1.2	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP075A: Phenolic Compounds	ES1003971-002	BH55_2.2-2.4	**Pentachlorophenol**	87-86-5	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003971-002	BH55_2.2-2.4	**Acenaphthene**	83-32-9	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1003971-002	BH55_2.2-2.4	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	ES1003971-001	BH55_1.0-1.2	**C10 - C14 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	ES1003971-001	BH55_1.0-1.2	**C15 - C28 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	ES1003971-002	BH55_2.2-2.4	**C6 - C9 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003971-002	BH55_2.2-2.4	**Benzene**	71-43-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003971-002	BH55_2.2-2.4	**Ethylbenzene**	100-41-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003971-002	BH55_2.2-2.4	**meta- & para-Xylene**	108-38-3 106-42-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1003971-002	BH55_2.2-2.4	**ortho-Xylene**	95-47-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	1470747-009	----	**Vanadium**	7440-62-2	91.0 %	91-109%	**Recovery less than lower control limit**

- **For all matrices, no Method Blank value outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser						
Soil Glass Jar - Unpreserved						
BH55_1.0-1.2, BH55_2.2-2.4, BH55_2.7-2.9	08-MAR-2010	04-MAR-2010	**4**	08-MAR-2010	04-MAR-2010	**4**
Soil Glass Jar - Unpreserved						
BH62_1.0-1.2, BH62_5.4-5.6, BH62_11.8-12.0, BH50_1.3-1.5, BH69_1.0-1.15, BH69_10.0-10.2	08-MAR-2010	05-MAR-2010	**3**	08-MAR-2010	05-MAR-2010	**3**
EP004: Organic Matter						
Soil Glass Jar - Unpreserved						
BH50_1.3-1.5, BH69_1.0-1.15	----	----	----	08-MAR-2010	05-MAR-2010	**3**

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP080/071: Total Petroleum Hydrocarbons						
Amber Glass Bottle - Unpreserved						
QC239	----	----	----	05-MAR-2010	03-MAR-2010	**2**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : **ES1003971**

Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	Page	: 1 of 4
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: KP	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 03-MAR-2010	Issue Date	: 04-MAR-2010 19:04
Client Requested Due Date	: 11-MAR-2010	Scheduled Reporting Date	: **11-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 6.9'C - Ice present
No. of coolers/boxes	: 3 HARD	No. of samples received	: 25
Sercurity Seal	: Not intact.	No. of samples analysed	: 16

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Breaches in recommended extraction / analysis holding times may occur. Please contact ALS for further information (Jacob Waugh).**
- **This batch is split into ES1003970 for DI Water Leach.**
- **Holding times on water for Semi-volatile analysis is 7 days from sampling. Holding time breaches for Semivolatile TPH analysis as samples arrive late on last day of holding time.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EG035C Leachable Mercury by FIMS	SOIL - EG035T (solids) Total Mercury by FIMS
ES1003971-002	04-MAR-2010 15:00	BH55_2.2-2.4					✓		✓	
	25-FEB-2010 15:00	BH55_2.2-2.4		✓	✓			✓		✓
ES1003971-006	04-MAR-2010 15:00	BH62_5.4-5.6					✓		✓	
	26-FEB-2010 15:00	BH62_5.4-5.6		✓						
ES1003971-008	26-FEB-2010 15:00	BH62_11.8-12.0		✓	✓			✓		✓
ES1003971-009	26-FEB-2010 15:00	SV09_0.2-0.4		✓						
ES1003971-011	26-FEB-2010 15:00	BH50_1.3-1.5		✓				✓		✓
ES1003971-012	04-MAR-2010 15:00	BH69_1.0-1.15					✓		✓	
ES1003971-013	26-FEB-2010 15:00	BH69_4.0-4.2		✓		✓				
ES1003971-014	26-FEB-2010 15:00	BH69_10.0-10.2		✓	✓			✓		✓
ES1003971-017	26-FEB-2010 15:00	BH62_2.0-2.2	✓							
ES1003971-018	26-FEB-2010 15:00	BH62_4.7-4.9	✓							
ES1003971-019	26-FEB-2010 15:00	BH62_6.5-6.7	✓							
ES1003971-020	26-FEB-2010 15:00	BH62_9.9-10.1	✓							
ES1003971-021	26-FEB-2010 15:00	BH62_11.0-11.2	✓							
ES1003971-022	25-FEB-2010 15:00	QC242	✓							
ES1003971-023	26-FEB-2010 15:00	QC244	✓							
ES1003971-024	26-FEB-2010 15:00	QC245	✓							
ES1003971-025	26-FEB-2010 15:00	QC247	✓							

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - EK026G (Solids) Total Cyanide By Discrete Analyser	SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - EP004 (Carbon) Total Organic Carbon (Calc.)	SOIL - EP074 (solids) Volatile Organic Compounds	SOIL - EP075 (solids) Semivolatile Organic Compounds	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP075 SIM Phenols only SIM - Phenols only	SOIL - S-03 13 Metals (NEPM Suite - incl. Digestion)
ES1003971-001	25-FEB-2010 15:00	BH55_1.0-1.2	✓	✓					✓	✓
ES1003971-002	04-MAR-2010 15:00	BH55_2.2-2.4						✓		
	25-FEB-2010 15:00	BH55_2.2-2.4	✓	✓		✓	✓			
ES1003971-003	25-FEB-2010 15:00	BH55_2.7-2.9	✓	✓					✓	✓
ES1003971-004	26-FEB-2010 15:00	BH62_1.0-1.2	✓	✓					✓	✓

			SOIL - EK026G (Solids) Total Cyanide By Discrete Analyser	SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - EP004 (Carbon) Total Organic Carbon (Calc.)	SOIL - EP074 (solids) Volatile Organic Compounds	SOIL - EP075 (solids) Semivolatile Organic Compounds	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP075 SIM Phenols only SIM - Phenols only	SOIL - S-03 13 Metals (NEPM Suite - incl. Digestion)
ES1003971-005	26-FEB-2010 15:00	BH62_3.4-3.8							✓	✓
ES1003971-006	04-MAR-2010 15:00	BH62_5.4-5.6						✓		
	26-FEB-2010 15:00	BH62_5.4-5.6	✓	✓					✓	✓
ES1003971-007	26-FEB-2010 15:00	BH62_8.8-9.0								✓
ES1003971-008	26-FEB-2010 15:00	BH62_11.8-12.0	✓	✓		✓	✓			
ES1003971-009	26-FEB-2010 15:00	SV09_0.2-0.4							✓	✓
ES1003971-010	26-FEB-2010 15:00	SV09_1.3-1.5								✓
ES1003971-011	26-FEB-2010 15:00	BH50_1.3-1.5	✓	✓	✓				✓	
ES1003971-012	04-MAR-2010 15:00	BH69_1.0-1.15						✓		
	26-FEB-2010 15:00	BH69_1.0-1.15	✓	✓	✓				✓	✓
ES1003971-013	26-FEB-2010 15:00	BH69_4.0-4.2							✓	✓
ES1003971-014	26-FEB-2010 15:00	BH69_10.0-10.2	✓	✓		✓	✓			
ES1003971-016	22-FEB-2010 15:00	TB09				✓				

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - S-07 TPH/BTEX/PAH (SIM)	SOIL - TCLP TCLP Leach	SOIL - TPH only TPH (C6 - C36)
ES1003971-001	25-FEB-2010 15:00	BH55_1.0-1.2	✓		
ES1003971-002	25-FEB-2010 15:00	BH55_2.2-2.4		✓	✓
ES1003971-003	25-FEB-2010 15:00	BH55_2.7-2.9	✓		
ES1003971-004	26-FEB-2010 15:00	BH62_1.0-1.2	✓		
ES1003971-005	26-FEB-2010 15:00	BH62_3.4-3.8	✓		
ES1003971-006	26-FEB-2010 15:00	BH62_5.4-5.6	✓	✓	
ES1003971-008	26-FEB-2010 15:00	BH62_11.8-12.0			✓
ES1003971-009	26-FEB-2010 15:00	SV09_0.2-0.4	✓		
ES1003971-011	26-FEB-2010 15:00	BH50_1.3-1.5	✓		
ES1003971-012	26-FEB-2010 15:00	BH69_1.0-1.15	✓	✓	
ES1003971-013	26-FEB-2010 15:00	BH69_4.0-4.2	✓		
ES1003971-014	26-FEB-2010 15:00	BH69_10.0-10.2			✓

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EG020F Dissolved Metals by ICPMS	WATER - EG035F Dissolved Mercury by FIMS	WATER - W-04 TPH/BTEX
ES1003971-015	24-FEB-2010 15:00	QC239	✓	✓	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

Declaration Area

BATCH 1

D

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQUIRED 8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	ice	other	Container (No. & type)
1	BH55_1.0-1.2	25/02/10		X					X		
2	BH55_2.2-2.4	↓		Subcon / Forward Lab / Split WO							
3	BH55_2.7-2.9	↓		Lab / Analysis: ALS/ALS New							
4	BH62_1.0-1.2	26/02/10		Organised By / Date:							
17	BH62_2.0-2.2			Relinquished By / Date:							
5	BH62_3.4-3.6			Connote / Courier:							
18	BH62_4.7-4.9			WO No: SPLIT TAT ASLP							
6	BH62_5.4-5.6			Attach By PO / Internal Sheet:							
19	BH62_6.5-6.7										
7	BH62_8.8-9.0	↓		↓					↓		

Analysis Request

pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Cyanide (total)	WAD Cyanide	ASLP (M13 PAHs)	TCLP (M13 + PAHs)	Aluminium/Antimony/Selenium/Sr/Zn	VOC	TPH/C6-C36	Fe	Remarks & comments
	X	X	X	X			X	X							
X	X				X		X	X	X	X	X	X	X	X	
	X	X	X	X			X	X							
	X	X	X	X			X	X							
															HOLD
	X	X	X	X											
															HOLD
X	X	X	X	X			X	X	X	X					
															HOLD
	X														

Relinquished By:	Received by:	Received in good condition?	
Name: Anthony Davis Date: 3/3/10	Name: Fazi Date: 3/3/10	Samples received chilled?	☐ Courier ☐ Postal ☐ By Hand
of: Time:	of: ALS Time: 6:30pm		
Relinquished By:	**Received by:**	Received in good condition?	
Name: Date:	Name: Date:	Samples received chilled?	☐ Courier ☐ Postal ☐ By Hand
of: Time:	of: Time:		

Environmental Division
Sydney
Work Order
ES1003971

Telephone : +61-2-8784 8555

Declaration Area

BATCH 1

(2)

AECOM

Form:

Chain of Custody & Analysis Request Form

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PO Box 726
Pymble NSW 2073 Australia

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Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQUIRED 8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)
20	BH62_9.9-10.1	26/02/10		X					X		1x 250mL SOIL JAR
21	BH62_11.0-11.2										
(8)	BH62_11.8-12.0										
(9)	SW09 0.2-0.4										
(10)	SW09 1.3-1.5										
(11)	BH50_1.3-1.5										

Analysis Request

Lab. ID	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Cyanide (Free)	WAD Cyanide	ASLP	TCLP	VOC	TPH (C6 - C36)	Fe	Cr VI	TOC	Total Cyanide	Remarks & comments
20																		HOLD
21																		HOLD
(8)	X	X				X		X	X			X	X	X				
(9)	X	X	X	X	X													
(10)		X																
(11)	X	X	X	X	X			X	X					X		X	X	

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Anthony Davis Date: 3/3/10	Name: FAST Date: 3/3/10	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: AES Time: 6:30pm		Yes/No/NA	Transport Co:	

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: Time:		Yes/No/NA	Transport Co:	

BATCH 1

BH69/MW69 Blocks 4 & 5 downgradient of DRA.

AECOM

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Chain of Custody & Analysis Request Form

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Laboratory Details
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Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: Lauren K **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager:		tel:	

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Cyanide (Total)	WAD Cyanide	ASLP (M13 + PAH)	TCLP (M13 + PAH)	VOC	TPH (C6-C36)	Toc	Fe	Remarks & comments
(12)	BH69-1.0-1.5	26.2.10		X					X		1Jar		X	X	X	X			X	X	X	X			X		
(13)	BH69-4.0-4.2	26.2.10		X					X		1Jar	X	X	X	X	X		X										
(14)	BH69-10.0-10.2	26.2.10		X					X		1Jar	X	X				X		X	X			X	X		X	

Relinquished By:
Name: Anthony Davis Date: 3/3/10
of: Time:

Received by:
Name: Fadi Date: 3/3/10
of: AES Time: 6:30pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Declaration Area BATCH 1 (4)

AECOM

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

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Lab. Ref:

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Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo **Project Number:** ~~34128507~~ 84150014 **Purchase Order Number:** 1303951

Sample collected by: KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: ESDAT FORMAT REQ'D 8. Project Manager: ANTHONY DAVIS tel: 8484 8999

Analysis Request

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filted	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals. M13+Fe	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	VOC	Total Cyanide	Toc	CrVI	Remarks & comments
(15)	QC239	24/02/10			X				X		2x VIALS HCl/water Ice/blue		X	X													
		~																									
22	QC242	25/02/10		X					X		1x 250mL SOIL JAR																HOLD
					X																						
23	QC244	26/02/10		X							1V																HOLD
24	QC245	↓		↓							250mL																HOLD
											SOIL																
25	QC247	↓		↓							TPH																HOLD
(16)	TB09	22/02/10		X					↓		1x 40mL SOIL												X				

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Anthony Davis Date: 3/3/10	Name: FAST Date: 3/3/10	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: AES Time: 6:30pm		Yes/No/NA	Transport Co:	

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: Time:		Yes/No/NA	Transport Co:	

CERTIFICATE OF ANALYSIS

Work Order	: **ES1004014**	Page	: 1 of 3
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 04-MAR-2010
Sampler	: KP	Issue Date	: 19-MAR-2010
Site	: ----		
		No. of samples received	: 2
Quote number	: SY/259/09 V2	No. of samples analysed	: 2

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Analysis conducted by ALS Brisbane, NATA Site No. 818.**
- **Excess ANC not required because pH OX less than 6.5.**
- **Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil', multiply 'reported results' x 'wet bulk density of soil in t/m3'.**
- **Retained Acidity not required because pH KCl greater than or equal to 4.5**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH60_16.0-16.4	BH68_7.3-7.5	----	----	----
				Client sampling date / time: 01-MAR-2010 15:00	02-MAR-2010 15:00	----	----	----
				ES1004014-001	ES1004014-002	----	----	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**6.8**	**9.2**	----	----	----
pH OX (23B)	----	0.1	pH Unit	**4.2**	**4.1**	----	----	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	----	----	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	**82**	**83**	----	----	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	**82**	**83**	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	----	----	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	**0.13**	**0.13**	----	----	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	**0.13**	**0.13**	----	----	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.02**	<0.02	----	----	----
Peroxide Sulfur (23De)	----	0.02	% S	**0.03**	**0.04**	----	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	**0.04**	----	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	**26**	----	----	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.05**	**0.12**	----	----	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**0.05**	**0.22**	----	----	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	**0.10**	----	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	**51**	----	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	**0.08**	----	----	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.04**	**0.02**	----	----	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.05**	**0.05**	----	----	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	**0.03**	----	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	**24**	----	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	**0.04**	----	----	----
EA029-H: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	**1.5**	**1.5**	----	----	----
Net Acidity (sulfur units)	----	0.02	% S	**0.09**	**0.10**	----	----	----
Net Acidity (acidity units)	----	10	mole H+ / t	**56**	**64**	----	----	----
Liming Rate	----	1	kg CaCO3/t	**4**	**5**	----	----	----

QUALITY CONTROL REPORT

Work Order	: **ES1004014**	Page	: 1 of 5
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 04-MAR-2010
Sampler	: KP	Issue Date	: 19-MAR-2010
Order number	: 1303951		
		No. of samples received	: 2
Quote number	: SY/259/09 V2	No. of samples analysed	: 2

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 1274352)									
EB1004070-001	Anonymous	EA029: pH KCl (23A)	----	0.1	pH Unit	6.6	6.6	0.0	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	4.2	4.1	2.4	0% - 20%
EA029-B: Acidity Trail (QC Lot: 1274352)									
EB1004070-001	Anonymous	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.0	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.0	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.0	No Limit
EA029-C: Sulfur Trail (QC Lot: 1274352)									
EB1004070-001	Anonymous	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-D: Calcium Values (QC Lot: 1274352)									
EB1004070-001	Anonymous	EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.53	0.53	0.0	0% - 20%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.60	0.64	5.3	0% - 20%
		EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.08	0.11	34.2	No Limit
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.06	0.08	34.2	No Limit
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	38	54	34.2	No Limit
EA029-E: Magnesium Values (QC Lot: 1274352)									
EB1004070-001	Anonymous	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.20	0.20	0.0	0% - 50%
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.21	0.22	5.6	0% - 50%
		EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	0.02	0.0	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	0.03	0.0	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	19	60.5	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-B: Acidity Trail (QCLot: 1274352)								
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	----	----	----
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	----	----	----
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 1274352)								
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029-D: Calcium Values (QCLot: 1274352)								
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 1274352)								
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) Results are required to be reported.**

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1004014**	Page	: 1 of 6
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 04-MAR-2010
Sampler	: KP	Issue Date	: 19-MAR-2010
Order number	: 1303951		
		No. of samples received	: 2
Quote number	: SY/259/09 V2	No. of samples analysed	: 2

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non-volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-A: pH Measurements							
80* dried soil BH60_16.0-16.4	**01-MAR-2010**	**10-MAR-2010**	01-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
80* dried soil BH68_7.3-7.5	**02-MAR-2010**	**10-MAR-2010**	02-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
EA029-B: Acidity Trail							
80* dried soil BH60_16.0-16.4	**01-MAR-2010**	**10-MAR-2010**	01-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
80* dried soil BH68_7.3-7.5	**02-MAR-2010**	**10-MAR-2010**	02-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
EA029-C: Sulfur Trail							
80* dried soil BH60_16.0-16.4	**01-MAR-2010**	**10-MAR-2010**	01-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
80* dried soil BH68_7.3-7.5	**02-MAR-2010**	**10-MAR-2010**	02-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
EA029-D: Calcium Values							
80* dried soil BH60_16.0-16.4	**01-MAR-2010**	**10-MAR-2010**	01-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
80* dried soil BH68_7.3-7.5	**02-MAR-2010**	**10-MAR-2010**	02-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
EA029-E: Magnesium Values							
80* dried soil BH60_16.0-16.4	**01-MAR-2010**	**10-MAR-2010**	01-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
80* dried soil BH68_7.3-7.5	**02-MAR-2010**	**10-MAR-2010**	02-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
EA029-F: Excess Acid Neutralising Capacity							
80* dried soil BH60_16.0-16.4	**01-MAR-2010**	**10-MAR-2010**	01-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
80* dried soil BH68_7.3-7.5	**02-MAR-2010**	**10-MAR-2010**	02-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-G: Retained Acidity							
80* dried soil BH60_16.0-16.4	**01-MAR-2010**	**10-MAR-2010**	01-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
80* dried soil BH68_7.3-7.5	**02-MAR-2010**	**10-MAR-2010**	02-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
EA029-H: Acid Base Accounting							
80* dried soil BH60_16.0-16.4	**01-MAR-2010**	**10-MAR-2010**	01-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓
80* dried soil BH68_7.3-7.5	**02-MAR-2010**	**10-MAR-2010**	02-MAR-2011	✓	**12-MAR-2010**	08-JUN-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.

Preparation Methods	Method	Matrix	Method Descriptions
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1004014**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	Page	: 1 of 2
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: KP	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 04-MAR-2010	Issue Date	: 09-MAR-2010 12:30
Client Requested Due Date	: 22-MAR-2010	Scheduled Reporting Date	: **22-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 6.8'C - Ice present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 2
Sercurity Seal	: Not intact.	No. of samples analysed	: 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- Samples received in appropriately pretreated and preserved containers.
- SPOCAS analysis to be conducted by ALS Brisbane.
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **This work order for SPOCAS only and split from ES1004018.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EA029 SPOCAS
ES1004014-001	01-MAR-2010 15:00	BH60_16.0-16.4	✓
ES1004014-002	02-MAR-2010 15:00	BH68_7.3-7.5	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

CONTRACT WORK
WO: ES 100 4014
LAB: ALS Brisbane
DATE: 4-3-10
SPLIT:

SPOCAS ONLY

1

AECOM

Form: Declaration Area BATCH 1

Chain of Custody & Analysis Request Form

AECOM - Sydney
P O. Box 726
Pymble NSW 2073 Australia

Tel: +61 2 8484 8999
Fax: +61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ☐ Fax ☐ Hard copy ☑ Email 8. Project Manager: Anthony Davis tel: (02) 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: fil'ed	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-C36)/BTEX	PAHs	Phenols	SVOC	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe	Vor	TPH (C6-C36)	Remarks and Comments
	BH64_0·15-0·25		1/3/10	x					x		1x250ml Soil jar		x																
	BH64_1·0-1·2		1/3/10	x					x				x	x	x	x													
	BH64_2·5-2·7		1/3/10	x					x				x				x			x	x	x	x	x	x	x	x	x	
	BH64_5·5-5·7		1/3/10	x					x				x	x															
	BH64_8·5-8·7		1/3/10	x					x																				
	BH64_10·0-10·2		1/3/10	x					x				x	x															
	BH60_1·0-1·4		1/3/10	x					x				x	x	x	x	x				x	x							
	BH60_2·5-2·9		1/3/10	x					x																				
	BH60_4·0-4·4		1/3/10	x					x																				
	BH60_5·5-5·9		1/3/10	x					x		1x250ml Soil jar																		

Relinquished By:
Name: Anthony Davis Date: 5/3/10 Time:
of:

Received by:
Name: Frank Date: 4-3-10 Time: 12pm
of: ALS

Relinquished By:
Name: Date: Time:
of:

Received by:
Name: Date: Time:
of:

Received in good condition? Yes/No/NA
Samples received chilled? Yes/No/NA
Yes/No/NA
Method of Shipment ☐ Courier ☐ Postal ☐ By Hand
Consignment Note No.

Environmental Division
Sydney
Work Order
ES1004014

Telephone : +61-2-8784 8555

AECOM

Form: Declaration Area BATCH 1

Chain of Custody & Analysis Request Form

AECOM - Sydney
P.O. Box 726
Pymble NSW 2073 Australia

Tel: +61 2 8484 8999
Fax: +61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd. Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ☐ Fax ☐ Hard copy ☑ Email 8. Project Manager: Anthony Davis tel: (02) 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: fil'ed	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-C36)/BTEX	PAHs	Phenols	SVOC	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe	sphenes	BTEX	Remarks and Comments
	BH60_7.0-7.2		1/3/10	X							1x 250ml Soil jar		X	X				X											
	BH60_8.5-8.9		1/3/10	X							↑		X	X											X	X			
	BH60_13.0-13.4		1/3/10	X							↓		X	X	X	X				X	X				X	X	X	X		1x Ziplock bag (frozen)
1	BH60_16.0-16.4		1/3/10	X							1x 250ml Soil jar		X	X															
	QC110		1/3/10	X							2x Vials		X	X															Rinsate
	QC243	25/2/10			X				X		1x plastic		X	X															Rinsate
	QC246	26/2/10			X				X		+1 amber		X	X														X	
	TB11	25/2/10		X					X		1x 250ml Soil jar fld																		
	BH60_17.5-17.7		2-3-10	X					X		1 x 250mL soil jar		X	X	X	X													HOLD
	BH60_19.0-19.4		2-3-10	X					X		1x 250 mL soil jar																		

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Frank 4-3-10
of: ALS 12PM

Date:
Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

AECOM

Form: Declaration Area BATCH 1

Chain of Custody & Analysis Request Form

AECOM - Sydney
P.O. Box 726
Pymble NSW 2073 Australia

Tel: +61 2 8484 8999
Fax: +61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd. Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ☐ Fax ☐ Hard copy ☑ Email 8. Project Manager: Anthony Davis tel: (02) 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-C36)/BTEX	PAHs	Phenols	SVOC (Ultra trace)	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe	TPH C6-C36	VOC	Remarks and Comments
	BH60_20.5-20.9		2-3-10	X					X		1x 250ml Soil jar	X	X				X			X	X	X	X	X	X	X	X	X	
	BH60_22.0-22.3		2-3-10	X					X		1x 250ml Soil jar																		Hold
	BH60_23.5-23.7		2-3-10	X					X		1x 250ml Soil jar																		Hold
	QC120		2-3-10	X					X		1x 250ml Soil jar		X	X	X	X													
	QC121		2-3-10	X					X		1x 250ml Soil jar.		PLEASE FORWARD TO LABMARK WITH COC																
	BH68_1-1.3		2-3-10	X					X		1x250 mL Soil jar							X											
	BH68_2.5-2.9		2-3-10	X					X		1x250ml soil jar		X															X	
	BH68_40-4.3		2-3-10	X					X		1x250ml Soil jar	X	X	X	X	X													
	BH68_5.5-5.8		2-3-10	X					X		1x250ml Soil jar																		Hold
	BH68_7.0-7.1		2-3-10	X					X		Ziplock bag		X															X	

Relinquished By:
Name: Anthony Davis Date: 2/3/10
of: Time:

Received by:
Name: Frank 4-3-10 Date:
of: ALS 12pm Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Relinquished By:
Date:

Received by:
Name: Date:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	

AECOM

Form: Declaration Area BATCH 1

Chain of Custody & Analysis Request Form

AECOM - Sydney
P.O. Box 726
Pymble NSW 2073 Australia

Tel: +61 2 8484 8999
Fax: +61 2 8484 8989
Email anthony.davis@aecom.com.
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd. Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ☐ Fax ☐ Hard copy ☑ Email 8. Project Manager: Anthony Davis tel: (02) 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-C36)/BTEX	PAHs	Phenols	SVOC	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe	[illegible]	H2O	Remarks and Comments
	BH68_7.1-7.3		2-3-10	X					X		1x250 ml soil jar																	X	
	BH68_7.3-7.5		2-3-10	X					X		zip lock bag																X		Sample frozen
2	~~QC239~~ QC249		2-3-10		X			X	X		bottles x 4		X	X													X	X	2 vials, 1 amber, 1 plastic
ID changed as per client request.	TB13		25-2-10	X							1 x jar																	X	(BTEX)
	BH62_0.15-0.25		25-2-10	X					X		1 x jar																	X	Analysis changed as per client request
	BH55_0.15-0.25		25/2/10	X					X		1 x jar																	X	
	BH65_0.15-0.25		25/2/10	X					X		1 x jar																	X	
	BH66_0.15-0.25		25/2/10	X					X		1 x jar																	X	

Relinquished By:
Name: Anthony Davis Date: 3/3/10 Time:
of:

Received by:
Name: Frank 4-3-10 Date:
of: ALS 12pm Time:

Relinquished By:
Name: Date: Time:
of:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier	☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.		
	Yes/No/NA	Transport Co:		
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier	☐ Postal ☐ By Hand
Samples received	Yes/No/NA	Consignment Note No.		

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1004018**	Page	: 1 of 28
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 04-MAR-2010
Sampler	: KP	Issue Date	: 12-MAR-2010
Site	: ----		
		No. of samples received	: 37
Quote number	: SY/259/09 V2	No. of samples analysed	: 23

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Ashesh Patel	Inorganic Chemist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
KEN HALL	Analyst	Newcastle
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Asbestos Identification: Samples were analysed by Polarised Light Microscopy including dispersion staining. Legend for Asbestos Type: 'Am' Amosite (brown asbestos) detected, 'Ch' Chrysotile (white asbestos) detected, 'Cr' Crocidolite (blue asbestos) detected, 'UMF' Unknown mineral fibres detected - No asbestos fibres detected, 't' Trace levels detected. Confirmation by alternative techniques is recommended for samples where unknown mineral fibres are detected.**
- **EG-020F: LCS recovery for Vanadium falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**
- **eg048: spike failed for hexavalent chromium by alkaline digest due to matrix interference.**
- **EG048G: Hexavalent Chromium by Alkaline Digest analysis Invalidated for sample no 3 due to Insuffecient sample volume.**
- **EP071: Sample QC243 not received in a suitable timframe to conduct the analysis (TPH) within the recommended holding time.**
- **EP075(SIM): Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis. Poor matrix spike recovery due to sample matrix interferences.**
- **EP075, EK028G, EG048G: Analysis for sample BH64_2.5-2.7 could not be conducted as insufficient sample left to do the analysis.**
- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**
- **EP080: Level of Reporting raised for toluene due to ambient background levels in the laboratory.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH64_0.15-0.25	BH64_1.0-1.2	BH64_2.5-2.7	BH64_5.5-5.7	BH64_10.0-10.3
				Client sampling date / time: 01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00
				ES1004018-001	ES1004018-002	ES1004018-003	ES1004018-004	ES1004018-005
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	7.4	15.8	30.5	19.0	17.8
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	7	<5	6
Barium	7440-39-3	10	mg/kg	60	70	540	<10	<10
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	18	9	176	11	34
Cobalt	7440-48-4	2	mg/kg	32	3	3	<2	<2
Copper	7440-50-8	5	mg/kg	63	28	150	<5	9
Iron	7439-89-6	50	mg/kg	----	----	19900	----	----
Lead	7439-92-1	5	mg/kg	<5	52	163	<5	12
Manganese	7439-96-5	5	mg/kg	550	101	54	7	7
Nickel	7440-02-0	2	mg/kg	119	6	19	<2	<2
Vanadium	7440-62-2	5	mg/kg	32	17	43	20	83
Zinc	7440-66-6	5	mg/kg	45	37	53	<5	12
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.5	0.2	<0.1	<0.1
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	<1	----	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	7.6	----	----
After HCl pH	----	0.1	pH Unit	----	----	1.5	----	----
Extraction Fluid Number	----	1	-	----	----	1	----	----
Final pH	----	0.1	pH Unit	----	----	5.1	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	1.3	----	----
^ Total Organic Carbon	----	0.5	%	----	----	0.7	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	----	----
Styrene	100-42-5	0.5	mg/kg	----	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	<0.5	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	<0.5	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH64_0.15-0.25	BH64_1.0-1.2	BH64_2.5-2.7	BH64_5.5-5.7	BH64_10.0-10.3
				Client sampling date / time: 01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00
				ES1004018-001	ES1004018-002	ES1004018-003	ES1004018-004	ES1004018-005
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	<0.5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	<5	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	<0.5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	<5	----	----
Chloromethane	74-87-3	5	mg/kg	----	----	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	<5	----	----
Bromomethane	74-83-9	5	mg/kg	----	----	<5	----	----
Chloroethane	75-00-3	5	mg/kg	----	----	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	----	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	<0.5	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	<0.5	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH64_0.15-0.25	BH64_1.0-1.2	BH64_2.5-2.7	BH64_5.5-5.7	BH64_10.0-10.3
				Client sampling date / time: 01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00
				ES1004018-001	ES1004018-002	ES1004018-003	ES1004018-004	ES1004018-005
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	<0.5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	----	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	<0.5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg	----	----	<0.5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	**3.8**	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	**1.9**	----	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	**5.3**	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	**2.4**	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	**76.7**	----	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	**1.0**	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	**51.9**	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	**7.5**	----	----	----
Fluorene	86-73-7	0.5	mg/kg	----	**31.1**	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	**261**	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH64_0.15-0.25	BH64_1.0-1.2	BH64_2.5-2.7	BH64_5.5-5.7	BH64_10.0-10.3
				Client sampling date / time: 01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00
				ES1004018-001	ES1004018-002	ES1004018-003	ES1004018-004	ES1004018-005
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Anthracene	120-12-7	0.5	mg/kg	----	**70.8**	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	**246**	----	----	----
Pyrene	129-00-0	0.5	mg/kg	----	**259**	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	**95.5**	----	----	----
Chrysene	218-01-9	0.5	mg/kg	----	**79.7**	----	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	**104**	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	**29.4**	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**69.8**	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	**33.2**	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	**10.8**	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	**37.2**	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	**1460**	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	----	**260**	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	----	**1970**	**640**	<100	<100
C29 - C36 Fraction	----	100	mg/kg	----	**1000**	**590**	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	**3230**	**1230**	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	**0.2**	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	**101**	----	----
Toluene-D8	2037-26-5	0.1	%	----	----	**104**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	**107**	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	**97.9**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**99.9**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**99.7**	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**85.4**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**83.6**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**80.6**	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	BH64_0.15-0.25	BH64_1.0-1.2	BH64_2.5-2.7	BH64_5.5-5.7	BH64_10.0-10.3
				Client sampling date / time	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00
					ES1004018-001	ES1004018-002	ES1004018-003	ES1004018-004	ES1004018-005
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**112**	**98.8**	**103**	**116**
Toluene-D8	2037-26-5	0.1	%		----	**89.2**	**99.3**	**90.6**	**100**
4-Bromofluorobenzene	460-00-4	0.1	%		----	**100**	**116**	**90.4**	**106**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH60_2.5-2.9	BH60_7.0-7.2	BH60_8.5-8.9	BH60_13.0-13.4	BH60_16.0-16.4
Client sampling date / time				01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00
				ES1004018-006	ES1004018-007	ES1004018-008	ES1004018-009	ES1004018-010
AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	**No**	----	----
Asbestos Type	132207-33-1	0.1	g/kg	----	----	**-**	----	----
Sample weight (dry)	----	0.01	g	----	----	**342**	----	----
APPROVED IDENTIFIER:	----	-	-	----	----	**K.HALL**	----	----
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**10.8**	----	----	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**11.3**	**22.5**	----	**17.2**	**12.8**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	----	<5	<5
Barium	7440-39-3	10	mg/kg	**70**	**90**	----	**80**	<10
Beryllium	7440-41-7	1	mg/kg	<1	<1	----	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	<1	<1
Chromium	7440-47-3	2	mg/kg	**14**	**13**	----	**10**	**3**
Cobalt	7440-48-4	2	mg/kg	**5**	**3**	----	<2	<2
Copper	7440-50-8	5	mg/kg	**50**	**34**	----	**11**	<5
Iron	7439-89-6	50	mg/kg	----	----	----	**6240**	**1060**
Lead	7439-92-1	5	mg/kg	**55**	**37**	----	**110**	<5
Manganese	7439-96-5	5	mg/kg	**177**	**145**	----	**105**	<5
Nickel	7440-02-0	2	mg/kg	**9**	**6**	----	**3**	<2
Vanadium	7440-62-2	5	mg/kg	**41**	**28**	----	**13**	<5
Zinc	7440-66-6	5	mg/kg	**59**	**63**	----	**75**	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	<0.5	**1.4**
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	**15**	----	----	----	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	----	----	----	<1
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	**0.5**	----	----	**0.5**
^ Total Organic Carbon	----	0.5	%	----	<0.5	----	----	<0.5
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH60_2.5-2.9	BH60_7.0-7.2	BH60_8.5-8.9	BH60_13.0-13.4	BH60_16.0-16.4
				Client sampling date / time: 01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00
				ES1004018-006	ES1004018-007	ES1004018-008	ES1004018-009	ES1004018-010
EP075(SIM)A: Phenolic Compounds - Continued								
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	----	----	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	**4.2**
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	----	----	----	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**1.1**	----	----	----	**256**
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	----	----	**0.8**
Acenaphthylene	208-96-8	0.5	mg/kg	**3.5**	----	----	----	**44.2**
Acenaphthene	83-32-9	0.5	mg/kg	**0.5**	----	----	----	**6.3**
Fluorene	86-73-7	0.5	mg/kg	**2.3**	----	----	----	**38.6**
Phenanthrene	85-01-8	0.5	mg/kg	**12.3**	----	----	----	**88.3**
Anthracene	120-12-7	0.5	mg/kg	**4.4**	----	----	----	**32.6**
Fluoranthene	206-44-0	0.5	mg/kg	**13.5**	----	----	----	**56.8**
Pyrene	129-00-0	0.5	mg/kg	**13.7**	----	----	----	**45.9**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**6.9**	----	----	----	**22.2**
Chrysene	218-01-9	0.5	mg/kg	**5.0**	----	----	----	**16.9**
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	**7.2**	----	----	----	**17.4**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**2.7**	----	----	----	**6.4**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**4.3**	----	----	----	**12.3**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**2.1**	----	----	----	**4.2**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**0.6**	----	----	----	**1.3**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**2.3**	----	----	----	**4.4**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**82.4**	----	----	----	**654**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	----	<10	**84**
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	<50	**760**
C15 - C28 Fraction	----	100	mg/kg	**430**	<100	----	**230**	**1660**
C29 - C36 Fraction	----	100	mg/kg	**680**	<100	----	**210**	**620**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**1110**	<50	----	**440**	**3040**
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	<0.2	**5.8**
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	**15.5**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH60_2.5-2.9	BH60_7.0-7.2	BH60_8.5-8.9	BH60_13.0-13.4	BH60_16.0-16.4
				Client sampling date / time	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00	01-MAR-2010 15:00
Compound	CAS Number	LOR	Unit		ES1004018-006	ES1004018-007	ES1004018-008	ES1004018-009	ES1004018-010
EP080: BTEX - Continued									
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	<0.5	**1.0**
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	<0.5	**13.4**
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	<0.5	**4.8**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**99.8**	----	----	----	**104**
2-Chlorophenol-D4	93951-73-6	0.1	%		**101**	----	----	----	**108**
2.4.6-Tribromophenol	118-79-6	0.1	%		**86.0**	----	----	----	**125**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**91.9**	----	----	----	**95.9**
Anthracene-d10	1719-06-8	0.1	%		**92.7**	----	----	----	**92.5**
4-Terphenyl-d14	1718-51-0	0.1	%		**92.9**	----	----	----	**96.8**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**108**	**110**	----	**113**	**90.1**
Toluene-D8	2037-26-5	0.1	%		**105**	**97.7**	----	**97.7**	**119**
4-Bromofluorobenzene	460-00-4	0.1	%		**110**	**107**	----	**101**	**83.3**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC110 Client sampling date / time: 01-MAR-2010 15:00 ES1004018-011	Client sample ID: TB11 Client sampling date / time: 25-FEB-2010 15:00 ES1004018-014	Client sample ID: BH60_17.5-17.7 Client sampling date / time: 02-MAR-2010 15:00 ES1004018-015	Client sample ID: BH60_20.5-20.9 Client sampling date / time: 02-MAR-2010 15:00 ES1004018-016	Client sample ID: QC120 Client sampling date / time: 02-MAR-2010 15:00 ES1004018-017
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	----	----	**5.5**	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**20.3**	----	**14.8**	**15.0**	**13.4**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	**36**	<5	**16**
Barium	7440-39-3	10	mg/kg	**80**	----	**20**	<10	**10**
Beryllium	7440-41-7	1	mg/kg	<1	----	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**14**	----	**25**	**3**	**13**
Cobalt	7440-48-4	2	mg/kg	**3**	----	<2	<2	<2
Copper	7440-50-8	5	mg/kg	**125**	----	<5	<5	<5
Iron	7439-89-6	50	mg/kg	----	----	----	**940**	----
Lead	7439-92-1	5	mg/kg	**38**	----	**13**	<5	**10**
Manganese	7439-96-5	5	mg/kg	**151**	----	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	**8**	----	**2**	<2	<2
Vanadium	7440-62-2	5	mg/kg	**26**	----	**72**	<5	**53**
Zinc	7440-66-6	5	mg/kg	**100**	----	**5**	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	<0.5	----
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	----	<1	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	----	<1	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	----	**7.4**	----
After HCl pH	----	0.1	pH Unit	----	----	----	**1.4**	----
Extraction Fluid Number	----	1	-	----	----	----	**1**	----
Final pH	----	0.1	pH Unit	----	----	----	**5.0**	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	----	**0.6**	----
^ Total Organic Carbon	----	0.5	%	----	----	----	<0.5	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	----	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC110	TB11	BH60_17.5-17.7	BH60_20.5-20.9	QC120
				Client sampling date / time: 01-MAR-2010 15:00	25-FEB-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00
				ES1004018-011	ES1004018-014	ES1004018-015	ES1004018-016	ES1004018-017
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	<0.5	----
Styrene	100-42-5	0.5	mg/kg	----	----	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	<0.5	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	----	<0.5	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	----	<0.5	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	----	<0.5	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	----	<0.5	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	----	<0.5	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	----	<0.5	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	----	<0.5	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	----	<0.5	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	----	<5	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	----	<5	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	----	<5	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	----	<5	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	----	<0.5	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	----	<0.5	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	----	<0.5	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	----	<0.5	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	----	<5	----
Chloromethane	74-87-3	5	mg/kg	----	----	----	<5	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	----	<5	----
Bromomethane	74-83-9	5	mg/kg	----	----	----	<5	----
Chloroethane	75-00-3	5	mg/kg	----	----	----	<5	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	----	<5	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	----	<0.5	----
Iodomethane	74-88-4	0.5	mg/kg	----	----	----	<0.5	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	----	<0.5	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	----	<0.5	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	----	<0.5	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	----	<0.5	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	----	<0.5	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC110	TB11	BH60_17.5-17.7	BH60_20.5-20.9	QC120
				Client sampling date / time: 01-MAR-2010 15:00	25-FEB-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00
				ES1004018-011	ES1004018-014	ES1004018-015	ES1004018-016	ES1004018-017
EP074E: Halogenated Aliphatic Compounds - Continued								
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	----	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	----	<0.5	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	----	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	----	<0.5	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	----	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	----	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	----	<0.5	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	----	<0.5	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	----	<0.5	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	----	<0.5	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	----	<0.5	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	----	<0.5	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	----	<0.5	----
Bromobenzene	108-86-1	0.5	mg/kg	----	----	----	<0.5	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	----	<0.5	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	----	<0.5	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	----	<0.5	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	----	<0.5	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	----	<0.5	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	----	<0.5	----
Bromoform	75-25-2	0.5	mg/kg	----	----	----	<0.5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	----	<1.0	----	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	**0.6**	----	**0.7**
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	----	----	<2.0	----	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC110	TB11	BH60_17.5-17.7	BH60_20.5-20.9	QC120
				Client sampling date / time: 01-MAR-2010 15:00	25-FEB-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00
				ES1004018-011	ES1004018-014	ES1004018-015	ES1004018-016	ES1004018-017
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Naphthalene	91-20-3	0.5	mg/kg	----	----	**101**	----	**113**
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	**19.5**	----	**21.5**
Acenaphthene	83-32-9	0.5	mg/kg	----	----	**3.7**	----	**4.2**
Fluorene	86-73-7	0.5	mg/kg	----	----	**22.3**	----	**25.3**
Phenanthrene	85-01-8	0.5	mg/kg	----	----	**50.7**	----	**57.8**
Anthracene	120-12-7	0.5	mg/kg	----	----	**17.9**	----	**19.2**
Fluoranthene	206-44-0	0.5	mg/kg	----	----	**33.4**	----	**37.5**
Pyrene	129-00-0	0.5	mg/kg	----	----	**25.7**	----	**28.6**
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	**13.1**	----	**14.5**
Chrysene	218-01-9	0.5	mg/kg	----	----	**9.0**	----	**10.1**
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	**9.9**	----	**10.6**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	**4.1**	----	**5.1**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	**6.9**	----	**7.7**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	**2.3**	----	**2.6**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	**0.7**	----	**0.7**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	**2.4**	----	**2.6**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	**323**	----	**361**
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	----	<0.5	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	<0.5	----
Pentachlorophenol	87-86-5	1	mg/kg	----	----	----	<1	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	<0.5	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	----	<0.5	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC110 Client sampling date / time: 01-MAR-2010 15:00 ES1004018-011	TB11 25-FEB-2010 15:00 ES1004018-014	BH60_17.5-17.7 02-MAR-2010 15:00 ES1004018-015	BH60_20.5-20.9 02-MAR-2010 15:00 ES1004018-016	QC120 02-MAR-2010 15:00 ES1004018-017
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	0.5	mg/kg	----	----	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	----	----	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	----	----	----	<0.5	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	----	----	----	<0.5	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	----	----	<1	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	<0.5	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	<0.5	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	----	<0.5	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	----	<0.5	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	----	<0.5	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	----	<0.5	----
bis(2-ethylhexyl) phthalate	117-81-7	0.5	mg/kg	----	----	----	<0.5	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	----	<0.5	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	----	----	----	<0.5	----
Methapyrilene	91-80-5	0.5	mg/kg	----	----	----	<0.5	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	----	----	<0.5	----
Acetophenone	98-86-2	0.5	mg/kg	----	----	----	<0.5	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC110	TB11	BH60_17.5-17.7	BH60_20.5-20.9	QC120
				Client sampling date / time: 01-MAR-2010 15:00	25-FEB-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00
				ES1004018-011	ES1004018-014	ES1004018-015	ES1004018-016	ES1004018-017
EP075E: Nitroaromatics and Ketones - Continued								
Isophorone	78-59-1	0.5	mg/kg	----	----	----	<0.5	----
2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	----	----	----	<0.5	----
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	----	<0.5	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	----	<0.5	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	----	<0.5	----
Azobenzene	103-33-3	1	mg/kg	----	----	----	<1	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	----	<0.5	----
Phenacetin	62-44-2	0.5	mg/kg	----	----	----	<0.5	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	----	<0.5	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	----	<0.5	----
Pronamide	23950-58-5	0.5	mg/kg	----	----	----	<0.5	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	----	<0.5	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	----	<0.5	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	----	<0.5	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	----	<0.5	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	----	<0.5	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	----	<0.5	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	<0.5	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	----	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	<0.5	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	----	----	----	<0.5	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	----	----	----	<0.5	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	----	----	<0.5	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	----	<0.5	----
2-Nitroaniline	88-74-4	0.5	mg/kg	----	----	----	<0.5	----
3-Nitroaniline	99-09-2	0.5	mg/kg	----	----	----	<0.5	----
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	----	<0.5	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	----	<0.5	----
Carbazole	86-74-8	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC110 Client sampling date / time: 01-MAR-2010 15:00 ES1004018-011	TB11 25-FEB-2010 15:00 ES1004018-014	BH60_17.5-17.7 02-MAR-2010 15:00 ES1004018-015	BH60_20.5-20.9 02-MAR-2010 15:00 ES1004018-016	QC120 02-MAR-2010 15:00 ES1004018-017
EP075H: Anilines and Benzidines - Continued								
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	----	<0.5	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	----	----	<0.5	----
beta-BHC	319-85-7	0.5	mg/kg	----	----	----	<0.5	----
gamma-BHC	58-89-9	0.5	mg/kg	----	----	----	<0.5	----
delta-BHC	319-86-8	0.5	mg/kg	----	----	----	<0.5	----
Heptachlor	76-44-8	0.5	mg/kg	----	----	----	<0.5	----
Aldrin	309-00-2	0.5	mg/kg	----	----	----	<0.5	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	----	----	<0.5	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	----	----	<0.5	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	----	----	<0.5	----
Dieldrin	60-57-1	0.5	mg/kg	----	----	----	<0.5	----
Endrin	72-20-8	0.5	mg/kg	----	----	----	<0.5	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	----	----	<0.5	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	----	----	<0.5	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	----	----	<0.5	----
4.4`-DDT	50-29-3	0.5	mg/kg	----	----	----	<0.5	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	----	----	<0.5	----
Dimethoate	60-51-5	0.5	mg/kg	----	----	----	<0.5	----
Diazinon	333-41-5	0.5	mg/kg	----	----	----	<0.5	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	----	----	<0.5	----
Malathion	121-75-5	0.5	mg/kg	----	----	----	<0.5	----
Fenthion	55-38-9	0.5	mg/kg	----	----	----	<0.5	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	----	----	<0.5	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	----	----	<0.5	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	----	----	<0.5	----
Prothiofos	34643-46-4	0.5	mg/kg	----	----	----	<0.5	----
Ethion	563-12-2	0.5	mg/kg	----	----	----	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	**12**	<10	**25**
C10 - C14 Fraction	----	50	mg/kg	<50	----	**60**	<50	**80**
C15 - C28 Fraction	----	100	mg/kg	<100	----	**160**	<100	**200**
C29 - C36 Fraction	----	100	mg/kg	<100	----	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	**220**	<50	**280**
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	**0.6**	----	**1.2**
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	**1.9**	----	**5.0**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC110 Client sampling date / time: 01-MAR-2010 15:00 ES1004018-011	Client sample ID: TB11 Client sampling date / time: 25-FEB-2010 15:00 ES1004018-014	Client sample ID: BH60_17.5-17.7 Client sampling date / time: 02-MAR-2010 15:00 ES1004018-015	Client sample ID: BH60_20.5-20.9 Client sampling date / time: 02-MAR-2010 15:00 ES1004018-016	Client sample ID: QC120 Client sampling date / time: 02-MAR-2010 15:00 ES1004018-017
EP080: BTEX - Continued								
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	**0.5**
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	**2.4**	----	**7.0**
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	**0.9**	----	**2.3**
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	**116**	----
Toluene-D8	2037-26-5	0.1	%	----	----	----	**104**	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	**93.8**	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	**111**	----	**110**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**116**	----	**114**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**138**	----	**109**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**104**	----	**102**
Anthracene-d10	1719-06-8	0.1	%	----	----	**100**	----	**99.4**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**105**	----	**103**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	----	----	**73.6**	----
Phenol-d6	13127-88-3	0.1	%	----	----	----	**56.1**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	**57.0**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	----	**126**	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	----	----	**59.2**	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	----	----	**55.7**	----
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	**62.4**	----
Anthracene-d10	1719-06-8	0.1	%	----	----	----	**63.9**	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	**61.2**	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**105**	**116**	**102**	**113**	**109**
Toluene-D8	2037-26-5	0.1	%	**101**	**103**	**105**	**94.5**	**116**
4-Bromofluorobenzene	460-00-4	0.1	%	**97.8**	**102**	**94.3**	**96.1**	**100**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH68_1.0-1.3	BH68_2.5-2.9	BH68_4.0-4.3	BH68_7.0-7.1	TB13
				Client sampling date / time: 02-MAR-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00	25-FEB-2010 15:00
				ES1004018-018	ES1004018-019	ES1004018-020	ES1004018-021	ES1004018-023
AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	----	----	----	----
Asbestos Type	132207-33-1	0.1	g/kg	**-**	----	----	----	----
Sample weight (dry)	----	0.01	g	**380**	----	----	----	----
APPROVED IDENTIFIER:	----	-	-	**K.HALL**	----	----	----	----
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	----	**8.4**	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	----	**24.2**	**16.6**	**22.4**	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	**10**	<5	<5	----
Barium	7440-39-3	10	mg/kg	----	**100**	**30**	**30**	----
Beryllium	7440-41-7	1	mg/kg	----	<1	<1	<1	----
Cadmium	7440-43-9	1	mg/kg	----	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	----	**27**	**10**	**8**	----
Cobalt	7440-48-4	2	mg/kg	----	**7**	**8**	<2	----
Copper	7440-50-8	5	mg/kg	----	**129**	**20**	<5	----
Lead	7439-92-1	5	mg/kg	----	**120**	**16**	**6**	----
Manganese	7439-96-5	5	mg/kg	----	**261**	**260**	**22**	----
Nickel	7440-02-0	2	mg/kg	----	**26**	**10**	**2**	----
Vanadium	7440-62-2	5	mg/kg	----	**30**	**15**	**15**	----
Zinc	7440-66-6	5	mg/kg	----	**190**	**56**	**8**	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	<0.1	<0.1	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	----	<1.0	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	----	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH68_1.0-1.3	BH68_2.5-2.9	BH68_4.0-4.3	BH68_7.0-7.1	TB13
				Client sampling date / time: 02-MAR-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00	25-FEB-2010 15:00
				ES1004018-018	ES1004018-019	ES1004018-020	ES1004018-021	ES1004018-023
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Naphthalene	91-20-3	0.5	mg/kg	----	----	<0.5	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	----	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	----	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	----	----	<0.5	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg	----	**320**	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg	----	**450**	<100	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	**770**	<50	<50	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	----	<0.2
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	----	<0.5
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	**101**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**106**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**116**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**98.6**	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	**95.0**	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	BH68_1.0-1.3	BH68_2.5-2.9	BH68_4.0-4.3	BH68_7.0-7.1	TB13
				Client sampling date / time	02-MAR-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00	02-MAR-2010 15:00	25-FEB-2010 15:00
					ES1004018-018	ES1004018-019	ES1004018-020	ES1004018-021	ES1004018-023
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	**97.9**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**107**	**112**	**111**	**104**
Toluene-D8	2037-26-5	0.1	%		----	**94.6**	**103**	**110**	**102**
4-Bromofluorobenzene	460-00-4	0.1	%		----	**89.9**	**99.7**	**113**	**103**

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	BH64_2.5-2.7	BH60_20.5-20.9	----	----	----
				Client sampling date / time	07-MAR-2010 12:00	07-MAR-2010 12:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1004018-003	ES1004018-016	----	----	----
EG005C: Leachable Metals by ICPAES									
Arsenic	7440-38-2	0.1	mg/L		<0.1	<0.1	----	----	----
Barium	7440-39-3	0.1	mg/L		**0.8**	**0.3**	----	----	----
Beryllium	7440-41-7	0.05	mg/L		<0.05	<0.05	----	----	----
Cadmium	7440-43-9	0.05	mg/L		<0.05	<0.05	----	----	----
Chromium	7440-47-3	0.1	mg/L		<0.1	<0.1	----	----	----
Cobalt	7440-48-4	0.1	mg/L		<0.1	<0.1	----	----	----
Copper	7440-50-8	0.1	mg/L		<0.1	<0.1	----	----	----
Lead	7439-92-1	0.1	mg/L		<0.1	<0.1	----	----	----
Manganese	7439-96-5	0.1	mg/L		**0.1**	<0.1	----	----	----
Nickel	7440-02-0	0.1	mg/L		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	0.1	mg/L		<0.1	<0.1	----	----	----
Zinc	7440-66-6	0.1	mg/L		**0.2**	<0.1	----	----	----
EG035C: Leachable Mercury by FIMS									
Mercury	7439-97-6	0.0010	mg/L		<0.0010	<0.0010	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		**1.5**	**3.1**	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**25.7**	**27.8**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**51.2**	**55.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**76.8**	**66.0**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**70.0**	**72.4**	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**69.8**	**69.6**	----	----	----

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	BH64_2.5-2.7	BH60_20.5-20.9	----	----	----
				Client sampling date / time	07-MAR-2010 12:00	07-MAR-2010 12:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1004018-003	ES1004018-016	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		**89.8**	**79.3**	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC243	QC246	QC249	----	----
				Client sampling date / time: 25-FEB-2010 15:00	26-FEB-2010 15:00	02-MAR-2010 15:00	----	----
				ES1004018-012	ES1004018-013	ES1004018-022	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Barium	7440-39-3	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	----	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	**0.001**	<0.001	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	<0.01	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	<0.005	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	----	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	----	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	----	----
C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	----	----
EP080: BTEX								
Benzene	71-43-2	1	µg/L	<1	<1	<1	----	----
Toluene	108-88-3	2	µg/L	<5	<5	<5	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**96.4**	**112**	**105**	----	----
Toluene-D8	2037-26-5	0.1	%	**87.3**	**88.9**	**93.0**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**93.2**	**91.6**	**95.4**	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	BH60_8.5-8.9 - 01-MAR-2010 15:00	A light grey coarse grain sandy clay soil with plenty of large and small rocks. Some tar-like grains present. Trace of vegetation debris present.
EA200: Description	BH68_1.0-1.3 - 02-MAR-2010 15:00	A light grey coarse grain sandy clay soil with plenty of large and small rocks. Some tar-like grains present. Trace of vegetation debris present.

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	23	120
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

Sub-Matrix: **TCLP LEACHATE**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

Sub-Matrix: **WATER**

		Recovery Limits (%)

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

QUALITY CONTROL REPORT

Work Order	: **ES1004018**	Page	: 1 of 25
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 04-MAR-2010
Sampler	: KP	Issue Date	: 12-MAR-2010
Order number	: 1303951		
		No. of samples received	: 37
Quote number	: SY/259/09 V2	No. of samples analysed	: 23

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Ashesh Patel	Inorganic Chemist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
KEN HALL	Analyst	Newcastle
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA002 : pH (Soils) (QC Lot: 1271641)									
ES1003981-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	9.3	9.2	1.6	0% - 20%
ES1004031-014	Anonymous	EA002: pH Value	----	0.1	pH Unit	9.1	9.2	0.0	0% - 20%
EA055: Moisture Content (QC Lot: 1271117)									
EB1003813-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	87.4	87.6	0.2	0% - 20%
ES1004018-009	BH60_13.0-13.4	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	17.2	18.6	7.9	0% - 50%
EA055: Moisture Content (QC Lot: 1271253)									
EB1003813-002	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	82.3	82.5	0.3	0% - 20%
ES1003892-004	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	16.6	16.9	2.0	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 1270836)									
ES1003971-011	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	<10	<10	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	3	4	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	6	7	16.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	2310	2420	4.4	0% - 20%
ES1004018-007	BH60_7.0-7.2	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	90	90	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	13	14	13.8	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	3	3	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	6	6	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	34	36	5.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	37	51	31.8	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	145	150	3.3	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	28	28	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	63	64	2.7	0% - 50%
		EG005T: Iron	7439-89-6	50	mg/kg	9850	10200	4.1	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1270837)									
ES1003971-011	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1004018-007	BH60_7.0-7.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1275122)									
ES1004018-009	BH60_13.0-13.4	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1004031-007	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026G: Total Cyanide By Discrete Analyser (QC Lot: 1271809)									
ES1003900-001	Anonymous	EK026G: Total Cyanide	57-12-5	1	mg/kg	200	204	2.0	0% - 20%
ES1004031-003	Anonymous	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EK026G: Total Cyanide By Discrete Analyser (QC Lot: 1272477)									
ES1004018-003	BH64_2.5-2.7	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	1	0.0	No Limit
ES1004130-008	Anonymous	EK026G: Total Cyanide	57-12-5	1	mg/kg	143	160	11.1	0% - 20%
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1271111)									
ES1003971-001	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	8	8	0.0	No Limit
ES1003971-014	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EP004: Organic Matter (QC Lot: 1270895)									
ES1003904-001	Anonymous	EP004: Organic Matter	----	0.5	%	<0.5	<0.5	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.0	No Limit
ES1004031-017	Anonymous	EP004: Organic Matter	----	0.5	%	<0.5	<0.5	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1270177)									
ES1004018-003	BH64_2.5-2.7	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1270177)									
ES1004018-003	BH64_2.5-2.7	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074B: Oxygenated Compounds (QC Lot: 1270177) - continued									
ES1004018-003	BH64_2.5-2.7	EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1270177)									
ES1004018-003	BH64_2.5-2.7	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1270177)									
ES1004018-003	BH64_2.5-2.7	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1270177)									
ES1004018-003	BH64_2.5-2.7	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1270177)									
ES1004018-003	BH64_2.5-2.7	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074F: Halogenated Aromatic Compounds (QC Lot: 1270177) - continued									
ES1004018-003	BH64_2.5-2.7	EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1270177)									
ES1004018-003	BH64_2.5-2.7	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1270133)									
ES1004018-002	BH64_1.0-1.2	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	3.8	3.3	13.9	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	1.9	1.5	22.4	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	2.4	1.4	53.4	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	5.3	4.5	15.3	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1270133)									
ES1004018-002	BH64_1.0-1.2	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	76.7	90.3	16.4	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	51.9	46.9	10.0	0% - 20%
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	7.5	5.1	38.4	0% - 50%
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	31.1	24.6	# 23.1	0% - 20%
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	261	193	# 29.9	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	70.8	49.7	# 35.0	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	246	152	# 47.1	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	259	162	# 46.5	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	95.5	57.8	# 49.3	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	79.7	47.5	# 50.6	0% - 20%
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	104	58.1	# 56.6	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	29.4	20.6	# 35.2	0% - 20%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	69.8	42.0	# 49.7	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	33.2	17.9	# 60.0	0% - 20%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	10.8	5.6	# 64.1	0% - 50%
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	37.2	20.9	# 55.8	0% - 20%
EP075A: Phenolic Compounds (QC Lot: 1273781)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075A: Phenolic Compounds (QC Lot: 1273781) - continued									
ES1004018-016	BH60_20.5-20.9	EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1273781)									
ES1004018-016	BH60_20.5-20.9	EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	<1	0.0	No Limit
EP075C: Phthalate Esters (QC Lot: 1273781)									
ES1004018-016	BH60_20.5-20.9	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075C: Phthalate Esters (QC Lot: 1273781) - continued									
ES1004018-016	BH60_20.5-20.9	EP075: bis(2-ethylhexyl) phthalate	117-81-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075D: Nitrosamines (QC Lot: 1273781)									
ES1004018-016	BH60_20.5-20.9	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 1273781)									
ES1004018-016	BH60_20.5-20.9	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit
EP075F: Haloethers (QC Lot: 1273781)									
ES1004018-016	BH60_20.5-20.9	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 1273781)									
ES1004018-016	BH60_20.5-20.9	EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075G: Chlorinated Hydrocarbons (QC Lot: 1273781) - continued									
ES1004018-016	BH60_20.5-20.9	EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075H: Anilines and Benzidines (QC Lot: 1273781)									
ES1004018-016	BH60_20.5-20.9	EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 1273781)									
ES1004018-016	BH60_20.5-20.9	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 1273781)									
ES1004018-016	BH60_20.5-20.9	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075J: Organophosphorus Pesticides (QC Lot: 1273781) - continued									
ES1004018-016	BH60_20.5-20.9	EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1270132)									
ES1004018-002	BH64_1.0-1.2	EP071: C15 - C28 Fraction	----	100	mg/kg	1970	1700	14.9	0% - 50%
		EP071: C29 - C36 Fraction	----	100	mg/kg	1000	950	4.9	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	260	190	27.4	No Limit
ES1004018-015	BH60_17.5-17.7	EP071: C15 - C28 Fraction	----	100	mg/kg	160	200	21.6	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	60	70	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1270176)									
ES1004018-003	BH64_2.5-2.7	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1004018-016	BH60_20.5-20.9	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEX (QC Lot: 1270176)									
ES1004018-003	BH64_2.5-2.7	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1004018-016	BH60_20.5-20.9	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005C: Leachable Metals by ICPAES (QC Lot: 1270995)									
ES1003839-011	Anonymous	EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Cadmium	7440-43-9	0.05	mg/L	0.06	0.05	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	0.2	0.2	0.0	No Limit
		EG005C: Barium	7440-39-3	0.1	mg/L	0.8	0.8	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	0.4	0.4	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	0.2	0.2	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005C: Leachable Metals by ICPAES (QC Lot: 1270995) - continued									
ES1003839-011	Anonymous	EG005C: Lead	7439-92-1	0.1	mg/L	0.8	0.8	0.0	No Limit
		EG005C: Manganese	7439-96-5	0.1	mg/L	44.0	42.7	3.1	0% - 20%
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	31.3	30.7	1.9	0% - 20%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1272853)									
ES1004206-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	0.682	0.693	1.7	0% - 20%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.010	<0.010	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.003	0.004	33.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.002	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.120	0.119	0.0	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.018	0.019	0.0	0% - 50%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.006	0.008	39.1	No Limit
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	0.02	0.02	0.0	No Limit
ES1004206-006	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	1.04	1.03	0.5	0% - 20%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.010	<0.010	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.009	0.010	0.0	0% - 50%
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.106	0.109	2.4	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.027	0.026	0.0	0% - 20%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.008	0.008	0.0	No Limit
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	0.03	0.03	0.0	No Limit
EG035C: Leachable Mercury by FIMS (QC Lot: 1274065)									
ES1003900-001	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
ES1004031-004	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1272852)									
ES1004206-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1004206-006	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1270431)									
ES1003990-041	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	1450	1510	4.2	0% - 20%
ES1003990-051	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	400	420	4.2	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080: BTEX (QC Lot: 1270431)									
ES1003990-041	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
ES1003990-051	Anonymous	EP080: Benzene	71-43-2	1	µg/L	366	349	5.0	0% - 20%
		EP080: Toluene	108-88-3	2	µg/L	5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	7	6	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	4	4	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1270836)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	109	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	118	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	99.4	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	108	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	107	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	109	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	108	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	105	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	96.6	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	110	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	117	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	108	88.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1270837)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	71.7	67	118
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275122)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	111	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1271809)								
EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	20.0 mg/kg	92.3	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1272477)								
EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	20.0 mg/kg	96.1	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1271111)								
EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	2.0 mg/kg	91.6	70	130
EP004: Organic Matter (QCLot: 1270895)								
EP004: Organic Matter	----	0.5	%	<0.5	4.58 %	90.0	86	111
EP004: Total Organic Carbon	----	0.5	%	<0.5	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1270177)								
EP074: Benzene	71-43-2	0.5	mg/kg	<0.5	1 mg/kg	96.7	64	126
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	95.1	63	135
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	97.4	64	124
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	108	66	126
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	116	67	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1270177) - continued								
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	111	66	124
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	123	64	124
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	103	59	129
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	99.8	63	125
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	103	61	127
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	100	62	126
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	105	62	126
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	98.1	60	126
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	93.5	57	129
EP074B: Oxygenated Compounds (QCLot: 1270177)								
EP074: Vinyl Acetate	108-05-4	1	mg/kg	----	10 mg/kg	27.0	11	155
		5	mg/kg	<5	----	----	----	----
EP074: 2-Butanone (MEK)	78-93-3	1	mg/kg	----	10 mg/kg	105	37	169
		5	mg/kg	<5	----	----	----	----
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	1	mg/kg	----	10 mg/kg	109	55	133
		5	mg/kg	<5	----	----	----	----
EP074: 2-Hexanone (MBK)	591-78-6	1	mg/kg	----	10 mg/kg	103	57	133
		5	mg/kg	<5	----	----	----	----
EP074C: Sulfonated Compounds (QCLot: 1270177)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	96.3	53	135
EP074D: Fumigants (QCLot: 1270177)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	92.4	57	129
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	94.8	68	122
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	87.4	59	127
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	83.8	53	129
EP074E: Halogenated Aliphatic Compounds (QCLot: 1270177)								
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	----	10 mg/kg	128	28.9	146
		5	mg/kg	<5	----	----	----	----
EP074: Chloromethane	74-87-3	1	mg/kg	----	10 mg/kg	111	43	140
		5	mg/kg	<5	----	----	----	----
EP074: Vinyl chloride	75-01-4	1	mg/kg	----	10 mg/kg	104	41	149
		5	mg/kg	<5	----	----	----	----
EP074: Bromomethane	74-83-9	1	mg/kg	----	10 mg/kg	118	44	152
		5	mg/kg	<5	----	----	----	----
EP074: Chloroethane	75-00-3	1	mg/kg	----	10 mg/kg	124	49	149
		5	mg/kg	<5	----	----	----	----
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	----	10 mg/kg	112	53	139
		5	mg/kg	<5	----	----	----	----
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	126	57	133

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1270177) - continued								
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	110	48	134
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	91.9	62	128
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	106	64	126
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	112	66	124
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	90.8	61	125
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	98.0	62	128
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	89.9	56	128
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	102	70	124
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	97.0	65	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	103	67	123
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	104	70	122
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	101	71	121
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	84.4	64	144
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	94.5	57	125
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	108	39	141
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	84.9	56	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	105	57	127
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	# 130	62	126
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	28.3	26.4	144
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	95.3	51	133
EP074F: Halogenated Aromatic Compounds (QCLot: 1270177)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	102	67	125
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	110	68	122
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	103	63	127
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	103	64	126
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	84.4	58	132
EP074G: Trihalomethanes (QCLot: 1270177)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	105	67	123
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	83.8	60	126
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	91.8	58	124
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	89.9	57	121
EP075(SIM)A: Phenolic Compounds (QCLot: 1270133)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	95.2	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	108	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	84.4	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	106	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	114	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	101	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	112	71.6	113

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 1270133) - continued								
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	113	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	112	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	104	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	102	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	77.2	1.23	91.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1270133)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	112	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	# 116	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	110	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	# 113	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	110	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	111	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	110	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	111	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	# 112	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	108	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	112	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	110	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	90.4	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	87.1	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	90.4	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	83.6	72.4	114
EP075A: Phenolic Compounds (QCLot: 1273781)								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.25 mg/kg	93.9	66.9	114
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.25 mg/kg	83.5	58.5	108
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.25 mg/kg	75.4	43	103
EP075: 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	2.5 mg/kg	71.5	35.9	109
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	54.4	49.4	109
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.25 mg/kg	37.3	.15	116
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.25 mg/kg	60.4	52.5	106
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.25 mg/kg	53.2	48.2	98.6
EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	1.25 mg/kg	71.4	59	106
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.25 mg/kg	50.6	44.4	101
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.25 mg/kg	56.5	48	107
EP075: Pentachlorophenol	87-86-5	1.0	mg/kg	<1	2.5 mg/kg	10.8	4.43	89.2
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1273781)								
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.25 mg/kg	85.8	63.7	108
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.25 mg/kg	75.9	60.8	110
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.25 mg/kg	72.0	59.1	110

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1273781) - continued								
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.25 mg/kg	81.9	58.8	106
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.25 mg/kg	77.2	61.7	110
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	73.3	59.2	110
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.25 mg/kg	92.2	61.9	108
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.25 mg/kg	70.2	58.3	107
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.25 mg/kg	78.4	58.5	110
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.25 mg/kg	78.4	60.4	109
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.25 mg/kg	65.4	59.5	110
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	80.8	57.2	111
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.25 mg/kg	74.6	58.4	113
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2	1	mg/kg	----	2.5 mg/kg	66.8	57.1	112
	207-08-9	1.0	mg/kg	<1	----	----	----	----
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.25 mg/kg	69.8	48.1	106
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.25 mg/kg	72.7	56.6	108
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.25 mg/kg	64.0	52.7	108
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.25 mg/kg	63.4	56.8	110
EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.25 mg/kg	63.3	54.7	110
EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.25 mg/kg	70.3	55	112
EP075C: Phthalate Esters (QCLot: 1273781)								
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.25 mg/kg	76.3	60.1	111
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.25 mg/kg	73.3	62.3	114
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.25 mg/kg	77.8	65.5	122
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.25 mg/kg	71.2	61.6	112
EP075: bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg	----	1.25 mg/kg	82.7	66.6	135
		5.0	mg/kg	<5.0	----	----	----	----
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.25 mg/kg	74.4	59	116
EP075D: Nitrosamines (QCLot: 1273781)								
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.25 mg/kg	60.3	39.4	124
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.25 mg/kg	96.6	62.7	112
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	----	1.25 mg/kg	# 41.8	42.8	102
		1.0	mg/kg	<1.0	----	----	----	----
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.25 mg/kg	57.8	52.4	112
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.25 mg/kg	73.6	60.6	107
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.25 mg/kg	69.3	59.6	108
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.25 mg/kg	69.2	59.4	106
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6	1.0	mg/kg	<1.0	2.5 mg/kg	61.0	38	110
	122-39-4							
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.25 mg/kg	61.6	16.3	123
EP075E: Nitroaromatics and Ketones (QCLot: 1273781)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 1273781) - continued								
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.25 mg/kg	88.1	27.3	129
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.25 mg/kg	78.3	62.6	110
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.25 mg/kg	72.2	64.4	112
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.25 mg/kg	74.5	64	110
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	----	1.25 mg/kg	82.8	58	114
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	----	1.25 mg/kg	87.9	55.8	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.25 mg/kg	83.4	2.24	93
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.25 mg/kg	45.2	3.12	108
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.25 mg/kg	83.5	48.3	98.5
EP075: Azobenzene	103-33-3	1	mg/kg	----	1.25 mg/kg	85.1	61.4	113
		1.0	mg/kg	<1	----	----	----	----
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.25 mg/kg	87.2	33	108
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.25 mg/kg	74.0	58.1	110
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.25 mg/kg	92.0	36.1	102
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.25 mg/kg	64.0	55.8	106
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.25 mg/kg	72.5	49.4	105
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.25 mg/kg	74.7	53.5	105
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.25 mg/kg	75.7	57.4	112
EP075F: Haloethers (QCLot: 1273781)								
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.25 mg/kg	78.0	63.1	113
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.25 mg/kg	79.7	62.4	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.25 mg/kg	66.5	59	111
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	81.5	56.4	109
EP075G: Chlorinated Hydrocarbons (QCLot: 1273781)								
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.25 mg/kg	69.2	60.4	106
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.25 mg/kg	71.8	62.1	107
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.25 mg/kg	70.3	61.3	107
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.25 mg/kg	71.7	53.8	107
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.25 mg/kg	67.9	62.9	108
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.25 mg/kg	63.6	39.1	110
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.25 mg/kg	77.9	59.3	110
EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	----	1.25 mg/kg	66.7	17.2	106
		2.5	mg/kg	<2.5	----	----	----	----
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.25 mg/kg	68.2	60	110
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	----	1.25 mg/kg	71.0	59.9	111
		1.0	mg/kg	<1.0	----	----	----	----
EP075H: Anilines and Benzidines (QCLot: 1273781)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075H: Anilines and Benzidines (QCLot: 1273781) - continued								
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.25 mg/kg	85.4	13.2	108
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.25 mg/kg	88.1	19.9	114
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	----	1.25 mg/kg	68.8	57.4	109
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	----	1.25 mg/kg	74.8	31.5	93.7
		1.0	mg/kg	<1.0	----	----	----	----
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.25 mg/kg	70.3	60.2	111
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.25 mg/kg	74.5	48.6	97.6
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.25 mg/kg	74.2	61	109
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.25 mg/kg	63.9	15.6	101
EP075I: Organochlorine Pesticides (QCLot: 1273781)								
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.25 mg/kg	73.5	59.5	110
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.25 mg/kg	78.8	53.4	113
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.25 mg/kg	77.5	58.2	112
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.25 mg/kg	78.2	56.9	114
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.25 mg/kg	71.1	52	108
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.25 mg/kg	76.9	54.9	112
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.25 mg/kg	76.1	54.6	113
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.25 mg/kg	81.3	51.7	115
EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	1.25 mg/kg	70.4	60.3	112
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.25 mg/kg	80.6	61.9	116
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.25 mg/kg	98.0	49	110
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.25 mg/kg	77.2	59.5	112
EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	1.25 mg/kg	81.0	58.5	116
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.25 mg/kg	87.4	52.6	114
EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	----	1.25 mg/kg	65.6	39.2	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075J: Organophosphorus Pesticides (QCLot: 1273781)								
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	66.5	24.6	109
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.25 mg/kg	66.0	46.4	118
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.25 mg/kg	79.8	50.3	116
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.25 mg/kg	71.7	41.7	119
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	76.0	52.1	121
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.25 mg/kg	70.1	43	116
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.25 mg/kg	70.8	51.1	115
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.25 mg/kg	71.9	50.9	115
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	----	----	----
		0.55	mg/kg	----	1.375 mg/kg	76.9	45.3	104
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.25 mg/kg	71.6	51.5	116

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075J: Organophosphorus Pesticides (QCLot: 1273781) - continued								
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.25 mg/kg	71.6	47.3	115
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1270132)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	101	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	91.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	109	72.6	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1270176)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	98.8	68.4	128
EP080: BTEX (QCLot: 1270176)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	108	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	107	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	98.8	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	100	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	105	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005C: Leachable Metals by ICPAES (QCLot: 1270995)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	0.1 mg/L	107	70	130
EG005C: Barium	7440-39-3	0.1	mg/L	<0.1	0.1 mg/L	102	70	130
EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	0.1 mg/L	118	70	130
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.1 mg/L	117	70	130
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	0.1 mg/L	117	70	130
EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	0.1 mg/L	113	70	130
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	0.1 mg/L	116	70	130
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	0.1 mg/L	114	70	130
EG005C: Manganese	7439-96-5	0.1	mg/L	<0.1	0.1 mg/L	99.0	70	130
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	0.1 mg/L	114	70	130
EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	0.1 mg/L	99.5	70	130
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	0.1 mg/L	102	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1272853)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	99.0	88	110
EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	91.0	80	114
EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	97.0	85	109
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	95.8	89	107
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	95.6	91	111
EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	102	89	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	96.8	87	111

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 1272853) - continued								
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	100	90	110
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	97.6	87	113
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	103	89	109
EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 88.2	91	109
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	99.9	85	115
EG035C: Leachable Mercury by FIMS (QCLot: 1274065)								
EG035C: Mercury	7439-97-6	0.001	mg/L	<0.0010	0.010 mg/L	98.5	83	119
EG035F: Dissolved Mercury by FIMS (QCLot: 1272852)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	100	86	116
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1270825)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	97.0	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	89.7	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	86.6	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	86.9	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	86.9	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	91.4	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	89.0	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	88.7	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	86.2	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	87.2	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	86.3	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	80.5	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	84.4	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	101	59.9	118
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1270825) - continued								
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	89.7	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	104	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1270288)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	100 µg/L	119	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	100 µg/L	119	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	100 µg/L	129	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1270431)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	110	75	127
EP080: BTEX (QCLot: 1270431)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	111	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	111	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	95.1	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	92.8	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	93.0	77.9	121

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1270836)							
ES1003971-011	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	90.8	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	95.1	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	101	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	99.7	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	98.6	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	105	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1270837)							
ES1003971-011	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	76.8	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275122)							
ES1004018-009	BH60_13.0-13.4	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	# Not Determined	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1271809)							
ES1003900-001	Anonymous	EK026G: Total Cyanide	57-12-5	20.0 mg/kg	# Not Determined	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1272477)							
ES1004018-003	BH64_2.5-2.7	EK026G: Total Cyanide	57-12-5	20.0 mg/kg	75.1	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1271111)							
ES1003971-001	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	2.0 mg/kg	# Not Determined	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1270177)							
ES1004018-003	BH64_2.5-2.7	EP074: Benzene	71-43-2	2.5 mg/kg	90.4	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	94.9	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1270177)							
ES1004018-003	BH64_2.5-2.7	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	102	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	82.6	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1270177)							
ES1004018-003	BH64_2.5-2.7	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	91.8	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1270133)							
ES1004018-002	BH64_1.0-1.2	EP075(SIM): Phenol	108-95-2	10 mg/kg	90.9	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	110	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	# 132	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	111	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	64.2	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1270133)							
ES1004018-002	BH64_1.0-1.2	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	# 56.1	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1270133) - continued							
ES1004018-002	BH64_1.0-1.2	EP075(SIM): Pyrene	129-00-0	10 mg/kg	# Not Determined	70	130
EP075A: Phenolic Compounds (QCLot: 1273781)							
ES1004018-016	BH60_20.5-20.9	EP075: Phenol	108-95-2	5 mg/kg	77.4	60	130
		EP075: 2-Chlorophenol	95-57-8	5 mg/kg	78.8	60	130
		EP075: 2-Nitrophenol	88-75-5	5 mg/kg	71.6	50	130
		EP075: 4-Chloro-3-Methylphenol	59-50-7	5 mg/kg	78.4	50	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	17.6	5	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1273781)							
ES1004018-016	BH60_20.5-20.9	EP075: Acenaphthene	83-32-9	5 mg/kg	71.6	50	130
		EP075: Pyrene	129-00-0	5 mg/kg	72.1	50	130
EP075D: Nitrosamines (QCLot: 1273781)							
ES1004018-016	BH60_20.5-20.9	EP075: N-Nitrosodi-n-propylamine	621-64-7	5 mg/kg	79.2	50	130
EP075E: Nitroaromatics and Ketones (QCLot: 1273781)							
ES1004018-016	BH60_20.5-20.9	EP075: 2.4-Dinitrotoluene	121-14-2	5 mg/kg	100	40	130
EP075G: Chlorinated Hydrocarbons (QCLot: 1273781)							
ES1004018-016	BH60_20.5-20.9	EP075: 1.4-Dichlorobenzene	106-46-7	5 mg/kg	73.8	60	130
		EP075: 1.2.4-Trichlorobenzene	120-82-1	5 mg/kg	71.2	50	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1270132)							
ES1004018-002	BH64_1.0-1.2	EP071: C10 - C14 Fraction	----	640 mg/kg	102	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	102	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	90.7	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1270176)							
ES1004018-003	BH64_2.5-2.7	EP080: C6 - C9 Fraction	----	26 mg/kg	87.7	70	130
EP080: BTEX (QCLot: 1270176)							
ES1004018-003	BH64_2.5-2.7	EP080: Benzene	71-43-2	2.5 mg/kg	89.5	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	89.9	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.3	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	90.6	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	91.8	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005C: Leachable Metals by ICPAES (QCLot: 1270995)							
ES1003931-001	Anonymous	EG005C: Arsenic	7440-38-2	1 mg/L	126	70	130
		EG005C: Barium	7440-39-3	1 mg/L	117	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005C: Leachable Metals by ICPAES (QCLot: 1270995) - continued							
ES1003931-001	Anonymous	EG005C: Beryllium	7440-41-7	1 mg/L	126	70	130
		EG005C: Cadmium	7440-43-9	0.250 mg/L	128	70	130
		EG005C: Chromium	7440-47-3	1 mg/L	126	70	130
		EG005C: Cobalt	7440-48-4	1 mg/L	125	70	130
		EG005C: Copper	7440-50-8	1 mg/L	129	70	130
		EG005C: Lead	7439-92-1	1 mg/L	127	70	130
		EG005C: Manganese	7439-96-5	1 mg/L	112	70	130
		EG005C: Nickel	7440-02-0	1 mg/L	124	70	130
		EG005C: Vanadium	7440-62-2	1 mg/L	123	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	121	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1272853)							
ES1004206-003	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	97.0	70	130
		EG020A-F: Beryllium	7440-41-7	0.2 mg/L	92.0	70	130
		EG020A-F: Barium	7440-39-3	0.2 mg/L	99.1	70	130
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	90.6	70	130
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	92.0	70	130
		EG020A-F: Cobalt	7440-48-4	0.2 mg/L	97.8	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	91.4	70	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	90.9	70	130
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	# Not Determined	70	130
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	95.4	70	130
		EG020A-F: Vanadium	7440-62-2	0.2 mg/L	100	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	90.8	70	130
EG035C: Leachable Mercury by FIMS (QCLot: 1274065)							
ES1003900-001	Anonymous	EG035C: Mercury	7439-97-6	0.1 mg/L	109	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1272852)							
ES1004206-003	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	90.1	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1270431)							
ES1003990-041	Anonymous	EP080: C6 - C9 Fraction	----	250 µg/L	# Not Determined	70	130
EP080: BTEX (QCLot: 1270431)							
ES1003990-041	Anonymous	EP080: Benzene	71-43-2	25 µg/L	118	70	130
		EP080: Toluene	108-88-3	25 µg/L	83.7	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	83.4	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	80.8	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	87.4	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1004018**	Page	: 1 of 17
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 04-MAR-2010
Sampler	: KP	Issue Date	: 12-MAR-2010
Order number	: 1303951		
		No. of samples received	: 37
Quote number	: SY/259/09 V2	No. of samples analysed	: 23

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
AS 4964 - 2004 Identification of Asbestos in bulk samples								
Soil Glass Jar - Unpreserved								
BH60_8.5-8.9		**01-MAR-2010**	**---**	---	----	**11-MAR-2010**	07-SEP-2010	✓
Soil Glass Jar - Unpreserved								
BH68_1.0-1.3		**02-MAR-2010**	**---**	---	----	**11-MAR-2010**	07-SEP-2010	✓
EA002 : pH (Soils)								
Soil Glass Jar - Unpreserved								
BH60_2.5-2.9		**01-MAR-2010**	**08-MAR-2010**	08-MAR-2010	✓	**08-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH60_20.5-20.9,	BH68_4.0-4.3	**02-MAR-2010**	**08-MAR-2010**	09-MAR-2010	✓	**08-MAR-2010**	09-MAR-2010	✓
EA055: Moisture Content								
Snap Lock Bag								
BH68_7.0-7.1		**02-MAR-2010**	**----**	----	----	**08-MAR-2010**	09-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH64_0.15-0.25, BH64_2.5-2.7, BH64_10.0-10.3, BH60_7.0-7.2, BH60_16.0-16.4,	BH64_1.0-1.2, BH64_5.5-5.7, BH60_2.5-2.9, BH60_13.0-13.4, QC110	**01-MAR-2010**	**----**	----	----	**08-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH60_17.5-17.7, QC120, BH68_4.0-4.3	BH60_20.5-20.9, BH68_2.5-2.9,	**02-MAR-2010**	**----**	----	----	**08-MAR-2010**	09-MAR-2010	✓
EG005C: Leachable Metals by ICPAES								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH64_2.5-2.7,	BH60_20.5-20.9	**07-MAR-2010**	**08-MAR-2010**	03-SEP-2010	✓	**08-MAR-2010**	03-SEP-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES							
Snap Lock Bag							
BH68_7.0-7.1	**02-MAR-2010**	**08-MAR-2010**	30-MAR-2010	✓	**08-MAR-2010**	29-AUG-2010	✓
Soil Glass Jar - Unpreserved							
BH64_0.15-0.25, BH64_1.0-1.2, BH64_2.5-2.7, BH64_5.5-5.7, BH64_10.0-10.3, BH60_2.5-2.9, BH60_7.0-7.2, BH60_13.0-13.4, BH60_16.0-16.4, QC110	**01-MAR-2010**	**08-MAR-2010**	29-MAR-2010	✓	**08-MAR-2010**	28-AUG-2010	✓
Soil Glass Jar - Unpreserved							
BH60_17.5-17.7, BH60_20.5-20.9, QC120, BH68_2.5-2.9, BH68_4.0-4.3	**02-MAR-2010**	**08-MAR-2010**	30-MAR-2010	✓	**08-MAR-2010**	29-AUG-2010	✓
EG035C: Leachable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH64_2.5-2.7, BH60_20.5-20.9	**07-MAR-2010**	**----**	----	----	**11-MAR-2010**	04-APR-2010	✓
EG035T: Total Recoverable Mercury by FIMS							
Snap Lock Bag							
BH68_7.0-7.1	**02-MAR-2010**	**08-MAR-2010**	30-MAR-2010	✓	**10-MAR-2010**	30-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH64_0.15-0.25, BH64_1.0-1.2, BH64_2.5-2.7, BH64_5.5-5.7, BH64_10.0-10.3, BH60_2.5-2.9, BH60_7.0-7.2, BH60_13.0-13.4, BH60_16.0-16.4, QC110	**01-MAR-2010**	**08-MAR-2010**	29-MAR-2010	✓	**10-MAR-2010**	29-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH60_17.5-17.7, BH60_20.5-20.9, QC120, BH68_2.5-2.9, BH68_4.0-4.3	**02-MAR-2010**	**08-MAR-2010**	30-MAR-2010	✓	**10-MAR-2010**	30-MAR-2010	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved							
BH64_2.5-2.7, BH60_13.0-13.4, BH60_16.0-16.4	**01-MAR-2010**	**11-MAR-2010**	29-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH60_20.5-20.9	**02-MAR-2010**	**11-MAR-2010**	30-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
EK026G: Total Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH60_2.5-2.9	**01-MAR-2010**	**08-MAR-2010**	08-MAR-2010	✓	**09-MAR-2010**	22-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH64_2.5-2.7, BH60_16.0-16.4	**01-MAR-2010**	**09-MAR-2010**	08-MAR-2010	×	**11-MAR-2010**	23-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH60_20.5-20.9	**02-MAR-2010**	**08-MAR-2010**	09-MAR-2010	✓	**09-MAR-2010**	22-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved BH64_2.5-2.7, BH60_2.5-2.9, BH60_16.0-16.4	**01-MAR-2010**	**08-MAR-2010**	08-MAR-2010	✓	**08-MAR-2010**	08-MAR-2010	✓
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**08-MAR-2010**	09-MAR-2010	✓	**08-MAR-2010**	09-MAR-2010	✓
EN33: TCLP Leach							
LabSplit: Leach for organics and other tests BH64_2.5-2.7	**01-MAR-2010**	**---**	---	----	**07-MAR-2010**	15-MAR-2010	✓
LabSplit: Leach for organics and other tests BH60_20.5-20.9	**02-MAR-2010**	**---**	---	----	**07-MAR-2010**	16-MAR-2010	✓
EP004: Organic Matter							
Soil Glass Jar - Unpreserved BH64_2.5-2.7, BH60_7.0-7.2, BH60_16.0-16.4	**01-MAR-2010**	**----**	----	----	**09-MAR-2010**	08-MAR-2010	×
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**----**	----	----	**09-MAR-2010**	09-MAR-2010	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved BH64_2.5-2.7	**01-MAR-2010**	**05-MAR-2010**	15-MAR-2010	✓	**06-MAR-2010**	15-MAR-2010	✓
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**06-MAR-2010**	16-MAR-2010	✓
EP074B: Oxygenated Compounds							
Soil Glass Jar - Unpreserved BH64_2.5-2.7	**01-MAR-2010**	**05-MAR-2010**	15-MAR-2010	✓	**06-MAR-2010**	15-MAR-2010	✓
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**06-MAR-2010**	16-MAR-2010	✓
EP074C: Sulfonated Compounds							
Soil Glass Jar - Unpreserved BH64_2.5-2.7	**01-MAR-2010**	**05-MAR-2010**	15-MAR-2010	✓	**06-MAR-2010**	15-MAR-2010	✓
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**06-MAR-2010**	16-MAR-2010	✓
EP074D: Fumigants							
Soil Glass Jar - Unpreserved BH64_2.5-2.7	**01-MAR-2010**	**05-MAR-2010**	15-MAR-2010	✓	**06-MAR-2010**	15-MAR-2010	✓
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**06-MAR-2010**	16-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074E: Halogenated Aliphatic Compounds							
Soil Glass Jar - Unpreserved							
BH64_2.5-2.7	**01-MAR-2010**	**05-MAR-2010**	15-MAR-2010	✓	**06-MAR-2010**	15-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH60_20.5-20.9	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**06-MAR-2010**	16-MAR-2010	✓
EP074F: Halogenated Aromatic Compounds							
Soil Glass Jar - Unpreserved							
BH64_2.5-2.7	**01-MAR-2010**	**05-MAR-2010**	15-MAR-2010	✓	**06-MAR-2010**	15-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH60_20.5-20.9	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**06-MAR-2010**	16-MAR-2010	✓
EP074G: Trihalomethanes							
Soil Glass Jar - Unpreserved							
BH64_2.5-2.7	**01-MAR-2010**	**05-MAR-2010**	15-MAR-2010	✓	**06-MAR-2010**	15-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH60_20.5-20.9	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**06-MAR-2010**	16-MAR-2010	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved							
BH64_1.0-1.2, BH60_2.5-2.9, BH60_16.0-16.4	**01-MAR-2010**	**05-MAR-2010**	15-MAR-2010	✓	**08-MAR-2010**	14-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH60_17.5-17.7, QC120, BH68_4.0-4.3	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**08-MAR-2010**	14-APR-2010	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
BH64_2.5-2.7, BH60_20.5-20.9	**07-MAR-2010**	**08-MAR-2010**	14-MAR-2010	✓	**09-MAR-2010**	17-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH64_1.0-1.2, BH60_2.5-2.9, BH60_16.0-16.4	**01-MAR-2010**	**05-MAR-2010**	15-MAR-2010	✓	**08-MAR-2010**	14-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH60_17.5-17.7, QC120, BH68_4.0-4.3	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**08-MAR-2010**	14-APR-2010	✓
EP075A: Phenolic Compounds							
Soil Glass Jar - Unpreserved							
BH64_2.5-2.7	**01-MAR-2010**	**10-MAR-2010**	15-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH60_20.5-20.9	**02-MAR-2010**	**10-MAR-2010**	16-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved							
BH64_2.5-2.7	**01-MAR-2010**	**10-MAR-2010**	15-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH60_20.5-20.9	**02-MAR-2010**	**10-MAR-2010**	16-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075C: Phthalate Esters							
Soil Glass Jar - Unpreserved BH64_2.5-2.7	**01-MAR-2010**	**10-MAR-2010**	15-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**10-MAR-2010**	16-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075D: Nitrosamines							
Soil Glass Jar - Unpreserved BH64_2.5-2.7	**01-MAR-2010**	**10-MAR-2010**	15-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**10-MAR-2010**	16-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075E: Nitroaromatics and Ketones							
Soil Glass Jar - Unpreserved BH64_2.5-2.7	**01-MAR-2010**	**10-MAR-2010**	15-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**10-MAR-2010**	16-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075F: Haloethers							
Soil Glass Jar - Unpreserved BH64_2.5-2.7	**01-MAR-2010**	**10-MAR-2010**	15-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**10-MAR-2010**	16-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075G: Chlorinated Hydrocarbons							
Soil Glass Jar - Unpreserved BH64_2.5-2.7	**01-MAR-2010**	**10-MAR-2010**	15-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**10-MAR-2010**	16-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075H: Anilines and Benzidines							
Soil Glass Jar - Unpreserved BH64_2.5-2.7	**01-MAR-2010**	**10-MAR-2010**	15-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**10-MAR-2010**	16-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075I: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved BH64_2.5-2.7	**01-MAR-2010**	**10-MAR-2010**	15-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**10-MAR-2010**	16-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075J: Organophosphorus Pesticides							
Soil Glass Jar - Unpreserved BH64_2.5-2.7	**01-MAR-2010**	**10-MAR-2010**	15-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH60_20.5-20.9	**02-MAR-2010**	**10-MAR-2010**	16-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Snap Lock Bag							
BH68_7.0-7.1	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**06-MAR-2010**	16-MAR-2010	✓
Snap Lock Bag							
BH68_7.0-7.1	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**08-MAR-2010**	14-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH64_1.0-1.2, BH64_2.5-2.7, BH64_5.5-5.7, BH64_10.0-10.3, BH60_2.5-2.9, BH60_7.0-7.2, BH60_13.0-13.4, BH60_16.0-16.4, QC110	**01-MAR-2010**	**05-MAR-2010**	15-MAR-2010	✓	**06-MAR-2010**	15-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH64_1.0-1.2, BH64_2.5-2.7, BH64_5.5-5.7, BH64_10.0-10.3, BH60_2.5-2.9, BH60_7.0-7.2, BH60_13.0-13.4, BH60_16.0-16.4, QC110	**01-MAR-2010**	**05-MAR-2010**	15-MAR-2010	✓	**08-MAR-2010**	14-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH60_17.5-17.7, BH60_20.5-20.9, QC120, BH68_2.5-2.9, BH68_4.0-4.3	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**06-MAR-2010**	16-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH60_17.5-17.7, BH60_20.5-20.9, QC120, BH68_2.5-2.9, BH68_4.0-4.3	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**08-MAR-2010**	14-APR-2010	✓
EP080: BTEX							
Soil Glass Jar - Unpreserved							
BH64_1.0-1.2, BH64_5.5-5.7, BH64_10.0-10.3, BH60_2.5-2.9, BH60_7.0-7.2, BH60_13.0-13.4, BH60_16.0-16.4, QC110	**01-MAR-2010**	**05-MAR-2010**	15-MAR-2010	✓	**06-MAR-2010**	15-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH60_17.5-17.7, QC120, BH68_4.0-4.3	**02-MAR-2010**	**05-MAR-2010**	16-MAR-2010	✓	**06-MAR-2010**	16-MAR-2010	✓
Soil Glass Jar - Unpreserved							
TB11, TB13	**25-FEB-2010**	**05-MAR-2010**	11-MAR-2010	✓	**06-MAR-2010**	11-MAR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered QC249	**02-MAR-2010**	**---**	---	----	**09-MAR-2010**	29-AUG-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered QC243	**25-FEB-2010**	**---**	---	----	**09-MAR-2010**	24-AUG-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered QC246	**26-FEB-2010**	**---**	---	----	**09-MAR-2010**	25-AUG-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered QC249	**02-MAR-2010**	**---**	---	----	**10-MAR-2010**	30-MAR-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered QC243	**25-FEB-2010**	**---**	---	----	**10-MAR-2010**	25-MAR-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered QC246	**26-FEB-2010**	**---**	---	----	**10-MAR-2010**	26-MAR-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved QC249	**02-MAR-2010**	**05-MAR-2010**	09-MAR-2010	✓	**08-MAR-2010**	14-APR-2010	✓
Amber Glass Bottle - Unpreserved QC243	**25-FEB-2010**	**05-MAR-2010**	04-MAR-2010	×	**08-MAR-2010**	14-APR-2010	✓
Amber Glass Bottle - Unpreserved QC246	**26-FEB-2010**	**05-MAR-2010**	05-MAR-2010	✓	**08-MAR-2010**	14-APR-2010	✓
Amber VOC Vial - HCl QC249	**02-MAR-2010**	**---**	---	----	**08-MAR-2010**	16-MAR-2010	✓
Amber VOC Vial - HCl QC243	**25-FEB-2010**	**---**	---	----	**08-MAR-2010**	11-MAR-2010	✓
Amber VOC Vial - HCl QC246	**26-FEB-2010**	**---**	---	----	**08-MAR-2010**	12-MAR-2010	✓
EP080: BTEX							
Amber VOC Vial - HCl QC249	**02-MAR-2010**	**---**	---	----	**08-MAR-2010**	16-MAR-2010	✓
Amber VOC Vial - HCl QC243	**25-FEB-2010**	**---**	---	----	**08-MAR-2010**	11-MAR-2010	✓
Amber VOC Vial - HCl QC246	**26-FEB-2010**	**---**	---	----	**08-MAR-2010**	12-MAR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	17	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	4	39	**10.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	2	14	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	6	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	3	**33.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	4	37	**10.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	2	**50.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	2	18	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	3	**33.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	2	**50.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	3	**33.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB) - Continued							
Volatile Organic Compounds	EP074	1	2	50.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	18	5.6	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	17	5.9	5.0	✓	ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.7	5.0	✓	ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	3	33.3	5.0	✓	ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	2	37	5.4	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	5.0	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	15	6.7	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	2	50.0	5.0	✓	ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	18	5.6	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	2	17	11.8	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	8	12.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	8	12.5	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	5	20.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	8	12.5	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	5	20.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	8	**12.5**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH (1:5)	EA002	SOIL	(APHA 21st ed., 4500H+) pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM (1999) Schedule B(3) (Method 103)
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)
Asbestos Identification in bulk solids	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples
Leachable Metals by ICPAES	EG005C	SOIL	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Leachable Mercury by FIMS	EG035C	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	USEPA SW846, Method 3060A. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Cyanide By Discrete Analyser	EK026G	SOIL	APHA 21st 4500 CN - C & N. Caustic leach extracts of the sample are distilled with sulphuric acid, converting all CN species to HCN. The distillates are analyzed for CN by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Method 403)
WAD Cyanide By Discrete Analyser	EK028G	SOIL	APHA 21st 4500 CN - I & N. Sample are distilled with a weak organic acid, converting selected CN species to HCN. The distillates are analyzed for CN by Discrete Analyser.
Organic Matter	EP004	SOIL	AS1289.4.1.1 - 1997., Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (1999) Schedule B(3) (Method 105)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)

Analytical Methods	Method	Matrix	Method Descriptions
Volatile Organic Compounds	EP074	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Semivolatile Organic Compounds	EP075	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 502)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	USEPA SW846, Method 3060A.
NaOH leach for TCN in Soils	EK026PR	SOIL	APHA 21st ed., 4500 CN- C & N. Samples are extracted by end-over-end tumbling with NaOH.
WAD Cyanide	EK028PR	SOIL	APHA 21st ed., 4500 CN- C & N. Cyanide is selectively distilled from the sample by the action of weak acetic acid. Only poorly bound metal complexed cyanides are released.
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TCLP for Non & Semivolatile Analytes	EN33a	SOIL	(USEPA SW846-1311, ALS QWI-EN/33) The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.

Preparation Methods	Method	Matrix	Method Descriptions
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Fluorene**	86-73-7	23.1 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Phenanthrene**	85-01-8	29.9 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Anthracene**	120-12-7	35.0 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Fluoranthene**	206-44-0	47.1 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Pyrene**	129-00-0	46.5 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Benz(a)anthracene**	56-55-3	49.3 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Chrysene**	218-01-9	50.6 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Benzo(b)fluoranthene**	205-99-2	56.6 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Benzo(k)fluoranthene**	207-08-9	35.2 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Benzo(a)pyrene**	50-32-8	49.7 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Indeno(1.2.3.cd)pyrene**	193-39-5	60.0 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Dibenz(a.h)anthracene**	53-70-3	64.1 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Benzo(g.h.i)perylene**	191-24-2	55.8 %	0-20%	**RPD exceeds LOR based limits**
Laboratory Control Spike (LCS) Recoveries							
EP074E: Halogenated Aliphatic Compounds	1470949-011	----	**1.2.3-Trichloropropane**	96-18-4	130 %	62-126%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1470922-007	----	**Acenaphthylene**	208-96-8	116 %	79.6-113%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1470922-007	----	**Fluorene**	86-73-7	113 %	79.9-112%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1470922-007	----	**Benz(a)anthracene**	56-55-3	112 %	77.2-112%	**Recovery greater than upper control limit**
EP075D: Nitrosamines	1475249-002	----	**N-Nitrosopyrrolidine**	930-55-2	41.8 %	42.8-102%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							
EG048: Hexavalent Chromium (Alkaline Digest)	ES1004018-009	BH60_13.0-13.4	**Hexavalent Chromium**	18540-29-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EK026G: Total Cyanide By Discrete Analyser	ES1003900-001	Anonymous	**Total Cyanide**	57-12-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK028G: Weak Acid Dissociable Cyanide By Discrete A	ES1003971-001	Anonymous	**Weak Acid Dissociable Cyanide**	----	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP075(SIM)A: Phenolic Compounds	ES1004018-002	BH64_1.0-1.2	**2-Nitrophenol**	88-75-5	132 %	60-130%	**Recovery greater than upper data quality objective**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Acenaphthene**	83-32-9	56.1 %	70-130%	**Recovery less than lower data quality objective**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004018-002	BH64_1.0-1.2	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	1474183-009	----	**Vanadium**	7440-62-2	88.2 %	91-109%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	ES1004206-003	Anonymous	**Manganese**	7439-96-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	ES1003990-041	Anonymous	**C6 - C9 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP075(SIM)S: Phenolic Compound Surrogates	ES1004018-015	BH60_17.5-17.7	**2.4.6-Tribromophenol**	118-79-6	138 %	19-122 %	**Recovery greater than upper data quality objective**
EP075(SIM)S: Phenolic Compound Surrogates	ES1004018-010	BH60_16.0-16.4	**2.4.6-Tribromophenol**	118-79-6	125 %	19-122 %	**Recovery greater than upper data quality objective**
EP075S: Acid Extractable Surrogates	ES1004018-016	BH60_20.5-20.9	**2.4.6-Tribromophenol**	118-79-6	126 %	19-122 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1004018-010	BH60_16.0-16.4	**Toluene-D8**	2037-26-5	119 %	81-117 %	**Recovery greater than upper data quality objective**

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP080S: TPH(V)/BTEX Surrogates	ES1004018-012	QC243	**Toluene-D8**	2037-26-5	87.3 %	88-110 %	**Recovery less than lower data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EK026G: Total Cyanide By Discrete Analyser						
Soil Glass Jar - Unpreserved						
BH64_2.5-2.7, BH60_16.0-16.4	09-MAR-2010	08-MAR-2010	1	----	----	----
EP004: Organic Matter						
Soil Glass Jar - Unpreserved						
BH64_2.5-2.7, BH60_7.0-7.2, BH60_16.0-16.4	----	----	----	09-MAR-2010	08-MAR-2010	1

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP080/071: Total Petroleum Hydrocarbons						
Amber Glass Bottle - Unpreserved						
QC243	05-MAR-2010	04-MAR-2010	1	----	----	----

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : **ES1004018**

Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	Page	: 1 of 5
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: KP	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 04-MAR-2010	Issue Date	: 05-MAR-2010 17:00
Client Requested Due Date	: 11-MAR-2010	Scheduled Reporting Date	: **11-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 6.8'C - Ice present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 37
Sercurity Seal	: Not intact.	No. of samples analysed	: 23

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Sample containers do not comply to pretreatment / preservation standards (AS, APHA, USEPA). Please refer to the Sample Container(s)/Preservation Non-Compliance Log at the end of this report for details.**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Sample " QC121 " will be forwarded to Labmark as per COC.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

Method / Client sample ID	Sample Container Received	Preferred Sample Container for Analysis
EA200 : Asbestos Identification in bulk solids		
BH60_8.5-8.9	- Soil Glass Jar - Unpreserved	- Snap Lock Bag
BH68_1.0-1.3	- Soil Glass Jar - Unpreserved	- Snap Lock Bag
EP071 : TPH - Semivolatile Fraction		
BH68_7.0-7.1	- Snap Lock Bag	- Soil Glass Jar - Unpreserved
EP080 : TPH Volatiles/BTEX		
BH68_7.0-7.1	- Snap Lock Bag	- Soil Glass Jar - Unpreserved

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EG035C Leachable Mercury by FIMS	SOIL - EG035T (solids) Total Mercury by FIMS
ES1004018-003	01-MAR-2010 15:00	BH64_2.5-2.7			✓			✓		✓
	04-MAR-2010 15:00	BH64_2.5-2.7					✓		✓	
ES1004018-006	01-MAR-2010 15:00	BH60_2.5-2.9		✓						
ES1004018-008	01-MAR-2010 15:00	BH60_8.5-8.9				✓				
ES1004018-009	01-MAR-2010 15:00	BH60_13.0-13.4						✓		✓
ES1004018-010	01-MAR-2010 15:00	BH60_16.0-16.4						✓		✓
ES1004018-016	02-MAR-2010 15:00	BH60_20.5-20.9		✓	✓			✓		✓
	04-MAR-2010 15:00	BH60_20.5-20.9					✓		✓	
ES1004018-018	02-MAR-2010 15:00	BH68_1.0-1.3				✓				
ES1004018-020	02-MAR-2010 15:00	BH68_4.0-4.3		✓						
ES1004018-024	[04-MAR-2010]	BH64_8.5-8.7	✓							
ES1004018-025	[04-MAR-2010]	BH60_1.0-1.4	✓							
ES1004018-026	[04-MAR-2010]	BH60_4.0-4.4	✓							
ES1004018-027	[04-MAR-2010]	BH60_5.5-5.9	✓							
ES1004018-028	[04-MAR-2010]	BH60_19.0-19.4	✓							
ES1004018-029	[04-MAR-2010]	BH60_22.0-22.3	✓							
ES1004018-030	[04-MAR-2010]	BH60_23.5-23.7	✓							
ES1004018-031	[04-MAR-2010]	BH68_5.5-5.8	✓							
ES1004018-032	[04-MAR-2010]	BH68_7.1-7.3	✓							
ES1004018-034	25-FEB-2010 15:00	BH62_0.15-0.25	✓							
ES1004018-035	25-FEB-2010 15:00	BH55_0.15-0.25	✓							
ES1004018-036	25-FEB-2010 15:00	BH68_0.15-0.25	✓							
ES1004018-037	25-FEB-2010 15:00	BH60_0.15-0.25	✓							

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - EG048G Total Hexavalent Chromium (Alkaline digestion) by Discrete Analyser	SOIL - EK026G (Solids) Total Cyanide By Discrete Analyser	SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - EP004 (Carbon) Total Organic Carbon (Calc.)	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP075 SIM Phenols only SIM - Phenols only	SOIL - EP080 BTEX	SOIL - S-03 13 Metals (NEPM Suite - incl. Digestion)
ES1004018-001	01-MAR-2010 15:00	BH64_0.15-0.25								✓
ES1004018-002	01-MAR-2010 15:00	BH64_1.0-1.2						✓		✓
ES1004018-003	01-MAR-2010 15:00	BH64_2.5-2.7	✓	✓	✓	✓				
	04-MAR-2010 15:00	BH64_2.5-2.7					✓			
ES1004018-004	01-MAR-2010 15:00	BH64_5.5-5.7								✓
ES1004018-005	01-MAR-2010 15:00	BH64_10.0-10.3								✓
ES1004018-006	01-MAR-2010 15:00	BH60_2.5-2.9		✓	✓			✓		✓
ES1004018-007	01-MAR-2010 15:00	BH60_7.0-7.2				✓				✓
ES1004018-009	01-MAR-2010 15:00	BH60_13.0-13.4	✓							
ES1004018-010	01-MAR-2010 15:00	BH60_16.0-16.4	✓	✓	✓	✓		✓		
ES1004018-011	01-MAR-2010 15:00	QC110								✓
ES1004018-014	25-FEB-2010 15:00	TB11							✓	
ES1004018-015	02-MAR-2010 15:00	BH60_17.5-17.7						✓		✓
ES1004018-016	02-MAR-2010 15:00	BH60_20.5-20.9	✓	✓	✓	✓				
	04-MAR-2010 15:00	BH60_20.5-20.9					✓			
ES1004018-017	02-MAR-2010 15:00	QC120						✓		✓
ES1004018-019	02-MAR-2010 15:00	BH68_2.5-2.9								✓
ES1004018-020	02-MAR-2010 15:00	BH68_4.0-4.3						✓		✓
ES1004018-021	02-MAR-2010 15:00	BH68_7.0-7.1								✓
ES1004018-023	25-FEB-2010 15:00	TB13							✓	

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - S-04 TPH/BTEX	SOIL - S-07 TPH/BTEX/PAH (SIM)	SOIL - S-23 SVOC/VOC	SOIL - TCLP TCLP Leach	SOIL - TPH only TPH (C6 - C36)
ES1004018-002	01-MAR-2010 15:00	BH64_1.0-1.2		✓			
ES1004018-003	01-MAR-2010 15:00	BH64_2.5-2.7			✓	✓	✓
ES1004018-004	01-MAR-2010 15:00	BH64_5.5-5.7	✓				
ES1004018-005	01-MAR-2010 15:00	BH64_10.0-10.3	✓				
ES1004018-006	01-MAR-2010 15:00	BH60_2.5-2.9		✓			
ES1004018-007	01-MAR-2010 15:00	BH60_7.0-7.2	✓				
ES1004018-009	01-MAR-2010 15:00	BH60_13.0-13.4	✓				
ES1004018-010	01-MAR-2010 15:00	BH60_16.0-16.4		✓			
ES1004018-011	01-MAR-2010 15:00	QC110	✓				
ES1004018-015	02-MAR-2010 15:00	BH60_17.5-17.7		✓			

			SOIL - S-04 TPH/BTEX	SOIL - S-07 TPH/BTEX/PAH (SIM)	SOIL - S-23 SVOC/VOC	SOIL - TCLP TCLP Leach	SOIL - TPH only TPH (C6 - C36)
ES1004018-016	02-MAR-2010 15:00	BH60_20.5-20.9			✓	✓	✓
ES1004018-017	02-MAR-2010 15:00	QC120		✓			
ES1004018-019	02-MAR-2010 15:00	BH68_2.5-2.9					✓
ES1004018-020	02-MAR-2010 15:00	BH68_4.0-4.3		✓			
ES1004018-021	02-MAR-2010 15:00	BH68_7.0-7.1					✓

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	(On Hold) WATER No analysis requested	WATER - W-03 13 Metals (NEPM Suite)	WATER - W-04 TPH/BTEX
ES1004018-012	25-FEB-2010 15:00	QC243		✓	✓
ES1004018-013	26-FEB-2010 15:00	QC246		✓	✓
ES1004018-022	02-MAR-2010 15:00	QC249		✓	✓
ES1004018-038	01-MAR-2010 15:00	QC238	✓		

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

CONTRACT WORK
WO: ES1004018
LAB: ALS Brisbane / Newcastle
DATE: 4-3-10
SPLIT:
SPOCAS: ES1004014

Environmental Division
Sydney
Work Order
ES1004018

Telephone : +61-2-8784 8555

Form: Declaration Area BATCH 1

Chain of Custody & Analysis Request Form

AECOM - Sydney
P.O. Box 726
Pymble NSW 2073 Australia

Tel: +61 2 8484 8999
Fax: +61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ☐ Fax ☐ Hard copy ☑ Email 8. Project Manager: Anthony Davis tel: (02) 8484 8999

Analysis Request

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: fill'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals (M13)	TPH (C6-C36)/BTEX	PAHs	Phenols	SVOC	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe	Vor	TPH (C6-C36)	Remarks and Comments
1	BH64_0.15-0.25		1/3/10	x					x		1x250ml Sent for		x																
2	BH64_1.0-1.2		1/3/10	x					x				x	x	x	x													
3	BH64_2.5-2.7		1/3/10	x					x				x				x			x	x	x	x	x	x	x	x	x	
4	BH64_5.5-5.7		1/3/10	x					x				x	x															
24	BH64_8.5-8.7		1/3/10	x					x																				Hold
5	BH64_10.0-10.7		1/3/10	x					x				x	x															
25	BH60_1.0-1.4		1/3/10	x					x																				Hold
6	BH60_2.5-2.9		1/3/10	x					x				x	x	x	x	x			x	x								
26	BH60_4.0-4.4		1/3/10	x					x																				Hold
27	BH60_5.5-5.9		1/3/10	x					x		1x250ml Sent for																		Hold

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Anthony Davis Date: 3/3/10	Name: Frank Date: 4-3-10	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: ALS Time: 12pm		Yes/No/NA	Transport Co:	

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: Time:		Yes/No/NA	Transport Co:	

AECOM

Form: Declaration Area BATCH 1

Chain of Custody & Analysis Request Form

AECOM - Sydney
P.O. Box 726
Pymble NSW 2073 Australia

Tel: +61 2 8484 8999
Fax: +61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ☐ Fax ☐ Hard copy ☑ Email 8. Project Manager: Anthony Davis tel: (02) 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)
7	BH60_7.0-7.2		1/3/10	X							1x 250ml Soil jar
8	BH60_8.5-8.9		1/3/10	X							
9	BH60_13.0-13.4		1/3/10	X							
10	BH60_16.0-16.4		1/3/10	X							
11	QC110		1/3/10	X							1x 250ml Soil jar
12	QC243	25/2/10			X				X		2x Vials 1x plastic
13	QC246	26/2/10			X				X		+1 amber
14	TB11	25/2/10		X					X		1x 250ml Soil jar add
15	BH60_17.5-17.7		2-3-10	X					X		1x 250ml SOIL jar
28	BH60_19.0-19.4		2-3-10	X					X		1x 250 mL SOIL JAR

Analysis Request

pH	Metals (M13)	TPH (C6-C36)/BTEX	PAHs	Phenols	SVOC	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe	sPocus	BTEX	Remarks and Comments
	X	X										X					
						X											
	X	X											X	X			
	X	X	X	X				X	X			X	X	X	X		1x Ziplock bag (frozen)
	X	X															
	X	X															Rinsate
	X	X															Rinsate
	X	X														X	
	X	X	X	X													
																	HOLD

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Frank 4-3-10 Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: ALS 12pm Time:		Yes/No/NA	Transport Co:	

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: Time:		Yes/No/NA	Transport Co:	

AECOM

Form: Declaration Area BATCH 1

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Tel: +61 2 8484 8999
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Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951

Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ☐ Fax ☐ Hard copy ☑ Email 8. Project Manager: Anthony Davis tel: (02) 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals (M13)	TPH (C6-C36)/BTEX	PAHs	Phenols	SVOC (Ultra trace)	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe	TPH C6-C36	VOC	Remarks and Comments
16	BH60_20.5-20.9		2-3-10	X					X		1x 250ml Soil jar	X	X				X			X	X	X	X	X	X	X	X	X	
(29)	BH60_22.0-22.3		2-3-10	X					X		1x 250ml Soil jar																		Hold
(30)	BH60_23.5-23.7		2-3-10	X					X		1x 250ml Soil jar																		Hold
17	QC120		2-3-10	X					X		1x 250ml Soil jar		X	X	X	X													
↓	QC121		2-3-10	X					X		1x 250ml Soil jar		PLEASE FORWARD TO LABMARK WITH COC																
18	BH68_1-1.3		2-3-10	X					X		1x 250 ml Soil jar							X											
19	BH68_2.5-2.9		2-3-10	X					X		1x 250 ml Soil jar		X														X		
20	BH68_40-4.3		2-3-10	X					X		1x 250 ml Soil jar	X	X	X	X	X													
(31)	BH68_5.5-5.8		2-3-10	X					X		1x 250 ml Soil jar																		Hold
21	BH68_7.0-7.1		2-3-10	X					X		Ziplock bag		X														X		

Relinquished By:
Name: Anthony Davis Date: 2/3/10
of: Time:

Received by:
Name: Frank 4-3-10 Date:
of: ALS 12pm Time:

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand	
Samples received chilled?	Yes/No/NA	Consignment Note No.		
	Yes/No/NA	Transport Co:		
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand	
Samples received chilled?	Yes/No/NA	Consignment Note No.		
	Yes/No/NA	Transport Co:		

AECOM

Form: Declaration Area BATCH 1

Chain of Custody & Analysis Request Form

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Tel: +61 2 8484 8999
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Final Report by:
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Project Name: Barangaroo
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Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A
7. Report Format: ☐ Fax ☐ Hard copy ☑ Email	8. Project Manager: Anthony Davis	tel:	(02) 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: fil'ted	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-C36)/BTEX	PAHs	Phenols	SVOC	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe	sTOC/MS	Hold	Remarks and Comments
32	BH68_7.1-7.3		2·3·10	X					X		1x250 ml soil jar																	X	
33	BH68_7.3-7.5		2·3·10	X					X		ziplock bag																	X	Sample frozen
34	~~QC239~~ QC239		2·3·10		X			X	X		bottles x 4		X	X															2 vials, 1 amber, 1 plastic
23	TB13		25·2·10	X							1 x jar																	X	~~BTEX~~ → Analysis changed as per client request
34	BH62_0.15-0.25		25-2-10	X					X		1x jar																	X	
35	BH55_0.15-0.25		25/2/10	X					X		1x jar																	X	
36	BH65_0.15-0.25 (received as BH68_0.15-0.25)		25/2/10	X					X		1 x jar																	X	
37	BH60_0.15-0.25		20/2/10	X					X		1 x jar																	X	
38	QC238																												
39	extra QC239 (24-2-10)																												

10 changed as per client request.

Relinquished By:	Received by:			
Name: Anthony Davis	Date: 3/3/10	Name: Frank	Date: 4-3-10	
of:	Time:	of: ALS	Time: 12pm	
Relinquished By:		**Received by:**		
Name:	Date:	Name:	Date:	
of:	Time:	of:	Time:	

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand	
Samples received chilled?	Yes/No/NA	Consignment Note No.		
	Yes/No/NA	Transport Co:		
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand	
Samples received chilled?	Yes/No/NA	Consignment Note No.		
	Yes/No/NA	Transport Co:		

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1004022**	Page	: 1 of 7
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 04-MAR-2010
Sampler	: KP	Issue Date	: 12-MAR-2010
Site	: ----		
		No. of samples received	: 10
Quote number	: SY/259/09 V2	No. of samples analysed	: 5

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Ashesh Patel	Inorganic Chemist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG005T: Poor precision was obtained for Chromium and Iron on sample ES1004031#4 due to sample heterogeneity.**
- **eg048g: spike failed for hexavalent chromium by alkaline digest due to matrix interference.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH34_1.8-2.2	BH34_.3.8-4.0	BH34_6.0-6.2	BH34_11.0-11.2	QC240
				Client sampling date / time: 25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00
				ES1004022-001	ES1004022-002	ES1004022-003	ES1004022-004	ES1004022-005
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**7.7**	----	----	----	**7.6**
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**12.1**	**14.5**	**12.4**	**15.2**	**12.4**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	**80**	**40**	**40**	**30**	**70**
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**16**	**9**	**11**	**9**	**12**
Cobalt	7440-48-4	2	mg/kg	**5**	**4**	**6**	**4**	**4**
Copper	7440-50-8	5	mg/kg	**6**	<5	**6**	<5	**6**
Iron	7439-89-6	50	mg/kg	----	----	----	----	**14000**
Lead	7439-92-1	5	mg/kg	**15**	**9**	**11**	**11**	**12**
Manganese	7439-96-5	5	mg/kg	**252**	**160**	**285**	**219**	**253**
Nickel	7440-02-0	2	mg/kg	**6**	**4**	**8**	**5**	**5**
Vanadium	7440-62-2	5	mg/kg	**18**	**14**	**17**	**13**	**18**
Zinc	7440-66-6	5	mg/kg	**33**	**17**	**40**	**27**	**24**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	----	----	<0.5
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	----	----	----	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	----	----	----	<1
EP004: Organic Matter								
^ Total Organic Carbon	----	0.5	%	<0.5	----	----	----	<0.5
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	<1.0	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH34_1.8-2.2	BH34_.3.8-4.0	BH34_6.0-6.2	BH34_11.0-11.2	QC240
				Client sampling date / time	25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00
Compound	CAS Number	LOR	Unit		ES1004022-001	ES1004022-002	ES1004022-003	ES1004022-004	ES1004022-005
EP075(SIM)A: Phenolic Compounds - Continued									
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg		<2.0	----	<2.0	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	----	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	----	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	----	<100	<100	<100
C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	<50	<50	<50
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**85.7**	----	**87.8**	**86.0**	**84.3**
2-Chlorophenol-D4	93951-73-6	0.1	%		**84.0**	----	**85.3**	**88.8**	**85.3**
2.4.6-Tribromophenol	118-79-6	0.1	%		**71.1**	----	**67.2**	**69.8**	**72.5**
EP075(SIM)T: PAH Surrogates									

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH34_1.8-2.2	BH34_.3.8-4.0	BH34_6.0-6.2	BH34_11.0-11.2	QC240
				Client sampling date / time: 25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00	25-FEB-2010 15:00
				ES1004022-001	ES1004022-002	ES1004022-003	ES1004022-004	ES1004022-005
EP075(SIM)T: PAH Surrogates - Continued								
2-Fluorobiphenyl	321-60-8	0.1	%	**87.7**	----	**90.0**	**88.6**	**89.9**
Anthracene-d10	1719-06-8	0.1	%	**95.3**	----	**97.4**	**96.3**	**97.0**
4-Terphenyl-d14	1718-51-0	0.1	%	**110**	----	**114**	**114**	**116**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**106**	----	**99.2**	**98.0**	**101**
Toluene-D8	2037-26-5	0.1	%	**97.3**	----	**92.4**	**102**	**94.4**
4-Bromofluorobenzene	460-00-4	0.1	%	**94.1**	----	**89.6**	**94.6**	**90.0**

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

QUALITY CONTROL REPORT

Work Order	: **ES1004022**	Page	: 1 of 10
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 04-MAR-2010
Sampler	: KP	Issue Date	: 12-MAR-2010
Order number	: 1303951		
		No. of samples received	: 10
Quote number	: SY/259/09 V2	No. of samples analysed	: 5

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Ashesh Patel	Inorganic Chemist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA002 : pH (Soils) (QC Lot: 1268805)									
ES1003971-002	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.5	8.5	0.0	0% - 20%
EA055: Moisture Content (QC Lot: 1268897)									
ES1003971-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	14.9	13.5	10.3	0% - 50%
ES1003971-010	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	28.0	30.1	7.2	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1271419)									
ES1004022-001	BH34_1.8-2.2	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	80	90	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	15	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	5	5	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	6	7	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	6	6	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	15	12	17.7	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	252	284	11.7	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	18	20	9.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	33	32	4.2	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	14000	15600	11.0	0% - 20%
ES1004031-004	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	20	20	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	42	30	# 32.7	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	36	24	41.9	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	14	13	7.3	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	85	55	42.8	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	5	<5	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	31600	21000	# 40.3	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1271420)									
ES1004022-001	BH34_1.8-2.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1004031-004	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1275122)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1275122) - continued									
ES1004018-009	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1004031-007	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026G: Total Cyanide By Discrete Analyser (QC Lot: 1268978)									
ES1003971-001	Anonymous	EK026G: Total Cyanide	57-12-5	1	mg/kg	127	131	3.0	0% - 20%
ES1003971-014	Anonymous	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1271111)									
ES1003971-001	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	8	8	0.0	No Limit
ES1003971-014	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EP004: Organic Matter (QC Lot: 1269549)									
ES1003971-011	Anonymous	EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1268745)									
ES1003960-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
ES1003960-011	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1268745)									
ES1003960-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1268745) - continued									
ES1003960-001	Anonymous	EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003960-011	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1268711)									
ES1003960-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1003960-010	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1268744)									
ES1003960-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1003960-011	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080: BTEX (QC Lot: 1268711)									
ES1003960-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1003960-010	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1271419)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	112	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	108	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	107	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	101	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	105	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	108	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	99.2	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	99.1	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	93.9	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	104	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	109	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	96.8	88.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1271420)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	75.3	67	118
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275122)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	111	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1268978)								
EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	20.0 mg/kg	106	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1271111)								
EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	2.0 mg/kg	91.6	70	130
EP004: Organic Matter (QCLot: 1269549)								
EP004: Total Organic Carbon	----	0.5	%	<0.5	----	----	----	----
EP075(SIM)A: Phenolic Compounds (QCLot: 1268745)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	95.3	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	86.4	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	89.4	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	90.1	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	82.9	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	86.0	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	88.4	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	85.5	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	91.5	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	70.4	62.2	115

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 1268745) - continued								
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	71.6	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	9.7	1.23	91.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1268745)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	92.5	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	93.1	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	84.6	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	89.4	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	92.1	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	95.6	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	90.0	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	90.0	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	104	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	98.3	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	80.9	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	105	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	89.2	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	# 67.8	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	# 68.5	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	79.3	72.4	114
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1268711)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	92.4	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1268744)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	103	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	97.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	99.0	72.6	117
EP080: BTEX (QCLot: 1268711)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	97.9	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	90.4	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	91.4	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	93.8	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	91.2	66.7	123

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1271419)							
ES1004022-001	BH34_1.8-2.2	EG005T: Arsenic	7440-38-2	50 mg/kg	96.2	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	93.5	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	100	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	98.5	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	97.2	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	98.3	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1271420)							
ES1004022-001	BH34_1.8-2.2	EG035T: Mercury	7439-97-6	5 mg/kg	84.0	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275122)							
ES1004018-009	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	# Not Determined	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1268978)							
ES1003971-001	Anonymous	EK026G: Total Cyanide	57-12-5	20.0 mg/kg	# Not Determined	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1271111)							
ES1003971-001	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	2.0 mg/kg	# Not Determined	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1268745)							
ES1003960-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	98.1	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	86.9	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	70.2	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	97.1	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	38.3	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1268745)							
ES1003960-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	87.2	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	93.8	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1268711)							
ES1003960-001	Anonymous	EP080: C6 - C9 Fraction	----	26 mg/kg	96.6	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1268744)							
ES1003960-001	Anonymous	EP071: C10 - C14 Fraction	----	640 mg/kg	90.0	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	83.2	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	77.0	70	130
EP080: BTEX (QCLot: 1268711)							
ES1003960-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	82.9	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	85.9	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEX (QCLot: 1268711) - continued							
ES1003960-001	Anonymous	EP080: Ethylbenzene	100-41-4	2.5 mg/kg	85.0	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	87.0	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	88.0	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1004022**	Page	: 1 of 9
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: Barangaroo S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 04-MAR-2010
Sampler	: KP	Issue Date	: 12-MAR-2010
Order number	: 1303951		
		No. of samples received	: 10
Quote number	: SY/259/09 V2	No. of samples analysed	: 5

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non-volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved							
BH34_1.8-2.2, QC240	**25-FEB-2010**	**04-MAR-2010**	04-MAR-2010	✓	**04-MAR-2010**	05-MAR-2010	✓
EA055: Moisture Content							
Soil Glass Jar - Unpreserved							
BH34_1.8-2.2, BH34_.3.8-4.0, BH34_6.0-6.2, BH34_11.0-11.2, QC240	**25-FEB-2010**	**----**	----	----	**04-MAR-2010**	04-MAR-2010	✓
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved							
BH34_1.8-2.2, BH34_.3.8-4.0, BH34_6.0-6.2, BH34_11.0-11.2, QC240	**25-FEB-2010**	**08-MAR-2010**	25-MAR-2010	✓	**09-MAR-2010**	24-AUG-2010	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved							
BH34_1.8-2.2, BH34_.3.8-4.0, BH34_6.0-6.2, BH34_11.0-11.2, QC240	**25-FEB-2010**	**08-MAR-2010**	25-MAR-2010	✓	**10-MAR-2010**	25-MAR-2010	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved							
BH34_1.8-2.2, QC240	**25-FEB-2010**	**11-MAR-2010**	25-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
EK026G: Total Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH34_1.8-2.2, QC240	**25-FEB-2010**	**04-MAR-2010**	04-MAR-2010	✓	**05-MAR-2010**	18-MAR-2010	✓
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH34_1.8-2.2, QC240	**25-FEB-2010**	**08-MAR-2010**	04-MAR-2010	×	**08-MAR-2010**	04-MAR-2010	×
EP004: Organic Matter							
Soil Glass Jar - Unpreserved							
BH34_1.8-2.2, QC240	**25-FEB-2010**	**----**	----	----	**08-MAR-2010**	04-MAR-2010	×

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved								
BH34_1.8-2.2,	BH34_6.0-6.2,	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
BH34_11.0-11.2,	QC240							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved								
BH34_1.8-2.2,	BH34_6.0-6.2,	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
BH34_11.0-11.2,	QC240							
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved								
BH34_1.8-2.2,	BH34_6.0-6.2,	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**05-MAR-2010**	13-APR-2010	✓
BH34_11.0-11.2,	QC240							
Soil Glass Jar - Unpreserved								
BH34_1.8-2.2,	BH34_6.0-6.2,	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**07-MAR-2010**	11-MAR-2010	✓
BH34_11.0-11.2,	QC240							
EP080: BTEX								
Soil Glass Jar - Unpreserved								
BH34_1.8-2.2,	BH34_6.0-6.2,	**25-FEB-2010**	**04-MAR-2010**	11-MAR-2010	✓	**07-MAR-2010**	11-MAR-2010	✓
BH34_11.0-11.2,	QC240							

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	17	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	19	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	8	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	19	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	1	9	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	19	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	2	18	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	19	**5.3**	**5.0**	✓	ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	11	**9.1**	**5.0**	✓	ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	19	**5.3**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	18	**5.6**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH (1:5)	EA002	SOIL	(APHA 21st ed., 4500H+) pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM (1999) Schedule B(3) (Method 103)
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	USEPA SW846, Method 3060A. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Cyanide By Discrete Analyser	EK026G	SOIL	APHA 21st 4500 CN - C & N. Caustic leach extracts of the sample are distilled with sulphuric acid, converting all CN species to HCN. The distillates are analyzed for CN by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Method 403)
WAD Cyanide By Discrete Analyser	EK028G	SOIL	APHA 21st 4500 CN - I & N. Sample are distilled with a weak organic acid, converting selected CN species to HCN. The distillates are analyzed for CN by Discrete Analyser.
Organic Matter	EP004	SOIL	AS1289.4.1.1 - 1997., Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (1999) Schedule B(3) (Method 105)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)

Preparation Methods	Method	Matrix	Method Descriptions
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	USEPA SW846, Method 3060A.
NaOH leach for TCN in Soils	EK026PR	SOIL	APHA 21st ed., 4500 CN- C & N. Samples are extracted by end-over-end tumbling with NaOH.

Preparation Methods	Method	Matrix	Method Descriptions
WAD Cyanide	EK028PR	SOIL	APHA 21st ed., 4500 CN- C & N. Cyanide is selectively distilled from the sample by the action of weak acetic acid. Only poorly bound metal complexed cyanides are released.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005T: Total Metals by ICP-AES	ES1004031-004	Anonymous	**Chromium**	7440-47-3	32.7 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1004031-004	Anonymous	**Iron**	7439-89-6	40.3 %	0-20%	**RPD exceeds LOR based limits**
Laboratory Control Spike (LCS) Recoveries							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1469312-007	----	**Indeno(1.2.3.cd)pyrene**	193-39-5	67.8 %	71-113%	**Recovery less than lower control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1469312-007	----	**Dibenz(a.h)anthracene**	53-70-3	68.5 %	71.7-113%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							
EG048: Hexavalent Chromium (Alkaline Digest)	ES1004018-009	Anonymous	**Hexavalent Chromium**	18540-29-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EK026G: Total Cyanide By Discrete Analyser	ES1003971-001	Anonymous	**Total Cyanide**	57-12-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK028G: Weak Acid Dissociable Cyanide By Discrete A	ES1003971-001	Anonymous	**Weak Acid Dissociable Cyanide**	----	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**

- **For all matrices, no Method Blank value outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser						
Soil Glass Jar - Unpreserved						
BH34_1.8-2.2, QC240	08-MAR-2010	04-MAR-2010	**4**	08-MAR-2010	04-MAR-2010	**4**
EP004: Organic Matter						
Soil Glass Jar - Unpreserved						
BH34_1.8-2.2, QC240	----	----	----	08-MAR-2010	04-MAR-2010	**4**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

(1)

Form: Declaration Blocks 405 , **BATCH** 2

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
P.O. Box 726
Pymble NSW 2073 Australia
Tel: +61 2 8484 8999
Fax: +61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications: ESDAT FORMAT REQUIRED

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ☐ Fax ☐ Hard copy ☑ Email 8. Project Manager: Anthony Davis tel: (02) 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-C36)/BTEX	PAHs	Phenols	SVOC	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe		HOLD	Remarks and Comments
(6)	BH34_0.6-0.8	25/02/2010		X					X		1 x 250mL soil jar																	X	
(7)	BH34_1.0-1.2	25/02/2010		X					X		1 x 250mL soil jar																	X	
1	BH34_1.8-2.2	25/02/2010		X					X		1 x 250mL soil jar	X	X	X	X	X				X	X			X	X				
2	BH34_3.8-4.0	25/02/2010		X					X		1 x 250mL soil jar		X																
(8)	BH34_5.0-5.2	25/02/2010		X					X		1 x 250mL soil jar																	X	
3	BH34_6.0-6.2	25/02/2010		X					X		1 x 250mL soil jar		X	X	X	X													
(9)	BH34_7.5-7.7	25/02/2010		X					X		1 x 250mL soil jar																	X	
(10)	BH34_9.0-9.2	25/02/2010		X					X		1 x 250mL soil jar																	X	
4	BH34_11.0-11.2	25/02/2010		X					X		1 x 250mL soil jar		X	X	X	X													

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Frank 4-3-10 Date:
of: ALS 11am Time:

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Environmental Division Sydney
Work Order
ES1004022

Telephone : +61-2-8784 8555

Shipment ☐ Courier ☐ Postal ☐ By Hand
Consignment Note No.
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To:

BLOCKS 4 & 5 – BATCH 2

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: KATE PIGRAM **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: tel:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals (M8) (M13) + Fe	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	Total (Ultrace TOC)	HOLD	Cr VI	Remarks & comments
5	QC240	25/02/10		X					X		1x 250mL	X	X	X	X	X				X			X	X		X	
	QC241	↓		X					X		80ml jar	PLEASE FORWARD TO LABMAIC IN SEPARATE COC															

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Frank 4-3-10 Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: Time:	of: ALS 11am Time:		Yes/No/NA	Transport Co:	
Relinquished By:	**Received by:**	**Received in good condition?**	**Yes/No/NA**	**Method of Shipment**	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	**Samples received chilled?**	**Yes/No/NA**	**Consignment Note No.**	
of: Time:	of: Time:		**Yes/No/NA**	**Transport Co:**	

~~Printed copies of this document are uncontrolled~~

Environment

~~Revision: Oct 09~~
BMS-PM-DV-F046

CERTIFICATE OF ANALYSIS

Work Order	: **ES1004177**	Page	: 1 of 6
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 04-MAR-2010
Sampler	: KP	Issue Date	: 11-MAR-2010
Site	: ----		
		No. of samples received	: 2
Quote number	: SY/259/09 V2	No. of samples analysed	: 2

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **LCS recovery for Vandium falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**

Analytical Results

Sub-Matrix: DI WATER LEACHATE				Client sample ID	BH64_2.5-2.7	BH60_20.5-20.9	----	----	----
				Client sampling date / time	09-MAR-2010 12:00	09-MAR-2010 12:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1004177-001	ES1004177-002	----	----	----
EG020W: Water Leachable Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	----	----	----
Beryllium	7440-41-7	0.001	mg/L		<0.001	<0.001	----	----	----
Barium	7440-39-3	0.001	mg/L		**0.180**	**0.146**	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	----	----	----
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	----	----	----
Manganese	7439-96-5	0.001	mg/L		**0.004**	**0.003**	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	----	----	----
Vanadium	7440-62-2	0.01	mg/L		<0.01	<0.01	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.039**	**0.050**	----	----	----
EG035W: Water Leachable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		**3.8**	**2.7**	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	**2.2**	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**26.2**	**29.3**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**58.3**	**56.1**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**72.5**	**76.8**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**74.7**	**73.0**	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**71.1**	**70.3**	----	----	----

Analytical Results

Sub-Matrix: DI WATER LEACHATE			Client sample ID	BH64_2.5-2.7	BH60_20.5-20.9	----	----	----
			Client sampling date / time	09-MAR-2010 12:00	09-MAR-2010 12:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1004177-001	ES1004177-002	----	----	----
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	**78.8**	**75.3**	----	----	----

Analytical Results

Sub-Matrix: SOIL			Client sample ID	BH64_2.5-2.7	BH60_20.5-20.9	-----	-----	-----
			Client sampling date / time	01-MAR-2010 15:00	02-MAR-2010 15:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1004177-001	ES1004177-002	----	----	----
EN60: Bottle Leaching Procedure								
Final pH	----	0.1	pH Unit	**7.4**	**7.5**	----	----	----

Surrogate Control Limits

Sub-Matrix: **DI WATER LEACHATE**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

QUALITY CONTROL REPORT

Work Order	: **ES1004177**	Page	: 1 of 6
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 04-MAR-2010
Sampler	: KP	Issue Date	: 11-MAR-2010
Order number	: 1303951		
		No. of samples received	: 2
Quote number	: SY/259/09 V2	No. of samples analysed	: 2

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020W: Water Leachable Metals by ICP-MS (QC Lot: 1272409)									
ES1004045-001	Anonymous	EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	0.0004	0.0004	0.0	No Limit
		EG020A-W: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Barium	7440-39-3	0.001	mg/L	0.031	0.030	4.2	0% - 20%
		EG020A-W: Chromium	7440-47-3	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-W: Cobalt	7440-48-4	0.001	mg/L	0.006	0.006	0.0	No Limit
		EG020A-W: Copper	7440-50-8	0.001	mg/L	<0.001	0.001	0.0	No Limit
		EG020A-W: Lead	7439-92-1	0.001	mg/L	4.72	4.71	0.2	0% - 20%
		EG020A-W: Manganese	7439-96-5	0.001	mg/L	0.216	0.217	0.6	0% - 20%
		EG020A-W: Nickel	7440-02-0	0.001	mg/L	0.020	0.019	0.0	0% - 50%
		EG020A-W: Zinc	7440-66-6	0.005	mg/L	0.140	0.139	0.0	0% - 20%
		EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1004177-001	BH64_2.5-2.7	EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-W: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Barium	7440-39-3	0.001	mg/L	0.180	0.180	0.0	0% - 20%
		EG020A-W: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Manganese	7439-96-5	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-W: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Zinc	7440-66-6	0.005	mg/L	0.039	0.040	3.5	No Limit
		EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EG035W: Water Leachable Mercury by FIMS (QC Lot: 1274066)									
ES1004045-001	Anonymous	EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1004177-002	BH60_20.5-20.9	EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1272409)								
EG020A-W: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	100	87	111
EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	95.2	75	125
EG020A-W: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	101	86	114
EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	98.2	90	106
EG020A-W: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	101	94	114
EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	103	89	117
EG020A-W: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	99.9	90	112
EG020A-W: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	109	88	120
EG020A-W: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	108	90	120
EG020A-W: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	99.4	86	116
EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 86.9	92	112
EG020A-W: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	98.0	82	116
EG035W: Water Leachable Mercury by FIMS (QCLot: 1274066)								
EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	94.8	82	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1272652)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	79.0	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	90.6	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	89.1	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	89.7	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	90.0	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	94.2	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	94.2	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	96.0	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	91.1	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	91.8	62.5	116
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1272652) - continued								
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	74.2	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	105	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	87.2	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	78.3	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	78.4	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	78.9	59.1	118
		1	µg/L	<1.0	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1272409)							
ES1004045-001	Anonymous	EG020A-W: Arsenic	7440-38-2	1 mg/L	98.5	70	130
		EG020A-W: Beryllium	7440-41-7	1 mg/L	96.1	70	130
		EG020A-W: Barium	7440-39-3	1 mg/L	98.7	70	130
		EG020A-W: Cadmium	7440-43-9	0.250 mg/L	97.0	70	130
		EG020A-W: Chromium	7440-47-3	1 mg/L	95.6	70	130
		EG020A-W: Cobalt	7440-48-4	1 mg/L	94.3	70	130
		EG020A-W: Copper	7440-50-8	1 mg/L	97.9	70	130
		EG020A-W: Lead	7439-92-1	1 mg/L	# Not Determined	70	130
		EG020A-W: Manganese	7439-96-5	1 mg/L	89.6	70	130
		EG020A-W: Nickel	7440-02-0	1 mg/L	97.8	70	130
		EG020A-W: Vanadium	7440-62-2	1 mg/L	91.5	70	130
		EG020A-W: Zinc	7440-66-6	1 mg/L	98.5	70	130
EG035W: Water Leachable Mercury by FIMS (QCLot: 1274066)							
ES1004045-002	Anonymous	EG035W: Mercury	7439-97-6	0.0100 mg/L	102	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1004177**	Page	: 1 of 5
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 04-MAR-2010
Sampler	: KP	Issue Date	: 11-MAR-2010
Order number	: 1303951		
		No. of samples received	: 2
Quote number	: SY/259/09 V2	No. of samples analysed	: 2

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non-volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020W: Water Leachable Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH64_2.5-2.7, BH60_20.5-20.9	**09-MAR-2010**	**09-MAR-2010**	05-SEP-2010	✓	**09-MAR-2010**	05-SEP-2010	✓
EG035W: Water Leachable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH64_2.5-2.7, BH60_20.5-20.9	**09-MAR-2010**	**----**	----	----	**11-MAR-2010**	06-APR-2010	✓
EN60: Bottle Leaching Procedure							
LabSplit: Leach for organics and other tests							
BH64_2.5-2.7	**01-MAR-2010**	**---**	---	----	**09-MAR-2010**	15-MAR-2010	✓
LabSplit: Leach for organics and other tests							
BH60_20.5-20.9	**02-MAR-2010**	**---**	---	----	**09-MAR-2010**	16-MAR-2010	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
BH64_2.5-2.7, BH60_20.5-20.9	**09-MAR-2010**	**09-MAR-2010**	16-MAR-2010	✓	**10-MAR-2010**	18-APR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Water Leachable Mercury by FIMS	EG035W	2	16	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Mercury by FIMS	EG035W	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Mercury by FIMS	EG035W	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Water Leachable Mercury by FIMS	EG035W	1	16	**6.3**	**5.0**	✓	ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	11	**9.1**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	SOIL	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Water Leachable Mercury by FIMS	EG035W	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in DI Water Leachate	EN25W	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Deionised Water Leach	EN60-Dla	SOIL	AS4439.3 Preparation of Leachates
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020W: Water Leachable Metals by ICP-MS	1473603-002	----	**Vanadium**	7440-62-2	86.9 %	92-112%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							
EG020W: Water Leachable Metals by ICP-MS	ES1004045-001	Anonymous	**Lead**	7439-92-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1004177**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	Page	: 1 of 2
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: KP	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 04-MAR-2010	Issue Date	: 08-MAR-2010 10:25
Client Requested Due Date	: 11-MAR-2010	Scheduled Reporting Date	: **11-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 6.8'C - Ice present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 2
Sercurity Seal	: Not intact.	No. of samples analysed	: 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **This work order for ASLP (13 Metasl and PAH) split into ES1004018 and ES1004014 (SPOCAS).**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EG020W Water Leachable Metals by ICPMS	SOIL - EG035W Water Leachable Mercury by FIMS	SOIL - EP075 SIM PAH only SIM - PAH only
ES1004177-001	01-MAR-2010 15:00	BH64_2.5-2.7	✓	✓	✓
ES1004177-002	02-MAR-2010 15:00	BH60_20.5-20.9	✓	✓	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

LAB: ALS Brisbane / Newcastle

DATE: 4-3-10

SPOCAS: ES1004014

Environmental Division
Sydney
Work Order
ES1004177

Telephone : +61-2-8784 8555

Form: Declaration Area BATCH 1

Chain of Custody & Analysis Request Form

AECOM - Sydney
P O. Box 726
Pymble NSW 2073 Australia

Tel: +61 2 8484 8999
Fax: +61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951

Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ☐ Fax ☐ Hard copy ☑ Email 8. Project Manager: Anthony Davis tel: (02) 8484 8999

Lab ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: fil'ed	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH (C6-C36)/BTEX	PAHs	Phenols	SVOC	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe	Voc	TPH (C6-C36)	Remarks and Comments
1	BH64_0.15-0.2 / BH62_0.15-0.4		1/3/10	X					X		1x250ml Soil jar		X																
2	BH64_1.0-1.2		1/3/10	X					X				X	X	X	X													
3	BH64_2.5-2.7		1/3/10	X					X				X				X			X	X	X	X	X	X	X	X	X	
4	BH64_5.5-5.7		1/3/10	X					X				X	X															Hold
(24)	BH64_8.5-8.7		1/3/10	X					X																				
5	BH64_10.0-10.2		1/3/10	X					X				X	X															Hold
(25)	BH60_1.0-1.4		1/3/10	X					X																				
6	BH60_2.5-2.9		1/3/10	X					X				X	X	X	X	X			X	X								Hold
(26)	BH60_4.0-4.4		1/3/10	X					X																				
(27)	BH60_5.5-5.9		1/3/10	X					X		1x250ml Soil jar																		Hold

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Anthony Davis	Name: Frank	Samples received chilled?	Yes/No/NA	Consignment Note No.	
Date: 3/3/10	Date: 4-3-10		Yes/No/NA	Transport Co:	
Time:	Time: 12pm				
of:	of: ALS				

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name:	Name:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
Date:	Date:		Yes/No/NA	Transport Co:	
Time:	Time:				
of:	of:				

AECOM

Form: Declaration Area BATCH 1

Chain of Custody & Analysis Request Form

AECOM - Sydney
P.O. Box 726
Pymble NSW 2073 Australia

Tel: +61 2 8484 8999
Fax: +61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ☐ Fax ☐ Hard copy ☑ Email 8. Project Manager: Anthony Davis tel: (02) 8484 8999

Lab ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)
7	BH60_7-0-7-2		1/3/10	X							1x 250ml Soil jar
8	BH60_8-5-8-9		1/3/10	X							
9	BH60_13.0-13.4		1/3/10	X							
10	BH60_16-0-16-4		1/3/10	X							
11	QC110		1/3/10	X							1x 250ml Soil jar
12	QC243	28/2/10			X				X		2x vials 1x plastic
13	QC246	28/2/10			X				X		+1 amber
14	TB11	25/2/10		X					X		1x 250ml Soil jar add
15	BH60_17.5-17.7		2-3-10	X					X		1 x 250mL soil jar
28	BH60_19.0-19.4		2-3-10	X					X		1x 250 mL soil jar

Analysis Request

Remarks and Comments	pH	Metals (M13)	TPH (C6-C36)/BTEX	PAHs	Phenols	SVOC	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe	speciate	B767
		X	X										X				
							X							X	X		
		X	X											X	X		
1x 2 plastic bag (frozen)		X	X	X	X				X	X			X	X	X	X	
		X	X														
Rinsate		X	X														
Rinsate		X	X														
																	X
HOLD		X	X	X	X												

Relinquished By:	Received by:
Name: Date:	Name: Frank Date: 4-3-10
of: Time:	of: ALS Time: 12pm
Relinquished By:	**Received by:**
Name: Date:	Name: Date:
of: Time:	of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

AECOM

Form: Declaration Area BATCH 1

Chain of Custody & Analysis Request Form

AECOM - Sydney
P.O. Box 726
Pymble NSW 2073 Australia

Tel: +61 2 8484 8999
Fax: +61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd. Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ☐ Fax ☐ Hard copy ☑ Email 8. Project Manager: Anthony Davis tel: (02) 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	ice	other	Container (No. & type)	pH	Metals (M13)	tPH (C6-C36)/BTEX	PAHs	Phenols	SVOC (ultra trace)	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe	TPH C6-C36	VOC	Remarks and Comments
16	BH60_20.5-20.9		2-3-10	X					X		1x 250ml Soil jar	X	X				X			X	X	X	X	X	X	X	X	X	
(29)	BH60_22.0-22.3		2-3-10	X					X		1x 250ml Soil jar																			HOLD
(30)	BH60_23.5-23.7		2-3-10	X					X		1x 250ml Soil jar																			HOLD
17	QC120		2-3-10	X					X		1x 250ml Soil jar		X	X	X	X														
	QC121		2-3-10	X					X		1x 250ml Soil jar		PLEASE FORWARD TO LABMARK WITH COC																	
18	BH68_1-1.3		2-3-10	X					X		1x 250 ml Soil jar						X													
19	BH68_2.5-2.9		2-3-10	X					X		1x 250ml Soil jar		X															X		
20	BH68_40-4.3		2-3-10	X					X		1x 250ml Soil jar	X	X	X	X	X														
(31)	BH68_55-5.8		2-3-10	X					X		1x 250ml Soil jar																	X		HOLD
21	BH68_7.0-7.1		2-3-10	X					X		Ziplock bag		X															X		

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Anthony Davis Date: 2/3/10	Name: Frank Date: 4-3-10	Samples received chilled?	Yes/No/NA	Consignment Note No.	
Time:	Time: 12pm		Yes/No/NA	Transport Co:	
of:	of: ALS				

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
Time.	Time:		Yes/No/NA	Transport Co:	
of:	of:				

AECOM

Form: Declaration Area BATCH 1

Chain of Custody & Analysis Request Form

AECOM - Sydney
P.O. Box 726
Pymble NSW 2073 Australia

Tel: +61 2 8484 8999
Fax: +61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Kate Pigram
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ☐ Fax ☐ Hard copy ☑ Email 8. Project Manager: Anthony Davis tel: (02) 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)
32	BH68_7.1-7.3		2-3-10	X					X		1x250 ml soil jar
33	BH68-7.3-7.5		2-3-10	X					X		ziplock bag
34	QC239 QC249		2-3-10		X			X	X		bottles x 4
23	TB13		25-2-10	X							1x jar
34	BH2_0.15-0.25		25-2-10	X					X		1x jar
35	BH55_0.15-0.25		25/2/10	X					X		1x jar
36	BH65_0.15-0.25 received BH68_0.15-0.25		25/2/10	X					X		1x jar
37	BH60_0.15-0.25		25/2/10	X					X		1x jar
38	QC238		01/03/10								
39	Extra QC238 (24-2-10)										

Analysis Request

pH	Metals (M13)	TPH (C6-C36)/BTEX	PAHs	Phenols	SVOC	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe	SPOCAS	HOLD
																X
															X	
	X	X														
															X	X
																X
																X
																X
																X

Remarks and Comments
Sample integrity
2 vials, 1 amber, 1 plastic
BTEX
Analysis changed as per client request

> changed as per client request.

Relinquished By:	Received by:
Name: Anthony Davis Date: 3/3/10	Name: Frank Date: 4-3-10
of: Time:	of: ALS Time: 12pm
Relinquished By:	Received by:
Name: Date:	Name: Date:
of: Time:	of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1004218**	Page	: 1 of 43
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 05-MAR-2010
Sampler	: ----	Issue Date	: 19-MAR-2010
Site	: ----		
		No. of samples received	: 31
Quote number	: SY/259/09 V2	No. of samples analysed	: 22

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Peter Rennie	Team Leader - Asbestos	Newcastle
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Asbestos Identification: Samples were analysed by Polarised Light Microscopy including dispersion staining. Legend for Asbestos Type: 'Am' Amosite (brown asbestos) detected, 'Ch' Chrysotile (white asbestos) detected, 'Cr' Crocidolite (blue asbestos) detected, 'UMF' Unknown mineral fibres detected - No asbestos fibres detected, 't' Trace levels detected. Confirmation by alternative techniques is recommended for samples where unknown mineral fibres are detected.**
- **EG005T: Poor precision was obtained for Copper on sample ES1004284#6 due to sample heterogeneity. Results have been confirmed by re-extraction and reanalysis.**
- **EG005T: Poor precision was obtained for Iron on sample ES1004218#4 due to sample heterogeneity. Results have been confirmed by re-extraction and reanalysis.**
- **EG-005T:LCS recovery for Zinc falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**
- **EG035-C:LCS recovery for Mercury falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**
- **eg048g: spike failed for hexavalent chromium by alkaline digest due to matrix interference.**
- **EP075(SIM); Particular sample required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.**
- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**
- **EP080: Level of Reporting raised for toluene due to ambient background levels in the laboratory.**
- **Fibres determined to be UMF as sample degraded and dispersion staining colours not unequivocal.**
- **LCS recovery for Vanadium falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_2.5-2.7	BH56_4.25-4.6	BH56_7.0-7.2	BH56_11.5-11.7	BH56_13.0-13.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-001	ES1004218-002	ES1004218-004	ES1004218-007	ES1004218-011
AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	Yes	----	----	----
Asbestos Type	132207-33-1	0.1	g/kg	----	UMF	----	----	----
Sample weight (dry)	----	0.01	g	----	328	----	----	----
APPROVED IDENTIFIER:	----	-	-	----	P.RENNIE	----	----	----
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	----	9.0	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	21.0	----	23.2	17.1	16.6
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	<5	<5	<5
Barium	7440-39-3	10	mg/kg	80	----	40	30	20
Beryllium	7440-41-7	1	mg/kg	<1	----	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	11	----	6	5	5
Cobalt	7440-48-4	2	mg/kg	3	----	2	<2	4
Copper	7440-50-8	5	mg/kg	25	----	11	8	38
Iron	7439-89-6	50	mg/kg	----	----	7270	----	----
Lead	7439-92-1	5	mg/kg	290	----	66	65	59
Manganese	7439-96-5	5	mg/kg	214	----	52	71	84
Nickel	7440-02-0	2	mg/kg	5	----	<2	2	2
Vanadium	7440-62-2	5	mg/kg	13	----	14	11	11
Zinc	7440-66-6	5	mg/kg	118	----	33	134	49
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	<0.5	----	----
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	<1	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	<1	----	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	9.5	----	----
After HCl pH	----	0.1	pH Unit	----	----	1.8	----	----
Extraction Fluid Number	----	1	-	----	----	1	----	----
Final pH	----	0.1	pH Unit	----	----	5.1	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	1.3	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_2.5-2.7	BH56_4.25-4.6	BH56_7.0-7.2	BH56_11.5-11.7	BH56_13.0-13.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-001	ES1004218-002	ES1004218-004	ES1004218-007	ES1004218-011
EP004: Organic Matter - Continued								
^ Total Organic Carbon	----	0.5	%	**0.7**	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	**0.3**	----	----
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	----	----
Styrene	100-42-5	0.5	mg/kg	----	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	<0.5	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	<0.5	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	<0.5	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	<0.5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	<5	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	<0.5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	----	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	<5	----	----
Chloromethane	74-87-3	5	mg/kg	----	----	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	<5	----	----
Bromomethane	74-83-9	5	mg/kg	----	----	<5	----	----
Chloroethane	75-00-3	5	mg/kg	----	----	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_2.5-2.7	BH56_4.25-4.6	BH56_7.0-7.2	BH56_11.5-11.7	BH56_13.0-13.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-001	ES1004218-002	ES1004218-004	ES1004218-007	ES1004218-011
EP074E: Halogenated Aliphatic Compounds - Continued								
Iodomethane	74-88-4	0.5	mg/kg	----	----	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	<0.5	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	<0.5	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	<0.5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	----	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	<0.5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg	----	----	<0.5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	----	----	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_2.5-2.7	BH56_4.25-4.6	BH56_7.0-7.2	BH56_11.5-11.7	BH56_13.0-13.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-001	ES1004218-002	ES1004218-004	ES1004218-007	ES1004218-011
EP075(SIM)A: Phenolic Compounds - Continued								
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	----	----	----	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	**1.3**
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**0.6**	----	----	----	**1.8**
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	**0.9**	----	----	----	**1.5**
Pyrene	129-00-0	0.5	mg/kg	**1.0**	----	----	----	**1.5**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**0.5**	----	----	----	**0.6**
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	**0.5**
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	**0.6**	----	----	----	**0.6**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	<0.5
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	**0.8**	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	**1.5**	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	**0.9**	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachlorophenol	87-86-5	1	mg/kg	----	----	<1	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	**4.6**	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_2.5-2.7	BH56_4.25-4.6	BH56_7.0-7.2	BH56_11.5-11.7	BH56_13.0-13.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-001	ES1004218-002	ES1004218-004	ES1004218-007	ES1004218-011
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	**1.8**	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	**2.7**	----	----
Fluorene	86-73-7	0.5	mg/kg	----	----	**3.4**	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	**25.2**	----	----
Anthracene	120-12-7	0.5	mg/kg	----	----	**7.5**	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	**19.8**	----	----
Pyrene	129-00-0	0.5	mg/kg	----	----	**18.0**	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	**4.8**	----	----
Chrysene	218-01-9	0.5	mg/kg	----	----	**4.2**	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	----	**4**	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	**3.2**	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	**1.2**	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	**1.3**	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	<0.5	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	<0.5	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	<0.5	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	<0.5	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	----	<5.0	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	<0.5	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	----	<1.0	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	----	<1.0	----	----
Methapyrilene	91-80-5	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_2.5-2.7	BH56_4.25-4.6	BH56_7.0-7.2	BH56_11.5-11.7	BH56_13.0-13.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-001	ES1004218-002	ES1004218-004	ES1004218-007	ES1004218-011
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	----	<0.5	----	----
Acetophenone	98-86-2	0.5	mg/kg	----	----	<0.5	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	<0.5	----	----
Isophorone	78-59-1	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	----	<1.0	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	----	<1.0	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	<0.5	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	<0.5	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	<0.5	----	----
Azobenzene	103-33-3	1	mg/kg	----	----	<1	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	<0.5	----	----
Phenacetin	62-44-2	0.5	mg/kg	----	----	<0.5	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	<0.5	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	<0.5	----	----
Pronamide	23950-58-5	0.5	mg/kg	----	----	<0.5	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	<0.5	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	<0.5	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	<0.5	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	<0.5	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	<0.5	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	<0.5	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	<0.5	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	<0.5	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	<0.5	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	----	<2.5	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	<0.5	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	----	<1.0	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	----	<0.5	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	<0.5	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	----	----	<1.0	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	----	----	<1.0	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_2.5-2.7	BH56_4.25-4.6	BH56_7.0-7.2	BH56_11.5-11.7	BH56_13.0-13.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-001	ES1004218-002	ES1004218-004	ES1004218-007	ES1004218-011
EP075H: Anilines and Benzidines - Continued								
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	**2.9**	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	<0.5	----	----
Carbazole	86-74-8	0.5	mg/kg	----	----	**3.9**	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	<0.5	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	----	<0.5	----	----
beta-BHC	319-85-7	0.5	mg/kg	----	----	<0.5	----	----
gamma-BHC	58-89-9	0.5	mg/kg	----	----	<0.5	----	----
delta-BHC	319-86-8	0.5	mg/kg	----	----	<0.5	----	----
Heptachlor	76-44-8	0.5	mg/kg	----	----	<0.5	----	----
Aldrin	309-00-2	0.5	mg/kg	----	----	<0.5	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	----	<0.5	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	----	<0.5	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	----	<0.5	----	----
Dieldrin	60-57-1	0.5	mg/kg	----	----	<0.5	----	----
Endrin	72-20-8	0.5	mg/kg	----	----	<0.5	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	----	<0.5	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	----	<0.5	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	----	<0.5	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	----	----	<1.0	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	----	<0.5	----	----
Dimethoate	60-51-5	0.5	mg/kg	----	----	<0.5	----	----
Diazinon	333-41-5	0.5	mg/kg	----	----	<0.5	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	----	<0.5	----	----
Malathion	121-75-5	0.5	mg/kg	----	----	<0.5	----	----
Fenthion	55-38-9	0.5	mg/kg	----	----	<0.5	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	----	<0.5	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	----	<0.5	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	----	<0.5	----	----
Prothiofos	34643-46-4	0.5	mg/kg	----	----	<0.5	----	----
Ethion	563-12-2	0.5	mg/kg	----	----	<0.5	----	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	----	----	<0.5	----	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	----	----	<0.5	----	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	----	----	<0.5	----	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	----	----	<0.5	----	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_2.5-2.7	BH56_4.25-4.6	BH56_7.0-7.2	BH56_11.5-11.7	BH56_13.0-13.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-001	ES1004218-002	ES1004218-004	ES1004218-007	ES1004218-011
EP075K: Miscellaneous Compounds - Continued								
trans-Isosafrole	4043-71-4	0.5	mg/kg	----	----	<0.5	----	----
Safrole	94-59-7	0.5	mg/kg	----	----	<0.5	----	----
Diallate	2303-16-4	0.5	mg/kg	----	----	<0.5	----	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	----	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	----	**70**	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	----	**1090**	**200**	<100
C29 - C36 Fraction	----	100	mg/kg	<100	----	**540**	**130**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	**1700**	**330**	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	**95.3**	----	----
Toluene-D8	2037-26-5	0.1	%	----	----	**113**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	**104**	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**70.3**	----	----	----	**105**
2-Chlorophenol-D4	93951-73-6	0.1	%	**69.1**	----	----	----	**107**
2.4.6-Tribromophenol	118-79-6	0.1	%	**44.4**	----	----	----	**75.4**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**66.4**	----	----	----	**96.0**
Anthracene-d10	1719-06-8	0.1	%	**65.3**	----	----	----	**94.2**
4-Terphenyl-d14	1718-51-0	0.1	%	**65.2**	----	----	----	**95.8**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	----	**70.2**	----	----
Phenol-d6	13127-88-3	0.1	%	----	----	**59.6**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**57.9**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**43.3**	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	----	**58.3**	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	----	**47.3**	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**56.5**	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_2.5-2.7	BH56_4.25-4.6	BH56_7.0-7.2	BH56_11.5-11.7	BH56_13.0-13.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-001	ES1004218-002	ES1004218-004	ES1004218-007	ES1004218-011
EP075T: Base/Neutral Extractable Surrogates - Continued								
Anthracene-d10	1719-06-8	0.1	%	----	----	**63.8**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**56.9**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**103**	----	**111**	**110**	**105**
Toluene-D8	2037-26-5	0.1	%	**97.3**	----	**117**	**108**	**106**
4-Bromofluorobenzene	460-00-4	0.1	%	**96.0**	----	**120**	**114**	**106**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_14.5-15.0	BH56_17.5-17.8	QC125	BH56_20.5-20.9	BH56_21.4-21.6
				Client sampling date / time: 05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-012	ES1004218-013	ES1004218-015	ES1004218-019	ES1004218-020
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**9.6**	----	**9.6**	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**18.4**	**17.0**	**21.5**	**16.5**	**12.7**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	**40**	**10**	**30**	**10**	<10
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**6**	**7**	**5**	**4**	<2
Cobalt	7440-48-4	2	mg/kg	<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg	**12**	<5	**6**	<5	<5
Iron	7439-89-6	50	mg/kg	**7550**	----	**5530**	----	----
Lead	7439-92-1	5	mg/kg	**105**	**7**	**91**	<5	**8**
Manganese	7439-96-5	5	mg/kg	**27**	<5	**36**	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	<2	<2
Vanadium	7440-62-2	5	mg/kg	**18**	**9**	**12**	<5	<5
Zinc	7440-66-6	5	mg/kg	**41**	**7**	**48**	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	<0.5	----	----
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	----	<1	----	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	----	<1	----	<1
EP004: Organic Matter								
Organic Matter	----	0.5	%	**1.5**	----	**0.7**	----	----
^ Total Organic Carbon	----	0.5	%	**0.9**	----	<0.5	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Styrene	100-42-5	0.5	mg/kg	<0.5	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_14.5-15.0	BH56_17.5-17.8	QC125	BH56_20.5-20.9	BH56_21.4-21.6
				Client sampling date / time: 05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-012	ES1004218-013	ES1004218-015	ES1004218-019	ES1004218-020
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	<0.5	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	<5	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	<5	----	----
Chloromethane	74-87-3	5	mg/kg	<5	----	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	<5	----	----
Bromomethane	74-83-9	5	mg/kg	<5	----	<5	----	----
Chloroethane	75-00-3	5	mg/kg	<5	----	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_14.5-15.0	BH56_17.5-17.8	QC125	BH56_20.5-20.9	BH56_21.4-21.6
				Client sampling date / time: 05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-012	ES1004218-013	ES1004218-015	ES1004218-019	ES1004218-020
EP074E: Halogenated Aliphatic Compounds - Continued								
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	----	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	----	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_14.5-15.0	BH56_17.5-17.8	QC125	BH56_20.5-20.9	BH56_21.4-21.6
				Client sampling date / time: 05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-012	ES1004218-013	ES1004218-015	ES1004218-019	ES1004218-020
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachlorophenol	87-86-5	1	mg/kg	<1	----	<1	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**0.9**	----	**0.8**	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**0.7**	----	**0.8**	----	----
Pyrene	129-00-0	0.5	mg/kg	**0.6**	----	**0.8**	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_14.5-15.0	BH56_17.5-17.8	QC125	BH56_20.5-20.9	BH56_21.4-21.6
				Client sampling date / time: 05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-012	ES1004218-013	ES1004218-015	ES1004218-019	ES1004218-020
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	----	<1	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	<0.5	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	<0.5	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	<5.0	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	<1.0	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	<1.0	----	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	<1.0	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	<1.0	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	<0.5	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Azobenzene	103-33-3	1	mg/kg	<1	----	<1	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_14.5-15.0	BH56_17.5-17.8	QC125	BH56_20.5-20.9	BH56_21.4-21.6
				Client sampling date / time: 05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-012	ES1004218-013	ES1004218-015	ES1004218-019	ES1004218-020
EP075E: Nitroaromatics and Ketones - Continued								
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	<2.5	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	<1.0	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	<1.0	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	<1.0	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	<0.5	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	----	<0.5	----	----
beta-BHC	319-85-7	0.5	mg/kg	<0.5	----	<0.5	----	----
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	----	<0.5	----	----
delta-BHC	319-86-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Heptachlor	76-44-8	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_14.5-15.0	BH56_17.5-17.8	QC125	BH56_20.5-20.9	BH56_21.4-21.6
				Client sampling date / time: 05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-012	ES1004218-013	ES1004218-015	ES1004218-019	ES1004218-020
EP075I: Organochlorine Pesticides - Continued								
Aldrin	309-00-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	----	<0.5	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Dieldrin	60-57-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Endrin	72-20-8	0.5	mg/kg	<0.5	----	<0.5	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	----	<1.0	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Dimethoate	60-51-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Diazinon	333-41-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	----	<0.5	----	----
Malathion	121-75-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Fenthion	55-38-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Ethion	563-12-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Safrole	94-59-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Diallate	2303-16-4	0.5	mg/kg	<0.5	----	<0.5	----	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	**140**	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	**140**	<50	<50

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH56_14.5-15.0	BH56_17.5-17.8	QC125	BH56_20.5-20.9	BH56_21.4-21.6
				Client sampling date / time: 05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004218-012	ES1004218-013	ES1004218-015	ES1004218-019	ES1004218-020
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**92.9**	----	**99.8**	----	----
Toluene-D8	2037-26-5	0.1	%	**108**	----	**109**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**115**	----	**116**	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	**105**	----	**102**	**102**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**114**	----	**106**	**110**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**106**	----	**106**	**100**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**99.9**	----	**96.7**	**100**
Anthracene-d10	1719-06-8	0.1	%	----	**97.1**	----	**94.3**	**98.4**
4-Terphenyl-d14	1718-51-0	0.1	%	----	**97.0**	----	**95.6**	**97.9**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	**75.8**	----	**72.4**	----	----
Phenol-d6	13127-88-3	0.1	%	**61.3**	----	**56.3**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**60.3**	----	**55.6**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**34.5**	----	**32.0**	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	**63.8**	----	**57.7**	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	**53.5**	----	**47.9**	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	**58.6**	----	**53.6**	----	----
Anthracene-d10	1719-06-8	0.1	%	**62.2**	----	**58.9**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**50.5**	----	**48.1**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**88.0**	**96.2**	**94.5**	**98.7**	**105**
Toluene-D8	2037-26-5	0.1	%	**95.0**	**98.2**	**96.3**	**95.2**	**94.9**
4-Bromofluorobenzene	460-00-4	0.1	%	**98.5**	**101**	**99.1**	**100**	**99.3**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TB16	BH74_1.0-1.12	BH74_5.5-5.7	BH74_8.5-8.8	BH74_10.0-10.5
				Client sampling date / time: 05-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004218-022	ES1004218-023	ES1004218-024	ES1004218-025	ES1004218-026
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	9.5	----	9.8	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	3.9	8.4	24.4	23.0	18.5
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	----	50	60	110	40
Beryllium	7440-41-7	1	mg/kg	----	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	----	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	----	9	8	10	6
Cobalt	7440-48-4	2	mg/kg	----	4	2	2	<2
Copper	7440-50-8	5	mg/kg	----	108	11	22	11
Iron	7439-89-6	50	mg/kg	----	13200	----	----	4980
Lead	7439-92-1	5	mg/kg	----	49	189	78	58
Manganese	7439-96-5	5	mg/kg	----	146	127	96	59
Nickel	7440-02-0	2	mg/kg	----	5	6	4	3
Vanadium	7440-62-2	5	mg/kg	----	14	12	13	8
Zinc	7440-66-6	5	mg/kg	----	86	78	69	44
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	0.2	0.5	0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	5	----	----	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	<1	----	----	<1
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	----	10.0	----
After HCl pH	----	0.1	pH Unit	----	----	----	1.8	----
Extraction Fluid Number	----	1	-	----	----	----	1	----
Final pH	----	0.1	pH Unit	----	----	----	5.2	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	1.4	----	----	----
^ Total Organic Carbon	----	0.5	%	----	0.8	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TB16	BH74_1.0-1.12	BH74_5.5-5.7	BH74_8.5-8.8	BH74_10.0-10.5
				Client sampling date / time: 05-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004218-022	ES1004218-023	ES1004218-024	ES1004218-025	ES1004218-026
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	----	----	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	----	----	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	----	----	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	----	----	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	<0.5	----	----	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	----	----	<5
Chloromethane	74-87-3	5	mg/kg	<5	<5	----	----	<5
Vinyl chloride	75-01-4	5	mg/kg	<5	<5	----	----	<5
Bromomethane	74-83-9	5	mg/kg	<5	<5	----	----	<5
Chloroethane	75-00-3	5	mg/kg	<5	<5	----	----	<5
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	----	----	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TB16	BH74_1.0-1.12	BH74_5.5-5.7	BH74_8.5-8.8	BH74_10.0-10.5
				Client sampling date / time: 05-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004218-022	ES1004218-023	ES1004218-024	ES1004218-025	ES1004218-026
EP074E: Halogenated Aliphatic Compounds - Continued								
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	----	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
EP074H: Naphthalene								
Naphthalene	91-20-3	5	mg/kg	<5	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	<0.5	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	----	<1.0	<1.0	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TB16	BH74_1.0-1.12	BH74_5.5-5.7	BH74_8.5-8.8	BH74_10.0-10.5
Client sampling date / time				05-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004218-022	ES1004218-023	ES1004218-024	ES1004218-025	ES1004218-026
EP075(SIM)A: Phenolic Compounds - Continued								
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	<0.5	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	----	<2.0	<2.0	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	**0.9**	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	**1.0**	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	**7.1**	**1.3**	----
Anthracene	120-12-7	0.5	mg/kg	----	----	**1.9**	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	**6.7**	**1.2**	----
Pyrene	129-00-0	0.5	mg/kg	----	----	**6.3**	**3.1**	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	**2.8**	**0.8**	----
Chrysene	218-01-9	0.5	mg/kg	----	----	**2.4**	**0.7**	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	**2.6**	**0.8**	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	**0.7**	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	**1.8**	**0.7**	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	**0.7**	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	**0.7**	<0.5	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Pentachlorophenol	87-86-5	1	mg/kg	----	<1	----	----	<1
EP075B: Polynuclear Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TB16	BH74_1.0-1.12	BH74_5.5-5.7	BH74_8.5-8.8	BH74_10.0-10.5
				Client sampling date / time: 05-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004218-022	ES1004218-023	ES1004218-024	ES1004218-025	ES1004218-026
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Naphthalene	91-20-3	0.5	mg/kg	----	**5.2**	----	----	<0.5
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	**2.8**	----	----	<0.5
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	**3.1**	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	**1.3**	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	**4.2**	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	**20.3**	----	----	**1.1**
Anthracene	120-12-7	0.5	mg/kg	----	**5.4**	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	**17.1**	----	----	**1.2**
Pyrene	129-00-0	0.5	mg/kg	----	**14.8**	----	----	**1.4**
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	**4.6**	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	**3.7**	----	----	<0.5
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	**4**	----	----	<1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	<0.5	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**2.8**	----	----	<0.5
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	**1.0**	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	**1.0**	----	----	<0.5
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg	----	<0.5	----	----	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	<0.5	----	----	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	<0.5	----	----	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	<5.0	----	----	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	<0.5	----	----	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	<0.5	----	----	<0.5
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	<1.0	----	----	<1.0
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	<0.5	----	----	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	<0.5	----	----	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	<0.5	----	----	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	<0.5	----	----	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	<1.0	----	----	<1.0

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TB16	BH74_1.0-1.12	BH74_5.5-5.7	BH74_8.5-8.8	BH74_10.0-10.5
				Client sampling date / time: 05-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004218-022	ES1004218-023	ES1004218-024	ES1004218-025	ES1004218-026
EP075D: Nitrosamines - Continued								
Methapyrilene	91-80-5	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Acetophenone	98-86-2	0.5	mg/kg	----	<0.5	----	----	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Isophorone	78-59-1	0.5	mg/kg	----	<0.5	----	----	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	<1.0	----	----	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	<1.0	----	----	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	<0.5	----	----	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Azobenzene	103-33-3	1	mg/kg	----	<1	----	----	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Phenacetin	62-44-2	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	<0.5	----	----	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Pronamide	23950-58-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<0.5	----	----	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<0.5	----	----	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<0.5	----	----	<0.5
Hexachloroethane	67-72-1	0.5	mg/kg	----	<0.5	----	----	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<0.5	----	----	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	<2.5	----	----	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	<1.0	----	----	<1.0
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg	----	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TB16	BH74_1.0-1.12	BH74_5.5-5.7	BH74_8.5-8.8	BH74_10.0-10.5
				Client sampling date / time: 05-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004218-022	ES1004218-023	ES1004218-024	ES1004218-025	ES1004218-026
EP075H: Anilines and Benzidines - Continued								
2-Nitroaniline	88-74-4	1.0	mg/kg	----	<1.0	----	----	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg	----	<1.0	----	----	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg	----	**4.0**	----	----	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg	----	<0.5	----	----	<0.5
Carbazole	86-74-8	0.5	mg/kg	----	**2.6**	----	----	<0.5
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	<0.5	----	----	<0.5
beta-BHC	319-85-7	0.5	mg/kg	----	<0.5	----	----	<0.5
gamma-BHC	58-89-9	0.5	mg/kg	----	<0.5	----	----	<0.5
delta-BHC	319-86-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Heptachlor	76-44-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Aldrin	309-00-2	0.5	mg/kg	----	<0.5	----	----	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	<0.5	----	----	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	<0.5	----	----	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg	----	<0.5	----	----	<0.5
Dieldrin	60-57-1	0.5	mg/kg	----	<0.5	----	----	<0.5
Endrin	72-20-8	0.5	mg/kg	----	<0.5	----	----	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	<0.5	----	----	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	<0.5	----	----	<0.5
4.4`-DDT	50-29-3	1.0	mg/kg	----	<1.0	----	----	<1.0
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Dimethoate	60-51-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Diazinon	333-41-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	<0.5	----	----	<0.5
Malathion	121-75-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Fenthion	55-38-9	0.5	mg/kg	----	<0.5	----	----	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	<0.5	----	----	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	<0.5	----	----	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	<0.5	----	----	<0.5
Prothiofos	34643-46-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Ethion	563-12-2	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	----	<0.5	----	----	<0.5
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Methanesulfonate methyl	66-27-3	0.5	mg/kg	----	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TB16	BH74_1.0-1.12	BH74_5.5-5.7	BH74_8.5-8.8	BH74_10.0-10.5
				Client sampling date / time: 05-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004218-022	ES1004218-023	ES1004218-024	ES1004218-025	ES1004218-026
EP075K: Miscellaneous Compounds - Continued								
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	----	<0.5	----	----	<0.5
cis-Isosafrole	17627-76-8	0.5	mg/kg	----	<0.5	----	----	<0.5
trans-Isosafrole	4043-71-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Safrole	94-59-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Diallate	2303-16-4	0.5	mg/kg	----	<0.5	----	----	<0.5
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	----	<0.5	----	----	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	----	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	----	**340**	**200**	<100	**130**
C29 - C36 Fraction	----	100	mg/kg	----	**150**	<100	<100	**100**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	**490**	**200**	<50	**230**
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	<0.5	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**111**	**110**	----	----	**103**
Toluene-D8	2037-26-5	0.1	%	**109**	**108**	----	----	**117**
4-Bromofluorobenzene	460-00-4	0.1	%	**117**	**116**	----	----	**120**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	**101**	**65.6**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**107**	**67.5**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**90.5**	**57.9**	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**100**	**61.3**	----
Anthracene-d10	1719-06-8	0.1	%	----	----	**97.3**	**60.1**	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**94.0**	**59.6**	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	**110**	----	----	**80.7**
Phenol-d6	13127-88-3	0.1	%	----	**90.0**	----	----	**63.0**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**91.4**	----	----	**65.0**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**67.0**	----	----	**40.1**
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	**94.0**	----	----	**63.8**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TB16	BH74_1.0-1.12	BH74_5.5-5.7	BH74_8.5-8.8	BH74_10.0-10.5
				Client sampling date / time: 05-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004218-022	ES1004218-023	ES1004218-024	ES1004218-025	ES1004218-026
EP075T: Base/Neutral Extractable Surrogates - Continued								
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	**83.3**	----	----	**55.6**
2-Fluorobiphenyl	321-60-8	0.1	%	----	**95.8**	----	----	**62.8**
Anthracene-d10	1719-06-8	0.1	%	----	**100**	----	----	**67.8**
4-Terphenyl-d14	1718-51-0	0.1	%	----	**93.2**	----	----	**61.6**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**104**	**106**	**93.9**	**97.6**
Toluene-D8	2037-26-5	0.1	%	----	**95.2**	**102**	**97.7**	**103**
4-Bromofluorobenzene	460-00-4	0.1	%	----	**102**	**104**	**98.7**	**103**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH74_13.0-13.5	BH74_16.0-16.5	QC122	TB14	----
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	----
				ES1004218-027	ES1004218-028	ES1004218-029	ES1004218-031	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	23.4	17.0	21.1	5.8	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	----	----
Barium	7440-39-3	10	mg/kg	10	10	30	----	----
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg	2	2	6	----	----
Cobalt	7440-48-4	2	mg/kg	<2	<2	<2	----	----
Copper	7440-50-8	5	mg/kg	<5	<5	10	----	----
Iron	7439-89-6	50	mg/kg	----	----	6270	----	----
Lead	7439-92-1	5	mg/kg	39	9	49	----	----
Manganese	7439-96-5	5	mg/kg	18	<5	56	----	----
Nickel	7440-02-0	2	mg/kg	<2	<2	2	----	----
Vanadium	7440-62-2	5	mg/kg	<5	<5	9	----	----
Zinc	7440-66-6	5	mg/kg	55	14	55	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	----	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	<0.5	----	----
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	<1	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	<1	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	<0.5	----
Styrene	100-42-5	0.5	mg/kg	----	----	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	<0.5	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	<0.5	<0.5	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	<0.5	<0.5	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	<0.5	<0.5	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	<0.5	<0.5	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	<0.5	<0.5	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	<0.5	<0.5	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	<0.5	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH74_13.0-13.5	BH74_16.0-16.5	QC122	TB14	----
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	----
				ES1004218-027	ES1004218-028	ES1004218-029	ES1004218-031	----
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	<0.5	<0.5	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	<5	<5	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	<5	<5	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	<5	<5	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	<5	<5	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	<0.5	<0.5	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	<0.5	<0.5	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	<0.5	<0.5	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	<0.5	<0.5	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	<0.5	<0.5	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	----	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	<5	<5	----
Chloromethane	74-87-3	5	mg/kg	----	----	<5	<5	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	<5	<5	----
Bromomethane	74-83-9	5	mg/kg	----	----	<5	<5	----
Chloroethane	75-00-3	5	mg/kg	----	----	<5	<5	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	<5	<5	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	<0.5	<0.5	----
Iodomethane	74-88-4	0.5	mg/kg	----	----	<0.5	<0.5	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	<0.5	<0.5	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	<0.5	<0.5	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	<0.5	<0.5	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	<0.5	<0.5	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	<0.5	<0.5	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	<0.5	<0.5	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	<0.5	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	<0.5	<0.5	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	<0.5	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	<0.5	<0.5	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	<0.5	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	<0.5	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	<0.5	<0.5	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	<0.5	<0.5	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	<0.5	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH74_13.0-13.5	BH74_16.0-16.5	QC122	TB14	----
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	----
				ES1004218-027	ES1004218-028	ES1004218-029	ES1004218-031	----
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	<0.5	<0.5	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	<0.5	<0.5	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	<0.5	<0.5	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	<0.5	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	<0.5	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	<0.5	<0.5	----
Bromobenzene	108-86-1	0.5	mg/kg	----	----	<0.5	<0.5	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	<0.5	<0.5	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	<0.5	<0.5	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	<0.5	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	<0.5	<0.5	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	<0.5	<0.5	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	<0.5	<0.5	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	<0.5	<0.5	----
Bromoform	75-25-2	0.5	mg/kg	----	----	<0.5	<0.5	----
EP074H: Naphthalene								
Naphthalene	91-20-3	5	mg/kg	----	----	----	<5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH74_13.0-13.5	BH74_16.0-16.5	QC122	TB14	----
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	----
				ES1004218-027	ES1004218-028	ES1004218-029	ES1004218-031	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	<0.5	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachlorophenol	87-86-5	1	mg/kg	----	----	<1	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	<0.5	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	<0.5	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	**1.2**	----	----
Anthracene	120-12-7	0.5	mg/kg	----	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	**1.0**	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH74_13.0-13.5	BH74_16.0-16.5	QC122	TB14	----
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	----
				ES1004218-027	ES1004218-028	ES1004218-029	ES1004218-031	----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Pyrene	129-00-0	0.5	mg/kg	----	----	**1.1**	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	----	----	<0.5	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	----	<1	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	<0.5	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	<0.5	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	<0.5	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	<0.5	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	<0.5	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	<0.5	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	----	**13.1**	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	<0.5	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	----	<1.0	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	<0.5	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	----	<1.0	----	----
Methapyrilene	91-80-5	0.5	mg/kg	----	----	<0.5	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	----	<0.5	----	----
Acetophenone	98-86-2	0.5	mg/kg	----	----	<0.5	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	<0.5	----	----
Isophorone	78-59-1	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	----	<1.0	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	----	<1.0	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH74_13.0-13.5	BH74_16.0-16.5	QC122	TB14	----
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	----
				ES1004218-027	ES1004218-028	ES1004218-029	ES1004218-031	----
EP075E: Nitroaromatics and Ketones - Continued								
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	<0.5	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	<0.5	----	----
Azobenzene	103-33-3	1	mg/kg	----	----	<1	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	<0.5	----	----
Phenacetin	62-44-2	0.5	mg/kg	----	----	<0.5	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	<0.5	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	<0.5	----	----
Pronamide	23950-58-5	0.5	mg/kg	----	----	<0.5	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	<0.5	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	<0.5	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	<0.5	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	<0.5	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	<0.5	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	<0.5	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	<0.5	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	<0.5	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	<0.5	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	----	<2.5	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	<0.5	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	----	<1.0	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	----	<0.5	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	<0.5	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	----	----	<1.0	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	----	----	<1.0	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	<0.5	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	<0.5	----	----
Carbazole	86-74-8	0.5	mg/kg	----	----	<0.5	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	<0.5	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	----	<0.5	----	----
beta-BHC	319-85-7	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH74_13.0-13.5 Client sampling date / time: 03-MAR-2010 15:00 ES1004218-027	Client sample ID: BH74_16.0-16.5 Client sampling date / time: 03-MAR-2010 15:00 ES1004218-028	Client sample ID: QC122 Client sampling date / time: 03-MAR-2010 15:00 ES1004218-029	Client sample ID: TB14 Client sampling date / time: 03-MAR-2010 15:00 ES1004218-031	---- ---- ----
EP075I: Organochlorine Pesticides - Continued								
gamma-BHC	58-89-9	0.5	mg/kg	----	----	<0.5	----	----
delta-BHC	319-86-8	0.5	mg/kg	----	----	<0.5	----	----
Heptachlor	76-44-8	0.5	mg/kg	----	----	<0.5	----	----
Aldrin	309-00-2	0.5	mg/kg	----	----	<0.5	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	----	<0.5	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	----	<0.5	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	----	<0.5	----	----
Dieldrin	60-57-1	0.5	mg/kg	----	----	<0.5	----	----
Endrin	72-20-8	0.5	mg/kg	----	----	<0.5	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	----	<0.5	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	----	<0.5	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	----	<0.5	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	----	----	<1.0	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	----	<0.5	----	----
Dimethoate	60-51-5	0.5	mg/kg	----	----	<0.5	----	----
Diazinon	333-41-5	0.5	mg/kg	----	----	<0.5	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	----	<0.5	----	----
Malathion	121-75-5	0.5	mg/kg	----	----	<0.5	----	----
Fenthion	55-38-9	0.5	mg/kg	----	----	<0.5	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	----	<0.5	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	----	<0.5	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	----	<0.5	----	----
Prothiofos	34643-46-4	0.5	mg/kg	----	----	<0.5	----	----
Ethion	563-12-2	0.5	mg/kg	----	----	<0.5	----	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	----	----	<0.5	----	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	----	----	<0.5	----	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	----	----	<0.5	----	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	----	----	<0.5	----	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	----	----	<0.5	----	----
trans-Isosafrole	4043-71-4	0.5	mg/kg	----	----	<0.5	----	----
Safrole	94-59-7	0.5	mg/kg	----	----	<0.5	----	----
Diallate	2303-16-4	0.5	mg/kg	----	----	<0.5	----	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	----	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	<50	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH74_13.0-13.5	BH74_16.0-16.5	QC122	TB14	----
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	----
				ES1004218-027	ES1004218-028	ES1004218-029	ES1004218-031	----
EP080/071: Total Petroleum Hydrocarbons - Continued								
C15 - C28 Fraction	----	100	mg/kg	----	<100	**120**	----	----
C29 - C36 Fraction	----	100	mg/kg	----	<100	**130**	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	**250**	----	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	**114**	**103**	----
Toluene-D8	2037-26-5	0.1	%	----	----	**114**	**104**	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	**107**	**112**	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	**101**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**106**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**95.5**	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**93.9**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**95.2**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**94.8**	----	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	----	**64.0**	----	----
Phenol-d6	13127-88-3	0.1	%	----	----	**49.3**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**49.4**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**25.2**	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	----	**49.8**	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	----	**43.5**	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**48.9**	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	**51.4**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**45.6**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**99.9**	**108**	----	----
Toluene-D8	2037-26-5	0.1	%	----	**103**	**106**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	**104**	**107**	----	----

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	BH56_7.0-7.2	BH74_8.5-8.8	----	----	----
				Client sampling date / time	14-MAR-2010 12:00	14-MAR-2010 12:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1004218-004	ES1004218-025	----	----	----
EG005C: Leachable Metals by ICPAES									
Arsenic	7440-38-2	0.1	mg/L		<0.1	<0.1	----	----	----
Barium	7440-39-3	0.1	mg/L		**0.8**	**0.8**	----	----	----
Beryllium	7440-41-7	0.05	mg/L		<0.05	<0.05	----	----	----
Cadmium	7440-43-9	0.05	mg/L		<0.05	<0.05	----	----	----
Chromium	7440-47-3	0.1	mg/L		<0.1	<0.1	----	----	----
Cobalt	7440-48-4	0.1	mg/L		<0.1	<0.1	----	----	----
Copper	7440-50-8	0.1	mg/L		<0.1	<0.1	----	----	----
Lead	7439-92-1	0.1	mg/L		**0.6**	**1.1**	----	----	----
Manganese	7439-96-5	0.1	mg/L		**0.7**	**0.7**	----	----	----
Nickel	7440-02-0	0.1	mg/L		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	0.1	mg/L		<0.1	<0.1	----	----	----
Zinc	7440-66-6	0.1	mg/L		**0.9**	**2.1**	----	----	----
EG035C: Leachable Mercury by FIMS									
Mercury	7439-97-6	0.0010	mg/L		<0.0010	<0.0010	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		**4.4**	**108**	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		**1.8**	**31.5**	----	----	----
Fluorene	86-73-7	1.0	µg/L		**1.8**	**28.5**	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		**3.5**	**61.1**	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	**15.5**	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	**10.5**	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	**7.8**	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.9	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**39.7**	**29.8**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**99.4**	**72.4**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**83.1**	**71.5**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**86.6**	**82.8**	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**77.1**	**75.2**	----	----	----

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	BH56_7.0-7.2	BH74_8.5-8.8	----	----	----
				Client sampling date / time	14-MAR-2010 12:00	14-MAR-2010 12:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1004218-004	ES1004218-025	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		**86.1**	**85.0**	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC251	QC252	QC250	----	----
				Client sampling date / time: 04-MAR-2010 15:00	05-MAR-2010 15:00	03-MAR-2010 15:00	----	----
				ES1004218-010	ES1004218-021	ES1004218-030	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	----	----	----
Barium	7440-39-3	0.001	mg/L	<0.001	<0.001	----	----	----
Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	----	----	----
Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	----	----	----
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	----	----	----
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	----	----	<0.001	----	----
Barium	7440-39-3	0.001	mg/L	----	----	<0.001	----	----
Beryllium	7440-41-7	0.001	mg/L	----	----	<0.001	----	----
Cadmium	7440-43-9	0.0001	mg/L	----	----	<0.0001	----	----
Cobalt	7440-48-4	0.001	mg/L	----	----	<0.001	----	----
Chromium	7440-47-3	0.001	mg/L	----	----	<0.001	----	----
Copper	7440-50-8	0.001	mg/L	----	----	<0.001	----	----
Manganese	7439-96-5	0.001	mg/L	----	----	<0.001	----	----
Nickel	7440-02-0	0.001	mg/L	----	----	<0.001	----	----
Lead	7439-92-1	0.001	mg/L	----	----	<0.001	----	----
Vanadium	7440-62-2	0.01	mg/L	----	----	<0.01	----	----
Zinc	7440-66-6	0.005	mg/L	----	----	<0.005	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	----	----	<0.0001	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	----	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	----	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	----	----
EP080: BTEX								
Benzene	71-43-2	1	µg/L	<1	<1	<1	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC251	QC252	QC250	----	----
				Client sampling date / time: 04-MAR-2010 15:00	05-MAR-2010 15:00	03-MAR-2010 15:00	----	----
				ES1004218-010	ES1004218-021	ES1004218-030	----	----
EP080: BTEX - Continued								
Toluene	108-88-3	2	µg/L	<5	<5	<5	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**106**	**106**	**105**	----	----
Toluene-D8	2037-26-5	0.1	%	**94.6**	**95.6**	**97.9**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**105**	**103**	**108**	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	BH56_4.25-4.6 - 04-MAR-2010 15:00	Pale grey-brown soil with several medium sized grey white and red-brown rocks Two very small fibre bundles detected

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	23	120
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

Sub-Matrix: WATER		Recovery Limits (%)	

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

QUALITY CONTROL REPORT

Work Order	: **ES1004218**	Page	: 1 of 28
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 05-MAR-2010
Sampler	: ----	Issue Date	: 19-MAR-2010
Order number	: 1303951		
		No. of samples received	: 31
Quote number	: SY/259/09 V2	No. of samples analysed	: 22

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Peter Rennie	Team Leader - Asbestos	Newcastle
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA002 : pH (Soils) (QC Lot: 1274766)									
ES1004218-004	BH56_7.0-7.2	EA002: pH Value	----	0.1	pH Unit	9.0	9.1	0.0	0% - 20%
EA055: Moisture Content (QC Lot: 1274858)									
ES1004218-001	BH56_2.5-2.7	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.0	17.7	17.0	0% - 50%
EA055: Moisture Content (QC Lot: 1275130)									
ES1004214-015	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.3	20.6	3.5	0% - 20%
ES1004218-012	BH56_14.5-15.0	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	18.4	18.8	2.2	0% - 50%
EA055: Moisture Content (QC Lot: 1276036)									
ES1004151-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	28.7	30.5	6.2	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1275246)									
ES1004215-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	20	20	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	10	11	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	3	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	8	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	58	61	4.9	0% - 50%
		EG005T: Vanadium	7440-62-2	5	mg/kg	22	23	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	11	12	10.7	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	9980	10900	8.5	0% - 20%
ES1004218-004	BH56_7.0-7.2	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	40	30	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	6	8	41.7	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	2	3	38.1	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	9	126	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	11	23	68.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	66	44	38.4	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	52	70	28.9	0% - 50%
		EG005T: Vanadium	7440-62-2	5	mg/kg	14	25	55.3	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	33	27	21.1	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	7270	9510	# 26.7	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1275248)									
ES1004218-025	BH74_8.5-8.8	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	110	130	19.4	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	10	9	17.4	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	2	3	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	3	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	22	24	9.9	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	78	62	23.5	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	96	110	12.8	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	13	13	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	69	60	13.1	0% - 50%
		EG005T: Iron	7439-89-6	50	mg/kg	7010	7900	11.9	0% - 20%
ES1004284-006	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	4	3	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	240	250	6.6	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	638	535	17.5	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	9	10	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	32	26	18.8	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	47	51	9.1	0% - 50%
		EG005T: Copper	7440-50-8	5	mg/kg	217	318	# 37.6	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	877	873	0.4	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	4160	3710	11.6	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	79	72	9.5	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	3020	3380	11.3	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	94000	78800	17.6	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1275247)									
ES1004215-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1004218-004	BH56_7.0-7.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1275249)									
ES1004218-025	BH74_8.5-8.8	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	0.0	No Limit
ES1004284-006	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1275122)									
ES1004018-009	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1004031-007	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1275123)									
ES1004218-026	BH74_10.0-10.5	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1004308-013	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	2.4	2.4	0.0	No Limit
EK026G: Total Cyanide By Discrete Analyser (QC Lot: 1274771)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK026G: Total Cyanide By Discrete Analyser (QC Lot: 1274771) - continued									
ES1004218-004	BH56_7.0-7.2	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1276811)									
ES1004218-004	BH56_7.0-7.2	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
ES1004308-008	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EP004: Organic Matter (QC Lot: 1274819)									
ES1004218-001	BH56_2.5-2.7	EP004: Organic Matter	----	0.5	%	1.3	1.3	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	0.7	0.7	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1274762)									
ES1004218-004	BH56_7.0-7.2	EP074: Benzene	71-43-2	0.2	mg/kg	0.3	0.3	0.0	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1274762)									
ES1004218-004	BH56_7.0-7.2	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1274762)									
ES1004218-004	BH56_7.0-7.2	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1274762)									
ES1004218-004	BH56_7.0-7.2	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1274762)									
ES1004218-004	BH56_7.0-7.2	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1274762) - continued									
ES1004218-004	BH56_7.0-7.2	EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1274762)									
ES1004218-004	BH56_7.0-7.2	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1274762)									
ES1004218-004	BH56_7.0-7.2	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074G: Trihalomethanes (QC Lot: 1274762) - continued									
ES1004218-004	BH56_7.0-7.2	EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074H: Naphthalene (QC Lot: 1274762)									
ES1004218-004	BH56_7.0-7.2	EP074: Naphthalene	91-20-3	5	mg/kg	9	8	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1275971)									
ES1004218-001	BH56_2.5-2.7	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1275971)									
ES1004218-001	BH56_2.5-2.7	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	0.6	1.3	68.1	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	0.9	1.8	68.6	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	1.0	1.8	60.2	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	0.5	0.8	50.2	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	0.8	45.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	0.6	1.0	46.4	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.7	34.3	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075A: Phenolic Compounds (QC Lot: 1275240)									
EM1002369-007	Anonymous	EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075A: Phenolic Compounds (QC Lot: 1275240) - continued									
EM1002369-007	Anonymous	EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1275240)									
EM1002369-007	Anonymous	EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	<1	0.0	No Limit
EP075C: Phthalate Esters (QC Lot: 1275240)									
EM1002369-007	Anonymous	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: bis(2-ethylhexyl) phthalate	117-81-7	0.5	mg/kg	<0.5	0.9	56.1	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075D: Nitrosamines (QC Lot: 1275240)									
EM1002369-007	Anonymous	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075D: Nitrosamines (QC Lot: 1275240) - continued									
EM1002369-007	Anonymous	EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 1275240)									
EM1002369-007	Anonymous	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit
EP075F: Haloethers (QC Lot: 1275240)									
EM1002369-007	Anonymous	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 1275240)									
EM1002369-007	Anonymous	EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075G: Chlorinated Hydrocarbons (QC Lot: 1275240) - continued									
EM1002369-007	Anonymous	EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075H: Anilines and Benzidines (QC Lot: 1275240)									
EM1002369-007	Anonymous	EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 1275240)									
EM1002369-007	Anonymous	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 1275240)									
EM1002369-007	Anonymous	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075J: Organophosphorus Pesticides (QC Lot: 1275240) - continued									
EM1002369-007	Anonymous	EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075K: Miscellaneous Compounds (QC Lot: 1275240)									
EM1002369-007	Anonymous	EP075: 1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Safrole	94-59-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diallate	2303-16-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1274761)									
ES1004218-004	BH56_7.0-7.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1004218-024	BH74_5.5-5.7	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1275970)									
ES1004218-001	BH56_2.5-2.7	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1004218-024	BH74_5.5-5.7	EP071: C15 - C28 Fraction	----	100	mg/kg	200	180	6.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEX (QC Lot: 1274761)									
ES1004218-004	BH56_7.0-7.2	EP080: Benzene	71-43-2	0.2	mg/kg	0.3	0.3	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1004218-024	BH74_5.5-5.7	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005C: Leachable Metals by ICPAES (QC Lot: 1278996)									
ES1004218-004	BH56_7.0-7.2	EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005C: Leachable Metals by ICPAES (QC Lot: 1278996) - continued									
ES1004218-004	BH56_7.0-7.2	EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Barium	7440-39-3	0.1	mg/L	0.8	0.8	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Lead	7439-92-1	0.1	mg/L	0.6	0.6	0.0	No Limit
		EG005C: Manganese	7439-96-5	0.1	mg/L	0.7	0.7	0.0	No Limit
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	0.9	0.9	0.0	No Limit
ES1004648-004	Anonymous	EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Barium	7440-39-3	0.1	mg/L	0.8	0.9	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Lead	7439-92-1	0.1	mg/L	0.6	0.6	0.0	No Limit
		EG005C: Manganese	7439-96-5	0.1	mg/L	1.0	1.0	0.0	0% - 50%
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	1.2	1.2	0.0	0% - 50%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1275173)									
ES1004218-010	QC251	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 1275157)									
ES1004362-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	0.0002	0.0002	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.002	0.002	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 1275157) - continued									
ES1004362-001	Anonymous	EG020A-T: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Barium	7440-39-3	0.001	mg/L	0.042	0.036	13.9	0% - 20%
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.005	0.004	0.0	No Limit
		EG020A-T: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.008	0.008	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.036	0.037	0.0	0% - 20%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.006	0.006	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.087	0.086	1.7	0% - 50%
		EG020A-T: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EG035C: Leachable Mercury by FIMS (QC Lot: 1279258)									
ES1004218-004	BH56_7.0-7.2	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1275172)									
EB1004015-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1004432-011	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1275276)									
EB1004015-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1004248-003	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1274817)									
ES1004208-007	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1004218-021	QC252	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEX (QC Lot: 1274817)									
ES1004208-007	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
ES1004218-021	QC252	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1275246)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	98.0	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	96.1	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	91.8	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	93.3	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	93.8	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	89.5	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	90.7	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	88.6	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	97.3	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	93.4	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	96.9	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	# 88.9	88.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1275248)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	102	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	102	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	98.5	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	99.0	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	100	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	97.3	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	96.7	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	95.0	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	103	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	99.4	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	102	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	95.1	88.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275247)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	72.3	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275249)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	68.3	67	118
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275122)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	111	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275123)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275123) - continued								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	94.0	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1274771)								
EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	20.0 mg/kg	96.0	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1276811)								
EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	2.0 mg/kg	97.0	70	130
EP004: Organic Matter (QCLot: 1274819)								
EP004: Organic Matter	----	0.5	%	<0.5	4.58 %	94.5	86	111
EP004: Total Organic Carbon	----	0.5	%	<0.5	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1274762)								
EP074: Benzene	71-43-2	0.5	mg/kg	<0.5	1 mg/kg	112	64	126
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	118	63	135
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	121	64	124
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	114	66	126
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	120	67	121
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	124	66	124
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	# 125	64	124
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	121	59	129
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	121	63	125
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	117	61	127
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	125	62	126
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	123	62	126
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	124	60	126
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	114	57	129
EP074B: Oxygenated Compounds (QCLot: 1274762)								
EP074: Vinyl Acetate	108-05-4	1	mg/kg	----	10 mg/kg	87.2	11	155
		5	mg/kg	<5	----	----	----	----
EP074: 2-Butanone (MEK)	78-93-3	1	mg/kg	----	10 mg/kg	127	37	169
		5	mg/kg	<5	----	----	----	----
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	1	mg/kg	----	10 mg/kg	124	55	133
		5	mg/kg	<5	----	----	----	----
EP074: 2-Hexanone (MBK)	591-78-6	1	mg/kg	----	10 mg/kg	104	57	133
		5	mg/kg	<5	----	----	----	----
EP074C: Sulfonated Compounds (QCLot: 1274762)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	91.2	53	135
EP074D: Fumigants (QCLot: 1274762)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	104	57	129
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	121	68	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074D: Fumigants (QCLot: 1274762) - continued								
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	106	59	127
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	104	53	129
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	106	69	121
EP074E: Halogenated Aliphatic Compounds (QCLot: 1274762)								
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	----	10 mg/kg	84.0	28.9	146
		5	mg/kg	<5	----	----	----	----
EP074: Chloromethane	74-87-3	1	mg/kg	----	10 mg/kg	109	43	140
		5	mg/kg	<5	----	----	----	----
EP074: Vinyl chloride	75-01-4	1	mg/kg	----	10 mg/kg	111	41	149
		5	mg/kg	<5	----	----	----	----
EP074: Bromomethane	74-83-9	1	mg/kg	----	10 mg/kg	125	44	152
		5	mg/kg	<5	----	----	----	----
EP074: Chloroethane	75-00-3	1	mg/kg	----	10 mg/kg	126	49	149
		5	mg/kg	<5	----	----	----	----
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	----	10 mg/kg	126	53	139
		5	mg/kg	<5	----	----	----	----
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	123	57	133
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	102	48	134
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	126	62	128
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	120	64	126
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	# 124	66	124
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	102	61	125
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	127	62	128
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	98.8	56	128
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	118	70	124
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	126	65	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	98.8	67	123
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	111	70	122
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	121	71	121
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	109	64	144
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	97.9	57	125
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	116	39	141
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	110	56	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	96.0	57	127
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	120	62	126
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	56.4	26.4	144
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	107	51	133
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	122	48	136
EP074F: Halogenated Aromatic Compounds (QCLot: 1274762)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)
				Result	Concentration	LCS	Low	High
EP074F: Halogenated Aromatic Compounds (QCLot: 1274762) - continued								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	119	67	125
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	121	68	122
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	122	63	127
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	123	64	126
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	122	66	124
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	118	64	126
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	# 123	67	121
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	114	54	134
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	122	58	132
EP074G: Trihalomethanes (QCLot: 1274762)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	112	67	123
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	110	60	126
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	95.7	58	124
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	102	57	121
EP074H: Naphthalene (QCLot: 1274762)								
EP074: Naphthalene	91-20-3	0.5	mg/kg	----	1 mg/kg	107	63	131
		5	mg/kg	<5	----	----	----	----
EP075(SIM)A: Phenolic Compounds (QCLot: 1275971)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	88.2	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	106	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	90.1	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	93.1	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	89.2	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	# 72.1	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	106	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	106	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	# 121	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	99.7	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	95.0	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	64.5	1.23	91.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1275971)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	108	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	# 116	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	107	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	111	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	110	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	112	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	110	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	110	78.9	113

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1275971) - continued								
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	109	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	107	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	101	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	108	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	81.3	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	78.1	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	79.3	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	74.0	72.4	114
EP075A: Phenolic Compounds (QCLot: 1275240)								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.25 mg/kg	71.6	66.9	114
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.25 mg/kg	63.1	58.5	108
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.25 mg/kg	53.0	43	103
EP075: 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	2.5 mg/kg	79.0	35.9	109
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	62.2	49.4	109
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.25 mg/kg	20.4	.15	116
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.25 mg/kg	96.7	52.5	106
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.25 mg/kg	# 117	48.2	98.6
EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	1.25 mg/kg	70.2	59	106
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.25 mg/kg	54.1	44.4	101
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.25 mg/kg	48.6	48	107
EP075: Pentachlorophenol	87-86-5	1.0	mg/kg	<1	2.5 mg/kg	40.3	4.43	89.2
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1275240)								
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.25 mg/kg	78.2	63.7	108
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.25 mg/kg	79.8	60.8	110
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.25 mg/kg	74.4	59.1	110
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.25 mg/kg	72.8	58.8	106
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.25 mg/kg	76.0	61.7	110
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	72.6	59.2	110
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.25 mg/kg	81.2	61.9	108
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.25 mg/kg	73.4	58.3	107
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.25 mg/kg	77.3	58.5	110
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.25 mg/kg	78.7	60.4	109
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.25 mg/kg	76.4	59.5	110
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	74.3	57.2	111
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.25 mg/kg	75.8	58.4	113
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2	1	mg/kg	----	2.5 mg/kg	78.4	57.1	112
	207-08-9	1.0	mg/kg	<1	----	----	----	----
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.25 mg/kg	77.4	48.1	106
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.25 mg/kg	83.0	56.6	108

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1275240) - continued								
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.25 mg/kg	68.8	52.7	108
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.25 mg/kg	74.1	56.8	110
EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.25 mg/kg	70.1	54.7	110
EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.25 mg/kg	76.8	55	112
EP075C: Phthalate Esters (QCLot: 1275240)								
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.25 mg/kg	80.2	60.1	111
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.25 mg/kg	81.6	62.3	114
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.25 mg/kg	84.6	65.5	122
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.25 mg/kg	81.7	61.6	112
EP075: bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg	----	1.25 mg/kg	87.6	66.6	135
		5.0	mg/kg	<5.0	----	----	----	----
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.25 mg/kg	93.8	59	116
EP075D: Nitrosamines (QCLot: 1275240)								
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.25 mg/kg	74.9	39.4	124
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.25 mg/kg	89.7	62.7	112
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	----	1.25 mg/kg	95.3	42.8	102
		1.0	mg/kg	<1.0	----	----	----	----
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.25 mg/kg	109	52.4	112
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.25 mg/kg	# 109	60.6	107
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.25 mg/kg	85.2	59.6	108
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.25 mg/kg	98.4	59.4	106
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6	1.0	mg/kg	<1.0	2.5 mg/kg	# 28.5	38	110
	122-39-4							
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.25 mg/kg	76.8	16.3	123
EP075E: Nitroaromatics and Ketones (QCLot: 1275240)								
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.25 mg/kg	90.2	27.3	129
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.25 mg/kg	86.7	62.6	110
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.25 mg/kg	90.8	64.4	112
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.25 mg/kg	85.7	64	110
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	----	1.25 mg/kg	75.4	58	114
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	----	1.25 mg/kg	68.4	55.8	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.25 mg/kg	67.2	2.24	93
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.25 mg/kg	69.0	3.12	108
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.25 mg/kg	93.7	48.3	98.5
EP075: Azobenzene	103-33-3	1	mg/kg	----	1.25 mg/kg	83.8	61.4	113
		1.0	mg/kg	<1	----	----	----	----
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.25 mg/kg	100	33	108

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 1275240) - continued								
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.25 mg/kg	89.2	58.1	110
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.25 mg/kg	46.1	36.1	102
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.25 mg/kg	70.7	55.8	106
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.25 mg/kg	75.0	49.4	105
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.25 mg/kg	71.1	53.5	105
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.25 mg/kg	77.9	57.4	112
EP075F: Haloethers (QCLot: 1275240)								
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.25 mg/kg	79.9	63.1	113
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.25 mg/kg	80.2	62.4	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.25 mg/kg	70.4	59	111
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	72.3	56.4	109
EP075G: Chlorinated Hydrocarbons (QCLot: 1275240)								
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.25 mg/kg	76.2	60.4	106
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.25 mg/kg	76.1	62.1	107
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.25 mg/kg	79.7	61.3	107
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.25 mg/kg	75.5	53.8	107
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.25 mg/kg	71.2	62.9	108
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.25 mg/kg	66.3	39.1	110
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.25 mg/kg	77.5	59.3	110
EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	----	1.25 mg/kg	70.2	17.2	106
		2.5	mg/kg	<2.5	----	----	----	----
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.25 mg/kg	73.0	60	110
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	----	1.25 mg/kg	74.0	59.9	111
		1.0	mg/kg	<1.0	----	----	----	----
EP075H: Anilines and Benzidines (QCLot: 1275240)								
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.25 mg/kg	61.1	13.2	108
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.25 mg/kg	66.8	19.9	114
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	----	1.25 mg/kg	79.1	57.4	109
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	----	1.25 mg/kg	90.4	31.5	93.7
		1.0	mg/kg	<1.0	----	----	----	----
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.25 mg/kg	76.1	60.2	111
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.25 mg/kg	79.3	48.6	97.6
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.25 mg/kg	86.2	61	109
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.25 mg/kg	53.1	15.6	101
EP075I: Organochlorine Pesticides (QCLot: 1275240)								
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.25 mg/kg	81.6	59.5	110
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.25 mg/kg	80.4	53.4	113
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.25 mg/kg	76.7	58.2	112

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075I: Organochlorine Pesticides (QCLot: 1275240) - continued								
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.25 mg/kg	82.7	56.9	114
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.25 mg/kg	77.6	52	108
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.25 mg/kg	82.2	54.9	112
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.25 mg/kg	79.0	54.6	113
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.25 mg/kg	98.3	51.7	115
EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	1.25 mg/kg	74.9	60.3	112
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.25 mg/kg	86.4	61.9	116
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.25 mg/kg	89.7	49	110
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.25 mg/kg	86.6	59.5	112
EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	1.25 mg/kg	80.8	58.5	116
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.25 mg/kg	95.7	52.6	114
EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	----	1.25 mg/kg	79.8	39.2	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075J: Organophosphorus Pesticides (QCLot: 1275240)								
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	79.3	24.6	109
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.25 mg/kg	86.0	46.4	118
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.25 mg/kg	93.6	50.3	116
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.25 mg/kg	76.5	41.7	119
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	92.3	52.1	121
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.25 mg/kg	71.8	43	116
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.25 mg/kg	77.9	51.1	115
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.25 mg/kg	76.2	50.9	115
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	----	----	----
		0.55	mg/kg	----	1.375 mg/kg	77.6	45.3	104
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.25 mg/kg	76.6	51.5	116
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.25 mg/kg	77.8	47.3	115
EP075K: Miscellaneous Compounds (QCLot: 1275240)								
EP075: 1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	1.25 mg/kg	75.6	50.7	113
EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	1.25 mg/kg	60.9	52	115
EP075: Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	1.25 mg/kg	93.5	39.8	122
EP075: Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	1.25 mg/kg	90.8	59.6	117
EP075: cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	1.25 mg/kg	74.8	60.3	108
EP075: trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	1.25 mg/kg	73.6	53.9	113
EP075: Safrole	94-59-7	0.5	mg/kg	<0.5	1.25 mg/kg	79.5	57.8	110
EP075: Diallate	2303-16-4	0.5	mg/kg	<0.5	1.25 mg/kg	85.7	61.3	111
EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274761)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	109	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1275970)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1275970) - continued								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	104	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	100	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	101	72.6	117
EP080: BTEX (QCLot: 1274761)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	94.0	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	98.0	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	94.4	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	93.6	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	94.0	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005C: Leachable Metals by ICPAES (QCLot: 1278996)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	0.1 mg/L	101	70	130
EG005C: Barium	7440-39-3	0.1	mg/L	<0.1	0.1 mg/L	99.7	70	130
EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	0.1 mg/L	104	70	130
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.1 mg/L	100	70	130
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	0.1 mg/L	102	70	130
EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	0.1 mg/L	99.4	70	130
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	0.1 mg/L	102	70	130
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	0.1 mg/L	97.5	70	130
EG005C: Manganese	7439-96-5	0.1	mg/L	<0.1	0.1 mg/L	98.5	70	130
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	0.1 mg/L	99.8	70	130
EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	0.1 mg/L	85.8	70	130
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	0.1 mg/L	95.6	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1275173)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	96.7	88	110
EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	94.3	80	114
EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	96.2	85	109
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	95.9	89	107
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	99.7	91	111
EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	97.4	89	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	94.9	87	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	98.3	90	110
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	100	87	113
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	92.3	89	109
EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 83.0	91	109

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 1275173) - continued								
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	107	85	115
EG020T: Total Metals by ICP-MS (QCLot: 1275157)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	95.8	85	111
EG020A-T: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	91.6	78	114
EG020A-T: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	95.8	89	113
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	93.6	88	108
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	100	92	114
EG020A-T: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	99.9	90	114
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	96.7	89	115
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	98.0	91	113
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	99.8	89	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	94.0	91	113
EG020A-T: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 84.2	90	112
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	95.7	78	116
EG035C: Leachable Mercury by FIMS (QCLot: 1279258)								
EG035C: Mercury	7439-97-6	0.001	mg/L	<0.0010	0.010 mg/L	# 74.4	83	119
EG035F: Dissolved Mercury by FIMS (QCLot: 1275172)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	102	86	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275276)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	104	81	119
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1278668)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	92.6	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	95.2	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	88.1	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	92.9	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	93.9	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	95.7	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	95.7	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	96.2	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	90.9	64.1	117
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1278668) - continued								
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	89.4	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	84.8	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	90.3	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	88.7	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	81.5	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	81.1	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	81.2	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274817)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	101	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1275728)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	100 µg/L	86.5	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	100 µg/L	91.2	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	100 µg/L	92.3	62.7	131
EP080: BTEX (QCLot: 1274817)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	102	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	105	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	107	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	96.7	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	99.2	77.9	121

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1275246)							
ES1004215-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	87.8	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	90.7	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	91.2	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	96.6	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	92.9	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	93.2	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	91.7	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1275248)							
ES1004218-025	BH74_8.5-8.8	EG005T: Arsenic	7440-38-2	50 mg/kg	92.0	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	93.2	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	96.0	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	97.0	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	91.6	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	93.4	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	96.2	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275247)							
ES1004215-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	72.0	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275249)							
ES1004218-025	BH74_8.5-8.8	EG035T: Mercury	7439-97-6	5 mg/kg	76.6	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275122)							
ES1004018-009	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	# Not Determined	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275123)							
ES1004218-026	BH74_10.0-10.5	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	# Not Determined	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1274771)							
ES1004218-004	BH56_7.0-7.2	EK026G: Total Cyanide	57-12-5	20.0 mg/kg	92.2	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1276811)							
ES1004218-004	BH56_7.0-7.2	EK028G: Weak Acid Dissociable Cyanide	----	2.0 mg/kg	88.9	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1274762)							
ES1004218-004	BH56_7.0-7.2	EP074: Benzene	71-43-2	2.5 mg/kg	89.6	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	119	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1274762)							
ES1004218-004	BH56_7.0-7.2	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	89.3	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	116	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP074F: Halogenated Aromatic Compounds (QCLot: 1274762)							
ES1004218-004	BH56_7.0-7.2	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	117	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1275971)							
ES1004218-001	BH56_2.5-2.7	EP075(SIM): Phenol	108-95-2	10 mg/kg	119	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	87.0	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	61.6	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	123	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	27.8	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1275971)							
ES1004218-001	BH56_2.5-2.7	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	104	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	107	70	130
EP075A: Phenolic Compounds (QCLot: 1275240)							
EM1002369-007	Anonymous	EP075: Phenol	108-95-2	5 mg/kg	79.0	60	130
		EP075: 2-Chlorophenol	95-57-8	5 mg/kg	79.0	60	130
		EP075: 2-Nitrophenol	88-75-5	5 mg/kg	72.7	50	130
		EP075: 4-Chloro-3-Methylphenol	59-50-7	5 mg/kg	71.6	50	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	21.4	5	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1275240)							
EM1002369-007	Anonymous	EP075: Acenaphthene	83-32-9	5 mg/kg	70.4	50	130
		EP075: Pyrene	129-00-0	5 mg/kg	75.5	50	130
EP075D: Nitrosamines (QCLot: 1275240)							
EM1002369-007	Anonymous	EP075: N-Nitrosodi-n-propylamine	621-64-7	5 mg/kg	79.4	50	130
EP075E: Nitroaromatics and Ketones (QCLot: 1275240)							
EM1002369-007	Anonymous	EP075: 2.4-Dinitrotoluene	121-14-2	5 mg/kg	72.0	40	130
EP075G: Chlorinated Hydrocarbons (QCLot: 1275240)							
EM1002369-007	Anonymous	EP075: 1.4-Dichlorobenzene	106-46-7	5 mg/kg	73.8	60	130
		EP075: 1.2.4-Trichlorobenzene	120-82-1	5 mg/kg	71.0	50	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274761)							
ES1004218-004	BH56_7.0-7.2	EP080: C6 - C9 Fraction	----	26 mg/kg	96.9	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1275970)							
ES1004218-001	BH56_2.5-2.7	EP071: C10 - C14 Fraction	----	640 mg/kg	110	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	104	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	112	70	130
EP080: BTEX (QCLot: 1274761)							
ES1004218-004	BH56_7.0-7.2	EP080: Benzene	71-43-2	2.5 mg/kg	71.6	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	89.3	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	84.9	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEX (QCLot: 1274761) - continued							
ES1004218-004	BH56_7.0-7.2	EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	87.9	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	89.5	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005C: Leachable Metals by ICPAES (QCLot: 1278996)							
ES1004218-025	BH74_8.5-8.8	EG005C: Arsenic	7440-38-2	1 mg/L	96.8	70	130
		EG005C: Barium	7440-39-3	1 mg/L	95.2	70	130
		EG005C: Beryllium	7440-41-7	1 mg/L	93.2	70	130
		EG005C: Cadmium	7440-43-9	0.250 mg/L	88.7	70	130
		EG005C: Chromium	7440-47-3	1 mg/L	93.5	70	130
		EG005C: Cobalt	7440-48-4	1 mg/L	87.3	70	130
		EG005C: Copper	7440-50-8	1 mg/L	98.5	70	130
		EG005C: Lead	7439-92-1	1 mg/L	87.6	70	130
		EG005C: Manganese	7439-96-5	1 mg/L	84.8	70	130
		EG005C: Nickel	7440-02-0	1 mg/L	88.5	70	130
		EG005C: Vanadium	7440-62-2	1 mg/L	90.0	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	96.3	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1275173)							
ES1004218-010	QC251	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	93.3	70	130
		EG020A-F: Beryllium	7440-41-7	0.2 mg/L	93.8	70	130
		EG020A-F: Barium	7440-39-3	0.2 mg/L	93.7	70	130
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	91.9	70	130
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	98.0	70	130
		EG020A-F: Cobalt	7440-48-4	0.2 mg/L	94.8	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	94.9	70	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	92.3	70	130
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	96.1	70	130
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	90.4	70	130
		EG020A-F: Vanadium	7440-62-2	0.2 mg/L	96.1	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	97.4	70	130
EG020T: Total Metals by ICP-MS (QCLot: 1275157)							
ES1004218-030	QC250	EG020A-T: Arsenic	7440-38-2	1 mg/L	92.8	70	130
		EG020A-T: Beryllium	7440-41-7	1 mg/L	89.2	70	130
		EG020A-T: Barium	7440-39-3	1 mg/L	92.2	70	130
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	90.3	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	93.2	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
				Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 1275157) - continued							
ES1004218-030	QC250	EG020A-T: Cobalt	7440-48-4	1 mg/L	85.5	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	92.1	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	84.1	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	88.0	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	89.4	70	130
		EG020A-T: Vanadium	7440-62-2	1 mg/L	85.2	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	95.8	70	130
EG035C: Leachable Mercury by FIMS (QCLot: 1279258)							
ES1004218-004	BH56_7.0-7.2	EG035C: Mercury	7439-97-6	0.1 mg/L	76.1	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1275172)							
EB1004015-001	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	94.4	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275276)							
ES1004248-002	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	113	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274817)							
ES1004208-005	Anonymous	EP080: C6 - C9 Fraction	----	250 µg/L	105	70	130
EP080: BTEX (QCLot: 1274817)							
ES1004208-005	Anonymous	EP080: Benzene	71-43-2	25 µg/L	80.5	70	130
		EP080: Toluene	108-88-3	25 µg/L	88.1	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	96.1	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	98.7	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	97.3	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1004218**	Page	: 1 of 19
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
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Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 05-MAR-2010
Sampler	: ----	Issue Date	: 19-MAR-2010
Order number	: 1303951		
		No. of samples received	: 31
Quote number	: SY/259/09 V2	No. of samples analysed	: 22

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
AS 4964 - 2004 Identification of Asbestos in bulk samples								
Snap Lock Bag								
BH56_4.25-4.6		**04-MAR-2010**	**---**	---	----	**18-MAR-2010**	14-SEP-2010	✓
EA002 : pH (Soils)								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_8.5-8.8	**03-MAR-2010**	**10-MAR-2010**	10-MAR-2010	✓	**10-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**10-MAR-2010**	11-MAR-2010	✓	**10-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125	**05-MAR-2010**	**10-MAR-2010**	12-MAR-2010	✓	**10-MAR-2010**	11-MAR-2010	✓
EA055: Moisture Content								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_5.5-5.7,	**03-MAR-2010**	**----**	----	----	**10-MAR-2010**	10-MAR-2010	✓
BH74_8.5-8.8,	BH74_10.0-10.5,							
BH74_13.0-13.5,	BH74_16.0-16.5,							
QC122,	TB14							
Soil Glass Jar - Unpreserved								
BH56_2.5-2.7		**04-MAR-2010**	**----**	----	----	**10-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2,	BH56_11.5-11.7	**04-MAR-2010**	**----**	----	----	**11-MAR-2010**	11-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_13.0-13.2,	BH56_14.5-15.0,	**05-MAR-2010**	**----**	----	----	**11-MAR-2010**	12-MAR-2010	✓
BH56_17.5-17.8,	QC125,							
BH56_20.5-20.9,	BH56_21.4-21.6,							
TB16								
EG005C: Leachable Metals by ICPAES								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH56_7.0-7.2,	BH74_8.5-8.8	**14-MAR-2010**	**15-MAR-2010**	10-SEP-2010	✓	**15-MAR-2010**	10-SEP-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_5.5-5.7,	**03-MAR-2010**	**11-MAR-2010**	31-MAR-2010	✓	**12-MAR-2010**	30-AUG-2010	✓
BH74_8.5-8.8,	BH74_10.0-10.5,							
BH74_13.0-13.5,	BH74_16.0-16.5,							
QC122								
Soil Glass Jar - Unpreserved								
BH56_2.5-2.7,	BH56_7.0-7.2,	**04-MAR-2010**	**11-MAR-2010**	01-APR-2010	✓	**12-MAR-2010**	31-AUG-2010	✓
BH56_11.5-11.7								
Soil Glass Jar - Unpreserved								
BH56_13.0-13.2,	BH56_14.5-15.0,	**05-MAR-2010**	**11-MAR-2010**	02-APR-2010	✓	**12-MAR-2010**	01-SEP-2010	✓
BH56_17.5-17.8,	QC125,							
BH56_20.5-20.9,	BH56_21.4-21.6							
EG035C: Leachable Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH56_7.0-7.2,	BH74_8.5-8.8	**14-MAR-2010**	**----**	----	----	**16-MAR-2010**	11-APR-2010	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_5.5-5.7,	**03-MAR-2010**	**11-MAR-2010**	31-MAR-2010	✓	**12-MAR-2010**	31-MAR-2010	✓
BH74_8.5-8.8,	BH74_10.0-10.5,							
BH74_13.0-13.5,	BH74_16.0-16.5,							
QC122								
Soil Glass Jar - Unpreserved								
BH56_2.5-2.7,	BH56_7.0-7.2,	**04-MAR-2010**	**11-MAR-2010**	01-APR-2010	✓	**12-MAR-2010**	01-APR-2010	✓
BH56_11.5-11.7								
Soil Glass Jar - Unpreserved								
BH56_13.0-13.2,	BH56_14.5-15.0,	**05-MAR-2010**	**11-MAR-2010**	02-APR-2010	✓	**12-MAR-2010**	02-APR-2010	✓
BH56_17.5-17.8,	QC125,							
BH56_20.5-20.9,	BH56_21.4-21.6							
EG048: Hexavalent Chromium (Alkaline Digest)								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_8.5-8.8,	**03-MAR-2010**	**11-MAR-2010**	31-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
BH74_10.0-10.5,	QC122							
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**11-MAR-2010**	01-APR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125	**05-MAR-2010**	**11-MAR-2010**	02-APR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK026G: Total Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved BH74_1.0-1.12, BH74_10.0-10.5, QC122	**03-MAR-2010**	**10-MAR-2010**	10-MAR-2010	✓	**11-MAR-2010**	24-MAR-2010	✓
Soil Glass Jar - Unpreserved BH56_7.0-7.2	**04-MAR-2010**	**10-MAR-2010**	11-MAR-2010	✓	**11-MAR-2010**	24-MAR-2010	✓
Soil Glass Jar - Unpreserved BH56_14.5-15.0, QC125, BH56_21.4-21.6	**05-MAR-2010**	**10-MAR-2010**	12-MAR-2010	✓	**11-MAR-2010**	24-MAR-2010	✓
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved BH74_1.0-1.12, BH74_10.0-10.5, QC122	**03-MAR-2010**	**12-MAR-2010**	10-MAR-2010	×	**12-MAR-2010**	10-MAR-2010	×
Soil Glass Jar - Unpreserved BH56_7.0-7.2	**04-MAR-2010**	**12-MAR-2010**	11-MAR-2010	×	**12-MAR-2010**	11-MAR-2010	×
Soil Glass Jar - Unpreserved BH56_14.5-15.0, QC125, BH56_21.4-21.6	**05-MAR-2010**	**12-MAR-2010**	12-MAR-2010	✓	**12-MAR-2010**	12-MAR-2010	✓
EN33: TCLP Leach							
LabSplit: Leach for organics and other tests BH74_8.5-8.8	**03-MAR-2010**	**---**	---	----	**14-MAR-2010**	17-MAR-2010	✓
LabSplit: Leach for organics and other tests BH56_7.0-7.2	**04-MAR-2010**	**---**	---	----	**14-MAR-2010**	18-MAR-2010	✓
EP004: Organic Matter							
Soil Glass Jar - Unpreserved BH74_1.0-1.12	**03-MAR-2010**	**----**	----	----	**15-MAR-2010**	10-MAR-2010	×
Soil Glass Jar - Unpreserved BH56_2.5-2.7	**04-MAR-2010**	**----**	----	----	**15-MAR-2010**	11-MAR-2010	×
Soil Glass Jar - Unpreserved BH56_14.5-15.0, QC125	**05-MAR-2010**	**----**	----	----	**15-MAR-2010**	12-MAR-2010	×
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved BH74_1.0-1.12, BH74_10.0-10.5, QC122, TB14	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**11-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved BH56_7.0-7.2	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved BH56_14.5-15.0, QC125, TB16	**05-MAR-2010**	**10-MAR-2010**	19-MAR-2010	✓	**11-MAR-2010**	19-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_10.0-10.5,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**11-MAR-2010**	17-MAR-2010	✓
QC122,	TB14							
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125,	**05-MAR-2010**	**10-MAR-2010**	19-MAR-2010	✓	**11-MAR-2010**	19-MAR-2010	✓
TB16								
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_10.0-10.5,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**11-MAR-2010**	17-MAR-2010	✓
QC122,	TB14							
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125,	**05-MAR-2010**	**10-MAR-2010**	19-MAR-2010	✓	**11-MAR-2010**	19-MAR-2010	✓
TB16								
EP074D: Fumigants								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_10.0-10.5,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**11-MAR-2010**	17-MAR-2010	✓
QC122,	TB14							
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125,	**05-MAR-2010**	**10-MAR-2010**	19-MAR-2010	✓	**11-MAR-2010**	19-MAR-2010	✓
TB16								
EP074E: Halogenated Aliphatic Compounds								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_10.0-10.5,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**11-MAR-2010**	17-MAR-2010	✓
QC122,	TB14							
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125,	**05-MAR-2010**	**10-MAR-2010**	19-MAR-2010	✓	**11-MAR-2010**	19-MAR-2010	✓
TB16								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074F: Halogenated Aromatic Compounds								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_10.0-10.5,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**11-MAR-2010**	17-MAR-2010	✓
QC122,	TB14							
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125,	**05-MAR-2010**	**10-MAR-2010**	19-MAR-2010	✓	**11-MAR-2010**	19-MAR-2010	✓
TB16								
EP074G: Trihalomethanes								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_10.0-10.5,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**11-MAR-2010**	17-MAR-2010	✓
QC122,	TB14							
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125,	**05-MAR-2010**	**10-MAR-2010**	19-MAR-2010	✓	**11-MAR-2010**	19-MAR-2010	✓
TB16								
EP074H: Naphthalene								
Soil Glass Jar - Unpreserved								
TB14		**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**11-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved								
TB16		**05-MAR-2010**	**10-MAR-2010**	19-MAR-2010	✓	**11-MAR-2010**	19-MAR-2010	✓
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved								
BH74_5.5-5.7,	BH74_8.5-8.8,	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
BH74_16.0-16.5								
Soil Glass Jar - Unpreserved								
BH56_2.5-2.7		**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_13.0-13.2,	BH56_17.5-17.8,	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
BH56_20.5-20.9,	BH56_21.4-21.6							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved								
BH56_7.0-7.2,	BH74_8.5-8.8	**14-MAR-2010**	**15-MAR-2010**	21-MAR-2010	✓	**16-MAR-2010**	24-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH74_5.5-5.7, BH74_16.0-16.5	BH74_8.5-8.8,	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_2.5-2.7		**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_13.0-13.2, BH56_20.5-20.9,	BH56_17.5-17.8, BH56_21.4-21.6	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
EP075A: Phenolic Compounds								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12, QC122	BH74_10.0-10.5,	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
EP075B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12, QC122	BH74_10.0-10.5,	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
EP075C: Phthalate Esters								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12, QC122	BH74_10.0-10.5,	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075D: Nitrosamines								
Soil Glass Jar - Unpreserved BH74_1.0-1.12, QC122	BH74_10.0-10.5,	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved BH56_7.0-7.2		**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved BH56_14.5-15.0,	QC125	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
EP075E: Nitroaromatics and Ketones								
Soil Glass Jar - Unpreserved BH74_1.0-1.12, QC122	BH74_10.0-10.5,	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved BH56_7.0-7.2		**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved BH56_14.5-15.0,	QC125	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
EP075F: Haloethers								
Soil Glass Jar - Unpreserved BH74_1.0-1.12, QC122	BH74_10.0-10.5,	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved BH56_7.0-7.2		**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved BH56_14.5-15.0,	QC125	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
EP075G: Chlorinated Hydrocarbons								
Soil Glass Jar - Unpreserved BH74_1.0-1.12, QC122	BH74_10.0-10.5,	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved BH56_7.0-7.2		**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved BH56_14.5-15.0,	QC125	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
EP075H: Anilines and Benzidines								
Soil Glass Jar - Unpreserved BH74_1.0-1.12, QC122	BH74_10.0-10.5,	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved BH56_7.0-7.2		**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved BH56_14.5-15.0,	QC125	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075I: Organochlorine Pesticides								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_10.0-10.5,	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
QC122								
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
EP075J: Organophosphorus Pesticides								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_10.0-10.5,	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
QC122								
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
EP075K: Miscellaneous Compounds								
Soil Glass Jar - Unpreserved								
BH74_1.0-1.12,	BH74_10.0-10.5,	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
QC122								
Soil Glass Jar - Unpreserved								
BH56_7.0-7.2		**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH56_14.5-15.0,	QC125	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**13-MAR-2010**	20-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved BH74_1.0-1.12, BH74_5.5-5.7, BH74_8.5-8.8, BH74_10.0-10.5, BH74_16.0-16.5, QC122	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**11-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved BH74_1.0-1.12, BH74_5.5-5.7, BH74_8.5-8.8, BH74_10.0-10.5, BH74_16.0-16.5, QC122	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved BH56_2.5-2.7, BH56_7.0-7.2, BH56_11.5-11.7	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved BH56_2.5-2.7, BH56_7.0-7.2, BH56_11.5-11.7	**04-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved BH56_13.0-13.2, BH56_14.5-15.0, BH56_17.5-17.8, QC125, BH56_20.5-20.9, BH56_21.4-21.6	**05-MAR-2010**	**10-MAR-2010**	19-MAR-2010	✓	**11-MAR-2010**	19-MAR-2010	✓
Soil Glass Jar - Unpreserved BH56_13.0-13.2, BH56_14.5-15.0, BH56_17.5-17.8, QC125, BH56_20.5-20.9, BH56_21.4-21.6	**05-MAR-2010**	**11-MAR-2010**	19-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
EP080: BTEX							
Soil Glass Jar - Unpreserved BH74_5.5-5.7, BH74_8.5-8.8, BH74_16.0-16.5	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**11-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved BH56_2.5-2.7, BH56_11.5-11.7	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved BH56_13.0-13.2, BH56_17.5-17.8, BH56_20.5-20.9, BH56_21.4-21.6	**05-MAR-2010**	**10-MAR-2010**	19-MAR-2010	✓	**11-MAR-2010**	19-MAR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered QC251	**04-MAR-2010**	**---**	---	----	**12-MAR-2010**	31-AUG-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered QC252	**05-MAR-2010**	**---**	---	----	**12-MAR-2010**	01-SEP-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
QC250	**03-MAR-2010**	**11-MAR-2010**	30-AUG-2010	✓	**12-MAR-2010**	30-AUG-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered							
QC251	**04-MAR-2010**	**---**	---	----	**15-MAR-2010**	01-APR-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered							
QC252	**05-MAR-2010**	**---**	---	----	**15-MAR-2010**	02-APR-2010	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
QC250	**03-MAR-2010**	**----**	----	----	**15-MAR-2010**	31-MAR-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved							
QC250	**03-MAR-2010**	**10-MAR-2010**	10-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
Amber Glass Bottle - Unpreserved							
QC251	**04-MAR-2010**	**11-MAR-2010**	11-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
Amber Glass Bottle - Unpreserved							
QC252	**05-MAR-2010**	**11-MAR-2010**	12-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
Amber VOC Vial - HCl							
QC250	**03-MAR-2010**	**---**	---	----	**11-MAR-2010**	17-MAR-2010	✓
Amber VOC Vial - HCl							
QC251	**04-MAR-2010**	**---**	---	----	**11-MAR-2010**	18-MAR-2010	✓
Amber VOC Vial - HCl							
QC252	**05-MAR-2010**	**---**	---	----	**11-MAR-2010**	19-MAR-2010	✓
EP080: BTEX							
Amber VOC Vial - HCl							
QC250	**03-MAR-2010**	**---**	---	----	**11-MAR-2010**	17-MAR-2010	✓
Amber VOC Vial - HCl							
QC251	**04-MAR-2010**	**---**	---	----	**11-MAR-2010**	18-MAR-2010	✓
Amber VOC Vial - HCl							
QC252	**05-MAR-2010**	**---**	---	----	**11-MAR-2010**	19-MAR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	4	36	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	4	34	**11.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	4	**25.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	1	5	**20.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	7	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	7	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	4	37	**10.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	40	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	18	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	8	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	2	16	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	36	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	36	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB) - Continued							
Volatile Organic Compounds	EP074	1	8	12.5	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	16	6.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	36	5.6	5.0	✓	ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	8	12.5	5.0	✓	ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	7	14.3	5.0	✓	ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	7	14.3	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	37	5.4	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	40	5.0	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	15	6.7	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	5.6	5.0	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	8	12.5	5.0	✓	ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	16	6.3	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	11	18.2	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	4	25.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	10	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	2	10	20.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	5	20.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	11	9.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	4	25.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	50.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	5	20.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	11	9.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	4	25.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	**50.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	7	**14.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	11	**9.1**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	4	**25.0**	**5.0**	✓	ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	10	**10.0**	**5.0**	✓	ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	10	**10.0**	**5.0**	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	5	**20.0**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH (1:5)	EA002	SOIL	(APHA 21st ed., 4500H+) pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM (1999) Schedule B(3) (Method 103)
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)
Asbestos Identification in bulk solids	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples
Leachable Metals by ICPAES	EG005C	SOIL	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Leachable Mercury by FIMS	EG035C	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	USEPA SW846, Method 3060A. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Cyanide By Discrete Analyser	EK026G	SOIL	APHA 21st 4500 CN - C & N. Caustic leach extracts of the sample are distilled with sulphuric acid, converting all CN species to HCN. The distillates are analyzed for CN by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Method 403)
WAD Cyanide By Discrete Analyser	EK028G	SOIL	APHA 21st 4500 CN - I & N. Sample are distilled with a weak organic acid, converting selected CN species to HCN. The distillates are analyzed for CN by Discrete Analyser.
Organic Matter	EP004	SOIL	AS1289.4.1.1 - 1997., Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (1999) Schedule B(3) (Method 105)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)

Analytical Methods	Method	Matrix	Method Descriptions
Volatile Organic Compounds	EP074	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Semivolatile Organic Compounds	EP075	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 502)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Mercury by FIMS	EG035T	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	USEPA SW846, Method 3060A.

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for TCN in Soils	EK026PR	SOIL	APHA 21st ed., 4500 CN- C & N. Samples are extracted by end-over-end tumbling with NaOH.
WAD Cyanide	EK028PR	SOIL	APHA 21st ed., 4500 CN- C & N. Cyanide is selectively distilled from the sample by the action of weak acetic acid. Only poorly bound metal complexed cyanides are released.
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TCLP for Non & Semivolatile Analytes	EN33a	SOIL	(USEPA SW846-1311, ALS QWI-EN/33) The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005T: Total Metals by ICP-AES	ES1004284-006	Anonymous	**Copper**	7440-50-8	37.6 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1004218-004	BH56_7.0-7.2	**Iron**	7439-89-6	26.7 %	0-20%	**RPD exceeds LOR based limits**
Laboratory Control Spike (LCS) Recoveries							
EG005T: Total Metals by ICP-AES	1477050-002	----	**Zinc**	7440-66-6	88.9 %	88.9-112%	**Recovery less than lower control limit**
EP074A: Monocyclic Aromatic Hydrocarbons	1476445-008	----	**Isopropylbenzene**	98-82-8	125 %	64-124%	**Recovery greater than upper control limit**
EP074E: Halogenated Aliphatic Compounds	1476445-008	----	**cis-1.2-Dichloroethene**	156-59-2	124 %	66-124%	**Recovery greater than upper control limit**
EP074F: Halogenated Aromatic Compounds	1476445-008	----	**1.2-Dichlorobenzene**	95-50-1	123 %	67-121%	**Recovery greater than upper control limit**
EP075(SIM)A: Phenolic Compounds	1477814-007	----	**2.4-Dimethylphenol**	105-67-9	72.1 %	74.5-119%	**Recovery less than lower control limit**
EP075(SIM)A: Phenolic Compounds	1477814-007	----	**4-Chloro-3-Methylphenol**	59-50-7	121 %	76.4-114%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1477814-007	----	**Acenaphthylene**	208-96-8	116 %	79.6-113%	**Recovery greater than upper control limit**
EP075A: Phenolic Compounds	1477035-007	----	**2.6-Dichlorophenol**	87-65-0	117 %	48.2-98.6%	**Recovery greater than upper control limit**
EP075D: Nitrosamines	1477035-007	----	**N-Nitrosodi-n-propylamine**	621-64-7	109 %	60.6-107%	**Recovery greater than upper control limit**
EP075D: Nitrosamines	1477035-007	----	**N-Nitrosodiphenyl & Diphenylamine**	86-30-6 122-39-4	28.5 %	38-110%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							
EG048: Hexavalent Chromium (Alkaline Digest)	ES1004218-026	BH74_10.0-10.5	**Hexavalent Chromium**	18540-29-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EG048: Hexavalent Chromium (Alkaline Digest)	ES1004018-009	Anonymous	**Hexavalent Chromium**	18540-29-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	1476948-016	----	**Vanadium**	7440-62-2	83.0 %	91-109%	**Recovery less than lower control limit**
EG020T: Total Metals by ICP-MS	1476928-035	----	**Vanadium**	7440-62-2	84.2 %	90-112%	**Recovery less than lower control limit**
EG035C: Leachable Mercury by FIMS	1481645-002	----	**Mercury**	7439-97-6	74.4 %	83-119%	**Recovery less than lower control limit**

- **For all matrices, no Method Blank value outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP074S: VOC Surrogates	ES1004218-026	BH74_10.0-10.5	**Toluene-D8**	2037-26-5	117 %	81-117 %	**Recovery greater than upper data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **SOIL**

Method / **Container** / Client Sample ID(s)	*Extraction / Preparation*			*Analysis*		
	Date extracted	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser						
Soil Glass Jar - Unpreserved						
BH74_1.0-1.12, BH74_10.0-10.5, QC122	12-MAR-2010	10-MAR-2010	**2**	12-MAR-2010	10-MAR-2010	**2**
Soil Glass Jar - Unpreserved						
BH56_7.0-7.2	12-MAR-2010	11-MAR-2010	**1**	12-MAR-2010	11-MAR-2010	**1**
EP004: Organic Matter						
Soil Glass Jar - Unpreserved						
BH74_1.0-1.12	----	----	----	15-MAR-2010	10-MAR-2010	**5**
Soil Glass Jar - Unpreserved						
BH56_2.5-2.7	----	----	----	15-MAR-2010	11-MAR-2010	**4**
Soil Glass Jar - Unpreserved						
BH56_14.5-15.0, QC125	----	----	----	15-MAR-2010	12-MAR-2010	**3**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1004218**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	Page	: 1 of 4
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: ----	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 05-MAR-2010	Issue Date	: 10-MAR-2010 19:41
Client Requested Due Date	: 17-MAR-2010	Scheduled Reporting Date	: **17-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 6.8'C - Ice present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 31
Sercurity Seal	: Intact.	No. of samples analysed	: 22

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **This batch is split into ES1004464 for ASLP Leach.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EG035C Leachable Mercury by FIMS	SOIL - EG048G Total Hexavalent Chromium (Alkaline digestion) by Discrete Analyser
ES1004218-002	04-MAR-2010 15:00	BH56_4.25-4.6				✓				
ES1004218-003	04-MAR-2010 15:00	BH56_5.5-5.9	✓							
ES1004218-004	04-MAR-2010 15:00	BH56_7.0-7.2		✓			✓	✓	✓	✓
ES1004218-005	04-MAR-2010 15:00	BH56_8.5-8.9	✓							
ES1004218-006	04-MAR-2010 15:00	BH56_10.0-10.2	✓							
ES1004218-008	04-MAR-2010 15:00	QC123	✓							
ES1004218-009	04-MAR-2010 15:00	QC124	✓							
ES1004218-012	05-MAR-2010 15:00	BH56_14.5-15.0		✓				✓		✓
ES1004218-014	05-MAR-2010 15:00	BH56_19.0-19.4	✓							
ES1004218-015	05-MAR-2010 15:00	QC125		✓				✓		✓
ES1004218-017	05-MAR-2010 15:00	QC127	✓							
ES1004218-018	05-MAR-2010 15:00	QC128	✓							
ES1004218-022	05-MAR-2010 15:00	TB16			✓					
ES1004218-023	03-MAR-2010 15:00	BH74_1.0-1.12		✓				✓		✓
ES1004218-025	03-MAR-2010 15:00	BH74_8.5-8.8		✓			✓		✓	✓
ES1004218-026	03-MAR-2010 15:00	BH74_10.0-10.5						✓		✓
ES1004218-029	03-MAR-2010 15:00	QC122						✓		✓
ES1004218-031	03-MAR-2010 15:00	TB14			✓					
ES1004218-032	03-MAR-2010 15:00	BH74_11.5-11.7	✓							

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - EK026G (Solids) Total Cyanide By Discrete Analyser	SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - EP004 (Carbon) Total Organic Carbon (Calc.)	SOIL - EP074 (solids) Volatile Organic Compounds	SOIL - EP075 (solids) Semivolatile Organic Compounds	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - S-03 13 Metals (NEPM Suite - incl. Digestion)	SOIL - S-04 TPH/BTEX
ES1004218-001	04-MAR-2010 15:00	BH56_2.5-2.7			✓				✓	✓
ES1004218-004	04-MAR-2010 15:00	BH56_7.0-7.2	✓	✓			✓	✓	✓	
ES1004218-007	04-MAR-2010 15:00	BH56_11.5-11.7							✓	✓
ES1004218-011	05-MAR-2010 15:00	BH56_13.0-13.2							✓	✓
ES1004218-012	05-MAR-2010 15:00	BH56_14.5-15.0	✓	✓	✓		✓		✓	

			SOIL - EK026G (Solids) Total Cyanide By Discrete Analyser	SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - EP004 (Carbon) Total Organic Carbon (Calc.)	SOIL - EP074 (solids) Volatile Organic Compounds	SOIL - EP075 (solids) Semivolatile Organic Compounds	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - S-03 13 Metals (NEPM Suite - incl. Digestion)	SOIL - S-04 TPH/BTEX
ES1004218-013	05-MAR-2010 15:00	BH56_17.5-17.8							✓	✓
ES1004218-015	05-MAR-2010 15:00	QC125	✓	✓	✓		✓		✓	
ES1004218-019	05-MAR-2010 15:00	BH56_20.5-20.9							✓	✓
ES1004218-020	05-MAR-2010 15:00	BH56_21.4-21.6	✓	✓					✓	✓
ES1004218-022	05-MAR-2010 15:00	TB16				✓				
ES1004218-023	03-MAR-2010 15:00	BH74_1.0-1.12	✓	✓	✓		✓		✓	
ES1004218-024	03-MAR-2010 15:00	BH74_5.5-5.7							✓	✓
ES1004218-025	03-MAR-2010 15:00	BH74_8.5-8.8						✓	✓	✓
ES1004218-026	03-MAR-2010 15:00	BH74_10.0-10.5	✓	✓			✓		✓	
ES1004218-027	03-MAR-2010 15:00	BH74_13.0-13.5							✓	
ES1004218-028	03-MAR-2010 15:00	BH74_16.0-16.5							✓	✓
ES1004218-029	03-MAR-2010 15:00	QC122	✓	✓			✓		✓	
ES1004218-031	03-MAR-2010 15:00	TB14				✓				

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - S-09 TPH/VOC	SOIL - S-14A PAH/Phenols (16 PAH - SIM)	SOIL - TCLP TCLP Leach
ES1004218-001	04-MAR-2010 15:00	BH56_2.5-2.7		✓	
ES1004218-004	04-MAR-2010 15:00	BH56_7.0-7.2	✓		✓
ES1004218-011	05-MAR-2010 15:00	BH56_13.0-13.2		✓	
ES1004218-012	05-MAR-2010 15:00	BH56_14.5-15.0	✓		
ES1004218-013	05-MAR-2010 15:00	BH56_17.5-17.8		✓	
ES1004218-015	05-MAR-2010 15:00	QC125	✓		
ES1004218-019	05-MAR-2010 15:00	BH56_20.5-20.9		✓	
ES1004218-020	05-MAR-2010 15:00	BH56_21.4-21.6		✓	
ES1004218-023	03-MAR-2010 15:00	BH74_1.0-1.12	✓		
ES1004218-024	03-MAR-2010 15:00	BH74_5.5-5.7		✓	
ES1004218-025	03-MAR-2010 15:00	BH74_8.5-8.8		✓	
ES1004218-026	03-MAR-2010 15:00	BH74_10.0-10.5	✓		
ES1004218-028	03-MAR-2010 15:00	BH74_16.0-16.5		✓	
ES1004218-029	03-MAR-2010 15:00	QC122	✓		

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - W-03 13 Metals (NEPM Suite)	WATER - W-03T 13 Metals (Total) (NEPM)	WATER - W-04 TPH/BTEX
ES1004218-010	04-MAR-2010 15:00	QC251	✓		✓
ES1004218-021	05-MAR-2010 15:00	QC252	✓		✓
ES1004218-030	03-MAR-2010 15:00	QC250		✓	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

DAUGHT
downgradient remediation area.

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____ days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: tel:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)
1	BH56_2.5-2.7	4-3-10		X					X		1x250mL jar
2	BH56_4.25-4.6	4-3-10		X					X		"
3	BH56_5.5-5.9	4-3-10		X					X		"
4	BH56_7.0-7.2	4-3-10		X					X		"
5	BH56_8.5-8.9	4-3-10		X					X		"
6	BH56_10.0-10.2	4-3-10		X					X		"
7	BH56_11.5-11.7	4-3-10		X					X		"
8	QC123	4-3-10		X					X		"
9	QC124	4-3-10		X					X		"
10	QC251	4-3-10		[redacted]	X			X	X		4x bottles

Analysis Request: pH, Metals (M8), TPH/BTEX, PAH, Phenols, SVOC, asbestos, Free Cyanide, WAD Cyanide, ASLP, TCLP

Remarks & comments: ziplock plastic, amber

Environmental Division
Sydney
Work Order
ES1004218

Telephone : +61-2-8784 8555

Relinquished By:
Name: Date:
of: Time:

Received by: teigh
Name: 05/03/10 Date:
of: 17:00 Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

BATCH 1.
downgradient remediation area

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: Lauren Kouns **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager:			tel:

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: fil'ed	acid	ice	other	Container (No. & type)
11	BH56_13.0-13.2	5.3.10		X					X		1x jar
12	BH56_14.5-15.0	5.3.10		X					X		"
13	BH56_17.5-17.8	5.3.10		X					X		1x jar 1x ziplock bag
14	BH56_19.0-19.4	5.3.10		X					X		1x jar
15	QC125	5.3.10		X					X		"
16	QC126	5.3.10		X					X		"
17	QC127	5.3.10		X					X		"
18	QC128	5.3.10		X					X		"
19	BH56_20.5-20.9	5.3.10		X					X		"
20	BH56_21.4-21.6	5.3.10		X					X		"

Analysis Request: pH; Metals (M8); TPH/BTEX; PAH; Phenols; SVOC; asbestos; Free Cyanide; WAD Cyanide; ASLP; TCLP

Remarks & comments

Relinquished By:	**Received by:**
Name: Date:	Name: Date: 05/03/10
of: Time:	of: Time: 17:00
Relinquished By:	**Received by:**
Name: Date:	Name: Date:
of: Time:	of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

BATCH 1

Form: downgradient remediation area.

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: LAUREN KONTOS **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager:			tel:

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	Analysis Request: pH	Metals (M8)	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP				Remarks & comments
21	QC252	5-3-10			X			X	X	X	4x bottles															2 vials, lambert, 1 plastic
22	TB16	4-3-10		X					X																	

Relinquished By:
Name: Date:
of: Time:

Received by: flutch 05/03/10
Name: 17:00 Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1004323**	Page	: 1 of 49
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303522		
C-O-C number	: ----	Date Samples Received	: 09-MAR-2010
Sampler	: SP	Issue Date	: 22-MAR-2010
Site	: ----		
		No. of samples received	: 57
Quote number	: SY/526/09	No. of samples analysed	: 28

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Ashesh Patel	Inorganic Chemist	Inorganics
Celine Conceicao	Spectroscopist	Inorganics
Charlie Pierce	Lab Manager	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Victor Kedicioglu	Business Manager - NSW	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG005T: Poor precision was obtained for Copper on sample ES1004333#1 due to sample heterogeneity.**
- **EG005T: Poor precision was obtained for Iron on sample ES1004323 #10 and ES1004323 #23 due to sample heterogeneity.**
- **EG005T: Poor precision was obtained for Manganese on sample ES1004266 #1 due to sample heterogeneity.**
- **EG005T: Poor precision was obtained for Manganese on sample ES1004308#13 due to sample heterogeneity. Results have been confirmed by re-extraction and reanalysis.**
- **EG-005T:LCS recovery for Chromium and Zinc falls outside ALS Dynamic Control Limit. However, they are within the acceptance criteria based on ALS DQO. No further action is required.**
- **EG-020F : LCS recovery for Vanadium falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**
- **EG035-C:LCS recovery for Mercury falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**
- **EG048G: Hexavalent Chromium by Alkaline Digest analysis Invalidated for sample no 9 due to Insuffecient sample volume.**
- **eg048g: spike failed for hexavalent chromium by alkaline digest due to matrix interference.**
- **EK026G; Spike failed for Total Cyanide due to matrix interference.**
- **EK028G: Sample No BH72_1.0-1.2, BH72_5.5-5.7, BH71_2.5-2.7, BH71_10.0-10.2 invalided for WAD Cyanide due to insufficient sample volume.**
- **EP075(SIM): Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.**
- **EP075: Poor matrix spike and surrogate recovery due to sample heterogeneity. Confirmed by re-extraction and re-analysis.**
- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**
- **EP080: Level of reporting raised for toluene due to ambient background levels in the laboratory.**
- **EP080:Following results confirmed by reanalysis,BH72_13.0-13.2,BH72_16.0-16.2**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_1.0-1.2	BH72_2.5-2.7	BH72_5.5-5.7	BH72_13.0-13.2	BH72_16.0-16.2
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-001	ES1004323-002	ES1004323-003	ES1004323-004	ES1004323-005
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**8.8**	----	**9.6**	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**5.0**	**17.6**	**12.3**	**30.2**	**24.1**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	**14**	**11**
Barium	7440-39-3	10	mg/kg	**160**	**90**	<10	**240**	**20**
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**9**	**6**	**5**	**31**	**19**
Cobalt	7440-48-4	2	mg/kg	**4**	**5**	<2	**3**	<2
Copper	7440-50-8	5	mg/kg	**14**	**52**	**7**	**110**	<5
Iron	7439-89-6	50	mg/kg	**10600**	----	**2050**	----	----
Lead	7439-92-1	5	mg/kg	**446**	**89**	**10**	**420**	**11**
Manganese	7439-96-5	5	mg/kg	**214**	**190**	**9**	**93**	<5
Nickel	7440-02-0	2	mg/kg	**6**	**8**	<2	**9**	<2
Vanadium	7440-62-2	5	mg/kg	**18**	**22**	**6**	**33**	**31**
Zinc	7440-66-6	5	mg/kg	**165**	**61**	**9**	**436**	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	**2.8**	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	<0.5	----	----
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	----	<1	----	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	**9.7**	----	----	----	----
After HCl pH	----	0.1	pH Unit	**1.9**	----	----	----	----
Extraction Fluid Number	----	1	-	**1**	----	----	----	----
Final pH	----	0.1	pH Unit	**5.3**	----	----	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	**0.8**	----	**0.8**	----	----
^ Total Organic Carbon	----	0.5	%	<0.5	----	<0.5	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Styrene	100-42-5	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_1.0-1.2	BH72_2.5-2.7	BH72_5.5-5.7	BH72_13.0-13.2	BH72_16.0-16.2
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-001	ES1004323-002	ES1004323-003	ES1004323-004	ES1004323-005
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	<0.5	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	<5	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	<5	----	----
Chloromethane	74-87-3	5	mg/kg	<5	----	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	<5	----	----
Bromomethane	74-83-9	5	mg/kg	<5	----	<5	----	----
Chloroethane	75-00-3	5	mg/kg	<5	----	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_1.0-1.2	BH72_2.5-2.7	BH72_5.5-5.7	BH72_13.0-13.2	BH72_16.0-16.2
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-001	ES1004323-002	ES1004323-003	ES1004323-004	ES1004323-005
EP074E: Halogenated Aliphatic Compounds - Continued								
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	----	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	----	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	**1.4**	----	**4.2**	**16.4**
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	<0.5	----	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_1.0-1.2	BH72_2.5-2.7	BH72_5.5-5.7	BH72_13.0-13.2	BH72_16.0-16.2
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-001	ES1004323-002	ES1004323-003	ES1004323-004	ES1004323-005
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthylene	208-96-8	0.5	mg/kg	----	**0.9**	----	**8.7**	**7.3**
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	**4.9**	**2.1**
Fluorene	86-73-7	0.5	mg/kg	----	**0.5**	----	**5.1**	**13.0**
Phenanthrene	85-01-8	0.5	mg/kg	----	**6.5**	----	**28.7**	**43.9**
Anthracene	120-12-7	0.5	mg/kg	----	**2.0**	----	**11.3**	**15.0**
Fluoranthene	206-44-0	0.5	mg/kg	----	**9.7**	----	**44.9**	**27.0**
Pyrene	129-00-0	0.5	mg/kg	----	**9.1**	----	**42.1**	**24.1**
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	**5.4**	----	**22.1**	**13.1**
Chrysene	218-01-9	0.5	mg/kg	----	**4.4**	----	**14.9**	**8.6**
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	**6.3**	----	**17.4**	**9.3**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	**1.8**	----	**8.4**	**3.6**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**3.8**	----	**12.8**	**6.7**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	**1.7**	----	**4.4**	**2.1**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	**1.3**	**0.6**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	**2.2**	----	**5.6**	**2.7**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	**55.7**	----	**237**	**196**
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachlorophenol	87-86-5	1	mg/kg	<1	----	<1	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	**0.6**	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	**0.9**	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	**1.0**	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	**5.3**	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_1.0-1.2	BH72_2.5-2.7	BH72_5.5-5.7	BH72_13.0-13.2	BH72_16.0-16.2
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-001	ES1004323-002	ES1004323-003	ES1004323-004	ES1004323-005
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	**1.6**	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	**4.2**	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	**4.0**	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	**2.3**	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	**1.7**	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	----	**2**	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	**1.6**	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	<0.5	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	<5.0	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	<1.0	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	<1.0	----	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	<1.0	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_1.0-1.2	BH72_2.5-2.7	BH72_5.5-5.7	BH72_13.0-13.2	BH72_16.0-16.2
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-001	ES1004323-002	ES1004323-003	ES1004323-004	ES1004323-005
EP075E: Nitroaromatics and Ketones - Continued								
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	<1.0	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	<0.5	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Azobenzene	103-33-3	1	mg/kg	<1	----	<1	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	<2.5	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	<1.0	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	<1.0	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	<1.0	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	**0.7**	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	<0.5	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075I: Organochlorine Pesticides								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_1.0-1.2	BH72_2.5-2.7	BH72_5.5-5.7	BH72_13.0-13.2	BH72_16.0-16.2
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-001	ES1004323-002	ES1004323-003	ES1004323-004	ES1004323-005
EP075I: Organochlorine Pesticides - Continued								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	----	<0.5	----	----
beta-BHC	319-85-7	0.5	mg/kg	<0.5	----	<0.5	----	----
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	----	<0.5	----	----
delta-BHC	319-86-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Heptachlor	76-44-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Aldrin	309-00-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	----	<0.5	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Dieldrin	60-57-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Endrin	72-20-8	0.5	mg/kg	<0.5	----	<0.5	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	----	<1.0	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Dimethoate	60-51-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Diazinon	333-41-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	----	<0.5	----	----
Malathion	121-75-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Fenthion	55-38-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Ethion	563-12-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Safrole	94-59-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Diallate	2303-16-4	0.5	mg/kg	<0.5	----	<0.5	----	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_1.0-1.2	BH72_2.5-2.7	BH72_5.5-5.7	BH72_13.0-13.2	BH72_16.0-16.2
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-001	ES1004323-002	ES1004323-003	ES1004323-004	ES1004323-005
EP080/071: Total Petroleum Hydrocarbons - Continued								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	**160**	<100	**1660**	**520**
C29 - C36 Fraction	----	100	mg/kg	<100	**130**	<100	**940**	**220**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	**290**	<50	**2600**	**740**
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	<0.5	**0.6**
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	<0.5	<0.5
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**116**	----	**101**	----	----
Toluene-D8	2037-26-5	0.1	%	**108**	----	**113**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**106**	----	**105**	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	**93.3**	----	**107**	**87.4**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**94.0**	----	**102**	**80.4**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**97.4**	----	**97.5**	**87.2**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**98.9**	----	**106**	**90.5**
Anthracene-d10	1719-06-8	0.1	%	----	**98.6**	----	**102**	**94.1**
4-Terphenyl-d14	1718-51-0	0.1	%	----	**114**	----	**114**	**109**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	**115**	----	**135**	----	----
Phenol-d6	13127-88-3	0.1	%	**65.4**	----	**59.6**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**69.0**	----	**65.1**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**67.0**	----	**72.9**	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	**69.8**	----	**65.6**	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	**59.9**	----	**57.6**	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	**70.0**	----	**68.4**	----	----
Anthracene-d10	1719-06-8	0.1	%	**69.5**	----	**68.7**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**77.2**	----	**80.6**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**110**	**91.4**	**96.1**	**86.6**	**101**
Toluene-D8	2037-26-5	0.1	%	**110**	**96.2**	**103**	**95.3**	**94.5**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH72_1.0-1.2	BH72_2.5-2.7	BH72_5.5-5.7	BH72_13.0-13.2	BH72_16.0-16.2
				Client sampling date / time	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00
Compound	CAS Number	LOR	Unit		ES1004323-001	ES1004323-002	ES1004323-003	ES1004323-004	ES1004323-005
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.1	%		**97.1**	**85.6**	**89.3**	**81.7**	**81.8**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_19.0-19.2	BH72_20.5-20.7	BH71_0.08-0.15	BH71_2.5-2.7	BH71_7.0-7.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-006	ES1004323-007	ES1004323-008	ES1004323-009	ES1004323-010
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.7	5.2	----	10.8	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	14.4	14.5	14.2	10.6	17.4
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	6	<5
Barium	7440-39-3	10	mg/kg	40	<10	20	100	30
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	6	3	5	10	7
Cobalt	7440-48-4	2	mg/kg	<2	<2	20	<2	<2
Copper	7440-50-8	5	mg/kg	<5	<5	44	23	7
Iron	7439-89-6	50	mg/kg	790	790	30300	15100	----
Lead	7439-92-1	5	mg/kg	6	<5	<5	93	50
Manganese	7439-96-5	5	mg/kg	<5	<5	385	138	83
Nickel	7440-02-0	2	mg/kg	<2	<2	72	5	<2
Vanadium	7440-62-2	5	mg/kg	9	<5	13	15	13
Zinc	7440-66-6	5	mg/kg	<5	<5	25	180	47
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	1.1	0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	<1	<1	<1	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	<1	----	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	----	9.7	----
After HCl pH	----	0.1	pH Unit	----	----	----	2.1	----
Extraction Fluid Number	----	1	-	----	----	----	1	----
Final pH	----	0.1	pH Unit	----	----	----	6.4	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	0.9	0.6	----	1.9	----
^ Total Organic Carbon	----	0.5	%	0.5	<0.5	----	1.1	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_19.0-19.2	BH72_20.5-20.7	BH71_0.08-0.15	BH71_2.5-2.7	BH71_7.0-7.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-006	ES1004323-007	ES1004323-008	ES1004323-009	ES1004323-010
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Styrene	100-42-5	0.5	mg/kg	<0.5	----	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	<0.5	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	----	<0.5	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	----	<0.5	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	----	<0.5	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	----	<0.5	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	----	<0.5	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	----	<0.5	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	----	<0.5	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	----	<5	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	----	<5	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	----	<5	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	----	<5	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	----	<0.5	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	----	<0.5	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	----	<0.5	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	----	<0.5	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	----	<5	----
Chloromethane	74-87-3	5	mg/kg	<5	----	----	<5	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	----	<5	----
Bromomethane	74-83-9	5	mg/kg	<5	----	----	<5	----
Chloroethane	75-00-3	5	mg/kg	<5	----	----	<5	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	----	<5	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	----	<0.5	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	----	<0.5	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	----	<0.5	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	----	<0.5	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	----	<0.5	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	----	<0.5	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_19.0-19.2	BH72_20.5-20.7	BH71_0.08-0.15	BH71_2.5-2.7	BH71_7.0-7.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-006	ES1004323-007	ES1004323-008	ES1004323-009	ES1004323-010
EP074E: Halogenated Aliphatic Compounds - Continued								
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	----	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	----	<0.5	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	----	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	----	<0.5	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	----	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	----	<0.5	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	----	<0.5	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	----	<0.5	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	----	<0.5	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	----	<0.5	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	----	<0.5	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	<1.0	----	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	<2.0	----	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_19.0-19.2	BH72_20.5-20.7	BH71_0.08-0.15	BH71_2.5-2.7	BH71_7.0-7.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-006	ES1004323-007	ES1004323-008	ES1004323-009	ES1004323-010
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	<0.5	----	**1.0**
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	<0.5	----	**1.4**
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	<0.5	----	**1.3**
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	<0.5	----	**0.7**
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	<0.5	----	**0.6**
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	<0.5	<0.5	----	**0.8**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	<0.5	----	**0.5**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	<0.5	----	**6.3**
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Pentachlorophenol	87-86-5	1	mg/kg	<1	----	----	<1	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_19.0-19.2	BH72_20.5-20.7	BH71_0.08-0.15	BH71_2.5-2.7	BH71_7.0-7.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-006	ES1004323-007	ES1004323-008	ES1004323-009	ES1004323-010
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	<0.5	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	----	----	<1	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	<0.5	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	----	<0.5	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	----	<0.5	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	----	<0.5	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	----	<5.0	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	----	<0.5	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	----	<0.5	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	----	<1.0	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	----	<0.5	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	----	<0.5	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	----	<0.5	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	----	<0.5	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	----	<1.0	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	----	<0.5	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_19.0-19.2	BH72_20.5-20.7	BH71_0.08-0.15	BH71_2.5-2.7	BH71_7.0-7.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-006	ES1004323-007	ES1004323-008	ES1004323-009	ES1004323-010
EP075E: Nitroaromatics and Ketones - Continued								
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	----	<0.5	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	----	<1.0	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	----	<1.0	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	----	<0.5	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Azobenzene	103-33-3	1	mg/kg	<1	----	----	<1	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	----	<0.5	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	----	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	----	<0.5	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	----	<0.5	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	----	<2.5	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	----	<1.0	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	----	<1.0	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	----	<1.0	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	----	<0.5	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_19.0-19.2	BH72_20.5-20.7	BH71_0.08-0.15	BH71_2.5-2.7	BH71_7.0-7.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-006	ES1004323-007	ES1004323-008	ES1004323-009	ES1004323-010
EP075H: Anilines and Benzidines - Continued								
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	----	----	<0.5	----
beta-BHC	319-85-7	0.5	mg/kg	<0.5	----	----	<0.5	----
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	----	----	<0.5	----
delta-BHC	319-86-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Heptachlor	76-44-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Aldrin	309-00-2	0.5	mg/kg	<0.5	----	----	<0.5	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	----	----	<0.5	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	----	----	<0.5	----
4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Dieldrin	60-57-1	0.5	mg/kg	<0.5	----	----	<0.5	----
Endrin	72-20-8	0.5	mg/kg	<0.5	----	----	<0.5	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	----	----	<0.5	----
4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	----	----	<0.5	----
4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	----	----	<1.0	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Dimethoate	60-51-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Diazinon	333-41-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	----	----	<0.5	----
Malathion	121-75-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Fenthion	55-38-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	----	----	<0.5	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	----	----	<0.5	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	----	<0.5	----
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Ethion	563-12-2	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	----	----	<0.5	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	----	----	<0.5	----
trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Safrole	94-59-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Diallate	2303-16-4	0.5	mg/kg	<0.5	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_19.0-19.2	BH72_20.5-20.7	BH71_0.08-0.15	BH71_2.5-2.7	BH71_7.0-7.2
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-006	ES1004323-007	ES1004323-008	ES1004323-009	ES1004323-010
EP075K: Miscellaneous Compounds - Continued								
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	----	----	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	<0.2	----	<0.2
Toluene	108-88-3	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**113**	----	----	**94.5**	----
Toluene-D8	2037-26-5	0.1	%	**114**	----	----	**110**	----
4-Bromofluorobenzene	460-00-4	0.1	%	**103**	----	----	**99.1**	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	**91.3**	**94.9**	----	**98.1**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**91.7**	**94.3**	----	**93.8**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**91.1**	**91.4**	----	**91.0**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**102**	**104**	----	**98.5**
Anthracene-d10	1719-06-8	0.1	%	----	**98.4**	**100**	----	**94.7**
4-Terphenyl-d14	1718-51-0	0.1	%	----	**120**	**120**	----	**114**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	**33.8**	----	----	**66.2**	----
Phenol-d6	13127-88-3	0.1	%	**29.0**	----	----	**52.4**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**28.6**	----	----	**55.1**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**Not Determined**	----	----	**42.2**	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	**31.2**	----	----	**57.2**	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	**27.6**	----	----	**51.8**	----
2-Fluorobiphenyl	321-60-8	0.1	%	**28.4**	----	----	**56.6**	----
Anthracene-d10	1719-06-8	0.1	%	**29.6**	----	----	**61.1**	----
4-Terphenyl-d14	1718-51-0	0.1	%	**28.9**	----	----	**62.2**	----
EP080S: TPH(V)/BTEX Surrogates								

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH72_19.0-19.2	BH72_20.5-20.7	BH71_0.08-0.15	BH71_2.5-2.7	BH71_7.0-7.2
				Client sampling date / time	04-MAR-2010 15:00	04-MAR-2010 15:00	03-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00
Compound	CAS Number	LOR	Unit		ES1004323-006	ES1004323-007	ES1004323-008	ES1004323-009	ES1004323-010
EP080S: TPH(V)/BTEX Surrogates - Continued									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**108**	**101**	**101**	**90.2**	**95.5**
Toluene-D8	2037-26-5	0.1	%		**104**	**95.8**	**101**	**100**	**98.2**
4-Bromofluorobenzene	460-00-4	0.1	%		**92.7**	**87.7**	**91.1**	**88.6**	**87.7**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH71_10.0-10.2	BH71_13.0-13.2	BH71_15.0-15.2	BH71_19.0-19.2	BH71_23.5-23.7
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004323-011	ES1004323-012	ES1004323-013	ES1004323-014	ES1004323-015
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**8.6**	**8.3**	**7.2**	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**14.1**	**15.7**	**19.7**	**18.3**	**16.7**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	**50**	**60**	<10	**20**	**10**
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**7**	**7**	**3**	**10**	**5**
Cobalt	7440-48-4	2	mg/kg	<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg	**11**	**80**	<5	<5	<5
Iron	7439-89-6	50	mg/kg	**5360**	**9060**	**6870**	----	----
Lead	7439-92-1	5	mg/kg	**63**	**223**	<5	**15**	**12**
Manganese	7439-96-5	5	mg/kg	**37**	**53**	<5	<5	**30**
Nickel	7440-02-0	2	mg/kg	<2	**4**	<2	<2	<2
Vanadium	7440-62-2	5	mg/kg	**12**	**16**	**10**	**8**	**15**
Zinc	7440-66-6	5	mg/kg	**45**	**171**	<5	<5	**6**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.1**	**0.4**	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	<1	<1	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	<1	<1	----	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	**10.2**	----	----	----	----
After HCl pH	----	0.1	pH Unit	**1.9**	----	----	----	----
Extraction Fluid Number	----	1	-	**1**	----	----	----	----
Final pH	----	0.1	pH Unit	**5.1**	----	----	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	**1.1**	**2.6**	**0.8**	----	----
^ Total Organic Carbon	----	0.5	%	**0.6**	**1.5**	<0.5	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH71_10.0-10.2	BH71_13.0-13.2	BH71_15.0-15.2	BH71_19.0-19.2	BH71_23.5-23.7
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004323-011	ES1004323-012	ES1004323-013	ES1004323-014	ES1004323-015
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Styrene	100-42-5	0.5	mg/kg	<0.5	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	<0.5	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	<5	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	<5	----	----
Chloromethane	74-87-3	5	mg/kg	<5	----	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	<5	----	----
Bromomethane	74-83-9	5	mg/kg	<5	----	<5	----	----
Chloroethane	75-00-3	5	mg/kg	<5	----	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH71_10.0-10.2 Client sampling date / time: 04-MAR-2010 15:00 ES1004323-011	Client sample ID: BH71_13.0-13.2 Client sampling date / time: 04-MAR-2010 15:00 ES1004323-012	Client sample ID: BH71_15.0-15.2 Client sampling date / time: 04-MAR-2010 15:00 ES1004323-013	Client sample ID: BH71_19.0-19.2 Client sampling date / time: 04-MAR-2010 15:00 ES1004323-014	Client sample ID: BH71_23.5-23.7 Client sampling date / time: 05-MAR-2010 15:00 ES1004323-015
EP074E: Halogenated Aliphatic Compounds - Continued								
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	----	<1.0	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	<0.5	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	----	<2.0	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH71_10.0-10.2	BH71_13.0-13.2	BH71_15.0-15.2	BH71_19.0-19.2	BH71_23.5-23.7
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004323-011	ES1004323-012	ES1004323-013	ES1004323-014	ES1004323-015
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	<0.5	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	<0.5	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	**1.3**	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	----	**0.7**	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	----	**5.5**	----	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	----	**2.0**	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	----	**8.3**	----	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	----	**7.9**	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	**4.2**	----	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	----	**3.4**	----	<0.5	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	**4.6**	----	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	**1.4**	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**2.7**	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	**1.1**	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	**1.3**	----	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	**44.4**	----	<0.5	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachlorophenol	87-86-5	1	mg/kg	<1	----	<1	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**0.7**	----	<0.5	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH71_10.0-10.2	BH71_13.0-13.2	BH71_15.0-15.2	BH71_19.0-19.2	BH71_23.5-23.7
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004323-011	ES1004323-012	ES1004323-013	ES1004323-014	ES1004323-015
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**1.4**	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**1.3**	----	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	**1.3**	----	<0.5	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**0.7**	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	**0.6**	----	<0.5	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	----	<1	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**0.7**	----	<0.5	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	<0.5	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	<5.0	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	<1.0	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	<1.0	----	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH71_10.0-10.2	BH71_13.0-13.2	BH71_15.0-15.2	BH71_19.0-19.2	BH71_23.5-23.7
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004323-011	ES1004323-012	ES1004323-013	ES1004323-014	ES1004323-015
EP075E: Nitroaromatics and Ketones - Continued								
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	<1.0	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	<1.0	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	<0.5	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Azobenzene	103-33-3	1	mg/kg	<1	----	<1	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	<2.5	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	<1.0	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	<1.0	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	<1.0	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH71_10.0-10.2	BH71_13.0-13.2	BH71_15.0-15.2	BH71_19.0-19.2	BH71_23.5-23.7
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004323-011	ES1004323-012	ES1004323-013	ES1004323-014	ES1004323-015
EP075H: Anilines and Benzidines - Continued								
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	----	<0.5	----	----
beta-BHC	319-85-7	0.5	mg/kg	<0.5	----	<0.5	----	----
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	----	<0.5	----	----
delta-BHC	319-86-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Heptachlor	76-44-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Aldrin	309-00-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	----	<0.5	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Dieldrin	60-57-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Endrin	72-20-8	0.5	mg/kg	<0.5	----	<0.5	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	----	<1.0	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Dimethoate	60-51-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Diazinon	333-41-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	----	<0.5	----	----
Malathion	121-75-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Fenthion	55-38-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Ethion	563-12-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Safrole	94-59-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Diallate	2303-16-4	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH71_10.0-10.2	BH71_13.0-13.2	BH71_15.0-15.2	BH71_19.0-19.2	BH71_23.5-23.7
				Client sampling date / time: 04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
				ES1004323-011	ES1004323-012	ES1004323-013	ES1004323-014	ES1004323-015
EP075K: Miscellaneous Compounds - Continued								
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg	<100	110	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	110	<50	<50	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	<0.5	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	89.7	----	111	----	----
Toluene-D8	2037-26-5	0.1	%	110	----	113	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	100	----	102	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	103	----	92.8	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	96.9	----	86.5	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	106	----	88.3	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	110	----	99.8	----
Anthracene-d10	1719-06-8	0.1	%	----	106	----	94.2	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	126	----	118	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	113	----	71.9	----	----
Phenol-d6	13127-88-3	0.1	%	60.9	----	40.6	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	65.5	----	40.6	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	50.4	----	21.3	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	67.2	----	43.8	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	59.6	----	39.8	----	----
2-Fluorobiphenyl	321-60-8	0.1	%	68.4	----	44.3	----	----
Anthracene-d10	1719-06-8	0.1	%	70.8	----	46.1	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	81.5	----	49.8	----	----
EP080S: TPH(V)/BTEX Surrogates								

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH71_10.0-10.2	BH71_13.0-13.2	BH71_15.0-15.2	BH71_19.0-19.2	BH71_23.5-23.7
				Client sampling date / time	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	05-MAR-2010 15:00
Compound	CAS Number	LOR	Unit		ES1004323-011	ES1004323-012	ES1004323-013	ES1004323-014	ES1004323-015
EP080S: TPH(V)/BTEX Surrogates - Continued									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**97.9**	**104**	**106**	**100**	----
Toluene-D8	2037-26-5	0.1	%		**101**	**106**	**103**	**99.0**	----
4-Bromofluorobenzene	460-00-4	0.1	%		**87.8**	**92.1**	**92.6**	**87.0**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH70_01-02 Client sampling date / time: 03-MAR-2010 15:00 ES1004323-017	Client sample ID: BH41_1.0-1.4 Client sampling date / time: 04-MAR-2010 15:00 ES1004323-018	Client sample ID: BH41_4.0-4.4 Client sampling date / time: 04-MAR-2010 15:00 ES1004323-019	Client sample ID: BH41_8.5-8.9 Client sampling date / time: 04-MAR-2010 15:00 ES1004323-020	Client sample ID: TB15 Client sampling date / time: 04-MAR-2010 15:00 ES1004323-022
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**9.8**	**8.5**	----	**8.1**	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**2.9**	**9.2**	**22.4**	**16.0**	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	**7**	<5	<5	----
Barium	7440-39-3	10	mg/kg	**30**	**510**	**20**	**10**	----
Beryllium	7440-41-7	1	mg/kg	<1	**1**	<1	<1	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	**8**	**11**	**7**	**8**	----
Cobalt	7440-48-4	2	mg/kg	**28**	**13**	**4**	**3**	----
Copper	7440-50-8	5	mg/kg	**67**	**11**	<5	<5	----
Iron	7439-89-6	50	mg/kg	----	**38400**	----	**9710**	----
Lead	7439-92-1	5	mg/kg	<5	**17**	**8**	**8**	----
Manganese	7439-96-5	5	mg/kg	**524**	**682**	**215**	**169**	----
Nickel	7440-02-0	2	mg/kg	**93**	**21**	**5**	**3**	----
Vanadium	7440-62-2	5	mg/kg	**26**	**22**	**10**	**12**	----
Zinc	7440-66-6	5	mg/kg	**37**	**94**	**34**	**16**	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	<0.5	----
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	<1	<1	<1	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	<1	<1	<1	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	**9.3**	----	----	----
After HCl pH	----	0.1	pH Unit	----	**1.8**	----	----	----
Extraction Fluid Number	----	1	-	----	**1**	----	----	----
Final pH	----	0.1	pH Unit	----	**4.9**	----	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	**1.5**	**0.6**	**0.8**	----
^ Total Organic Carbon	----	0.5	%	----	**0.8**	<0.5	<0.5	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg	----	----	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH70_01-02 Client sampling date / time: 03-MAR-2010 15:00 ES1004323-017	Client sample ID: BH41_1.0-1.4 Client sampling date / time: 04-MAR-2010 15:00 ES1004323-018	Client sample ID: BH41_4.0-4.4 Client sampling date / time: 04-MAR-2010 15:00 ES1004323-019	Client sample ID: BH41_8.5-8.9 Client sampling date / time: 04-MAR-2010 15:00 ES1004323-020	Client sample ID: TB15 Client sampling date / time: 04-MAR-2010 15:00 ES1004323-022
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	----	<0.5
Styrene	100-42-5	0.5	mg/kg	----	----	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	----	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	----	----	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	----	----	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	----	----	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	----	----	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	----	----	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	----	----	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	----	----	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	----	----	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	----	----	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	----	----	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	----	----	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	----	----	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	----	----	<0.5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	----	----	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	----	----	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	----	----	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	----	----	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	----	----	<5
Chloromethane	74-87-3	5	mg/kg	----	----	----	----	<5
Vinyl chloride	75-01-4	5	mg/kg	----	----	----	----	<5
Bromomethane	74-83-9	5	mg/kg	----	----	----	----	<5
Chloroethane	75-00-3	5	mg/kg	----	----	----	----	<5
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	----	----	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	----	----	<0.5
Iodomethane	74-88-4	0.5	mg/kg	----	----	----	----	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	----	----	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	----	----	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	----	----	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	----	----	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	----	----	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH70_01-02	BH41_1.0-1.4	BH41_4.0-4.4	BH41_8.5-8.9	TB15
				Client sampling date / time: 03-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-017	ES1004323-018	ES1004323-019	ES1004323-020	ES1004323-022
EP074E: Halogenated Aliphatic Compounds - Continued								
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	----	----	<0.5
Trichloroethene	79-01-6	0.5	mg/kg	----	----	----	----	<0.5
Dibromomethane	74-95-3	0.5	mg/kg	----	----	----	----	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	----	----	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	----	----	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	----	----	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	----	----	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	----	----	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	----	----	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	----	----	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	----	----	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	----	----	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	----	----	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	----	<0.5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	----	----	<0.5
Bromobenzene	108-86-1	0.5	mg/kg	----	----	----	----	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	----	----	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	----	----	<0.5
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	----	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	----	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	----	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	----	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	----	----	<0.5
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	----	----	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	----	----	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	----	----	<0.5
Bromoform	75-25-2	0.5	mg/kg	----	----	----	----	<0.5
EP074H: Naphthalene								
Naphthalene	91-20-3	5	mg/kg	----	----	----	----	<5
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH70_01-02	BH41_1.0-1.4	BH41_4.0-4.4	BH41_8.5-8.9	TB15
				Client sampling date / time	03-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00
Compound	CAS Number	LOR	Unit		ES1004323-017	ES1004323-018	ES1004323-019	ES1004323-020	ES1004323-022
EP075(SIM)A: Phenolic Compounds - Continued									
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Pentachlorophenol	87-86-5	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	----
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH70_01-02	BH41_1.0-1.4	BH41_4.0-4.4	BH41_8.5-8.9	TB15
				Client sampling date / time: 03-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00
				ES1004323-017	ES1004323-018	ES1004323-019	ES1004323-020	ES1004323-022
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	----	**114**
Toluene-D8	2037-26-5	0.1	%	----	----	----	----	**106**
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	----	**96.0**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**110**	**89.6**	**88.3**	**89.6**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**106**	**87.0**	**86.9**	**90.1**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**92.3**	**77.4**	**85.0**	**82.8**	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**118**	**91.9**	**94.1**	**95.3**	----
Anthracene-d10	1719-06-8	0.1	%	**117**	**92.2**	**93.9**	**91.9**	----
4-Terphenyl-d14	1718-51-0	0.1	%	**120**	**107**	**111**	**108**	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**112**	**111**	**94.6**	**108**	----
Toluene-D8	2037-26-5	0.1	%	**104**	**109**	**91.7**	**102**	----
4-Bromofluorobenzene	460-00-4	0.1	%	**91.7**	**93.2**	**81.0**	**84.8**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH36_1.0-1.2	BH36_4.0-4.4	BH36_8.5-8.9	BH36_13-13.4	BH36_15-15.05
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004323-023	ES1004323-024	ES1004323-025	ES1004323-026	ES1004323-027
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**8.9**	----	----	----	**8.6**
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**8.1**	**14.0**	**11.2**	**12.0**	**9.8**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	**10**	**30**	**50**	**50**	**40**
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**8**	**7**	**9**	**8**	**12**
Cobalt	7440-48-4	2	mg/kg	<2	<2	**6**	**4**	<2
Copper	7440-50-8	5	mg/kg	<5	<5	**7**	**6**	<5
Iron	7439-89-6	50	mg/kg	----	----	----	----	**12800**
Lead	7439-92-1	5	mg/kg	**17**	**9**	**13**	**13**	**12**
Manganese	7439-96-5	5	mg/kg	**43**	**73**	**308**	**254**	**43**
Nickel	7440-02-0	2	mg/kg	<2	**2**	**10**	**5**	**5**
Vanadium	7440-62-2	5	mg/kg	**12**	**12**	**14**	**14**	**20**
Zinc	7440-66-6	5	mg/kg	**14**	**17**	**46**	**40**	**11**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	----	<0.5
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	<1	----	----	<1
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	<1	----	----	<1
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	**9.2**	----	----	----	----
After HCl pH	----	0.1	pH Unit	**1.7**	----	----	----	----
Extraction Fluid Number	----	1	-	**1**	----	----	----	----
Final pH	----	0.1	pH Unit	**4.8**	----	----	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	----	----	**0.7**
^ Total Organic Carbon	----	0.5	%	----	----	----	----	<0.5
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH36_1.0-1.2	BH36_4.0-4.4	BH36_8.5-8.9	BH36_13-13.4	BH36_15-15.05
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004323-023	ES1004323-024	ES1004323-025	ES1004323-026	ES1004323-027
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Styrene	100-42-5	0.5	mg/kg	----	<0.5	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg	----	<0.5	----	----	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	----	<0.5	----	----	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	<0.5	----	----	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	<0.5	----	----	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	<0.5	----	----	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	<0.5	----	----	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	<0.5	----	----	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	----	<0.5	----	----	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	<5	----	----	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	----	<5	----	----	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	<5	----	----	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	<5	----	----	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	<0.5	----	----	<0.5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	<0.5	----	----	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	<0.5	----	----	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	<0.5	----	----	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	<0.5	----	----	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	<5	----	----	<5
Chloromethane	74-87-3	5	mg/kg	----	<5	----	----	<5
Vinyl chloride	75-01-4	5	mg/kg	----	<5	----	----	<5
Bromomethane	74-83-9	5	mg/kg	----	<5	----	----	<5
Chloroethane	75-00-3	5	mg/kg	----	<5	----	----	<5
Trichlorofluoromethane	75-69-4	5	mg/kg	----	<5	----	----	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Iodomethane	74-88-4	0.5	mg/kg	----	<0.5	----	----	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	<0.5	----	----	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	<0.5	----	----	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	<0.5	----	----	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	<0.5	----	----	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	<0.5	----	----	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH36_1.0-1.2	BH36_4.0-4.4	BH36_8.5-8.9	BH36_13-13.4	BH36_15-15.05
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004323-023	ES1004323-024	ES1004323-025	ES1004323-026	ES1004323-027
EP074E: Halogenated Aliphatic Compounds - Continued								
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	<0.5	----	----	<0.5
Trichloroethene	79-01-6	0.5	mg/kg	----	<0.5	----	----	<0.5
Dibromomethane	74-95-3	0.5	mg/kg	----	<0.5	----	----	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	<0.5	----	----	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	<0.5	----	----	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg	----	<0.5	----	----	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	<0.5	----	----	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	<0.5	----	----	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	<0.5	----	----	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	<0.5	----	----	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg	----	<0.5	----	----	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	<0.5	----	----	<0.5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Bromobenzene	108-86-1	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	<0.5	----	----	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	<0.5	----	----	<0.5
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg	----	<0.5	----	----	<0.5
Bromoform	75-25-2	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	<1.0	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	----	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH36_1.0-1.2	BH36_4.0-4.4	BH36_8.5-8.9	BH36_13-13.4	BH36_15-15.05
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004323-023	ES1004323-024	ES1004323-025	ES1004323-026	ES1004323-027
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Pentachlorophenol	87-86-5	1	mg/kg	----	<1	----	----	<1
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	**1.7**
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	<0.5	----	----	**1.3**
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH36_1.0-1.2	BH36_4.0-4.4	BH36_8.5-8.9	BH36_13-13.4	BH36_15-15.05
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004323-023	ES1004323-024	ES1004323-025	ES1004323-026	ES1004323-027
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	**1.0**
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	**0.7**
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	<0.5
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	<1	----	----	<1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	<0.5	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	<0.5
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg	----	<0.5	----	----	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	<0.5	----	----	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	<0.5	----	----	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	<5.0	----	----	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	<0.5	----	----	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	<0.5	----	----	<0.5
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	<1.0	----	----	<1.0
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	<0.5	----	----	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	<0.5	----	----	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	<0.5	----	----	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	<0.5	----	----	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	<1.0	----	----	<1.0
Methapyrilene	91-80-5	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Acetophenone	98-86-2	0.5	mg/kg	----	<0.5	----	----	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg	----	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH36_1.0-1.2	BH36_4.0-4.4	BH36_8.5-8.9	BH36_13-13.4	BH36_15-15.05
Client sampling date / time				03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004323-023	ES1004323-024	ES1004323-025	ES1004323-026	ES1004323-027
EP075E: Nitroaromatics and Ketones - Continued								
Isophorone	78-59-1	0.5	mg/kg	----	<0.5	----	----	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	<1.0	----	----	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	<1.0	----	----	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	<0.5	----	----	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Azobenzene	103-33-3	1	mg/kg	----	<1	----	----	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Phenacetin	62-44-2	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	<0.5	----	----	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Pronamide	23950-58-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<0.5	----	----	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<0.5	----	----	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<0.5	----	----	<0.5
Hexachloroethane	67-72-1	0.5	mg/kg	----	<0.5	----	----	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<0.5	----	----	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	<2.5	----	----	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	<1.0	----	----	<1.0
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Nitroaniline	88-74-4	1.0	mg/kg	----	<1.0	----	----	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg	----	<1.0	----	----	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg	----	<0.5	----	----	<0.5
Carbazole	86-74-8	0.5	mg/kg	----	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH36_1.0-1.2	BH36_4.0-4.4	BH36_8.5-8.9	BH36_13-13.4	BH36_15-15.05
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004323-023	ES1004323-024	ES1004323-025	ES1004323-026	ES1004323-027
EP075H: Anilines and Benzidines - Continued								
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	<0.5	----	----	<0.5
beta-BHC	319-85-7	0.5	mg/kg	----	<0.5	----	----	<0.5
gamma-BHC	58-89-9	0.5	mg/kg	----	<0.5	----	----	<0.5
delta-BHC	319-86-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Heptachlor	76-44-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Aldrin	309-00-2	0.5	mg/kg	----	<0.5	----	----	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	<0.5	----	----	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	<0.5	----	----	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg	----	<0.5	----	----	<0.5
Dieldrin	60-57-1	0.5	mg/kg	----	<0.5	----	----	<0.5
Endrin	72-20-8	0.5	mg/kg	----	<0.5	----	----	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	<0.5	----	----	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	<0.5	----	----	<0.5
4.4`-DDT	50-29-3	1.0	mg/kg	----	<1.0	----	----	<1.0
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Dimethoate	60-51-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Diazinon	333-41-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	<0.5	----	----	<0.5
Malathion	121-75-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Fenthion	55-38-9	0.5	mg/kg	----	<0.5	----	----	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	<0.5	----	----	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	<0.5	----	----	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	<0.5	----	----	<0.5
Prothiofos	34643-46-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Ethion	563-12-2	0.5	mg/kg	----	<0.5	----	----	<0.5
EP075K: Miscellaneous Compounds								
1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	----	<0.5	----	----	<0.5
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Methanesulfonate methyl	66-27-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Methanesulfonate ethyl	62-50-0	0.5	mg/kg	----	<0.5	----	----	<0.5
cis-Isosafrole	17627-76-8	0.5	mg/kg	----	<0.5	----	----	<0.5
trans-Isosafrole	4043-71-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Safrole	94-59-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Diallate	2303-16-4	0.5	mg/kg	----	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH36_1.0-1.2	BH36_4.0-4.4	BH36_8.5-8.9	BH36_13-13.4	BH36_15-15.05
				Client sampling date / time: 03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
				ES1004323-023	ES1004323-024	ES1004323-025	ES1004323-026	ES1004323-027
EP075K: Miscellaneous Compounds - Continued								
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	----	<0.5	----	----	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	----	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**82.3**	----	----	**111**
Toluene-D8	2037-26-5	0.1	%	----	**110**	----	----	**115**
4-Bromofluorobenzene	460-00-4	0.1	%	----	**98.3**	----	----	**106**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**91.9**	----	**99.1**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**90.3**	----	**101**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**82.0**	----	**102**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**92.9**	----	**90.1**	----	----
Anthracene-d10	1719-06-8	0.1	%	**94.2**	----	**90.8**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**109**	----	**88.7**	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	**74.6**	----	----	**125**
Phenol-d6	13127-88-3	0.1	%	----	**42.4**	----	----	**69.2**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**45.2**	----	----	**73.8**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**27.5**	----	----	**47.9**
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	**45.2**	----	----	**75.0**
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	**39.2**	----	----	**63.7**
2-Fluorobiphenyl	321-60-8	0.1	%	----	**45.4**	----	----	**74.4**
Anthracene-d10	1719-06-8	0.1	%	----	**47.0**	----	----	**73.1**
4-Terphenyl-d14	1718-51-0	0.1	%	----	**51.4**	----	----	**83.2**
EP080S: TPH(V)/BTEX Surrogates								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	BH36_1.0-1.2	BH36_4.0-4.4	BH36_8.5-8.9	BH36_13-13.4	BH36_15-15.05
				Client sampling date / time	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00	03-MAR-2010 15:00
					ES1004323-023	ES1004323-024	ES1004323-025	ES1004323-026	ES1004323-027
EP080S: TPH(V)/BTEX Surrogates - Continued									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**107**	**91.0**	**90.2**	----	**117**
Toluene-D8	2037-26-5	0.1	%		**102**	**101**	**90.5**	----	**105**
4-Bromofluorobenzene	460-00-4	0.1	%		**87.2**	**89.7**	**85.9**	----	**86.6**

Analytical Results

Sub-Matrix: **TCLP LEACHATE**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_1.0-1.2	BH71_2.5-2.7	BH71_10.0-10.2	BH41_1.0-1.4	BH36_1.0-1.2
				Client sampling date / time: 11-MAR-2010 12:00	11-MAR-2010 12:00	11-MAR-2010 12:00	11-MAR-2010 12:00	11-MAR-2010 12:00
				ES1004323-001	ES1004323-009	ES1004323-011	ES1004323-018	ES1004323-023
EG005C: Leachable Metals by ICPAES								
Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Barium	7440-39-3	0.1	mg/L	**0.5**	**0.6**	**0.4**	**1.7**	**0.4**
Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	7440-48-4	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	**0.2**	<0.1	<0.1
Manganese	7439-96-5	0.1	mg/L	**1.4**	**0.6**	**0.5**	**1.4**	**0.3**
Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	7440-66-6	0.1	mg/L	**0.3**	<0.1	**0.4**	**0.4**	**0.2**
EG035C: Leachable Mercury by FIMS								
Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	**6.0**	**9.0**	**27.6**	**1.3**	**7.6**
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	**2.5**	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	**5.6**	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	**5.9**	<1.0	**1.8**
Phenanthrene	85-01-8	1.0	µg/L	**1.9**	**1.7**	**13.2**	**1.1**	**5.0**
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	**2.3**	<1.0	**1.2**
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	**1.8**	<1.0	**1.3**
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	**1.4**	<1.0	**1.2**
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**31.9**	**36.8**	**30.0**	**34.8**	**41.0**
2-Chlorophenol-D4	93951-73-6	0.1	%	**74.2**	**74.6**	**72.8**	**69.7**	**81.1**
2.4.6-Tribromophenol	118-79-6	0.1	%	**78.7**	**87.9**	**79.2**	**74.6**	**92.7**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**74.4**	**82.4**	**78.8**	**82.8**	**96.7**
Anthracene-d10	1719-06-8	0.1	%	**71.9**	**75.5**	**69.3**	**75.2**	**87.0**

Analytical Results

Sub-Matrix: **TCLP LEACHATE**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_1.0-1.2	BH71_2.5-2.7	BH71_10.0-10.2	BH41_1.0-1.4	BH36_1.0-1.2
				Client sampling date / time: 11-MAR-2010 12:00	11-MAR-2010 12:00	11-MAR-2010 12:00	11-MAR-2010 12:00	11-MAR-2010 12:00
				ES1004323-001	ES1004323-009	ES1004323-011	ES1004323-018	ES1004323-023
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	**67.8**	**73.1**	**75.0**	**77.4**	**91.0**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC166	QC142	QC115	----	----
				Client sampling date / time: 05-MAR-2010 15:00	04-MAR-2010 15:00	03-MAR-2010 15:00	----	----
				ES1004323-016	ES1004323-021	ES1004323-032	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Barium	7440-39-3	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	----	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	----	----
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	<0.01	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	<0.005	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	----	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	----	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	----	----
EP080: BTEX								
Benzene	71-43-2	1	µg/L	<1	<1	<1	----	----
Toluene	108-88-3	2	µg/L	<5	<5	<5	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**98.1**	**96.2**	**110**	----	----
Toluene-D8	2037-26-5	0.1	%	**97.8**	**96.1**	**101**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**104**	**103**	**111**	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	23	120
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

Sub-Matrix: WATER		Recovery Limits (%)	

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

QUALITY CONTROL REPORT

Work Order	: **ES1004323**	Page	: 1 of 45
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 09-MAR-2010
Sampler	: SP	Issue Date	: 22-MAR-2010
Order number	: 1303522		
		No. of samples received	: 57
Quote number	: SY/526/09	No. of samples analysed	: 28

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Ashesh Patel	Inorganic Chemist	Inorganics
Celine Conceicao	Spectroscopist	Inorganics
Charlie Pierce	Lab Manager	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Victor Kedicioglu	Business Manager - NSW	Inorganics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA002 : pH (Soils) (QC Lot: 1274370)									
ES1004323-001	BH72_1.0-1.2	EA002: pH Value	----	0.1	pH Unit	8.8	8.8	0.0	0% - 20%
ES1004323-020	BH41_8.5-8.9	EA002: pH Value	----	0.1	pH Unit	8.1	8.1	0.0	0% - 20%
EA055: Moisture Content (QC Lot: 1274646)									
ES1004323-001	BH72_1.0-1.2	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	5.0	5.0	0.0	No Limit
ES1004323-026	BH36_13-13.4	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	12.0	10.4	14.6	0% - 50%
EA055: Moisture Content (QC Lot: 1274673)									
EB1004124-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	89.2	89.2	0.0	0% - 20%
ES1004323-005	BH72_16.0-16.2	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.1	22.8	5.4	0% - 20%
EA055: Moisture Content (QC Lot: 1274675)									
ES1004323-020	BH41_8.5-8.9	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	16.0	14.9	7.1	0% - 50%
ES1004425-003	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	16.0	16.4	2.6	0% - 50%
EA055: Moisture Content (QC Lot: 1275131)									
ES1004323-015	BH71_23.5-23.7	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	16.7	16.5	1.4	0% - 50%
ES1004324-072	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	25.5	24.4	4.4	0% - 20%
EA055: Moisture Content (QC Lot: 1275134)									
ES1004413-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	17.3	18.5	7.0	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 1275586)									
ES1004266-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	2	2	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	60	60	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	7	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	2	2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	11	11	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	18	16	6.8	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	165	162	2.1	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	266	188	# 34.2	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	18	18	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	793	789	0.5	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	8910	9130	2.4	0% - 20%
ES1004308-013	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	470	560	18.7	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	44	52	18.6	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1275586) - continued									
ES1004308-013	Anonymous	EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	4	40.6	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	29	36	22.9	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	54	57	5.2	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	129	166	# 25.1	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	39	31	23.4	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	10	12	13.9	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	22500	21500	4.6	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1275588)									
ES1004323-010	BH71_7.0-7.2	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	30	40	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	7	8	18.7	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	7	12	46.6	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	50	76	40.1	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	83	75	10.0	0% - 50%
		EG005T: Vanadium	7440-62-2	5	mg/kg	13	14	8.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	47	62	28.3	0% - 50%
		EG005T: Iron	7439-89-6	50	mg/kg	7990	10300	# 25.6	0% - 20%
ES1004323-023	BH36_1.0-1.2	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	10	20	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	6	28.4	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	16	8.9	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	43	39	8.9	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	12	9	21.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	14	15	11.8	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	7800	5280	# 38.5	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1277645)									
ES1004333-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1277645) - continued									
ES1004333-001	Anonymous	EG005T: Barium	7440-39-3	10	mg/kg	110	100	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	12	13	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	4	4	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	6	6	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	88	138	# 44.2	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	28	28	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	219	222	1.0	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	31	31	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	65	61	6.8	0% - 50%
ES1004333-009	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	130	130	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	16	12	30.5	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	3	3	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	4	24.9	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	5	47.5	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	12	10	21.4	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	27	32	15.9	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	165	171	3.6	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	43	29	37.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	49	53	8.1	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 1281138)									
ES1004797-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	130	110	13.9	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	26	23	13.1	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	10	7	26.5	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	24	20	20.8	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	7	14.5	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	27	24	11.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	14	12	16.8	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	361	304	17.2	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	27	21	24.7	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	85	99	15.2	0% - 50%
ES1004797-010	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	1	1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	140	140	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	37	36	0.0	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1281138) - continued									
ES1004797-010	Anonymous	EG005T: Cobalt	7440-48-4	2	mg/kg	10	10	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	30	30	0.0	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	9	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	31	32	5.2	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	16	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	381	385	0.8	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	29	29	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	113	123	8.3	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1275587)									
ES1004266-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1004308-013	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1275589)									
ES1004323-010	BH71_7.0-7.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	0.0	No Limit
ES1004323-023	BH36_1.0-1.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1277646)									
ES1004333-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1004333-009	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1281139)									
ES1004797-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1004797-010	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1275123)									
ES1004218-026	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1004308-013	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	2.4	2.4	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1275124)									
ES1004323-020	BH41_8.5-8.9	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026G: Total Cyanide By Discrete Analyser (QC Lot: 1274656)									
ES1004323-001	BH72_1.0-1.2	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
ES1004323-018	BH41_1.0-1.4	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1276811)									
ES1004218-004	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
ES1004308-008	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1276812)									
ES1004323-019	BH41_4.0-4.4	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
ES1004502-005	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EP004: Organic Matter (QC Lot: 1274080)									
ES1004323-001	BH72_1.0-1.2	EP004: Organic Matter	----	0.5	%	0.8	0.8	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.0	No Limit
ES1004323-020	BH41_8.5-8.9	EP004: Organic Matter	----	0.5	%	0.8	0.8	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP004: Organic Matter (QC Lot: 1274080) - continued									
ES1004323-020	BH41_8.5-8.9	EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1274055)									
ES1004323-001	BH72_1.0-1.2	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1274312)									
ES1004371-001	Anonymous	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1274055)									
ES1004323-001	BH72_1.0-1.2	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1274312)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074B: Oxygenated Compounds (QC Lot: 1274312) - continued									
ES1004371-001	Anonymous	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1274055)									
ES1004323-001	BH72_1.0-1.2	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1274312)									
ES1004371-001	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1274055)									
ES1004323-001	BH72_1.0-1.2	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 1274312)									
ES1004371-001	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1274055)									
ES1004323-001	BH72_1.0-1.2	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1274055) - continued									
ES1004323-001	BH72_1.0-1.2	EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1274312)									
ES1004371-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1274055)									
ES1004323-001	BH72_1.0-1.2	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074F: Halogenated Aromatic Compounds (QC Lot: 1274055) - continued									
ES1004323-001	BH72_1.0-1.2	EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1274312)									
ES1004371-001	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1274055)									
ES1004323-001	BH72_1.0-1.2	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1274312)									
ES1004371-001	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074H: Naphthalene (QC Lot: 1274055)									
ES1004323-001	BH72_1.0-1.2	EP074: Naphthalene	91-20-3	5	mg/kg	<5	<5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1274086)									
ES1004323-002	BH72_2.5-2.7	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
ES1004323-019	BH41_4.0-4.4	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 1274086) - continued									
ES1004323-019	BH41_4.0-4.4	EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1276002)									
ES1004266-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1274086)									
ES1004323-002	BH72_2.5-2.7	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.4	<0.5	95.1	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.9	0.9	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	6.5	2.9	# 76.5	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.0	1.3	42.8	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	9.7	8.2	16.7	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	9.1	7.7	16.6	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.4	5.2	4.8	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.4	4.3	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	6.3	6.6	3.8	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.8	1.9	5.6	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.8	3.9	3.8	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.7	1.9	12.5	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1274086) - continued									
ES1004323-002	BH72_2.5-2.7	EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.2	2.5	10.3	No Limit
ES1004323-019	BH41_4.0-4.4	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1276002)									
ES1004266-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	0.8	0.9	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2.1	2.2	6.5	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	2.0	2.1	7.7	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	0.7	0.7	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	0.7	0.8	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	1.1	1.1	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.8	0.9	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	0.6	0.7	0.0	No Limit
EP075A: Phenolic Compounds (QC Lot: 1274416)									
ES1004323-006	BH72_19.0-19.2	EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075A: Phenolic Compounds (QC Lot: 1274416) - continued									
ES1004323-006	BH72_19.0-19.2	EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	0.0	No Limit
ES1004371-010	Anonymous	EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1274416)									
ES1004323-006	BH72_19.0-19.2	EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1274416) - continued									
ES1004323-006	BH72_19.0-19.2	EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	<1	0.0	No Limit
ES1004371-010	Anonymous	EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	1.2	0.7	57.0	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	0.5	<0.5	0.0	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	3.0	2.1	36.5	No Limit
		EP075: Pyrene	129-00-0	0.5	mg/kg	2.9	2.1	32.9	No Limit
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	1.6	1.2	28.6	No Limit
		EP075: Chrysene	218-01-9	0.5	mg/kg	1.6	1.2	31.6	No Limit
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.4	1.0	34.2	No Limit
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	2	1	0.0	No Limit
EP075C: Phthalate Esters (QC Lot: 1274416)									
ES1004323-006	BH72_19.0-19.2	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	<5.0	0.0	No Limit
ES1004371-010	Anonymous	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: bis(2-ethylhexyl) phthalate	117-81-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075D: Nitrosamines (QC Lot: 1274416)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075D: Nitrosamines (QC Lot: 1274416) - continued									
ES1004323-006	BH72_19.0-19.2	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
ES1004371-010	Anonymous	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 1274416)									
ES1004323-006	BH72_19.0-19.2	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
ES1004371-010	Anonymous	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075E: Nitroaromatics and Ketones (QC Lot: 1274416) - continued									
ES1004371-010	Anonymous	EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit
EP075F: Haloethers (QC Lot: 1274416)									
ES1004323-006	BH72_19.0-19.2	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1004371-010	Anonymous	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 1274416)									
ES1004323-006	BH72_19.0-19.2	EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	0.0	No Limit
ES1004371-010	Anonymous	EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075G: Chlorinated Hydrocarbons (QC Lot: 1274416) - continued									
ES1004371-010	Anonymous	EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075H: Anilines and Benzidines (QC Lot: 1274416)									
ES1004323-006	BH72_19.0-19.2	EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
ES1004371-010	Anonymous	EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 1274416)									
ES1004323-006	BH72_19.0-19.2	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075I: Organochlorine Pesticides (QC Lot: 1274416) - continued									
ES1004371-010	Anonymous	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 1274416)									
ES1004323-006	BH72_19.0-19.2	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1004371-010	Anonymous	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075K: Miscellaneous Compounds (QC Lot: 1274416)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075K: Miscellaneous Compounds (QC Lot: 1274416) - continued									
ES1004323-006	BH72_19.0-19.2	EP075: 1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Safrole	94-59-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diallate	2303-16-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1004371-010	Anonymous	EP075: 1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Safrole	94-59-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diallate	2303-16-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1274054)									
ES1004323-001	BH72_1.0-1.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1004323-012	BH71_13.0-13.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1274085)									
ES1004323-002	BH72_2.5-2.7	EP071: C15 - C28 Fraction	----	100	mg/kg	160	150	9.4	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	130	120	9.5	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1004323-019	BH41_4.0-4.4	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1274311)									
ES1004371-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1004371-008	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1276001)									
ES1004266-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1004412-007	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEX (QC Lot: 1274054)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080: BTEX (QC Lot: 1274054) - continued									
ES1004323-001	BH72_1.0-1.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1004323-012	BH71_13.0-13.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080: BTEX (QC Lot: 1274311)									
ES1004371-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1004371-008	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005C: Leachable Metals by ICPAES (QC Lot: 1276886)									
ES1004323-001	BH72_1.0-1.2	EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Barium	7440-39-3	0.1	mg/L	0.5	0.4	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Manganese	7439-96-5	0.1	mg/L	1.4	1.4	0.0	0% - 50%
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005C: Leachable Metals by ICPAES (QC Lot: 1276886) - continued									
ES1004323-001	BH72_1.0-1.2	EG005C: Zinc	7440-66-6	0.1	mg/L	0.3	0.3	0.0	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1274381)									
ES1004278-006	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	0.026	0.026	0.0	0% - 20%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.038	0.037	0.0	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Vanadium	7440-62-2	0.001	mg/L	<0.01	<0.01	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.001	mg/L	0.011	0.011	0.0	0% - 50%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1277669)									
EB1004173-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.001	0.0	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	0.025	0.026	0.0	0% - 20%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.020	0.020	0.0	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.006	0.006	0.0	No Limit
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EB1004188-013	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	0.032	0.032	0.0	0% - 20%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG035C: Leachable Mercury by FIMS (QC Lot: 1279258)									
ES1004218-004	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1274380)									
ES1004278-006	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1277668)									
EB1004173-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EB1004188-013	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1274817)									
ES1004208-007	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1004218-021	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1277412)									
ES1004542-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1004456-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	50	60	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1277808)									
ES1004589-001	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
ES1004589-011	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080: BTEX (QC Lot: 1274817)									
ES1004208-007	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
ES1004218-021	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
EP080: BTEX (QC Lot: 1277412)									
ES1004542-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080: BTEX (QC Lot: 1277412) - continued									
ES1004456-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1275586)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	109	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	120	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	110	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	107	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	102	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	102	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	106	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	13134 mg/kg	119	70	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	103	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	106	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	104	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	104	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	98.0	88.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1275588)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	91.4	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	105	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	96.2	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	94.6	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	# 88.7	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	87.3	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	90.4	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	13134 mg/kg	120	70	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	88.8	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	94.5	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	89.6	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	94.3	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	# 85.6	88.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1277645)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	----	# Not Authorised	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	----	# Not Authorised	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	----	# Not Authorised	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	----	# Not Authorised	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	----	# Not Authorised	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	----	# Not Authorised	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1277645) - continued								
EG005T: Copper	7440-50-8	5	mg/kg	<5	----	# Not Authorised	90.1	114
EG005T: Lead	7439-92-1	5	mg/kg	<5	----	# Not Authorised	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	----	# Not Authorised	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	----	# Not Authorised	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	----	# Not Authorised	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	----	# Not Authorised	88.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1281138)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	115	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	108	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	101	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	99.7	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	106	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	102	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	102	90.1	114
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	102	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	101	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	105	88.3	116
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	106	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	95.6	88.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275587)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	77.9	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275589)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	83.8	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1277646)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	75.8	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1281139)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	68.4	67	118
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275123)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	94.0	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275124)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	105	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1274656)								
EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	20.0 mg/kg	97.2	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1276811)								
EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	2.0 mg/kg	97.0	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1276812)								
EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	2.0 mg/kg	96.2	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP004: Organic Matter (QCLot: 1274080)								
EP004: Organic Matter	----	0.5	%	<0.5	4.58 %	94.5	86	111
EP004: Total Organic Carbon	----	0.5	%	<0.5	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1274055)								
EP074: Benzene	71-43-2	0.5	mg/kg	<0.5	1 mg/kg	91.3	64	126
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	79.6	63	135
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	93.3	64	124
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	96.1	66	126
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	96.5	67	121
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	94.5	66	124
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	94.6	64	124
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	91.6	59	129
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	91.3	63	125
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	91.1	61	127
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	90.6	62	126
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	94.1	62	126
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	91.5	60	126
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	84.7	57	129
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1274312)								
EP074: Benzene	71-43-2	0.5	mg/kg	<0.5	1 mg/kg	81.2	64	126
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	83.6	63	135
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	77.7	64	124
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	79.0	66	126
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	78.7	67	121
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	81.1	66	124
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	74.4	64	124
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	75.7	59	129
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	78.7	63	125
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	76.0	61	127
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	78.0	62	126
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	77.9	62	126
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	75.7	60	126
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	70.7	57	129
EP074B: Oxygenated Compounds (QCLot: 1274055)								
EP074: Vinyl Acetate	108-05-4	1	mg/kg	----	10 mg/kg	70.5	11	155
		5	mg/kg	<5	----	----	----	----
EP074: 2-Butanone (MEK)	78-93-3	1	mg/kg	----	10 mg/kg	75.5	37	169
		5	mg/kg	<5	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074B: Oxygenated Compounds (QCLot: 1274055) - continued								
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	1	mg/kg	----	10 mg/kg	100	55	133
		5	mg/kg	<5	----	----	----	----
EP074: 2-Hexanone (MBK)	591-78-6	1	mg/kg	----	10 mg/kg	104	57	133
		5	mg/kg	<5	----	----	----	----
EP074B: Oxygenated Compounds (QCLot: 1274312)								
EP074: Vinyl Acetate	108-05-4	1	mg/kg	----	10 mg/kg	64.6	11	155
		5	mg/kg	<5	----	----	----	----
EP074: 2-Butanone (MEK)	78-93-3	1	mg/kg	----	10 mg/kg	94.6	37	169
		5	mg/kg	<5	----	----	----	----
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	1	mg/kg	----	10 mg/kg	98.9	55	133
		5	mg/kg	<5	----	----	----	----
EP074: 2-Hexanone (MBK)	591-78-6	1	mg/kg	----	10 mg/kg	102	57	133
		5	mg/kg	<5	----	----	----	----
EP074C: Sulfonated Compounds (QCLot: 1274055)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	80.2	53	135
EP074C: Sulfonated Compounds (QCLot: 1274312)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	68.2	53	135
EP074D: Fumigants (QCLot: 1274055)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	66.9	57	129
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	91.6	68	122
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	80.9	59	127
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	80.3	53	129
EP074D: Fumigants (QCLot: 1274312)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	67.9	57	129
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	83.6	68	122
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	74.2	59	127
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	73.9	53	129
EP074E: Halogenated Aliphatic Compounds (QCLot: 1274055)								
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	----	10 mg/kg	52.4	28.9	146
		5	mg/kg	<5	----	----	----	----
EP074: Chloromethane	74-87-3	1	mg/kg	----	10 mg/kg	70.1	43	140
		5	mg/kg	<5	----	----	----	----
EP074: Vinyl chloride	75-01-4	1	mg/kg	----	10 mg/kg	74.8	41	149
		5	mg/kg	<5	----	----	----	----
EP074: Bromomethane	74-83-9	1	mg/kg	----	10 mg/kg	107	44	152
		5	mg/kg	<5	----	----	----	----
EP074: Chloroethane	75-00-3	1	mg/kg	----	10 mg/kg	77.5	49	149
		5	mg/kg	<5	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1274055) - continued								
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	----	10 mg/kg	95.7	53	139
		5	mg/kg	<5	----	----	----	----
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	81.3	57	133
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	71.8	48	134
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	79.5	62	128
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	88.9	64	126
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	83.1	66	124
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	80.6	61	125
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	85.6	62	128
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	79.4	56	128
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	98.2	70	124
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	100	65	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	83.3	67	123
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	98.7	70	122
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	97.1	71	121
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	119	64	144
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	82.4	57	125
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	87.4	39	141
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	85.0	56	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	77.9	57	127
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	97.6	62	126
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	49.1	26.4	144
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	87.6	51	133
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	86.8	48	136
EP074E: Halogenated Aliphatic Compounds (QCLot: 1274312)								
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	----	10 mg/kg	34.0	28.9	146
		5	mg/kg	<5	----	----	----	----
EP074: Chloromethane	74-87-3	1	mg/kg	----	10 mg/kg	46.4	43	140
		5	mg/kg	<5	----	----	----	----
EP074: Vinyl chloride	75-01-4	1	mg/kg	----	10 mg/kg	52.3	41	149
		5	mg/kg	<5	----	----	----	----
EP074: Bromomethane	74-83-9	1	mg/kg	----	10 mg/kg	75.3	44	152
		5	mg/kg	<5	----	----	----	----
EP074: Chloroethane	75-00-3	1	mg/kg	----	10 mg/kg	60.4	49	149
		5	mg/kg	<5	----	----	----	----
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	----	10 mg/kg	68.2	53	139
		5	mg/kg	<5	----	----	----	----
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	67.3	57	133
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	70.6	48	134

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1274312) - continued								
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	75.0	62	128
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	77.2	64	126
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	78.2	66	124
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	69.8	61	125
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	74.3	62	128
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	72.4	56	128
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	96.7	70	124
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	84.8	65	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	75.7	67	123
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	101	70	122
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	102	71	121
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	105	64	144
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	77.9	57	125
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	87.7	39	141
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	80.8	56	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	78.5	57	127
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	97.4	62	126
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	49.1	26.4	144
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	79.4	51	133
EP074F: Halogenated Aromatic Compounds (QCLot: 1274055)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	96.1	67	125
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	94.7	68	122
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	92.6	63	127
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	90.3	64	126
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	93.1	66	124
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	87.4	64	126
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	92.8	67	121
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	84.6	54	134
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	92.8	58	132
EP074F: Halogenated Aromatic Compounds (QCLot: 1274312)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	86.4	67	125
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	88.6	68	122
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	80.2	63	127
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	80.7	64	126
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	87.7	58	132
EP074G: Trihalomethanes (QCLot: 1274055)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	96.7	67	123
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	85.6	60	126
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	88.0	58	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074G: Trihalomethanes (QCLot: 1274055) - continued								
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	100	57	121
EP074G: Trihalomethanes (QCLot: 1274312)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	84.2	67	123
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	82.1	60	126
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	89.0	58	124
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	91.6	57	121
EP074H: Naphthalene (QCLot: 1274055)								
EP074: Naphthalene	91-20-3	0.5	mg/kg	----	1 mg/kg	95.7	63	131
		5	mg/kg	<5	----	----	----	----
EP075(SIM)A: Phenolic Compounds (QCLot: 1274086)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	85.5	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	104	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	84.2	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	87.5	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	112	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	# 73.2	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	102	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	102	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	111	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	95.2	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	91.9	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	69.6	1.23	91.6
EP075(SIM)A: Phenolic Compounds (QCLot: 1276002)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	88.6	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	99.5	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	87.0	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	83.3	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	90.6	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	# 68.5	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	100	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	100	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	112	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	94.9	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	89.9	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	66.1	1.23	91.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1274086)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	107	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	# 114	79.6	113

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1274086) - continued								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	104	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	108	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	109	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	# 112	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	106	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	106	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	105	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	104	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	92.5	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	102	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	98.5	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	94.2	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	91.9	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	93.2	72.4	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1276002)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	105	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	111	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	101	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	105	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	106	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	108	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	105	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	106	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	104	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	100	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	95.6	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	102	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	96.5	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	92.0	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	92.8	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	88.0	72.4	114
EP075A: Phenolic Compounds (QCLot: 1274416)								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.25 mg/kg	93.3	66.9	114
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.25 mg/kg	86.2	58.5	108
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.25 mg/kg	64.0	43	103
EP075: 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	2.5 mg/kg	72.6	35.9	109
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	74.8	49.4	109
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.25 mg/kg	32.0	.15	116
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.25 mg/kg	68.2	52.5	106

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075A: Phenolic Compounds (QCLot: 1274416) - continued								
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.25 mg/kg	53.9	48.2	98.6
EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	1.25 mg/kg	88.6	59	106
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.25 mg/kg	56.3	44.4	101
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.25 mg/kg	60.7	48	107
EP075: Pentachlorophenol	87-86-5	1.0	mg/kg	<1	2.5 mg/kg	29.6	4.43	89.2
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1274416)								
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.25 mg/kg	96.4	63.7	108
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.25 mg/kg	95.5	60.8	110
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.25 mg/kg	91.6	59.1	110
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.25 mg/kg	93.3	58.8	106
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.25 mg/kg	90.1	61.7	110
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	88.6	59.2	110
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.25 mg/kg	98.7	61.9	108
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.25 mg/kg	92.9	58.3	107
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.25 mg/kg	95.2	58.5	110
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.25 mg/kg	95.5	60.4	109
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.25 mg/kg	92.1	59.5	110
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	92.3	57.2	111
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.25 mg/kg	93.4	58.4	113
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2	1	mg/kg	----	2.5 mg/kg	97.9	57.1	112
	207-08-9	1.0	mg/kg	<1	----	----	----	----
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.25 mg/kg	80.6	48.1	106
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.25 mg/kg	97.0	56.6	108
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.25 mg/kg	89.1	52.7	108
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.25 mg/kg	89.0	56.8	110
EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.25 mg/kg	87.4	54.7	110
EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.25 mg/kg	90.2	55	112
EP075C: Phthalate Esters (QCLot: 1274416)								
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.25 mg/kg	98.1	60.1	111
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.25 mg/kg	97.7	62.3	114
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.25 mg/kg	100	65.5	122
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.25 mg/kg	94.9	61.6	112
EP075: bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg	----	1.25 mg/kg	103	66.6	135
		5.0	mg/kg	<5.0	----	----	----	----
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.25 mg/kg	103	59	116
EP075D: Nitrosamines (QCLot: 1274416)								
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.25 mg/kg	102	39.4	124
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.25 mg/kg	91.3	62.7	112

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075D: Nitrosamines (QCLot: 1274416) - continued								
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	----	1.25 mg/kg	97.8	42.8	102
		1.0	mg/kg	<1.0	----	----	----	----
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.25 mg/kg	102	52.4	112
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.25 mg/kg	99.3	60.6	107
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.25 mg/kg	98.8	59.6	108
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.25 mg/kg	93.2	59.4	106
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6	1.0	mg/kg	<1.0	2.5 mg/kg	63.5	38	110
	122-39-4							
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.25 mg/kg	78.2	16.3	123
EP075E: Nitroaromatics and Ketones (QCLot: 1274416)								
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.25 mg/kg	84.8	27.3	129
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.25 mg/kg	104	62.6	110
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.25 mg/kg	102	64.4	112
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.25 mg/kg	101	64	110
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	----	1.25 mg/kg	94.6	58	114
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	----	1.25 mg/kg	97.4	55.8	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.25 mg/kg	48.2	2.24	93
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.25 mg/kg	57.6	3.12	108
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.25 mg/kg	# 108	48.3	98.5
EP075: Azobenzene	103-33-3	1	mg/kg	----	1.25 mg/kg	96.5	61.4	113
		1.0	mg/kg	<1	----	----	----	----
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.25 mg/kg	83.2	33	108
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.25 mg/kg	91.8	58.1	110
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.25 mg/kg	# 114	36.1	102
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.25 mg/kg	86.7	55.8	106
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.25 mg/kg	93.6	49.4	105
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.25 mg/kg	84.4	53.5	105
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.25 mg/kg	95.0	57.4	112
EP075F: Haloethers (QCLot: 1274416)								
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.25 mg/kg	103	63.1	113
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.25 mg/kg	97.0	62.4	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.25 mg/kg	88.4	59	111
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	91.4	56.4	109
EP075G: Chlorinated Hydrocarbons (QCLot: 1274416)								
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.25 mg/kg	93.2	60.4	106
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.25 mg/kg	94.3	62.1	107
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.25 mg/kg	96.1	61.3	107

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075G: Chlorinated Hydrocarbons (QCLot: 1274416) - continued								
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.25 mg/kg	96.6	53.8	107
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.25 mg/kg	90.1	62.9	108
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.25 mg/kg	95.1	39.1	110
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.25 mg/kg	97.1	59.3	110
EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	----	1.25 mg/kg	87.6	17.2	106
		2.5	mg/kg	<2.5	----	----	----	----
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.25 mg/kg	93.2	60	110
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	----	1.25 mg/kg	92.6	59.9	111
		1.0	mg/kg	<1.0	----	----	----	----
EP075H: Anilines and Benzidines (QCLot: 1274416)								
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.25 mg/kg	100	13.2	108
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.25 mg/kg	89.1	19.9	114
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	----	1.25 mg/kg	95.8	57.4	109
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	----	1.25 mg/kg	88.9	31.5	93.7
		1.0	mg/kg	<1.0	----	----	----	----
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.25 mg/kg	92.8	60.2	111
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.25 mg/kg	78.8	48.6	97.6
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.25 mg/kg	104	61	109
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.25 mg/kg	97.4	15.6	101
EP075I: Organochlorine Pesticides (QCLot: 1274416)								
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.25 mg/kg	97.6	59.5	110
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.25 mg/kg	96.9	53.4	113
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.25 mg/kg	92.5	58.2	112
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.25 mg/kg	96.9	56.9	114
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.25 mg/kg	96.3	52	108
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.25 mg/kg	93.9	54.9	112
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.25 mg/kg	98.1	54.6	113
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.25 mg/kg	108	51.7	115
EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	1.25 mg/kg	96.7	60.3	112
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.25 mg/kg	100	61.9	116
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.25 mg/kg	100	49	110
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.25 mg/kg	94.9	59.5	112
EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	1.25 mg/kg	90.0	58.5	116
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.25 mg/kg	102	52.6	114
EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	----	1.25 mg/kg	96.6	39.2	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075J: Organophosphorus Pesticides (QCLot: 1274416)								
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	59.0	24.6	109

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075J: Organophosphorus Pesticides (QCLot: 1274416) - continued								
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.25 mg/kg	98.1	46.4	118
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.25 mg/kg	106	50.3	116
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.25 mg/kg	94.7	41.7	119
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	98.6	52.1	121
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.25 mg/kg	89.6	43	116
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.25 mg/kg	94.4	51.1	115
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.25 mg/kg	90.8	50.9	115
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	----	----	----
		0.55	mg/kg	----	1.375 mg/kg	89.7	45.3	104
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.25 mg/kg	94.0	51.5	116
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.25 mg/kg	88.3	47.3	115
EP075K: Miscellaneous Compounds (QCLot: 1274416)								
EP075: 1.3.5-Trichlorobenzene	108-70-3	0.5	mg/kg	<0.5	1.25 mg/kg	97.4	50.7	113
EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	1.25 mg/kg	80.6	52	115
EP075: Methanesulfonate methyl	66-27-3	0.5	mg/kg	<0.5	1.25 mg/kg	58.0	39.8	122
EP075: Methanesulfonate ethyl	62-50-0	0.5	mg/kg	<0.5	1.25 mg/kg	102	59.6	117
EP075: cis-Isosafrole	17627-76-8	0.5	mg/kg	<0.5	1.25 mg/kg	92.0	60.3	108
EP075: trans-Isosafrole	4043-71-4	0.5	mg/kg	<0.5	1.25 mg/kg	102	53.9	113
EP075: Safrole	94-59-7	0.5	mg/kg	<0.5	1.25 mg/kg	91.4	57.8	110
EP075: Diallate	2303-16-4	0.5	mg/kg	<0.5	1.25 mg/kg	101	61.3	111
EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274054)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	83.6	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274085)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	105	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	89.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	90.0	72.6	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274311)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	81.2	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1276001)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	98.0	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	96.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	90.0	72.6	117
EP080: BTEX (QCLot: 1274054)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	89.7	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	85.5	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	89.5	65.3	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080: BTEX (QCLot: 1274054) - continued								
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	90.2	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	88.2	66.7	123
EP080: BTEX (QCLot: 1274311)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	89.1	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	95.9	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	79.2	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	80.2	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	85.5	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG005C: Leachable Metals by ICPAES (QCLot: 1276886)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	0.1 mg/L	98.6	70	130
EG005C: Barium	7440-39-3	0.1	mg/L	<0.1	0.1 mg/L	94.8	70	130
EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	0.1 mg/L	110	70	130
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.1 mg/L	101	70	130
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	0.1 mg/L	100	70	130
EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	0.1 mg/L	97.5	70	130
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	0.1 mg/L	98.3	70	130
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	0.1 mg/L	97.3	70	130
EG005C: Manganese	7439-96-5	0.1	mg/L	<0.1	0.1 mg/L	98.0	70	130
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	0.1 mg/L	95.8	70	130
EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	0.1 mg/L	86.3	70	130
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	0.1 mg/L	98.5	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1274381)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	95.7	88	110
EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	94.9	80	114
EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	94.8	85	109
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	94.1	89	107
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	95.8	91	111
EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	96.7	89	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	94.6	87	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	96.1	90	110
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	97.5	87	113
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	94.2	89	109
EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 87.2	91	109

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 1274381) - continued								
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	97.1	85	115
EG020F: Dissolved Metals by ICP-MS (QCLot: 1277669)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	92.6	88	110
EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	88.5	80	114
EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	92.2	85	109
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	91.5	89	107
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	95.9	91	111
EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	93.7	89	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	92.2	87	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	96.4	90	110
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	98.7	87	113
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	89.4	89	109
EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 80.6	91	109
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	92.4	85	115
EG035C: Leachable Mercury by FIMS (QCLot: 1279258)								
EG035C: Mercury	7439-97-6	0.001	mg/L	<0.0010	0.010 mg/L	# 74.4	83	119
EG035F: Dissolved Mercury by FIMS (QCLot: 1274380)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	104	86	116
EG035F: Dissolved Mercury by FIMS (QCLot: 1277668)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	98.1	86	116
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1275213)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	77.6	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	80.3	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	75.0	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	78.0	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	78.4	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	78.8	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	79.0	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	79.2	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	80.4	64.1	117
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1275213) - continued								
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	79.8	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	75.6	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	82.2	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	76.0	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	86.4	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	98.5	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	95.1	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274817)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	101	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1275728)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	100 µg/L	86.5	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	100 µg/L	91.2	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	100 µg/L	92.3	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1277412)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	91.8	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1277808)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	100 µg/L	76.6	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	100 µg/L	85.2	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	100 µg/L	94.0	62.7	131
EP080: BTEX (QCLot: 1274817)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	102	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	105	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	107	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	96.7	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	99.2	77.9	121
EP080: BTEX (QCLot: 1277412)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	97.4	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	89.0	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	86.0	76.1	122

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080: BTEX (QCLot: 1277412) - continued								
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	83.3	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	96.7	77.9	121

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1275586)							
ES1004266-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	93.8	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	99.2	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	95.4	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	106	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	100	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	98.6	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	116	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1275588)							
ES1004323-010	BH71_7.0-7.2	EG005T: Arsenic	7440-38-2	50 mg/kg	93.1	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	98.0	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	99.7	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	103	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	102	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	96.6	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	98.2	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1277645)							
ES1004333-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	86.1	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	84.9	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	90.9	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	114	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	93.0	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	89.6	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	84.8	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1281138)							
ES1004797-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	98.4	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	96.8	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	106	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	103	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.7	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	97.9	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275587)							
ES1004266-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	91.4	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275589)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275589) - continued							
ES1004323-010	BH71_7.0-7.2	EG035T: Mercury	7439-97-6	5 mg/kg	85.5	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1277646)							
ES1004333-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	81.7	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1281139)							
ES1004797-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	74.8	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275123)							
ES1004218-026	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	# Not Determined	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275124)							
ES1004323-020	BH41_8.5-8.9	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	# 19.0	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1274656)							
ES1004323-001	BH72_1.0-1.2	EK026G: Total Cyanide	57-12-5	20.0 mg/kg	# 58.2	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1276811)							
ES1004218-004	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	2.0 mg/kg	88.9	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1276812)							
ES1004323-019	BH41_4.0-4.4	EK028G: Weak Acid Dissociable Cyanide	----	2.0 mg/kg	96.6	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1274055)							
ES1004323-001	BH72_1.0-1.2	EP074: Benzene	71-43-2	2.5 mg/kg	75.6	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	80.8	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1274312)							
ES1004371-001	Anonymous	EP074: Benzene	71-43-2	2.5 mg/kg	75.0	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	72.2	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1274055)							
ES1004323-001	BH72_1.0-1.2	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	83.2	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	75.3	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1274312)							
ES1004371-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	74.4	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	73.0	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1274055)							
ES1004323-001	BH72_1.0-1.2	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	82.7	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1274312)							
ES1004371-001	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	78.6	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1274086)							
ES1004323-002	BH72_2.5-2.7	EP075(SIM): Phenol	108-95-2	10 mg/kg	119	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	108	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	89.5	60	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 1274086) - continued							
ES1004323-002	BH72_2.5-2.7	EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	119	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	67.2	20	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1276002)							
ES1004266-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	106	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	102	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	120	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	110	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	58.5	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1274086)							
ES1004323-002	BH72_2.5-2.7	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	102	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	115	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1276002)							
ES1004266-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	93.0	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	101	70	130
EP075A: Phenolic Compounds (QCLot: 1274416)							
ES1004323-006	BH72_19.0-19.2	EP075: Phenol	108-95-2	5 mg/kg	# 50.9	60	130
		EP075: 2-Chlorophenol	95-57-8	5 mg/kg	# 46.6	60	130
		EP075: 2-Nitrophenol	88-75-5	5 mg/kg	51.8	50	130
		EP075: 4-Chloro-3-Methylphenol	59-50-7	5 mg/kg	# 50.0	50	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	23.8	5	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1274416)							
ES1004323-006	BH72_19.0-19.2	EP075: Acenaphthene	83-32-9	5 mg/kg	# 46.4	50	130
		EP075: Pyrene	129-00-0	5 mg/kg	# 46.6	50	130
EP075D: Nitrosamines (QCLot: 1274416)							
ES1004323-006	BH72_19.0-19.2	EP075: N-Nitrosodi-n-propylamine	621-64-7	5 mg/kg	# 46.6	50	130
EP075E: Nitroaromatics and Ketones (QCLot: 1274416)							
ES1004323-006	BH72_19.0-19.2	EP075: 2.4-Dinitrotoluene	121-14-2	5 mg/kg	50.3	40	130
EP075G: Chlorinated Hydrocarbons (QCLot: 1274416)							
ES1004323-006	BH72_19.0-19.2	EP075: 1.4-Dichlorobenzene	106-46-7	5 mg/kg	# 46.7	60	130
		EP075: 1.2.4-Trichlorobenzene	120-82-1	5 mg/kg	# 48.1	50	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274054)							
ES1004323-001	BH72_1.0-1.2	EP080: C6 - C9 Fraction	----	26 mg/kg	99.0	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274085)							
ES1004323-002	BH72_2.5-2.7	EP071: C10 - C14 Fraction	----	640 mg/kg	88.1	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	89.4	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	85.0	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274311)							
ES1004371-001	Anonymous	EP080: C6 - C9 Fraction	----	26 mg/kg	101	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1276001)							
ES1004266-001	Anonymous	EP071: C10 - C14 Fraction	----	640 mg/kg	90.0	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	84.9	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	78.5	70	130
EP080: BTEX (QCLot: 1274054)							
ES1004323-001	BH72_1.0-1.2	EP080: Benzene	71-43-2	2.5 mg/kg	90.4	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	95.9	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	85.8	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	86.6	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	86.5	70	130
EP080: BTEX (QCLot: 1274311)							
ES1004371-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	73.0	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	80.8	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	71.0	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	71.6	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	72.5	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005C: Leachable Metals by ICPAES (QCLot: 1276886)							
ES1004323-009	BH71_2.5-2.7	EG005C: Arsenic	7440-38-2	1 mg/L	102	70	130
		EG005C: Barium	7440-39-3	1 mg/L	96.9	70	130
		EG005C: Beryllium	7440-41-7	1 mg/L	106	70	130
		EG005C: Cadmium	7440-43-9	0.250 mg/L	94.8	70	130
		EG005C: Chromium	7440-47-3	1 mg/L	95.8	70	130
		EG005C: Cobalt	7440-48-4	1 mg/L	92.7	70	130
		EG005C: Copper	7440-50-8	1 mg/L	103	70	130
		EG005C: Lead	7439-92-1	1 mg/L	95.7	70	130
		EG005C: Manganese	7439-96-5	1 mg/L	99.0	70	130
		EG005C: Nickel	7440-02-0	1 mg/L	92.9	70	130
		EG005C: Vanadium	7440-62-2	1 mg/L	96.2	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	106	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1274381)							
ES1004278-008	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	93.6	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 1274381) - continued							
ES1004278-008	Anonymous	EG020A-F: Beryllium	7440-41-7	0.2 mg/L	98.6	70	130
		EG020A-F: Barium	7440-39-3	0.2 mg/L	94.4	70	130
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	93.0	70	130
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	96.0	70	130
		EG020A-F: Cobalt	7440-48-4	0.2 mg/L	93.2	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	93.8	70	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	94.9	70	130
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	98.4	70	130
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	92.8	70	130
		EG020A-F: Vanadium	7440-62-2	0.2 mg/L	102	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	95.2	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1277669)							
EB1004173-002	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	92.7	70	130
		EG020A-F: Beryllium	7440-41-7	0.2 mg/L	87.7	70	130
		EG020A-F: Barium	7440-39-3	0.2 mg/L	90.1	70	130
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	88.5	70	130
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	90.6	70	130
		EG020A-F: Cobalt	7440-48-4	0.2 mg/L	93.0	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	90.8	70	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	93.4	70	130
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	94.6	70	130
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	88.4	70	130
		EG020A-F: Vanadium	7440-62-2	0.2 mg/L	92.4	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	94.7	70	130
EG035C: Leachable Mercury by FIMS (QCLot: 1279258)							
ES1004218-004	Anonymous	EG035C: Mercury	7439-97-6	0.1 mg/L	76.1	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1274380)							
ES1004278-007	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	100	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1277668)							
EB1004173-002	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	95.6	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274817)							
ES1004208-005	Anonymous	EP080: C6 - C9 Fraction	----	250 µg/L	105	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1277412)							
ES1004542-001	Anonymous	EP080: C6 - C9 Fraction	----	250 µg/L	96.6	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1277808)							
ES1004589-005	Anonymous	EP071: C10 - C14 Fraction	----	20 µg/L	108	70	130
		EP071: C15 - C28 Fraction	----	20 µg/L	100	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1277808) - continued							
ES1004589-005	Anonymous	EP071: C29 - C36 Fraction	----	20 µg/L	81.4	70	130
EP080: BTEX (QCLot: 1274817)							
ES1004208-005	Anonymous	EP080: Benzene	71-43-2	25 µg/L	80.5	70	130
		EP080: Toluene	108-88-3	25 µg/L	88.1	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	96.1	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	98.7	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	97.3	70	130
EP080: BTEX (QCLot: 1277412)							
ES1004542-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	89.8	70	130
		EP080: Toluene	108-88-3	25 µg/L	89.7	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	87.8	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	85.8	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	97.5	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1004323**	Page	: 1 of 20
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 09-MAR-2010
Sampler	: SP	Issue Date	: 22-MAR-2010
Order number	: 1303522		
		No. of samples received	: 57
Quote number	: SY/526/09	No. of samples analysed	: 28

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA002 : pH (Soils)								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_5.5-5.7,	**03-MAR-2010**	**10-MAR-2010**	10-MAR-2010	✓	**10-MAR-2010**	11-MAR-2010	✓
BH70_01-02,	BH36_1.0-1.2,							
BH36_15-15.05								
Soil Glass Jar - Unpreserved								
BH72_19.0-19.2,	BH72_20.5-20.7,	**04-MAR-2010**	**10-MAR-2010**	11-MAR-2010	✓	**10-MAR-2010**	11-MAR-2010	✓
BH71_2.5-2.7,	BH71_10.0-10.2,							
BH71_13.0-13.2,	BH71_15.0-15.2,							
BH41_1.0-1.4,	BH41_8.5-8.9							
EA055: Moisture Content								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_2.5-2.7,	**03-MAR-2010**	**----**	----	----	**10-MAR-2010**	10-MAR-2010	✓
BH72_5.5-5.7,	BH72_13.0-13.2,							
BH71_0.08-0.15,	BH70_01-02,							
BH36_1.0-1.2,	BH36_4.0-4.4,							
BH36_8.5-8.9,	BH36_13-13.4,							
BH36_15-15.05								
Soil Glass Jar - Unpreserved								
BH72_16.0-16.2,	BH72_19.0-19.2,	**04-MAR-2010**	**----**	----	----	**10-MAR-2010**	11-MAR-2010	✓
BH72_20.5-20.7,	BH71_2.5-2.7,							
BH71_7.0-7.2,	BH71_10.0-10.2,							
BH71_13.0-13.2,	BH71_15.0-15.2,							
BH71_19.0-19.2,	BH41_1.0-1.4,							
BH41_4.0-4.4,	BH41_8.5-8.9							
Soil Glass Jar - Unpreserved								
BH71_23.5-23.7		**05-MAR-2010**	**----**	----	----	**11-MAR-2010**	12-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005C: Leachable Metals by ICPAES							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH72_1.0-1.2, BH71_2.5-2.7, BH71_10.0-10.2, BH41_1.0-1.4, BH36_1.0-1.2	**11-MAR-2010**	**12-MAR-2010**	07-SEP-2010	✓	**12-MAR-2010**	07-SEP-2010	✓
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved							
BH72_1.0-1.2, BH72_2.5-2.7, BH72_5.5-5.7, BH72_13.0-13.2, BH71_0.08-0.15, BH70_01-02, BH36_1.0-1.2, BH36_4.0-4.4, BH36_8.5-8.9, BH36_13-13.4, BH36_15-15.05	**03-MAR-2010**	**11-MAR-2010**	31-MAR-2010	✓	**12-MAR-2010**	30-AUG-2010	✓
Soil Glass Jar - Unpreserved							
BH72_16.0-16.2, BH72_19.0-19.2, BH72_20.5-20.7, BH71_2.5-2.7, BH71_7.0-7.2, BH71_10.0-10.2, BH71_13.0-13.2, BH71_15.0-15.2, BH71_19.0-19.2, BH41_1.0-1.4, BH41_8.5-8.9	**04-MAR-2010**	**11-MAR-2010**	01-APR-2010	✓	**12-MAR-2010**	31-AUG-2010	✓
Soil Glass Jar - Unpreserved							
BH41_4.0-4.4	**04-MAR-2010**	**12-MAR-2010**	01-APR-2010	✓	**15-MAR-2010**	31-AUG-2010	✓
Soil Glass Jar - Unpreserved							
BH71_23.5-23.7	**05-MAR-2010**	**16-MAR-2010**	02-APR-2010	✓	**17-MAR-2010**	01-SEP-2010	✓
EG035C: Leachable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH72_1.0-1.2, BH71_2.5-2.7, BH71_10.0-10.2, BH41_1.0-1.4, BH36_1.0-1.2	**11-MAR-2010**	**----**	----	----	**16-MAR-2010**	08-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved							
BH72_1.0-1.2, BH72_2.5-2.7, BH72_5.5-5.7, BH72_13.0-13.2, BH71_0.08-0.15, BH70_01-02, BH36_1.0-1.2, BH36_4.0-4.4, BH36_8.5-8.9, BH36_13-13.4, BH36_15-15.05	**03-MAR-2010**	**11-MAR-2010**	31-MAR-2010	✓	**15-MAR-2010**	31-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH72_16.0-16.2, BH72_19.0-19.2, BH72_20.5-20.7, BH71_2.5-2.7, BH71_7.0-7.2, BH71_10.0-10.2, BH71_13.0-13.2, BH71_15.0-15.2, BH71_19.0-19.2, BH41_1.0-1.4, BH41_8.5-8.9	**04-MAR-2010**	**11-MAR-2010**	01-APR-2010	✓	**15-MAR-2010**	01-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH41_4.0-4.4	**04-MAR-2010**	**12-MAR-2010**	01-APR-2010	✓	**15-MAR-2010**	01-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH71_23.5-23.7	**05-MAR-2010**	**16-MAR-2010**	02-APR-2010	✓	**17-MAR-2010**	02-APR-2010	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved							
BH72_1.0-1.2, BH72_5.5-5.7, BH71_0.08-0.15, BH36_15-15.05	**03-MAR-2010**	**11-MAR-2010**	31-MAR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH72_19.0-19.2, BH72_20.5-20.7, BH71_2.5-2.7, BH71_10.0-10.2, BH71_13.0-13.2, BH71_15.0-15.2, BH41_1.0-1.4, BH41_8.5-8.9	**04-MAR-2010**	**11-MAR-2010**	01-APR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
EK026G: Total Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH72_1.0-1.2, BH72_5.5-5.7, BH71_0.08-0.15, BH36_4.0-4.4, BH36_15-15.05	**03-MAR-2010**	**10-MAR-2010**	10-MAR-2010	✓	**11-MAR-2010**	24-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH72_19.0-19.2, BH72_20.5-20.7, BH71_2.5-2.7, BH71_10.0-10.2, BH71_13.0-13.2, BH71_15.0-15.2, BH41_1.0-1.4, BH41_4.0-4.4, BH41_8.5-8.9	**04-MAR-2010**	**10-MAR-2010**	11-MAR-2010	✓	**11-MAR-2010**	24-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH72_1.0-1.2, BH72_5.5-5.7, BH71_0.08-0.15, BH36_4.0-4.4, BH36_15-15.05	**03-MAR-2010**	**12-MAR-2010**	10-MAR-2010	×	**12-MAR-2010**	10-MAR-2010	×
Soil Glass Jar - Unpreserved							
BH72_19.0-19.2, BH72_20.5-20.7, BH71_2.5-2.7, BH71_10.0-10.2, BH71_13.0-13.2, BH71_15.0-15.2, BH41_1.0-1.4, BH41_4.0-4.4, BH41_8.5-8.9	**04-MAR-2010**	**12-MAR-2010**	11-MAR-2010	×	**12-MAR-2010**	11-MAR-2010	×
EN33: TCLP Leach							
LabSplit: Leach for organics and other tests							
BH72_1.0-1.2, BH36_1.0-1.2	**03-MAR-2010**	**---**	---	----	**11-MAR-2010**	17-MAR-2010	✓
LabSplit: Leach for organics and other tests							
BH71_2.5-2.7, BH71_10.0-10.2, BH41_1.0-1.4	**04-MAR-2010**	**---**	---	----	**11-MAR-2010**	18-MAR-2010	✓
EP004: Organic Matter							
Soil Glass Jar - Unpreserved							
BH72_1.0-1.2, BH72_5.5-5.7, BH36_15-15.05	**03-MAR-2010**	**----**	----	----	**15-MAR-2010**	10-MAR-2010	×
Soil Glass Jar - Unpreserved							
BH72_19.0-19.2, BH72_20.5-20.7, BH71_2.5-2.7, BH71_10.0-10.2, BH71_13.0-13.2, BH71_15.0-15.2, BH41_1.0-1.4, BH41_4.0-4.4, BH41_8.5-8.9	**04-MAR-2010**	**----**	----	----	**15-MAR-2010**	11-MAR-2010	×
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved							
BH72_1.0-1.2, BH72_5.5-5.7, BH36_4.0-4.4, BH36_15-15.05	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH72_19.0-19.2, BH71_2.5-2.7, BH71_10.0-10.2, BH71_15.0-15.2, TB15	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	18-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074B: Oxygenated Compounds							
Soil Glass Jar - Unpreserved BH72_1.0-1.2, BH72_5.5-5.7, BH36_4.0-4.4, BH36_15-15.05	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved BH72_19.0-19.2, BH71_2.5-2.7, BH71_10.0-10.2, BH71_15.0-15.2, TB15	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	18-MAR-2010	✓
EP074C: Sulfonated Compounds							
Soil Glass Jar - Unpreserved BH72_1.0-1.2, BH72_5.5-5.7, BH36_4.0-4.4, BH36_15-15.05	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved BH72_19.0-19.2, BH71_2.5-2.7, BH71_10.0-10.2, BH71_15.0-15.2, TB15	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	18-MAR-2010	✓
EP074D: Fumigants							
Soil Glass Jar - Unpreserved BH72_1.0-1.2, BH72_5.5-5.7, BH36_4.0-4.4, BH36_15-15.05	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved BH72_19.0-19.2, BH71_2.5-2.7, BH71_10.0-10.2, BH71_15.0-15.2, TB15	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	18-MAR-2010	✓
EP074E: Halogenated Aliphatic Compounds							
Soil Glass Jar - Unpreserved BH72_1.0-1.2, BH72_5.5-5.7, BH36_4.0-4.4, BH36_15-15.05	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved BH72_19.0-19.2, BH71_2.5-2.7, BH71_10.0-10.2, BH71_15.0-15.2, TB15	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	18-MAR-2010	✓
EP074F: Halogenated Aromatic Compounds							
Soil Glass Jar - Unpreserved BH72_1.0-1.2, BH72_5.5-5.7, BH36_4.0-4.4, BH36_15-15.05	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved BH72_19.0-19.2, BH71_2.5-2.7, BH71_10.0-10.2, BH71_15.0-15.2, TB15	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	18-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074G: Trihalomethanes							
Soil Glass Jar - Unpreserved							
BH72_1.0-1.2, BH72_5.5-5.7, BH36_4.0-4.4, BH36_15-15.05	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	17-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH72_19.0-19.2, BH71_2.5-2.7, BH71_10.0-10.2, BH71_15.0-15.2, TB15	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	18-MAR-2010	✓
EP074H: Naphthalene							
Soil Glass Jar - Unpreserved							
TB15	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	18-MAR-2010	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved							
BH72_2.5-2.7, BH72_13.0-13.2, BH71_0.08-0.15, BH70_01-02, BH36_1.0-1.2	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH36_8.5-8.9	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH72_16.0-16.2, BH72_20.5-20.7, BH71_7.0-7.2, BH71_13.0-13.2, BH71_19.0-19.2, BH41_1.0-1.4, BH41_4.0-4.4, BH41_8.5-8.9	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
BH72_1.0-1.2, BH71_2.5-2.7, BH71_10.0-10.2, BH41_1.0-1.4, BH36_1.0-1.2	**11-MAR-2010**	**12-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	21-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH72_2.5-2.7, BH72_13.0-13.2, BH71_0.08-0.15, BH70_01-02, BH36_1.0-1.2	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH36_8.5-8.9	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH72_16.0-16.2, BH72_20.5-20.7, BH71_7.0-7.2, BH71_13.0-13.2, BH71_19.0-19.2, BH41_1.0-1.4, BH41_4.0-4.4, BH41_8.5-8.9	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075A: Phenolic Compounds								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_5.5-5.7,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH36_4.0-4.4,	BH36_15-15.05							
Soil Glass Jar - Unpreserved								
BH72_19.0-19.2,	BH71_2.5-2.7,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH71_10.0-10.2,	BH71_15.0-15.2							
EP075B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_5.5-5.7,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH36_4.0-4.4,	BH36_15-15.05							
Soil Glass Jar - Unpreserved								
BH72_19.0-19.2,	BH71_2.5-2.7,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH71_10.0-10.2,	BH71_15.0-15.2							
EP075C: Phthalate Esters								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_5.5-5.7,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH36_4.0-4.4,	BH36_15-15.05							
Soil Glass Jar - Unpreserved								
BH72_19.0-19.2,	BH71_2.5-2.7,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH71_10.0-10.2,	BH71_15.0-15.2							
EP075D: Nitrosamines								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_5.5-5.7,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH36_4.0-4.4,	BH36_15-15.05							
Soil Glass Jar - Unpreserved								
BH72_19.0-19.2,	BH71_2.5-2.7,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH71_10.0-10.2,	BH71_15.0-15.2							
EP075E: Nitroaromatics and Ketones								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_5.5-5.7,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH36_4.0-4.4,	BH36_15-15.05							
Soil Glass Jar - Unpreserved								
BH72_19.0-19.2,	BH71_2.5-2.7,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH71_10.0-10.2,	BH71_15.0-15.2							
EP075F: Haloethers								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_5.5-5.7,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH36_4.0-4.4,	BH36_15-15.05							
Soil Glass Jar - Unpreserved								
BH72_19.0-19.2,	BH71_2.5-2.7,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH71_10.0-10.2,	BH71_15.0-15.2							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075G: Chlorinated Hydrocarbons								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_5.5-5.7,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH36_4.0-4.4,	BH36_15-15.05							
Soil Glass Jar - Unpreserved								
BH72_19.0-19.2,	BH71_2.5-2.7,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH71_10.0-10.2,	BH71_15.0-15.2							
EP075H: Anilines and Benzidines								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_5.5-5.7,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH36_4.0-4.4,	BH36_15-15.05							
Soil Glass Jar - Unpreserved								
BH72_19.0-19.2,	BH71_2.5-2.7,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH71_10.0-10.2,	BH71_15.0-15.2							
EP075I: Organochlorine Pesticides								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_5.5-5.7,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH36_4.0-4.4,	BH36_15-15.05							
Soil Glass Jar - Unpreserved								
BH72_19.0-19.2,	BH71_2.5-2.7,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH71_10.0-10.2,	BH71_15.0-15.2							
EP075J: Organophosphorus Pesticides								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_5.5-5.7,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH36_4.0-4.4,	BH36_15-15.05							
Soil Glass Jar - Unpreserved								
BH72_19.0-19.2,	BH71_2.5-2.7,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH71_10.0-10.2,	BH71_15.0-15.2							
EP075K: Miscellaneous Compounds								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_5.5-5.7,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH36_4.0-4.4,	BH36_15-15.05							
Soil Glass Jar - Unpreserved								
BH72_19.0-19.2,	BH71_2.5-2.7,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	19-APR-2010	✓
BH71_10.0-10.2,	BH71_15.0-15.2							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_2.5-2.7,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
BH72_5.5-5.7,	BH72_13.0-13.2,							
BH71_0.08-0.15,	BH70_01-02,							
BH36_1.0-1.2,	BH36_4.0-4.4							
Soil Glass Jar - Unpreserved								
BH72_1.0-1.2,	BH72_2.5-2.7,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	17-MAR-2010	✓
BH72_5.5-5.7,	BH72_13.0-13.2,							
BH71_0.08-0.15,	BH70_01-02,							
BH36_1.0-1.2,	BH36_4.0-4.4,							
BH36_8.5-8.9,	BH36_15-15.05							
Soil Glass Jar - Unpreserved								
BH36_8.5-8.9,	BH36_15-15.05	**03-MAR-2010**	**11-MAR-2010**	17-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
Soil Glass Jar - Unpreserved								
BH72_16.0-16.2,	BH72_19.0-19.2,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
BH72_20.5-20.7,	BH71_2.5-2.7,							
BH71_7.0-7.2,	BH71_10.0-10.2,							
BH71_13.0-13.2,	BH71_15.0-15.2,							
BH71_19.0-19.2,	BH41_1.0-1.4,							
BH41_4.0-4.4,	BH41_8.5-8.9							
Soil Glass Jar - Unpreserved								
BH72_16.0-16.2,	BH72_19.0-19.2,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	18-MAR-2010	✓
BH72_20.5-20.7,	BH71_2.5-2.7,							
BH71_7.0-7.2,	BH71_10.0-10.2,							
BH71_13.0-13.2,	BH71_15.0-15.2,							
BH71_19.0-19.2,	BH41_1.0-1.4,							
BH41_4.0-4.4,	BH41_8.5-8.9							
EP080: BTEX								
Soil Glass Jar - Unpreserved								
BH72_2.5-2.7,	BH72_13.0-13.2,	**03-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**13-MAR-2010**	17-MAR-2010	✓
BH71_0.08-0.15,	BH70_01-02,							
BH36_1.0-1.2,	BH36_8.5-8.9							
Soil Glass Jar - Unpreserved								
BH72_16.0-16.2,	BH72_20.5-20.7,	**04-MAR-2010**	**10-MAR-2010**	18-MAR-2010	✓	**13-MAR-2010**	18-MAR-2010	✓
BH71_7.0-7.2,	BH71_13.0-13.2,							
BH71_19.0-19.2,	BH41_1.0-1.4,							
BH41_4.0-4.4,	BH41_8.5-8.9							

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered QC115	**03-MAR-2010**	---	---	----	**14-MAR-2010**	30-AUG-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered QC142	**04-MAR-2010**	---	---	----	**11-MAR-2010**	31-AUG-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered QC166	**05-MAR-2010**	---	---	----	**11-MAR-2010**	01-SEP-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered QC115	**03-MAR-2010**	---	---	----	**16-MAR-2010**	31-MAR-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered QC142	**04-MAR-2010**	---	---	----	**15-MAR-2010**	01-APR-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered QC166	**05-MAR-2010**	---	---	----	**15-MAR-2010**	02-APR-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved QC115	**03-MAR-2010**	---	10-MAR-2010	----	**15-MAR-2010**	10-MAR-2010	×
Amber Glass Bottle - Unpreserved QC142	**04-MAR-2010**	**11-MAR-2010**	11-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
Amber Glass Bottle - Unpreserved QC166	**05-MAR-2010**	**11-MAR-2010**	12-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
Amber VOC Vial - HCl QC115	**03-MAR-2010**	---	---	----	**12-MAR-2010**	17-MAR-2010	✓
Amber VOC Vial - HCl QC142	**04-MAR-2010**	---	---	----	**11-MAR-2010**	18-MAR-2010	✓
Amber VOC Vial - HCl QC166	**05-MAR-2010**	---	---	----	**11-MAR-2010**	19-MAR-2010	✓
EP080: BTEX							
Amber VOC Vial - HCl QC115	**03-MAR-2010**	---	---	----	**12-MAR-2010**	17-MAR-2010	✓
Amber VOC Vial - HCl QC142	**04-MAR-2010**	---	---	----	**11-MAR-2010**	18-MAR-2010	✓
Amber VOC Vial - HCl QC166	**05-MAR-2010**	---	---	----	**11-MAR-2010**	19-MAR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	3	23	**13.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	9	74	**12.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	2	12	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	3	23	**13.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	2	18	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	8	75	**10.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	8	76	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	4	40	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	4	39	**10.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	2	12	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	4	28	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	23	**8.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	23	**8.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	4	75	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	76	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	39	**5.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	2	12	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	2	28	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	23	**8.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	12	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	23	**8.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	4	75	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	76	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	39	**5.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB) - Continued							
Volatile Organic Compounds	EP074	2	12	16.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	2	28	7.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	23	8.7	5.0	✓	ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	23	8.7	5.0	✓	ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	11	9.1	5.0	✓	ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	18	5.6	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	4	75	5.3	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	76	5.3	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	40	5.0	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	39	5.1	5.0	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	2	12	16.7	5.0	✓	ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	2	28	7.1	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	3	30	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	3	30	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	10	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	7	14.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	18	11.1	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	4	38	10.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	2	30	6.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	30	6.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	25	8.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	38	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	2	30	6.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	30	6.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	25	8.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	38	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	2	30	**6.7**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	30	**6.7**	**5.0**	✓	ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	10	**10.0**	**5.0**	✓	ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	7	**14.3**	**5.0**	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	18	**5.6**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	38	**5.3**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH (1:5)	EA002	SOIL	(APHA 21st ed., 4500H+) pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM (1999) Schedule B(3) (Method 103)
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)
Leachable Metals by ICPAES	EG005C	SOIL	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Leachable Mercury by FIMS	EG035C	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	USEPA SW846, Method 3060A. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Cyanide By Discrete Analyser	EK026G	SOIL	APHA 21st 4500 CN - C & N. Caustic leach extracts of the sample are distilled with sulphuric acid, converting all CN species to HCN. The distillates are analyzed for CN by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Method 403)
WAD Cyanide By Discrete Analyser	EK028G	SOIL	APHA 21st 4500 CN - I & N. Sample are distilled with a weak organic acid, converting selected CN species to HCN. The distillates are analyzed for CN by Discrete Analyser.
Organic Matter	EP004	SOIL	AS1289.4.1.1 - 1997., Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (1999) Schedule B(3) (Method 105)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)

Analytical Methods	Method	Matrix	Method Descriptions
Volatile Organic Compounds	EP074	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Semivolatile Organic Compounds	EP075	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 502)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	USEPA SW846, Method 3060A.
NaOH leach for TCN in Soils	EK026PR	SOIL	APHA 21st ed., 4500 CN- C & N. Samples are extracted by end-over-end tumbling with NaOH.
WAD Cyanide	EK028PR	SOIL	APHA 21st ed., 4500 CN- C & N. Cyanide is selectively distilled from the sample by the action of weak acetic acid. Only poorly bound metal complexed cyanides are released.
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TCLP for Non & Semivolatile Analytes	EN33a	SOIL	(USEPA SW846-1311, ALS QWI-EN/33) The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.

Preparation Methods	Method	Matrix	Method Descriptions
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005T: Total Metals by ICP-AES	ES1004333-001	Anonymous	**Copper**	7440-50-8	44.2 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1004323-010	BH71_7.0-7.2	**Iron**	7439-89-6	25.6 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1004323-023	BH36_1.0-1.2	**Iron**	7439-89-6	38.5 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1004266-001	Anonymous	**Manganese**	7439-96-5	34.2 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1004308-013	Anonymous	**Manganese**	7439-96-5	25.1 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004323-002	BH72_2.5-2.7	**Phenanthrene**	85-01-8	76.5 %	0-50%	**RPD exceeds LOR based limits**
Laboratory Control Spike (LCS) Recoveries							
EG005T: Total Metals by ICP-AES	1477287-032	----	**Chromium**	7440-47-3	88.7 %	89.2-117%	**Recovery less than lower control limit**
EG005T: Total Metals by ICP-AES	1477287-032	----	**Zinc**	7440-66-6	85.6 %	88.9-112%	**Recovery less than lower control limit**
EG005T: Total Metals by ICP-AES	1479615-002	----	**Zinc**	7440-66-6	Not Authorised	88.9-112%	**Recovery less than lower control limit**
EP075(SIM)A: Phenolic Compounds	1477832-007	----	**2.4-Dimethylphenol**	105-67-9	68.5 %	74.5-119%	**Recovery less than lower control limit**
EP075(SIM)A: Phenolic Compounds	1475706-008	----	**2.4-Dimethylphenol**	105-67-9	73.2 %	74.5-119%	**Recovery less than lower control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1475706-008	----	**Acenaphthylene**	208-96-8	114 %	79.6-113%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1475706-008	----	**Anthracene**	120-12-7	112 %	81.1-112%	**Recovery greater than upper control limit**
EP075E: Nitroaromatics and Ketones	1476020-002	----	**5-Nitro-o-toluidine**	99-55-8	108 %	48.3-98.5%	**Recovery greater than upper control limit**
EP075E: Nitroaromatics and Ketones	1476020-002	----	**4-Aminobiphenyl**	92-67-1	114 %	36.1-102%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
EG048: Hexavalent Chromium (Alkaline Digest)	ES1004218-026	Anonymous	**Hexavalent Chromium**	18540-29-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EG048: Hexavalent Chromium (Alkaline Digest)	ES1004323-020	BH41_8.5-8.9	**Hexavalent Chromium**	18540-29-9	19.0 %	70-130%	**Recovery less than lower data quality objective**
EK026G: Total Cyanide By Discrete Analyser	ES1004323-001	BH72_1.0-1.2	**Total Cyanide**	57-12-5	58.2 %	70-130%	**Recovery less than lower data quality objective**
EP075A: Phenolic Compounds	ES1004323-006	BH72_19.0-19.2	**Phenol**	108-95-2	50.9 %	60-130%	**Recovery less than lower data quality objective**
EP075A: Phenolic Compounds	ES1004323-006	BH72_19.0-19.2	**2-Chlorophenol**	95-57-8	46.6 %	60-130%	**Recovery less than lower data quality objective**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP075A: Phenolic Compounds	ES1004323-006	BH72_19.0-19.2	**4-Chloro-3-Methylphenol**	59-50-7	50.0 %	50-130%	**Recovery less than lower data quality objective**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1004323-006	BH72_19.0-19.2	**Acenaphthene**	83-32-9	46.4 %	50-130%	**Recovery less than lower data quality objective**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1004323-006	BH72_19.0-19.2	**Pyrene**	129-00-0	46.6 %	50-130%	**Recovery less than lower data quality objective**
EP075D: Nitrosamines	ES1004323-006	BH72_19.0-19.2	**N-Nitrosodi-n-propylamine**	621-64-7	46.6 %	50-130%	**Recovery less than lower data quality objective**
EP075G: Chlorinated Hydrocarbons	ES1004323-006	BH72_19.0-19.2	**1.4-Dichlorobenzene**	106-46-7	46.7 %	60-130%	**Recovery less than lower data quality objective**
EP075G: Chlorinated Hydrocarbons	ES1004323-006	BH72_19.0-19.2	**1.2.4-Trichlorobenzene**	120-82-1	48.1 %	50-130%	**Recovery less than lower data quality objective**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	1479657-009	----	**Vanadium**	7440-62-2	80.6 %	91-109%	**Recovery less than lower control limit**
EG020F: Dissolved Metals by ICP-MS	1475988-043	----	**Vanadium**	7440-62-2	87.2 %	91-109%	**Recovery less than lower control limit**
EG035C: Leachable Mercury by FIMS	1481645-002	----	**Mercury**	7439-97-6	74.4 %	83-119%	**Recovery less than lower control limit**

- **For all matrices, no Method Blank value outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP075(SIM)T: PAH Surrogates	ES1004323-017	BH70_01-02	**2-Fluorobiphenyl**	321-60-8	118 %	30-115 %	**Recovery greater than upper data quality objective**
EP075S: Acid Extractable Surrogates	ES1004323-003	BH72_5.5-5.7	**2-Fluorophenol**	367-12-4	135 %	25-121 %	**Recovery greater than upper data quality objective**
EP075S: Acid Extractable Surrogates	ES1004323-027	BH36_15-15.05	**2-Fluorophenol**	367-12-4	125 %	25-121 %	**Recovery greater than upper data quality objective**
EP075S: Acid Extractable Surrogates	ES1004323-006	BH72_19.0-19.2	**2.4.6-Tribromophenol**	118-79-6	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075T: Base/Neutral Extractable Surrogates	ES1004323-006	BH72_19.0-19.2	**1.2-Dichlorobenzene-D4**	2199-69-1	27.6 %	32-129 %	**Recovery less than lower data quality objective**
EP075T: Base/Neutral Extractable Surrogates	ES1004323-006	BH72_19.0-19.2	**2-Fluorobiphenyl**	321-60-8	28.4 %	30-115 %	**Recovery less than lower data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser						
Soil Glass Jar - Unpreserved						
BH72_1.0-1.2, BH72_5.5-5.7, BH71_0.08-0.15, BH36_4.0-4.4, BH36_15-15.05	12-MAR-2010	10-MAR-2010	**2**	12-MAR-2010	10-MAR-2010	**2**
Soil Glass Jar - Unpreserved						
BH72_19.0-19.2, BH72_20.5-20.7, BH71_2.5-2.7, BH71_10.0-10.2, BH71_13.0-13.2, BH71_15.0-15.2, BH41_1.0-1.4, BH41_4.0-4.4, BH41_8.5-8.9	12-MAR-2010	11-MAR-2010	**1**	12-MAR-2010	11-MAR-2010	**1**
EP004: Organic Matter						
Soil Glass Jar - Unpreserved						
BH72_1.0-1.2, BH72_5.5-5.7, BH36_15-15.05	----	----	----	15-MAR-2010	10-MAR-2010	**5**
Soil Glass Jar - Unpreserved						
BH72_19.0-19.2, BH72_20.5-20.7, BH71_2.5-2.7, BH71_10.0-10.2, BH71_13.0-13.2, BH71_15.0-15.2, BH41_1.0-1.4, BH41_4.0-4.4, BH41_8.5-8.9	----	----	----	15-MAR-2010	11-MAR-2010	**4**

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EP080/071: Total Petroleum Hydrocarbons						
Amber Glass Bottle - Unpreserved						
QC115	----	----	----	15-MAR-2010	10-MAR-2010	**5**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : **ES1004323**

Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
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Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	Page	: 1 of 5
Order number	: 1303522		
C-O-C number	: ----	Quote number	: ES2009HLAENV0366 (SY/526/09)
Site	: ----		
Sampler	: SP	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 09-MAR-2010	Issue Date	: 12-MAR-2010 12:25
Client Requested Due Date	: 16-MAR-2010	Scheduled Reporting Date	: **16-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 7.2'C - Ice present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 57
Sercurity Seal	: Intact.	No. of samples analysed	: 28

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Sample " QC142 " (ALS #21) was received water in bottles, the sample to be treated as water sample.**
- **TPH, BTEX and 13 metals analysis added to sample QC115 as per Kate Pigrim's request 12/03/10 12.09pm. TPH C10-C36 has exceeded it's 7 day holding time.**
- **Sample " BH41_11.5-11.9 and QC141 " (ALS #57 & #58)) received extra and placed on hold.**
- **This work order split into ES1004326 (ASLP) and ES1004328 (SPOCAS).**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EA055-103 Moisture Content	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EG035C Leachable Mercury by FIMS	SOIL - EG035T (solids) Total Mercury by FIMS	SOIL - EG048G Total Hexavalent Chromium (Alkaline digestion) by Discrete Analyser
ES1004323-001	03-MAR-2010 15:00	BH72_1.0-1.2		✓	✓		✓			✓
	11-MAR-2010 12:00	BH72_1.0-1.2				✓		✓		
ES1004323-003	03-MAR-2010 15:00	BH72_5.5-5.7		✓			✓			✓
ES1004323-006	04-MAR-2010 15:00	BH72_19.0-19.2		✓			✓			✓
ES1004323-007	04-MAR-2010 15:00	BH72_20.5-20.7		✓	✓		✓			✓
ES1004323-008	03-MAR-2010 15:00	BH71_0.08-0.15					✓			✓
ES1004323-009	04-MAR-2010 15:00	BH71_2.5-2.7		✓	✓		✓		✓	✓
	11-MAR-2010 12:00	BH71_2.5-2.7				✓		✓		
ES1004323-011	04-MAR-2010 15:00	BH71_10.0-10.2		✓	✓		✓			✓
	11-MAR-2010 12:00	BH71_10.0-10.2				✓		✓		
ES1004323-012	04-MAR-2010 15:00	BH71_13.0-13.2		✓			✓			✓
ES1004323-013	04-MAR-2010 15:00	BH71_15.0-15.2		✓			✓			✓
ES1004323-017	03-MAR-2010 15:00	BH70_01-02		✓						
ES1004323-018	04-MAR-2010 15:00	BH41_1.0-1.4		✓	✓		✓			✓
	11-MAR-2010 12:00	BH41_1.0-1.4				✓		✓		
ES1004323-020	04-MAR-2010 15:00	BH41_8.5-8.9		✓			✓			✓
ES1004323-023	03-MAR-2010 15:00	BH36_1.0-1.2		✓						
	11-MAR-2010 12:00	BH36_1.0-1.2				✓		✓		
ES1004323-027	03-MAR-2010 15:00	BH36_15-15.05		✓			✓			✓
ES1004323-028	03-MAR-2010 15:00	BH72_4.0-4.2	✓							
ES1004323-029	03-MAR-2010 15:00	BH72_7.0-7.2	✓							
ES1004323-030	03-MAR-2010 15:00	BH72_8.5-8.7	✓							
ES1004323-031	04-MAR-2010 15:00	BH72_17.5-17.7	✓							
ES1004323-033	04-MAR-2010 15:00	QC116	✓							
ES1004323-034	04-MAR-2010 15:00	QC117	✓							
ES1004323-036	04-MAR-2010 15:00	QC161	✓							
ES1004323-037	04-MAR-2010 15:00	BH71_1.0-1.2	✓							
ES1004323-038	04-MAR-2010 15:00	BH71_4.0-4.2	✓							
ES1004323-039	04-MAR-2010 15:00	BH71_5.5-5.7	✓							
ES1004323-040	04-MAR-2010 15:00	BH71_8.5-8.7	✓							
ES1004323-041	04-MAR-2010 15:00	BH71_11.5-11.7	✓							
ES1004323-042	04-MAR-2010 15:00	BH71_17.5-17.8	✓							
ES1004323-043	05-MAR-2010 15:00	BH71_22.0-22.2	✓							
ES1004323-044	04-MAR-2010 15:00	QC162	✓							
ES1004323-045	04-MAR-2010 15:00	QC164	✓							

			(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EA055-103 Moisture Content	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EG035C Leachable Mercury by FIMS	SOIL - EG035T (solids) Total Mercury by FIMS	SOIL - EG048G Total Hexavalent Chromium (Alkaline digestion) by Discrete Analyser
ES1004323-046	05-MAR-2010 15:00	QC165	✓							
ES1004323-047	04-MAR-2010 15:00	QC118	✓							
ES1004323-048	04-MAR-2010 15:00	QC163	✓							
ES1004323-049	04-MAR-2010 15:00	BH41_2.5-2.9	✓							
ES1004323-050	04-MAR-2010 15:00	BH41_5.5-5.9	✓							
ES1004323-051	04-MAR-2010 15:00	BH41_10-10.4	✓							
ES1004323-053	03-MAR-2010 15:00	BH36_2.5-2.9	✓							
ES1004323-054	03-MAR-2010 15:00	BH36_5.5-5.9	✓							
ES1004323-055	03-MAR-2010 15:00	BH36_7.0-7.4	✓							
ES1004323-056	03-MAR-2010 15:00	BH36_10-10.4	✓							
ES1004323-057	04-MAR-2010 15:00	BH41_11.5-11.9	✓							

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EK026G (Solids) Total Cyanide By Discrete Analyser	SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - EP004 (Carbon) Total Organic Carbon (Calc.)	SOIL - EP074 (solids) Volatile Organic Compounds	SOIL - EP075 (solids) Semivolatile Organic Compounds	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP075 SIM Phenols only SIM - Phenols only	SOIL - S-03 13 Metals (NEPM Suite - incl. Digestion)
ES1004323-001	03-MAR-2010 15:00	BH72_1.0-1.2	✓	✓	✓	✓	✓			✓
	11-MAR-2010 12:00	BH72_1.0-1.2						✓		
ES1004323-002	03-MAR-2010 15:00	BH72_2.5-2.7							✓	✓
ES1004323-003	03-MAR-2010 15:00	BH72_5.5-5.7	✓	✓	✓	✓	✓			✓
ES1004323-004	03-MAR-2010 15:00	BH72_13.0-13.2							✓	✓
ES1004323-005	04-MAR-2010 15:00	BH72_16.0-16.2							✓	✓
ES1004323-006	04-MAR-2010 15:00	BH72_19.0-19.2	✓	✓	✓	✓	✓			✓
ES1004323-007	04-MAR-2010 15:00	BH72_20.5-20.7	✓	✓	✓				✓	✓
ES1004323-008	03-MAR-2010 15:00	BH71_0.08-0.15	✓	✓					✓	✓
ES1004323-009	04-MAR-2010 15:00	BH71_2.5-2.7	✓	✓	✓	✓	✓			
	11-MAR-2010 12:00	BH71_2.5-2.7						✓		
ES1004323-010	04-MAR-2010 15:00	BH71_7.0-7.2							✓	✓
ES1004323-011	04-MAR-2010 15:00	BH71_10.0-10.2	✓	✓	✓	✓	✓			✓
	11-MAR-2010 12:00	BH71_10.0-10.2						✓		
ES1004323-012	04-MAR-2010 15:00	BH71_13.0-13.2	✓	✓	✓				✓	✓
ES1004323-013	04-MAR-2010 15:00	BH71_15.0-15.2	✓	✓	✓	✓	✓			✓
ES1004323-014	04-MAR-2010 15:00	BH71_19.0-19.2							✓	✓
ES1004323-015	05-MAR-2010 15:00	BH71_23.5-23.7								✓
ES1004323-017	03-MAR-2010 15:00	BH70_01-02							✓	✓

			SOIL - EK026G (Solids) Total Cyanide By Discrete Analyser	SOIL - EK028G (Solids) Weak Acid Dissociable Cyanide By Discrete Analyser	SOIL - EP004 (Carbon) Total Organic Carbon (Calc.)	SOIL - EP074 (solids) Volatile Organic Compounds	SOIL - EP075 (solids) Semivolatile Organic Compounds	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP075 SIM Phenols only SIM - Phenols only	SOIL - S-03 13 Metals (NEPM Suite - incl. Digestion)
ES1004323-018	04-MAR-2010 15:00	BH41_1.0-1.4	✓	✓	✓				✓	✓
	11-MAR-2010 12:00	BH41_1.0-1.4						✓		
ES1004323-019	04-MAR-2010 15:00	BH41_4.0-4.4	✓	✓	✓				✓	✓
ES1004323-020	04-MAR-2010 15:00	BH41_8.5-8.9	✓	✓	✓				✓	✓
ES1004323-022	04-MAR-2010 15:00	TB15				✓				
ES1004323-023	03-MAR-2010 15:00	BH36_1.0-1.2							✓	✓
	11-MAR-2010 12:00	BH36_1.0-1.2						✓		
ES1004323-024	03-MAR-2010 15:00	BH36_4.0-4.4	✓	✓		✓	✓			✓
ES1004323-025	03-MAR-2010 15:00	BH36_8.5-8.9							✓	✓
ES1004323-026	03-MAR-2010 15:00	BH36_13-13.4								✓
ES1004323-027	03-MAR-2010 15:00	BH36_15-15.05	✓	✓	✓	✓	✓			✓

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - S-07 TPH/BTEX/PAH (SIM)	SOIL - TCLP TCLP Leach	SOIL - TPH only TPH (C6 - C36)
ES1004323-001	03-MAR-2010 15:00	BH72_1.0-1.2		✓	✓
ES1004323-002	03-MAR-2010 15:00	BH72_2.5-2.7	✓		
ES1004323-003	03-MAR-2010 15:00	BH72_5.5-5.7			✓
ES1004323-004	03-MAR-2010 15:00	BH72_13.0-13.2	✓		
ES1004323-005	04-MAR-2010 15:00	BH72_16.0-16.2	✓		
ES1004323-006	04-MAR-2010 15:00	BH72_19.0-19.2			✓
ES1004323-007	04-MAR-2010 15:00	BH72_20.5-20.7	✓		
ES1004323-008	03-MAR-2010 15:00	BH71_0.08-0.15	✓		
ES1004323-009	04-MAR-2010 15:00	BH71_2.5-2.7		✓	✓
ES1004323-010	04-MAR-2010 15:00	BH71_7.0-7.2	✓		
ES1004323-011	04-MAR-2010 15:00	BH71_10.0-10.2		✓	✓
ES1004323-012	04-MAR-2010 15:00	BH71_13.0-13.2	✓		
ES1004323-013	04-MAR-2010 15:00	BH71_15.0-15.2			✓
ES1004323-014	04-MAR-2010 15:00	BH71_19.0-19.2	✓		
ES1004323-017	03-MAR-2010 15:00	BH70_01-02	✓		
ES1004323-018	04-MAR-2010 15:00	BH41_1.0-1.4	✓	✓	
ES1004323-019	04-MAR-2010 15:00	BH41_4.0-4.4	✓		
ES1004323-020	04-MAR-2010 15:00	BH41_8.5-8.9	✓		
ES1004323-023	03-MAR-2010 15:00	BH36_1.0-1.2	✓	✓	

			SOIL - S-07 TPH/BTEX/PAH (SIM)	SOIL - TCLP TCLP Leach	SOIL - TPH only TPH (C6 - C36)
ES1004323-024	03-MAR-2010 15:00	BH36_4.0-4.4			✓
ES1004323-025	03-MAR-2010 15:00	BH36_8.5-8.9	✓		
ES1004323-027	03-MAR-2010 15:00	BH36_15-15.05			✓

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	(On Hold) WATER No analysis requested	WATER - W-03 13 Metals (NEPM Suite)	WATER - W-04 TPH/BTEX
ES1004323-016	05-MAR-2010 15:00	QC166		✓	✓
ES1004323-021	04-MAR-2010 15:00	QC142		✓	✓
ES1004323-032	03-MAR-2010 15:00	QC115		✓	✓
ES1004323-035	04-MAR-2010 15:00	QC119	✓		
ES1004323-058	03-MAR-2010 15:00	QC141	✓		

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

Environmental Division
Sydney
Work Order
ES1004323

BATCH 2

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email: anthony.davis@aecom.com, kate.pigram@aecom.com

Telephone : +61-2-8784 8555

AECOM

848555
848500

Labo
Lab. N.
Lab. Address: 277 Woodpark Rd. Smithfield
Contact Name:
Lab. Ref:

Preliminary Report by:
Final Report by:
Lab Quote No: SY-526-09 V2

Project Name: Barangaroo

Project Number: 54150014

Purchase Order Number: 1303522

Sample collected by: Sam Patel

Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	tel:
7. Report Format: 8. Project Manager: Anthony Davis			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC (Voc	asbestos	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Total Cyanide	Amen Cyanide	Cr VI	Fe	TOC	TPH C6 - C36	5 Fractions	Remarks & comments
1	BH72_1.0-1.2	3·3·10									1x 250 ml Soil Jar	X	X				X		X	X	X	X	X	X	X	X	
2	BH72_2.5-2.7												X	X	X	X											
(28)	BH72_4.0-4.2											X	X				X				X	X	X	X	X	X	
3	BH72_5.5-5.7																										
(29)	BH72_7.0-7.2																										
(30)	BH72_8.5-8.7												X	X	X	X											
4	BH72_13.0-13.2												X	X	X	X											
5	BH72_16.0-16.2	4·3·10																									
(31)	BH72_17.5-17.7																						X	X	X	X	Red Sample Frozen
6	BH72_19.0-19.2										+ Plastic Bag	X	X				X								X	X	X

CONTRACT WORK
WO: ES1004327
LAB: ALS Brisbane
DATE: 9-3-10
SPLIT: SACAS: ES1004328
ASLP: ES1004326

Relinquished By:
Name: Anthony Davis Date: 8/3/10
Time:

Received by:
Name: Frank Date: 9-3-10
of: ALS Time: 11am

Received in good condition? Yes/No/NA
Samples received chilled? Yes/No/NA
Method of Shipment ☐ Courier ☐ Postal ☐ By Hand
Consignment Note No.
Transport Co:

Relinquished By:
Name: Date:
Time:

Received by:
Name: Date:
of: Time:

Received in good condition? Yes/No/NA
Samples received chilled? Yes/No/NA
Method of Shipment ☐ Courier ☐ Postal ☐ By Hand
Consignment Note No.
Transport Co:

Revision: Oct 09

AECOM

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-526-09 V2

Project Name: Barangaroo **Project Number:** S 4150014 **Purchase Order Number:** 1303522

Sample collected by: **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: Anthony Davis tel:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)
7	BH72_20.5-20.7	4.3.10		X					↓		1x250 ml Soil Jar
(32)	QC 115	3.3.10			X						1A1 2x40 ml
(33)	QC 116	4.3.10		X							1x250ml Soil Jar
(34)	QC 117	4.3.10		X							1x 250ml Soil Jar
(35)	QC 119	4.3.10			X						1A1 2x40 ml
(36)	QC 161	4.3.10		X							1x 250ml Soil Jar
8	BH71_0.08-0.15	3.3.10		X					X		
(37)	BH71_1.0-1.2	4.3.10		X					X		
9	BH71_2.5-2.7	↓		X					X		
(38)	BH71_4.0-4.2			X					X		↓

Analysis Request

Lab. ID	pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC / Voc	asbestos	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Total Cyanide	WAD Cyanide	Cr VI	Fe	TOC	TPH C6-C35
7	X	X	X	X	X					X	X	X	X	X	
(32)															
(33)															
(34)															
(35)															
(36)															
8		X	X	X	X					X	X	X	X		
(37)															
9	X	X				X		X	X	X	X	X	X	X	X
(38)															

Remarks & comments

Relinquished By:
Name: Date: 8/7/10
of: Time:

Received by:
Name: Frank Date: 9-3-10
of: AES Time: 11am

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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AECOM

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-526-09 V2

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303522

Sample collected by: Sam Patel **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: Anthony Davis			tel:

Analysis Request

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC/Voc	asbestos	ASLP (M13 + PAH)	TCLP (M13 + PAH)	TOTAL CYANIDE	Free CYANIDE	Cr VI	Fe	TOC	TPH C6 - C36	SPOCAS	Remarks & comments
(39)	BH71_5.5-5.7	4.3.10									1X250ml Soil Jar + Plastic Bag		X	X	X	X											X	300gms sample long Frozen
10	BH71_7.0-7.2																											
(40)	BH71_8.5-8.7												X	X				X		X	X	X	X	X	X	X		
11	BH71_10.0-10.2																											
(41)	BH71_11.5-11.7												X	X	X	X	X				X	X	X	X	X			
12	BH71_13.0-13.2												X	X				X			X	X	X	X	X	X		
13	BH71_15.0-15.2																											
(42)	BH71_17.5-17.7										1X250ml Soil Jar Plastic Bag		X	X				X			X	X	X	X	X	X	X	300gms Sample long Frozen
14	BH71_19.0-19.2										1X250ml Soil Jar		X	X	X	X												
(43)	BH71_22.0-22.2	5.3.10																										

Relinquished By:
Name: [signature] Date: 8/3/10 Time:
of:

Received by:
Name: Frank 9-3-10 Date:
of: ALS 11am Time:

Relinquished By:
Name: Date:
Time:
of:

Received by:
Name: Date:
Time:
of:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Printed copies of this document are uncontrolled

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-526-09 V2

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303522

Sample collected by: Sam Peter **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: Anthony Davis tel:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	Analysis Request: pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC/Voc	asbestos	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Total Cyanide	WAD Cyanide	Cr VI	Fe	Toc	TPH(C6-C36)	Remarks & comments
15	BH71_23.5-23.7	5.3.10		X					X		1x250ml Soil Tub		X														
(44)	QC162	4.3.10		X					X		↓																
(45)	QC164	4.3.10		X					X																		
(46)	QC165	5.3.10		X					X		✓																
16	QC166	5.3.10			X				X		1AH2441P		X	X													Leachate
17	BH10 0.1-0.3	3.3.10		X					X		1x250ml Soil Tub	X	X	X	X	X											
(47)	QC118	4/3/10		X					X		1x250ml Sandjar																Lab
(48)	QC163	4/3/10		✓					X		1x250ml Sandjar																Lab

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Frank Date: 9-3-10
of: AS Time: 11am

Received in good condition? Yes/No/NA
Samples received chilled? Yes/No/NA
Method of Shipment: ☐ Courier ☐ Postal ☐ By Hand
Consignment Note No.
Transport Co:

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition? Yes/No/NA
Samples received chilled? Yes/No/NA
Method of Shipment: ☐ Courier ☐ Postal ☐ By Hand
Consignment Note No.
Transport Co:

BATCH # 2 Blocks 4 & 5

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo **Project Number:** 54152014 **Purchase Order Number:** 1303951

Sample collected by: Kate O'Brien **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: 8. Project Manager: Anthony Davis tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	Analysis Request: pH	Metals (filtered, M13)	TPH/BTEX	PAH	Phenols	SVOC/VOC	asbestos	Free Cyanide (CN-free)	WAD Cyanide	ASLP (Metals M13 + PAH)	TCLP (M13 + PAH)	Cr VI	Fe	TOC	TPH C6-C36	Remarks & comments
18	BH41_10-14		4/3/10	X					X		250ml JAR	X	X	X	X	X			X	X	X	X	X	X	X		
(49)	BH41_25-29		"	X					X		"																
19	BH41_40-44		"	X					X		"		X	X	X	X			X	X					X		
(50)	BH41_55-59		"	X					X		"																
20	BH41_85-89		"	X					X		"	X	X	X	X	X			X	X			X	X	X		
(51)	BH41_10-10.4		"	X					X		"																
(52)			"	X					X		"																
21	QC142		"	X					X		*		X	X													* 2 x vials, 1 x amber 1 x plastic
22	TB15		"	X					X		125ml Jar						X										VOC only.

Relinquished By:	Received by:		
Name: Kate O'Brien	Date: 5/3/10	Name: Frank 9-3-10	Date:
of: AECOM	Time:	of: ALS 11am	Time:
Relinquished By:		**Received by:**	
Name:	Date:	Name:	Date:
of:	Time:	of:	Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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BATCH # [redacted] - Blocks 4 to 5

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo **Project Number:** [redacted] 54150014 **Purchase Order Number:** 1303951

Sample collected by: Kate O'Brien **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: Anthony Davis tel: 8484 8999			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtred	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC /VOC	asbestos	Free Cyanide (Total)	WAD Cyanide	ASLP (M13+PAH)	TCLP (M13+PAH)	Cr VI	Fe	Tot	TPH C6-C36	Remarks & comments
23	BH36_1.0-1.2		3-3-10	X					X		3x250ml	X	X	X	X	X					X	X					
(53)	BH36_2.5-2.9		"	X					X		"																
24	BH36_4.0-4.4		"	X					X		"		X	•			X		X	✓						X	
(54)	BH36_5.5-5.9		"	X					X		"																
(55)	BH36_7.0-7.4		"	X					X		"																
25	BH36_8.5-8.9		"	X					X		"		X	X	X	X											
(56)	BH36_10-10.4		"	X					X		"																
26	BH36_13-[redacted]	13-4	"	X					X		"		X														
27	BH36_15-15.05		"	X					X		"	X	X				X		X	X			X	X	X	X	
	[redacted]																										

Relinquished By:
Name: Kate O'Brien Date: 4.3.10
of: AECOM Time:

Received by:
Name: Frank Date: 9-3-10
of: ALS Time: 11am

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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CERTIFICATE OF ANALYSIS

Work Order	: **ES1004326**	Page	: 1 of 6
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303522		
C-O-C number	: ----	Date Samples Received	: 09-MAR-2010
Sampler	: KO	Issue Date	: 16-MAR-2010
Site	: ----		
		No. of samples received	: 5
Quote number	: SY/526/09	No. of samples analysed	: 5

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG020A-W: LCS recovery for Vanadium falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**

Analytical Results

Sub-Matrix: **DI WATER LEACHATE**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_1.0-1.2	BH71_2.5-2.7	BH71_10.0-10.2	BH41_1.0-1.4	BH36_2.5-2.9
				Client sampling date / time: 11-MAR-2010 12:00	11-MAR-2010 12:00	12-MAR-2010 12:00	12-MAR-2010 12:00	12-MAR-2010 12:00
				ES1004326-001	ES1004326-002	ES1004326-003	ES1004326-004	ES1004326-005
EG020W: Water Leachable Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	**0.002**	**0.002**	**0.005**	**0.009**	**0.002**
Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L	**0.298**	**0.288**	**0.173**	**0.962**	**1.08**
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L	**0.001**	<0.001	<0.001	**0.003**	**0.005**
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	**0.003**	<0.001
Copper	7440-50-8	0.001	mg/L	**0.002**	<0.001	**0.003**	**0.003**	**0.005**
Lead	7439-92-1	0.001	mg/L	**0.039**	**0.003**	**0.006**	**0.006**	**0.022**
Manganese	7439-96-5	0.001	mg/L	**0.005**	**0.001**	<0.001	**0.020**	**0.020**
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	<0.001	**0.005**	**0.002**
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	**0.03**	<0.01	<0.01
Zinc	7440-66-6	0.005	mg/L	**0.063**	**0.037**	**0.023**	**0.345**	**0.389**
EG035W: Water Leachable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	**17.2**	**8.3**	**20.6**	**10.1**	**3.7**
Acenaphthylene	208-96-8	1.0	µg/L	**1.6**	<1.0	**3.5**	**1.6**	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	**4.7**	**1.0**	<1.0
Fluorene	86-73-7	1.0	µg/L	**2.3**	<1.0	**6.9**	**3.2**	**1.2**
Phenanthrene	85-01-8	1.0	µg/L	**4.1**	**1.6**	**9.8**	**7.3**	**3.8**
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	**2.2**	**1.7**	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	**1.9**	**1.5**	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	**1.5**	**1.2**	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**25.0**	**27.3**	**28.0**	**39.9**	**31.6**
2-Chlorophenol-D4	93951-73-6	0.1	%	**55.9**	**61.8**	**67.2**	**84.8**	**74.8**
2.4.6-Tribromophenol	118-79-6	0.1	%	**36.2**	**44.0**	**76.1**	**91.0**	**59.8**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**55.2**	**55.6**	**78.8**	**88.8**	**88.0**
Anthracene-d10	1719-06-8	0.1	%	**51.0**	**52.4**	**55.7**	**84.1**	**81.2**

Analytical Results

Sub-Matrix: **DI WATER LEACHATE**

Compound	CAS Number	LOR	Unit	Client sample ID: BH72_1.0-1.2	BH71_2.5-2.7	BH71_10.0-10.2	BH41_1.0-1.4	BH36_2.5-2.9
				Client sampling date / time: 11-MAR-2010 12:00	11-MAR-2010 12:00	12-MAR-2010 12:00	12-MAR-2010 12:00	12-MAR-2010 12:00
				ES1004326-001	ES1004326-002	ES1004326-003	ES1004326-004	ES1004326-005
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	**58.6**	**60.6**	**110**	**126**	**115**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH72_1.0-1.2	BH71_2.5-2.7	BH71_10.0-10.2	BH41_1.0-1.4	BH36_2.5-2.9
				Client sampling date / time	03-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	04-MAR-2010 15:00	03-MAR-2010 15:00
Compound	CAS Number	LOR	Unit		ES1004326-001	ES1004326-002	ES1004326-003	ES1004326-004	ES1004326-005
EN60: Bottle Leaching Procedure									
Final pH	----	0.1	pH Unit		**9.1**	**9.0**	**10.4**	**9.5**	**9.5**

Surrogate Control Limits

Sub-Matrix: **DI WATER LEACHATE**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

QUALITY CONTROL REPORT

Work Order	: **ES1004326**	Page	: 1 of 8
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 09-MAR-2010
Sampler	: KO	Issue Date	: 16-MAR-2010
Order number	: 1303522		
		No. of samples received	: 5
Quote number	: SY/526/09	No. of samples analysed	: 5

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020W: Water Leachable Metals by ICP-MS (QC Lot: 1275169)									
ES1004289-001	Anonymous	EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-W: Arsenic	7440-38-2	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Barium	7440-39-3	0.001	mg/L	0.134	0.136	1.4	0% - 20%
		EG020A-W: Chromium	7440-47-3	0.001	mg/L	0.007	0.007	0.0	No Limit
		EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Copper	7440-50-8	0.001	mg/L	0.026	0.027	0.0	0% - 20%
		EG020A-W: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Nickel	7440-02-0	0.001	mg/L	0.013	0.014	0.0	0% - 50%
		EG020A-W: Zinc	7440-66-6	0.005	mg/L	0.036	0.037	0.0	No Limit
		EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1004289-010	Anonymous	EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-W: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Barium	7440-39-3	0.001	mg/L	0.112	0.116	3.2	0% - 20%
		EG020A-W: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Zinc	7440-66-6	0.005	mg/L	0.007	0.008	0.0	No Limit
		EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EG020W: Water Leachable Metals by ICP-MS (QC Lot: 1276835)									
ES1004326-003	BH71_10.0-10.2	EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-W: Arsenic	7440-38-2	0.001	mg/L	0.005	0.004	0.0	No Limit
		EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Barium	7440-39-3	0.001	mg/L	0.173	0.170	1.8	0% - 20%
		EG020A-W: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Copper	7440-50-8	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-W: Lead	7439-92-1	0.001	mg/L	0.006	0.007	0.0	No Limit
		EG020A-W: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020W: Water Leachable Metals by ICP-MS (QC Lot: 1276835) - continued									
ES1004326-003	BH71_10.0-10.2	EG020A-W: Zinc	7440-66-6	0.005	mg/L	0.023	0.027	13.8	No Limit
		EG020A-W: Vanadium	7440-62-2	0.01	mg/L	0.03	0.03	0.0	No Limit
EG035W: Water Leachable Mercury by FIMS (QC Lot: 1275720)									
ES1004289-001	Anonymous	EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1004289-011	Anonymous	EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG035W: Water Leachable Mercury by FIMS (QC Lot: 1278791)									
ES1004326-004	BH41_1.0-1.4	EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1275169)								
EG020A-W: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	94.5	87	111
EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	92.6	75	125
EG020A-W: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	94.3	86	114
EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	94.0	90	106
EG020A-W: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	99.0	94	114
EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	98.5	89	117
EG020A-W: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	96.5	90	112
EG020A-W: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	99.2	88	120
EG020A-W: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	100	90	120
EG020A-W: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	92.1	86	116
EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 82.8	92	112
EG020A-W: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	93.8	82	116
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1276835)								
EG020A-W: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	90.6	87	111
EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	94.2	75	125
EG020A-W: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	93.1	86	114
EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	91.2	90	106
EG020A-W: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	97.1	94	114
EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	96.8	89	117
EG020A-W: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	91.9	90	112
EG020A-W: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	97.0	88	120
EG020A-W: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	98.4	90	120
EG020A-W: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	90.8	86	116
EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 82.7	92	112
EG020A-W: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	90.8	82	116
EG035W: Water Leachable Mercury by FIMS (QCLot: 1275720)								
EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	98.9	82	118
EG035W: Water Leachable Mercury by FIMS (QCLot: 1278791)								
EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	96.3	82	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1275220)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	80.6	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	81.0	63.6	114
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1275220) - continued								
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	78.6	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	80.5	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	79.1	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	79.0	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	79.2	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	79.3	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	81.7	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	80.3	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	79.0	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	79.8	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	78.3	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	81.8	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	84.5	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	86.5	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1277083)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	88.5	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	90.4	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	84.5	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	84.9	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	91.2	62.6	116
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1277083) - continued								
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	88.6	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	88.2	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	85.7	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	87.2	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	90.8	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	89.3	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	84.2	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	80.7	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	99.7	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	105	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	99.2	59.1	118
		1	µg/L	<1.0	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1275169)							
ES1004289-001	Anonymous	EG020A-W: Arsenic	7440-38-2	1 mg/L	94.0	70	130
		EG020A-W: Beryllium	7440-41-7	1 mg/L	91.2	70	130
		EG020A-W: Barium	7440-39-3	1 mg/L	91.0	70	130
		EG020A-W: Cadmium	7440-43-9	0.250 mg/L	89.4	70	130
		EG020A-W: Chromium	7440-47-3	1 mg/L	86.4	70	130
		EG020A-W: Cobalt	7440-48-4	1 mg/L	85.9	70	130
		EG020A-W: Copper	7440-50-8	1 mg/L	89.4	70	130
		EG020A-W: Lead	7439-92-1	1 mg/L	81.1	70	130
		EG020A-W: Manganese	7439-96-5	1 mg/L	85.9	70	130
		EG020A-W: Nickel	7440-02-0	1 mg/L	87.0	70	130
		EG020A-W: Vanadium	7440-62-2	1 mg/L	84.8	70	130
		EG020A-W: Zinc	7440-66-6	1 mg/L	92.9	70	130
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1276835)							
ES1004326-003	BH71_10.0-10.2	EG020A-W: Arsenic	7440-38-2	1 mg/L	88.2	70	130
		EG020A-W: Beryllium	7440-41-7	1 mg/L	88.6	70	130
		EG020A-W: Barium	7440-39-3	1 mg/L	87.2	70	130
		EG020A-W: Cadmium	7440-43-9	0.250 mg/L	86.7	70	130
		EG020A-W: Chromium	7440-47-3	1 mg/L	86.5	70	130
		EG020A-W: Cobalt	7440-48-4	1 mg/L	82.6	70	130
		EG020A-W: Copper	7440-50-8	1 mg/L	86.5	70	130
		EG020A-W: Lead	7439-92-1	1 mg/L	81.6	70	130
		EG020A-W: Manganese	7439-96-5	1 mg/L	82.0	70	130
		EG020A-W: Nickel	7440-02-0	1 mg/L	84.3	70	130
		EG020A-W: Vanadium	7440-62-2	1 mg/L	79.5	70	130
		EG020A-W: Zinc	7440-66-6	1 mg/L	89.5	70	130
EG035W: Water Leachable Mercury by FIMS (QCLot: 1275720)							
ES1004326-001	BH72_1.0-1.2	EG035W: Mercury	7439-97-6	0.0100 mg/L	103	70	130
EG035W: Water Leachable Mercury by FIMS (QCLot: 1278791)							
ES1004326-003	BH71_10.0-10.2	EG035W: Mercury	7439-97-6	0.0100 mg/L	110	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1004326**	Page	: 1 of 5
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 09-MAR-2010
Sampler	: KO	Issue Date	: 16-MAR-2010
Order number	: 1303522		
		No. of samples received	: 5
Quote number	: SY/526/09	No. of samples analysed	: 5

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non-volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020W: Water Leachable Metals by ICP-MS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH72_1.0-1.2,	BH71_2.5-2.7	**11-MAR-2010**	**11-MAR-2010**	07-SEP-2010	✓	**12-MAR-2010**	07-SEP-2010	✓
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH71_10.0-10.2, BH36_2.5-2.9	BH41_1.0-1.4,	**12-MAR-2010**	**12-MAR-2010**	08-SEP-2010	✓	**12-MAR-2010**	08-SEP-2010	✓
EG035W: Water Leachable Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH72_1.0-1.2,	BH71_2.5-2.7	**11-MAR-2010**	**----**	----	----	**16-MAR-2010**	08-APR-2010	✓
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH71_10.0-10.2, BH36_2.5-2.9	BH41_1.0-1.4,	**12-MAR-2010**	**----**	----	----	**15-MAR-2010**	09-APR-2010	✓
EN60: Bottle Leaching Procedure								
LabSplit: Leach for organics and other tests								
BH72_1.0-1.2		**03-MAR-2010**	**---**	---	----	**11-MAR-2010**	17-MAR-2010	✓
LabSplit: Leach for organics and other tests								
BH36_2.5-2.9		**03-MAR-2010**	**---**	---	----	**12-MAR-2010**	17-MAR-2010	✓
LabSplit: Leach for organics and other tests								
BH71_2.5-2.7		**04-MAR-2010**	**---**	---	----	**11-MAR-2010**	18-MAR-2010	✓
LabSplit: Leach for organics and other tests								
BH71_10.0-10.2,	BH41_1.0-1.4	**04-MAR-2010**	**---**	---	----	**12-MAR-2010**	18-MAR-2010	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved								
BH72_1.0-1.2,	BH71_2.5-2.7	**11-MAR-2010**	**11-MAR-2010**	18-MAR-2010	✓	**12-MAR-2010**	20-APR-2010	✓
Amber Glass Bottle - Unpreserved								
BH71_10.0-10.2, BH36_2.5-2.9	BH41_1.0-1.4,	**12-MAR-2010**	**12-MAR-2010**	19-MAR-2010	✓	**12-MAR-2010**	21-APR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Water Leachable Mercury by FIMS	EG035W	3	22	**13.6**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	3	22	**13.6**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	24	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Mercury by FIMS	EG035W	2	22	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	2	22	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	24	**8.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Mercury by FIMS	EG035W	2	22	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	2	22	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Water Leachable Mercury by FIMS	EG035W	2	22	**9.1**	**5.0**	✓	ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	2	22	**9.1**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	SOIL	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Water Leachable Mercury by FIMS	EG035W	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in DI Water Leachate	EN25W	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Deionised Water Leach	EN60-Dla	SOIL	AS4439.3 Preparation of Leachates
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020W: Water Leachable Metals by ICP-MS	1478800-002	----	**Vanadium**	7440-62-2	82.7 %	92-112%	**Recovery less than lower control limit**
EG020W: Water Leachable Metals by ICP-MS	1476939-002	----	**Vanadium**	7440-62-2	82.8 %	92-112%	**Recovery less than lower control limit**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1004326**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	Page	: 1 of 2
Order number	: 1303522		
C-O-C number	: ----	Quote number	: ES2009HLAENV0366 (SY/526/09)
Site	: ----		
Sampler	: KO	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 09-MAR-2010	Issue Date	: 10-MAR-2010 10:01
Client Requested Due Date	: 16-MAR-2010	Scheduled Reporting Date	: **16-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 7.2'C - Ice present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 5
Sercurity Seal	: Intact.	No. of samples analysed	: 5

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **This work order for ASLP only and split from ES1004323.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EG020W Water Leachable Metals by ICPMS	SOIL - EG035W Water Leachable Mercury by FIMS	SOIL - EP075 SIM PAH only SIM - PAH only
ES1004326-001	03-MAR-2010 15:00	BH72_1.0-1.2	✓	✓	✓
ES1004326-002	04-MAR-2010 15:00	BH71_2.5-2.7	✓	✓	✓
ES1004326-003	06-MAR-2010 15:00	BH71_10.0-10.2	✓	✓	✓
ES1004326-004	04-MAR-2010 15:00	BH41_1.0-1.4	✓	✓	✓
ES1004326-005	03-MAR-2010 15:00	BH36_2.5-2.9	✓	✓	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

BATCH 2

Environmental Division
Sydney
Work Order
ES1004326

AECOM

Form

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Telephone : +61-2-8784 8555

Labor
Lab. N: 348555
Lab. A: 848500
Contac: Report by:
Lab. R: t by:
No: SY-526-09 V2

Project Name: Barangaroo
Project Number: 54150014
Purchase Order Number: 1305522

Sample collected by: Sam Patel
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	tel:

7. Report Format: 8. Project Manager: Anthony Davis

Analysis Request

Remarks & comments

CONTRACT WORK
WO: ES 1004326
LAB: —
DATE: 9-3-10
SPLIT: from ES 1004323

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC (VOC	asbestos	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Total Cyanide	Acid Cyanide	CrVI	Fe	TOC	TPH C6 - C36	SPOCAS
1	BH72_1.0-1.2	3-3-10									1x250ml Soil Jar	X	X				X		X	X	X	X	X	X	X	X	
	BH72_2.5-2.7												X	X	X	X					X	X	X	X	Q	X	
	BH72_4.0-4.2											X	X				X										
	BH72_5.5-5.7																										
	BH72_7.0-7.2																										
	BH72_8.5-8.7												X	X	X	X											
	BH72_13.0-13.2												X	X	X	X											
	BH72_16.0-16.2	4-3-10																			X	X	X	X	X	X	Bag Sample Frozen
	BH72_17.5-17.7																										
*	BH72_19.0-19.2										1 Plastic Bag Sample	X	X				X										

Relinquished By:
Name: Anthony Davis
Date: 8/3/10
Time:

Received by:
Name: Frank
Date: 9-3-10
Time:
of: ALS Ilam

Relinquished By:
Name:
Date:
Time:

Received by:
Date:
Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
		Transport Co:	

AECOM

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-526-09 V2

Project Name: Barangaroo
Project Number: S 4150014
Purchase Order Number: 1303522
Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: Anthony Davis	tel:		

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filted	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)
	BH72_20-5-20.7	4.3.10		X							1x250ml Soil Jar
	QC 115	3.3.10			X						1A1 2x40ml
	QC 116	4.3.10		X							1x250ml Soil Jar
	QC 117	4.3.10		X							1x250ml Soil Jar
	QC 119	4.3.10			X						1A1 2x40ml
	QC 161	4.3.10		X					↓		1x250ml Soil Jar
	BH71_0.08-0.15	3.3.10		X					X		↓
	BH71_1.0-1.2	4.3.10		X					X		
2	BH71_2.5-2.7	↓		X					X		
	BH71_4.0-4.2			X					X		

Analysis Request	pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC / Vol	asbestos	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Total Cyanide	WAD Cyanide	Cr VI	Fe	TOC	TPH C6-C36	Remarks & comments
	X	X	X	X	X					X	X	X	X	X		
		X	X	X	X					X	X	X	X			
	X	X				X		X	X	X	X	X	X	X	X	

Relinquished By:	Received by:
Name:	Date: 8/7/10	Name: Frank	Date: 9-3-10
of:	Time:	of: ALS	Time: 10am
Relinquished By:	**Received by:**
Name:	Date:	Name:	Date:
of:	Time:	of:	Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Revision: Oct 09

AECOM

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-526-09 V2

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303522

Sample collected by: Sam Patel **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	tel:
7. Report Format: 8. Project Manager: Anthony Davis			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC/VOC	asbestos	ASLP (M13 + PAH)	TCLP (M13 + PAH)	TOTAL Cyanide	Amend Cyanide	Cr VI	Fsc	TOC	TPH C6 - C36	SPOCAS	Remarks & comments
	BH71_5.5-5.7	4.3.10		✓					✓		1x250ml Soil Jar + Plastic Bag		X	X	X	X											X	SPOCAS sample long frozen
	BH71_7.0-7.2																											
	BH71_8.5-8.7																											
3	BH71_10.0-10.2											X	X				X		X	X	X	X	X	X	X	X		
	BH71_11.5-11.7																											
	BH71_13.0-13.2											X	X	X	X	X					X	X	X	X	X	X		
	BH71_15.5-15.7											X	X				X				X	X	X	X	X	X		
	BH71_17.5-17.7										1x250ml Soil Jar + Plastic Bag	jar															X	SPOCAS Sample long Frozen
	BH71_19.0-19.2	↓									1x250ml Soil Jar		X	X	X	X												
	BH71_22.0-22.2	5.3.10		↓					↓		↓																	

Relinquished By:
Name: [signature] Date: 8/3/10
Time:
of:

Received by:
Name: Frank Date: 9-3-10
Time: 11am
of: ALS

Relinquished By:
Name: Date:
Time:
of:

Received by:
Name: Date:
Time:
of:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

AECOM

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-526-09 V2

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303522

Sample collected by: Sam Peter **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: Anthony Davis tel:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	ice	other	Container (No. & type)	pH	Metals (M13)	TPH/BTEX	PAH	Phenols	SVOC/VOC	asbestos	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Total Cyanide	Conv Cyanide	Fe	Tot	TPH(C6-C36)	Remarks & comments
	BH71_23.5-23.7	5.3.10		X					X		1x250ml Soil Jar		X													
	QC162	4.3.10		X					X																	
	QC164	4.3.10		X					X																	
	QC165	5.3.10		X					X		↓															
	QC166	5.3.10			X				X		1AHP4P		X	X												Lunsate
	BH70 0.1-0.3	3.3.10		X					X		1x250ml Soil Jar	X	X	X	X	X										
	QC118	4/3/10		X					X		1x250ml Sandjar															Lunsate
	QC163	4/3/10		X					X		1x250ml Sandjar															Lunsate

Remarks & comments: Lunsate; Lunsate; Lunsate; Lunsate

Relinquished By:	Received by:
Name: Date:	Name: Frank Date: 9-3-10
of: Time:	of: ALS Time: 11am
Relinquished By:	**Received by:**
Name: Date:	Name: Date:
of: Time:	of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

BATCH # 2 Blocks 4 & 5

AECOM

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo **Project Number:** 54154014 **Purchase Order Number:** 1303951

Sample collected by: Kate O'Brien **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: 8. Project Manager: Anthony Davis tel: 8484 8999

Analysis Request

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filted	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals (~~100~~ M1)	TPH/BTEX	PAH	Phenols	SVOC/VOC	asbestos	~~Free~~ Cyanide (Filtered)	WAD Cyanide	ASLP (Metals M1 + PAH)	TCLP (M13 + PAH)	Cr VI	Fe	TOC	TPH C6-C36	Remarks & comments
4	BH41_10-14		4/3/10	X					X		250ml JAR	X	X	X	X	X			X	X	X	X	X	X	X		
	BH41_2.5-2.9		"	X					X		"																
	BH41_4.0-4.4		"	X					X		"		X	X	X	X			X	X					X		
	BH41_5.5-5.9		"	X					X		"																
	BH41_8.5-8.9		"	X					X		"	✓	✓	✓	✓	X			✓	X			X	X	✓		
	BH41_10-10.4		"	X					X		"																
			"	X					X		"																
	QC#142		"	X					X		*		X	X													* 2 x vials, 1x amber 1x plastic
	TB15+		"	X					X		125ml Jar						X										VOC only.

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Kate O'Brien Date: 5/3/10	Name: Frank Date: 9-3-10	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: AECOM Time:	of: ALS Time: 11am		Yes/No/NA	Transport Co:	
Relinquished By:	**Received by:**	**Received in good condition?**	Yes/No/NA	**Method of Shipment**	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	**Samples received chilled?**	Yes/No/NA	**Consignment Note No.**	
of: Time:	of: Time:		Yes/No/NA	**Transport Co:**	

6/6

BATCH # [redacted] – Blocks 4 to 5

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo **Project Number:** [redacted] 54150014 **Purchase Order Number:** 1303951

Sample collected by: Kate O'Brien **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format:	8. Project Manager: Anthony Davis		tel: 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtred	acid	ice	other	Container (No. & type)	pH	Metals (8 or 13)	TPH/BTEX	PAH	Phenols	SVOC /VOC	asbestos	Free Cyanide (T-Cn)	WAD Cyanide	ASLP (M13+PAHs)	TCLP (M13+PAHs)	Cr VI	Fe	Toc	TPH C6-C36	Remarks & comments
5	BH36_1.0-1.2		3-3-10	X					X		1x250ml	X	X	X	X	X					X	X					
	BH36_2.5-2.9		"	X					X		"																
	BH36_4.0-4.4		"	X					X		"		X	•			X		X	X						X	
	BH36_5.5-5.9		"	X					X		"																
	BH36_7.0-7.4		"	X					X		"																
	BH36_8.5-8.9		"	X					X		"		X	X	X	X											
	BH36_10-10.4		"	X					X		"																
	BH36_13-[redacted]3.4		"	X					X		"		X														
	BH36_15-15.05		"	X					X		"	X	X				X		X	X			X	X	X	X	
	[redacted]		[redacted]																								

Relinquished By:	Received by:	Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Name: Kate O'Brien Date: 4.3.10	Name: Frank 9-3-10 Date:	Samples received chilled?	Yes/No/NA	Consignment Note No.	
of: AECOM Time:	of: ALS 11am Time:		Yes/No/NA	Transport Co:	
Relinquished By:	**Received by:**	**Received in good condition?**	Yes/No/NA	**Method of Shipment**	☐ Courier ☐ Postal ☐ By Hand
Name: Date:	Name: Date:	**Samples received chilled?**	Yes/No/NA	**Consignment Note No.**	
of: Time:	of: Time:		Yes/No/NA	**Transport Co:**	

Printed copies of this document are uncontrolled

CERTIFICATE OF ANALYSIS

Work Order	: **ES1004464**	Page	: 1 of 4
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 10-MAR-2010
Sampler	: LK	Issue Date	: 19-MAR-2010
Site	: ----		
		No. of samples received	: 2
Quote number	: SY/259/09 V2	No. of samples analysed	: 2

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG020A-W: LCS recovery for Vanadium falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**

Analytical Results

Sub-Matrix: **DI WATER LEACHATE**

Compound	CAS Number	LOR	Unit	Client sample ID: BH74_8.5-8.8	Client sample ID: BH56_7.0-7.2	----	----	----
				Client sampling date / time: 14-MAR-2010 12:00	14-MAR-2010 12:00	----	----	----
				ES1004464-001	ES1004464-002	----	----	----
EG020W: Water Leachable Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	**0.004**	**0.001**	----	----	----
Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	----	----	----
Barium	7440-39-3	0.001	mg/L	**0.366**	**0.292**	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	**0.0013**	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	----	----	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	**0.001**	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L	**0.006**	**0.016**	----	----	----
Manganese	7439-96-5	0.001	mg/L	**0.002**	**0.002**	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	----	----	----
Vanadium	7440-62-2	0.01	mg/L	**0.02**	<0.01	----	----	----
Zinc	7440-66-6	0.005	mg/L	**0.010**	**0.034**	----	----	----
EG035W: Water Leachable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	**6.6**	**52.4**	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	**4.2**	**21.2**	----	----	----
Fluorene	86-73-7	1.0	µg/L	**1.7**	**21.4**	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	**4.9**	**41.8**	----	----	----
Anthracene	120-12-7	1.0	µg/L	**1.3**	**14.7**	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	**1.8**	**10.0**	----	----	----
Pyrene	129-00-0	1.0	µg/L	**1.9**	**7.3**	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	----	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH74_8.5-8.8	BH56_7.0-7.2	----	----	----
				Client sampling date / time	03-MAR-2010 15:00	04-MAR-2010 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1004464-001	ES1004464-002	----	----	----
EN60: Bottle Leaching Procedure									
Final pH	----	0.1	pH Unit		**9.1**	**8.9**	----	----	----

QUALITY CONTROL REPORT

Work Order	: **ES1004464**	Page	: 1 of 5
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 10-MAR-2010
Sampler	: LK	Issue Date	: 19-MAR-2010
Order number	: 1303951		
		No. of samples received	: 2
Quote number	: SY/259/09 V2	No. of samples analysed	: 2

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020W: Water Leachable Metals by ICP-MS (QC Lot: 1278773)									
ES1004377-001	Anonymous	EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	0.0014	0.0015	0.0	0% - 50%
		EG020A-W: Arsenic	7440-38-2	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-W: Barium	7440-39-3	0.001	mg/L	0.376	0.379	1.0	0% - 20%
		EG020A-W: Chromium	7440-47-3	0.001	mg/L	0.005	0.005	0.0	No Limit
		EG020A-W: Cobalt	7440-48-4	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-W: Copper	7440-50-8	0.001	mg/L	0.071	0.070	1.4	0% - 20%
		EG020A-W: Lead	7439-92-1	0.001	mg/L	0.082	0.083	1.8	0% - 20%
		EG020A-W: Manganese	7439-96-5	0.001	mg/L	0.174	0.177	1.8	0% - 20%
		EG020A-W: Nickel	7440-02-0	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-W: Zinc	7440-66-6	0.005	mg/L	0.240	0.239	0.0	0% - 20%
		EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EG035W: Water Leachable Mercury by FIMS (QC Lot: 1284942)									
ES1004464-001	BH74_8.5-8.8	EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1278773)								
EG020A-W: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	95.3	87	111
EG020A-W: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	95.9	75	125
EG020A-W: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	96.9	86	114
EG020A-W: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	95.0	90	106
EG020A-W: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	103	94	114
EG020A-W: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	104	89	117
EG020A-W: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	98.1	90	112
EG020A-W: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	101	88	120
EG020A-W: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	103	90	120
EG020A-W: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	95.8	86	116
EG020A-W: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 87.0	92	112
EG020A-W: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	99.6	82	116
EG035W: Water Leachable Mercury by FIMS (QCLot: 1284942)								
EG035W: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	112	82	118

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020W: Water Leachable Metals by ICP-MS (QCLot: 1278773)							
ES1004377-001	Anonymous	EG020A-W: Arsenic	7440-38-2	1 mg/L	91.8	70	130
		EG020A-W: Beryllium	7440-41-7	1 mg/L	92.6	70	130
		EG020A-W: Barium	7440-39-3	1 mg/L	91.6	70	130
		EG020A-W: Cadmium	7440-43-9	0.250 mg/L	91.7	70	130
		EG020A-W: Chromium	7440-47-3	1 mg/L	93.8	70	130
		EG020A-W: Cobalt	7440-48-4	1 mg/L	88.2	70	130
		EG020A-W: Copper	7440-50-8	1 mg/L	93.6	70	130
		EG020A-W: Lead	7439-92-1	1 mg/L	86.0	70	130
		EG020A-W: Manganese	7439-96-5	1 mg/L	86.1	70	130
		EG020A-W: Nickel	7440-02-0	1 mg/L	92.6	70	130
		EG020A-W: Vanadium	7440-62-2	1 mg/L	86.0	70	130
		EG020A-W: Zinc	7440-66-6	1 mg/L	93.4	70	130
EG035W: Water Leachable Mercury by FIMS (QCLot: 1284942)							
ES1004464-002	BH56_7.0-7.2	EG035W: Mercury	7439-97-6	0.0100 mg/L	118	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1004464**	Page	: 1 of 5
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 10-MAR-2010
Sampler	: LK	Issue Date	: 19-MAR-2010
Order number	: 1303951		
		No. of samples received	: 2
Quote number	: SY/259/09 V2	No. of samples analysed	: 2

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non-volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020W: Water Leachable Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH74_8.5-8.8, BH56_7.0-7.2	**14-MAR-2010**	**15-MAR-2010**	10-SEP-2010	✓	**15-MAR-2010**	10-SEP-2010	✓
EG035W: Water Leachable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH74_8.5-8.8, BH56_7.0-7.2	**14-MAR-2010**	**----**	----	----	**19-MAR-2010**	11-APR-2010	✓
EN60: Bottle Leaching Procedure							
LabSplit: Leach for organics and other tests							
BH74_8.5-8.8	**03-MAR-2010**	**---**	---	----	**14-MAR-2010**	17-MAR-2010	✓
LabSplit: Leach for organics and other tests							
BH56_7.0-7.2	**04-MAR-2010**	**---**	---	----	**14-MAR-2010**	18-MAR-2010	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
BH74_8.5-8.8, BH56_7.0-7.2	**14-MAR-2010**	**17-MAR-2010**	21-MAR-2010	✓	**18-MAR-2010**	26-APR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Water Leachable Mercury by FIMS	EG035W	1	4	**25.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	5	**20.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Water Leachable Mercury by FIMS	EG035W	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Water Leachable Mercury by FIMS	EG035W	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Water Leachable Mercury by FIMS	EG035W	1	4	**25.0**	**5.0**	✓	ALS QCS3 requirement
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	1	5	**20.0**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Water Leachable Metals by ICP-MS - Suite A	EG020A-W	SOIL	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Water Leachable Mercury by FIMS	EG035W	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in DI Water Leachate	EN25W	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Deionised Water Leach	EN60-Dla	SOIL	AS4439.3 Preparation of Leachates
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020W: Water Leachable Metals by ICP-MS	1481021-002	----	**Vanadium**	7440-62-2	87.0 %	92-112%	**Recovery less than lower control limit**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES1004464**		
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	Page	: 1 of 2
Order number	: 1303951		
C-O-C number	: ----	Quote number	: ES2010HLAENV0372 (SY/259/09 V2)
Site	: ----		
Sampler	: LK	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 10-MAR-2010	Issue Date	: 11-MAR-2010 16:18
Client Requested Due Date	: 19-MAR-2010	Scheduled Reporting Date	: **19-MAR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 6.8'C - Ice present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 2
Sercurity Seal	: Intact.	No. of samples analysed	: 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **This batch is for ASLP DI Water Leach split from ES1004218.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Jacob Waugh
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EG020W Water Leachable Metals by ICPMS	SOIL - EG035W Water Leachable Mercury by FIMS	SOIL - EP075 SIM PAH only SIM - PAH only
ES1004464-001	10-MAR-2010 15:00	BH74_8.5-8.8	✓	✓	✓
ES1004464-002	10-MAR-2010 15:00	BH56_7.0-7.2	✓	✓	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR ANTHONY DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	anthony.davis@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	anthony.davis@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	anthony.davis@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	anthony.davis@aecom.com
- A4 - AU Tax Invoice (INV)	Email	anthony.davis@aecom.com
- Default - Chain of Custody (COC)	Email	anthony.davis@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	anthony.davis@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	anthony.davis@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	anthony.davis@aecom.com
- EDI Format - XTab (XTAB)	Email	anthony.davis@aecom.com

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kate.pigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kate.pigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kate.pigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kate.pigram@aecom.com
- Default - Chain of Custody (COC)	Email	kate.pigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kate.pigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kate.pigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kate.pigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kate.pigram@aecom.com

Declaration

BATCH 1.

1/4

AECOM

Form: Area.

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo
Project Number: S4150014
Purchase Order Number: 1303951
Sample collected by: Lauren Kowtus.
Sample Results to be returned to: Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	tel:
7. Report Format: 8. Project Manager:			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: ackl	Preservation: ice	Preservation: other	Container (No. & type)	pH	Metals - Mn3	TPH/BTEX	PAH	Phenols	SVOC /Voc	asbestos	F-Cyanide (Total)	WAD Cyanide	ASLP (Mn3 + PAH)	TCLP (Mn3 + PAH)	Cr VI	Fe	TPH (C6-C36)	5 Metals	TOC
	BH74_1.0-1.2	3.3.10		X					X		1 soil jar	X	X				X		X	X			X	X	X	-	X
	BH74_5.5-5.7	3.3.10		X					X		1 soil jar		X	X	X	X												
	BH74_8.5-8.8	3.3.10		X					X		1 soil jar	X	X	X	X	X						X	X	X				
	BH74_10.0-10.5	3.3.10		X					X		1 soil jar		X				X		X	X			X	X	X		
	BH74_11.5-11.7	3.3.10		X					X		1 soil jar																
	BH74_13.0-13.5	3.3.10		X					X		1 soil jar		X														
	BH74_14.0-14.5	3.3.10		X					X		1 soil jar 1 ziplock bag		X	X	X	X												Sample frozen for SPOCAS
	BH74_16.0-16.5	3.3.10		X					X		1 soil jar		X				X		X	X			X	X	X		
	QC122	3.3.10		X					X		1 amber, 1 plastic 2 vials		X	X														
QC250 ←	[illegible]	3.3.10			X			X	X		4x bottles						X										
	TB14	3.3.10																									

Remarks & comments: CONTRACT WORK WO ES1004464 LAB: DATE: 10-3-10 SPLIT: ES1004218 ********** ASLP only. Sample frozen for SPOCAS. 1 amber, 1 plastic 2 vials. If Voc only.

Relinquished By:
Name: Anthony Davis Date: 9/3/10 Time:
of:

Received by:
Name: Frank Date: 10-3-10 Time: 10:30
of: ALS

Received in good condition? Yes/No/NA
Samples received chilled? Yes/No/NA

Relinquished By:
Name: Date: Time:
of:

Received by:
Name: Date: Time:
of:

Received in good condition? Yes/No/NA
Samples received chilled? Yes/No/NA

By Hand

By Hand

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Oct 09 V-F046

Environmental Division
Sydney
Work Order
ES1004464

Telephone : +61-2-8784 8555

downgradient Declaration AECOM

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager:		tel:	

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC / VOC	asbestos	Cyanide (Total)	WAD Cyanide	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Cr VI	Fe	TPH (C6-C35)	speciate	TOC	Remarks & comments
	BH56_2.5-2.7	4-3-10		X					X		1x250mL +Qw		X	X	X	X											X	
	BH56_4.25-4.6	4-3-10		X					X		"							X										
	BH56_5.5-5.9	4-3-10		X					X		"																	
2	BH56_7.0-7.2	4-3-10		X					X		"	X	X				X		X	X	X	X	X	X	X			
	BH56_8.5-8.9	4-3-10		X					X		"																	
	BH56_10.0-10.2	4-3-10		X					X		"																	
	BH56_11.5-11.7	4-3-10		X					X		"		X	X														
	QC123	4-3-10		X					X		"																	
	QC124	4-3-10		X					X		"																	
	QC251	4-3-10		[redacted]	X			X	X		4x bottles		X	X														2x glass, 2x plastic

Relinquished By:	Received by:
Name: Anthony Davis Date: 4/3/10	Name: Frank Date: 10-3-10
of: Time:	of: ALS Time: 10:30am
Relinquished By:	**Received by:**
Name: Date:	Name: Date:
of: Time:	of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

BATCH 1.
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3/4

AECOM

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: Lauren Kouns **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____ days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: 8. Project Manager: tel:

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC/VOC	asbestos	Cyanide (Free)	WAD Cyanide	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Cr VI	Fe	TPH (C6 - C36)	SPOCAS	Remarks & comments
	BH56_13.0-13.2	5.3.10		X					X		1x jar		X	X	X	X											
	DH56_14.5-15.0	5.3.10		X					X		"	X	X				X		X	X			X	X	X		X	
	BH56_17.5-17.8	5.3.10		X					X		1x jar 1x cryolocking		X	X	X	X												
	BH56_19.0-19.4	5.3.10		X					X		1x jar																	
	QC125	5.3.10		X					X		"	X	X				X		X	X			X	X	X		X	
*	QC126	5.3.10		X					X		"	X	X				X		X	X			X	X	X		X	P/S forward to Labmark.
	QC127	5.3.10		X					X		"																	
	QC128	5.3.10		X					X		"																	
	BH56_20.5-20.9	5.3.10		X					X		"		X	X	X	X			X	X								
	BH56_21.4-21.6	5.3.10		X					X		"		X	X	X	X			X	X								

Relinquished By:
Name: Anthony Davis Date: 9/3/10
of: Time:

Received by:
Name: Frank 10-3-10 Date:
of: ALS 10:30 Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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BATCH 1

4/4

AECOM

Form: downgradient of Declaration area.

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd. Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: LAUREN KONTOS **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager:		tel.	

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)
	QC252	5-3-10			X			X	X	*	4x bottles (1x 250ml for
	TB16	4-3-10		X					X		

Analysis Request

pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC/VOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	Cr VI	Fe	TPH (C6-C36)	SPOCAS	Remarks & comments
	X	X													2 vials, lauren, 1 plastic
					X										*VOC only for TB16

Relinquished By:
Name: Anthony Davis Date: 4/3/10
of: Time:

Received by:
Name: Frank Date: 10-3-10
of: ALS Time: 10:30

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Printed copies of this document are uncontrolled

Form: Hickson Road (Declaration Area)

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo **Project Number:** 54150014 **Purchase Order Number:** 1303951

Sample collected by: Kate O'Brien **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager: Anthony Davis tel: 84848952			

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC / Voc	asbestos	Cyanide (total)	WAD Cyanide	ASLP	TCLP	Aluminium, Antimony, Selenium, Silver & Tin, Cr VI	Fe	ToC	TPH (C6 - C36)	Remarks & comments
1	BH53_1-1-1.5		6-8-10	✓					✓		2x125ml	X	X	X	X	X									X		
2	BH53_2.0-2.4		"	✓					✓		1x125ml	X	X	X	X	X			X	X			X	X	•		Highly contaminated
16	BH53_3.0-3.4		"	✓					✓		1.5x125ml																
3	BH53_4.0-4.4		"	✓					✓		1x125ml	X	X				X		X	X	X	X	X	X	X	X	
17	BH53_5.0-5.4		"	✓					✓		1x125ml																
19	BH51_0.4-0.5		"	✓					✓		1x250ml		X	X	X	X											
5	BH67_0.4-0.43		"	✓					✓		1x250ml	X	X	X	X	X							X				
6	BH43_0.4-0.5		"	✓					✓		1x250ml		X										X				
7	BH61_0.3-0.4		"	✓					✓		1x250ml	X	X	X													
18	BH61_1-1-1.4		7-8-10	✓					✓		1x125ml																

Relinquished By:
Name: Kate O'Brien Date: 8-8-10
of: AECOM Time:

Received by:
Name: FedEx Date: 8/8/10
of: ALS Time: 4pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

CONTRACT WORK
WO: 56 [illegible]
LAB:
DATE:
SPLIT: ASLP split

Environmental Division
Sydney
Work Order
ES1004308

Telephone : +61-2-8784 8555

AECOM

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo **Project Number:** S41500014 **Purchase Order Number:** 1303951

Sample collected by: Kate O'Brien **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____ days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: 8. Project Manager: Anthony Davis tel: 84848952

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	ice	other	Container (No. & type)	pH	Metals	M13	TPH/BTEX	PAH	Phenols	SVOC/VOC	asbestos	Cyanide (Total)	WAD Cyanide	ASLP	TCLP	Aluminium, antimony, Arsenic, tin, Cobalt	Fe	Toc	TPH(C6-C36)	Remarks & comments
(8)	BH61_2-2-4		7-3-11	✓					✓		1x125ml	X	X		X	X	X			X	X			X	X	X	X	
(9)	BH61_3-3-4		"	✓					✓		1x125ml		X					X						X	X		X	
(10)	QC208		6-3-11	✓					✓		1x125ml		X		X	X	X												
(11)	QC209		6-3-11		✓			✓	✓		*		X		X														* 2x vials / 1x Amber
19	QC210		7-3-11	✓					✓		1x125ml																		1x plastic
(12)	QC211		"	✓					✓		"	X	X		X	X	X								X	X	X		
(13)	QC212		"	✓					✓		"		X		X	X	X								X	X	X		
20	QC206		6-3-11	✓					✓		1x250ml																		
21	QC207		"	✓					✓		1x250ml																		
(14)	QC213		7-3-11	✓					✓		*		X		X														* 2x vials / 1x amber 1x plastic

Relinquished By:
Name: K O B Date: 8/3/11
of: Time:

Received by:
Name: Fadi Date: 8/3/11
of: AM Time: 4pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

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AECOM

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney (Gordon)
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email

Laboratory Details
Lab. Name:
Lab. Address:
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY259-09-V2

Project Name: BARANGAROO DG1 **Project Number:** S41500014 **Purchase Order Number:** 1303951

Sample collected by: Kate O'Brien **Sample Results to be returned to:** Anthony Davis & Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☐ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: 8. Project Manager: Anthony Davis tel: 84848452

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	#	BTEX	VOC	TPH (C6 - C9)	Remarks & comments
(15)	TB17		5.5.10	✓					✓		1x125ml			X	X	

Relinquished By:
Name: KOB Date: 5/5/10
of: Time:

Received by:
Name: Fasi Date: 5/5/10
of: AES Time: 4pm

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1004308**	Page	: 1 of 18
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 08-MAR-2010
Sampler	: KO	Issue Date	: 17-MAR-2010
Order number	: 1303951		
		No. of samples received	: 21
Quote number	: SY/259/09 V2	No. of samples analysed	: 15

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved							
BH53_1.1-1.5, BH53_2.0-2.4, BH53_4.0-4.4, BH67_0.4-0.43, BH61_0.3-0.4	**06-MAR-2010**	**10-MAR-2010**	13-MAR-2010	✓	**10-MAR-2010**	10-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_2-2.4, QC211	**07-MAR-2010**	**10-MAR-2010**	14-MAR-2010	✓	**10-MAR-2010**	10-MAR-2010	✓
EA055: Moisture Content							
Soil Glass Jar - Unpreserved							
TB17	**05-MAR-2010**	**----**	----	----	**09-MAR-2010**	12-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH53_1.1-1.5, BH53_2.0-2.4, BH53_4.0-4.4, BH51_0.4-0.5, BH67_0.4-0.43, BH43_0.4-0.5, BH61_0.3-0.4, QC208	**06-MAR-2010**	**----**	----	----	**09-MAR-2010**	13-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_2-2.4, BH61_3-3.4, QC211, QC212	**07-MAR-2010**	**----**	----	----	**09-MAR-2010**	14-MAR-2010	✓
EG005C: Leachable Metals by ICPAES							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH53_4.0-4.4	**10-MAR-2010**	**10-MAR-2010**	06-SEP-2010	✓	**10-MAR-2010**	06-SEP-2010	✓
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved							
BH53_1.1-1.5, BH53_2.0-2.4, BH53_4.0-4.4, BH51_0.4-0.5, BH67_0.4-0.43, BH43_0.4-0.5, BH61_0.3-0.4, QC208	**06-MAR-2010**	**11-MAR-2010**	03-APR-2010	✓	**12-MAR-2010**	02-SEP-2010	✓
Soil Glass Jar - Unpreserved							
BH61_2-2.4, BH61_3-3.4, QC211, QC212	**07-MAR-2010**	**11-MAR-2010**	04-APR-2010	✓	**12-MAR-2010**	03-SEP-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035C: Leachable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
BH53_4.0-4.4	**10-MAR-2010**	**----**	----	----	**16-MAR-2010**	07-APR-2010	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved							
BH53_1.1-1.5, BH53_2.0-2.4, BH53_4.0-4.4, BH51_0.4-0.5, BH67_0.4-0.43	**06-MAR-2010**	**11-MAR-2010**	03-APR-2010	✓	**12-MAR-2010**	03-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH43_0.4-0.5, BH61_0.3-0.4, QC208	**06-MAR-2010**	**11-MAR-2010**	03-APR-2010	✓	**15-MAR-2010**	03-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_2-2.4, BH61_3-3.4, QC211, QC212	**07-MAR-2010**	**11-MAR-2010**	04-APR-2010	✓	**15-MAR-2010**	04-APR-2010	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved							
BH53_2.0-2.4, BH53_4.0-4.4, BH67_0.4-0.43, BH43_0.4-0.5	**06-MAR-2010**	**11-MAR-2010**	03-APR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_2-2.4, BH61_3-3.4, QC211, QC212	**07-MAR-2010**	**11-MAR-2010**	04-APR-2010	✓	**11-MAR-2010**	18-MAR-2010	✓
EK026G: Total Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH53_2.0-2.4, BH53_4.0-4.4	**06-MAR-2010**	**09-MAR-2010**	13-MAR-2010	✓	**10-MAR-2010**	23-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_2-2.4	**07-MAR-2010**	**09-MAR-2010**	14-MAR-2010	✓	**10-MAR-2010**	23-MAR-2010	✓
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved							
BH53_2.0-2.4, BH53_4.0-4.4	**06-MAR-2010**	**12-MAR-2010**	13-MAR-2010	✓	**12-MAR-2010**	13-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_2-2.4	**07-MAR-2010**	**12-MAR-2010**	14-MAR-2010	✓	**12-MAR-2010**	14-MAR-2010	✓
EN33: TCLP Leach							
LabSplit: Leach for organics and other tests							
BH53_4.0-4.4	**06-MAR-2010**	**---**	---	----	**10-MAR-2010**	20-MAR-2010	✓
EP004: Organic Matter							
Soil Glass Jar - Unpreserved							
BH53_1.1-1.5, BH53_4.0-4.4	**06-MAR-2010**	**----**	----	----	**12-MAR-2010**	13-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_2-2.4, QC211, QC212	**07-MAR-2010**	**----**	----	----	**12-MAR-2010**	14-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved TB17	**05-MAR-2010**	**09-MAR-2010**	19-MAR-2010	✓	**10-MAR-2010**	19-MAR-2010	✓
Soil Glass Jar - Unpreserved BH53_4.0-4.4	**06-MAR-2010**	**09-MAR-2010**	20-MAR-2010	✓	**10-MAR-2010**	20-MAR-2010	✓
Soil Glass Jar - Unpreserved BH61_3-3.4	**07-MAR-2010**	**09-MAR-2010**	21-MAR-2010	✓	**10-MAR-2010**	21-MAR-2010	✓
EP074B: Oxygenated Compounds							
Soil Glass Jar - Unpreserved TB17	**05-MAR-2010**	**09-MAR-2010**	19-MAR-2010	✓	**10-MAR-2010**	19-MAR-2010	✓
Soil Glass Jar - Unpreserved BH53_4.0-4.4	**06-MAR-2010**	**09-MAR-2010**	20-MAR-2010	✓	**10-MAR-2010**	20-MAR-2010	✓
Soil Glass Jar - Unpreserved BH61_3-3.4	**07-MAR-2010**	**09-MAR-2010**	21-MAR-2010	✓	**10-MAR-2010**	21-MAR-2010	✓
EP074C: Sulfonated Compounds							
Soil Glass Jar - Unpreserved TB17	**05-MAR-2010**	**09-MAR-2010**	19-MAR-2010	✓	**10-MAR-2010**	19-MAR-2010	✓
Soil Glass Jar - Unpreserved BH53_4.0-4.4	**06-MAR-2010**	**09-MAR-2010**	20-MAR-2010	✓	**10-MAR-2010**	20-MAR-2010	✓
Soil Glass Jar - Unpreserved BH61_3-3.4	**07-MAR-2010**	**09-MAR-2010**	21-MAR-2010	✓	**10-MAR-2010**	21-MAR-2010	✓
EP074D: Fumigants							
Soil Glass Jar - Unpreserved TB17	**05-MAR-2010**	**09-MAR-2010**	19-MAR-2010	✓	**10-MAR-2010**	19-MAR-2010	✓
Soil Glass Jar - Unpreserved BH53_4.0-4.4	**06-MAR-2010**	**09-MAR-2010**	20-MAR-2010	✓	**10-MAR-2010**	20-MAR-2010	✓
Soil Glass Jar - Unpreserved BH61_3-3.4	**07-MAR-2010**	**09-MAR-2010**	21-MAR-2010	✓	**10-MAR-2010**	21-MAR-2010	✓
EP074E: Halogenated Aliphatic Compounds							
Soil Glass Jar - Unpreserved TB17	**05-MAR-2010**	**09-MAR-2010**	19-MAR-2010	✓	**10-MAR-2010**	19-MAR-2010	✓
Soil Glass Jar - Unpreserved BH53_4.0-4.4	**06-MAR-2010**	**09-MAR-2010**	20-MAR-2010	✓	**10-MAR-2010**	20-MAR-2010	✓
Soil Glass Jar - Unpreserved BH61_3-3.4	**07-MAR-2010**	**09-MAR-2010**	21-MAR-2010	✓	**10-MAR-2010**	21-MAR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074F: Halogenated Aromatic Compounds							
Soil Glass Jar - Unpreserved							
TB17	**05-MAR-2010**	**09-MAR-2010**	19-MAR-2010	✓	**10-MAR-2010**	19-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH53_4.0-4.4	**06-MAR-2010**	**09-MAR-2010**	20-MAR-2010	✓	**10-MAR-2010**	20-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_3-3.4	**07-MAR-2010**	**09-MAR-2010**	21-MAR-2010	✓	**10-MAR-2010**	21-MAR-2010	✓
EP074G: Trihalomethanes							
Soil Glass Jar - Unpreserved							
TB17	**05-MAR-2010**	**09-MAR-2010**	19-MAR-2010	✓	**10-MAR-2010**	19-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH53_4.0-4.4	**06-MAR-2010**	**09-MAR-2010**	20-MAR-2010	✓	**10-MAR-2010**	20-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_3-3.4	**07-MAR-2010**	**09-MAR-2010**	21-MAR-2010	✓	**10-MAR-2010**	21-MAR-2010	✓
EP074H: Naphthalene							
Soil Glass Jar - Unpreserved							
TB17	**05-MAR-2010**	**09-MAR-2010**	19-MAR-2010	✓	**10-MAR-2010**	19-MAR-2010	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved							
BH53_1.1-1.5, BH53_2.0-2.4, BH51_0.4-0.5, BH67_0.4-0.43, QC208	**06-MAR-2010**	**09-MAR-2010**	20-MAR-2010	✓	**10-MAR-2010**	18-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_2-2.4, QC211, QC212	**07-MAR-2010**	**09-MAR-2010**	21-MAR-2010	✓	**10-MAR-2010**	18-APR-2010	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
BH53_4.0-4.4	**10-MAR-2010**	**10-MAR-2010**	17-MAR-2010	✓	**10-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH53_1.1-1.5, BH53_2.0-2.4, BH51_0.4-0.5, BH67_0.4-0.43, QC208	**06-MAR-2010**	**09-MAR-2010**	20-MAR-2010	✓	**10-MAR-2010**	18-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_2-2.4, QC211, QC212	**07-MAR-2010**	**09-MAR-2010**	21-MAR-2010	✓	**10-MAR-2010**	18-APR-2010	✓
EP075A: Phenolic Compounds							
Soil Glass Jar - Unpreserved							
BH53_4.0-4.4	**06-MAR-2010**	**10-MAR-2010**	20-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_3-3.4	**07-MAR-2010**	**10-MAR-2010**	21-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved BH53_4.0-4.4	**06-MAR-2010**	**10-MAR-2010**	20-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH61_3-3.4	**07-MAR-2010**	**10-MAR-2010**	21-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075C: Phthalate Esters							
Soil Glass Jar - Unpreserved BH53_4.0-4.4	**06-MAR-2010**	**10-MAR-2010**	20-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH61_3-3.4	**07-MAR-2010**	**10-MAR-2010**	21-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075D: Nitrosamines							
Soil Glass Jar - Unpreserved BH53_4.0-4.4	**06-MAR-2010**	**10-MAR-2010**	20-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH61_3-3.4	**07-MAR-2010**	**10-MAR-2010**	21-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075E: Nitroaromatics and Ketones							
Soil Glass Jar - Unpreserved BH53_4.0-4.4	**06-MAR-2010**	**10-MAR-2010**	20-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH61_3-3.4	**07-MAR-2010**	**10-MAR-2010**	21-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075F: Haloethers							
Soil Glass Jar - Unpreserved BH53_4.0-4.4	**06-MAR-2010**	**10-MAR-2010**	20-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH61_3-3.4	**07-MAR-2010**	**10-MAR-2010**	21-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075G: Chlorinated Hydrocarbons							
Soil Glass Jar - Unpreserved BH53_4.0-4.4	**06-MAR-2010**	**10-MAR-2010**	20-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH61_3-3.4	**07-MAR-2010**	**10-MAR-2010**	21-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075H: Anilines and Benzidines							
Soil Glass Jar - Unpreserved BH53_4.0-4.4	**06-MAR-2010**	**10-MAR-2010**	20-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH61_3-3.4	**07-MAR-2010**	**10-MAR-2010**	21-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP075I: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved BH53_4.0-4.4	**06-MAR-2010**	**10-MAR-2010**	20-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved BH61_3-3.4	**07-MAR-2010**	**10-MAR-2010**	21-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075J: Organophosphorus Pesticides							
Soil Glass Jar - Unpreserved							
BH53_4.0-4.4	**06-MAR-2010**	**10-MAR-2010**	20-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_3-3.4	**07-MAR-2010**	**10-MAR-2010**	21-MAR-2010	✓	**11-MAR-2010**	19-APR-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved							
TB17	**05-MAR-2010**	**09-MAR-2010**	19-MAR-2010	✓	**10-MAR-2010**	19-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH53_1.1-1.5, BH53_2.0-2.4, BH53_4.0-4.4, BH51_0.4-0.5, BH67_0.4-0.43, BH61_0.3-0.4, QC208	**06-MAR-2010**	**09-MAR-2010**	20-MAR-2010	✓	**10-MAR-2010**	20-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_2-2.4, BH61_3-3.4, QC211, QC212	**07-MAR-2010**	**09-MAR-2010**	21-MAR-2010	✓	**10-MAR-2010**	21-MAR-2010	✓
EP080: BTEX							
Soil Glass Jar - Unpreserved							
BH53_1.1-1.5, BH53_2.0-2.4, BH51_0.4-0.5, BH67_0.4-0.43, BH61_0.3-0.4, QC208	**06-MAR-2010**	**09-MAR-2010**	20-MAR-2010	✓	**10-MAR-2010**	20-MAR-2010	✓
Soil Glass Jar - Unpreserved							
BH61_2-2.4, QC211, QC212	**07-MAR-2010**	**09-MAR-2010**	21-MAR-2010	✓	**10-MAR-2010**	21-MAR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered							
QC209	**06-MAR-2010**	**---**	---	----	**11-MAR-2010**	02-SEP-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered							
QC213	**07-MAR-2010**	**---**	---	----	**11-MAR-2010**	03-SEP-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered							
QC209	**06-MAR-2010**	**---**	---	----	**15-MAR-2010**	03-APR-2010	✓
Clear Plastic Bottle - Nitric Acid; Filtered							
QC213	**07-MAR-2010**	**---**	---	----	**15-MAR-2010**	04-APR-2010	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved QC209	**06-MAR-2010**	**09-MAR-2010**	13-MAR-2010	✓	**10-MAR-2010**	19-APR-2010	✓
Amber Glass Bottle - Unpreserved QC213	**07-MAR-2010**	**09-MAR-2010**	14-MAR-2010	✓	**10-MAR-2010**	19-APR-2010	✓
Amber VOC Vial - HCl QC209	**06-MAR-2010**	**---**	---	----	**10-MAR-2010**	20-MAR-2010	✓
Amber VOC Vial - HCl QC213	**07-MAR-2010**	**---**	---	----	**10-MAR-2010**	21-MAR-2010	✓
EP080: BTEX							
Amber VOC Vial - HCl QC209	**06-MAR-2010**	**---**	---	----	**10-MAR-2010**	20-MAR-2010	✓
Amber VOC Vial - HCl QC213	**07-MAR-2010**	**---**	---	----	**10-MAR-2010**	21-MAR-2010	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	19	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	5	**20.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	9	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	1	7	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	3	**33.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	4	**25.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	4	37	**10.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	40	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	3	**33.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	2	16	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	3	**33.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	3	**33.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	3	**33.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB) - Continued							
Volatile Organic Compounds	EP074	1	3	33.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	16	6.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	19	5.3	5.0	✓	ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	9	11.1	5.0	✓	ALS QCS3 requirement
Semivolatile Organic Compounds	EP075	1	3	33.3	5.0	✓	ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	4	25.0	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	37	5.4	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	40	5.0	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	11	9.1	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	15	6.7	5.0	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	3	33.3	5.0	✓	ALS QCS3 requirement
WAD Cyanide By Discrete Analyser	EK028G	1	16	6.3	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	1	10	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	10	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	10	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	2	50.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	2	50.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	18	5.6	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	2	50.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	18	5.6	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	10	**10.0**	**5.0**	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	10	**10.0**	**5.0**	✓	ALS QCS3 requirement
Leachable Mercury by FIMS	EG035C	1	10	**10.0**	**5.0**	✓	ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	1	2	**50.0**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH (1:5)	EA002	SOIL	(APHA 21st ed., 4500H+) pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM (1999) Schedule B(3) (Method 103)
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)
Leachable Metals by ICPAES	EG005C	SOIL	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Leachable Mercury by FIMS	EG035C	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	USEPA SW846, Method 3060A. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Cyanide By Discrete Analyser	EK026G	SOIL	APHA 21st 4500 CN - C & N. Caustic leach extracts of the sample are distilled with sulphuric acid, converting all CN species to HCN. The distillates are analyzed for CN by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Method 403)
WAD Cyanide By Discrete Analyser	EK028G	SOIL	APHA 21st 4500 CN - I & N. Sample are distilled with a weak organic acid, converting selected CN species to HCN. The distillates are analyzed for CN by Discrete Analyser.
Organic Matter	EP004	SOIL	AS1289.4.1.1 - 1997., Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (1999) Schedule B(3) (Method 105)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)

Analytical Methods	Method	Matrix	Method Descriptions
Volatile Organic Compounds	EP074	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Semivolatile Organic Compounds	EP075	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 502)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	USEPA SW846, Method 3060A.
NaOH leach for TCN in Soils	EK026PR	SOIL	APHA 21st ed., 4500 CN- C & N. Samples are extracted by end-over-end tumbling with NaOH.
WAD Cyanide	EK028PR	SOIL	APHA 21st ed., 4500 CN- C & N. Cyanide is selectively distilled from the sample by the action of weak acetic acid. Only poorly bound metal complexed cyanides are released.
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TCLP for Non & Semivolatile Analytes	EN33a	SOIL	(USEPA SW846-1311, ALS QWI-EN/33) The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.

Preparation Methods	Method	Matrix	Method Descriptions
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005T: Total Metals by ICP-AES	ES1004218-025	Anonymous	**Aluminium**	7429-90-5	44.6 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1004284-006	Anonymous	**Copper**	7440-50-8	37.6 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1004308-013	QC212	**Manganese**	7439-96-5	25.1 %	0-20%	**RPD exceeds LOR based limits**
EG005T: Total Metals by ICP-AES	ES1004266-001	Anonymous	**Manganese**	7439-96-5	34.2 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004308-001	BH53_1.1-1.5	**Naphthalene**	91-20-3	20.7 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004308-001	BH53_1.1-1.5	**Acenaphthylene**	208-96-8	21.5 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004308-001	BH53_1.1-1.5	**Acenaphthene**	83-32-9	59.7 %	0-50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004308-001	BH53_1.1-1.5	**Fluorene**	86-73-7	76.3 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004308-001	BH53_1.1-1.5	**Phenanthrene**	85-01-8	48.5 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004308-001	BH53_1.1-1.5	**Anthracene**	120-12-7	29.1 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004308-001	BH53_1.1-1.5	**Fluoranthene**	206-44-0	29.4 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004308-001	BH53_1.1-1.5	**Pyrene**	129-00-0	30.4 %	0-20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004308-001	BH53_1.1-1.5	**Benzo(k)fluoranthene**	207-08-9	41.8 %	0-20%	**RPD exceeds LOR based limits**
Laboratory Control Spike (LCS) Recoveries							
EP004: Organic Matter	1475117-002	----	**Organic Matter**	----	77.7 %	86-111%	**Recovery less than lower control limit**
EP075(SIM)A: Phenolic Compounds	1474285-002	----	**2.4.5-Trichlorophenol**	95-95-4	64.3 %	68.9-112%	**Recovery less than lower control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1474285-002	----	**Acenaphthene**	83-32-9	79.6 %	81.5-112%	**Recovery less than lower control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1474285-002	----	**Benzo(a)pyrene**	50-32-8	117 %	76.4-113%	**Recovery greater than upper control limit**
EP075D: Nitrosamines	1475249-002	----	**N-Nitrosopyrrolidine**	930-55-2	41.8 %	42.8-102%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							
EG048: Hexavalent Chromium (Alkaline Digest)	ES1004218-026	Anonymous	**Hexavalent Chromium**	18540-29-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EK026G: Total Cyanide By Discrete Analyser	ES1004130-011	Anonymous	**Total Cyanide**	57-12-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1004308-003	BH53_4.0-4.4	**Benzene**	71-43-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP074A: Monocyclic Aromatic Hydrocarbons	ES1004308-003	BH53_4.0-4.4	**Toluene**	108-88-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP074E: Halogenated Aliphatic Compounds	ES1004308-003	BH53_4.0-4.4	**1.1-Dichloroethene**	75-35-4	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP074E: Halogenated Aliphatic Compounds	ES1004308-003	BH53_4.0-4.4	**Trichloroethene**	79-01-6	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP074F: Halogenated Aromatic Compounds	ES1004308-003	BH53_4.0-4.4	**Chlorobenzene**	108-90-7	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004308-001	BH53_1.1-1.5	**Acenaphthene**	83-32-9	68.5 %	70-130%	**Recovery less than lower data quality objective**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1004308-001	BH53_1.1-1.5	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	ES1004308-003	BH53_4.0-4.4	**C6 - C9 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1004308-003	BH53_4.0-4.4	**Benzene**	71-43-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1004308-003	BH53_4.0-4.4	**Toluene**	108-88-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1004308-003	BH53_4.0-4.4	**Ethylbenzene**	100-41-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1004308-003	BH53_4.0-4.4	**meta- & para-Xylene**	108-38-3 106-42-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080: BTEX	ES1004308-003	BH53_4.0-4.4	**ortho-Xylene**	95-47-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	1475988-043	----	**Vanadium**	7440-62-2	87.2 %	91-109%	**Recovery less than lower control limit**
EG035C: Leachable Mercury by FIMS	1481645-002	----	**Mercury**	7439-97-6	74.4 %	83-119%	**Recovery less than lower control limit**

- **For all matrices, no Method Blank value outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP074S: VOC Surrogates	ES1004308-003	BH53_4.0-4.4	**1.2-Dichloroethane-D4**	17060-07-0	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP074S: VOC Surrogates	ES1004308-003	BH53_4.0-4.4	**Toluene-D8**	2037-26-5	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP074S: VOC Surrogates	ES1004308-003	BH53_4.0-4.4	**4-Bromofluorobenzene**	460-00-4	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1004308-003	BH53_4.0-4.4	**2-Fluorophenol**	367-12-4	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1004308-003	BH53_4.0-4.4	**2.4.6-Tribromophenol**	118-79-6	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075S: Acid Extractable Surrogates	ES1004308-009	BH61_3-3.4	**2.4.6-Tribromophenol**	118-79-6	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075T: Base/Neutral Extractable Surrogates	ES1004308-009	BH61_3-3.4	**Nitrobenzene-D5**	4165-60-0	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP080S: TPH(V)/BTEX Surrogates	ES1004308-003	BH53_4.0-4.4	**1.2-Dichloroethane-D4**	17060-07-0	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP080S: TPH(V)/BTEX Surrogates	ES1004308-003	BH53_4.0-4.4	**Toluene-D8**	2037-26-5	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP080S: TPH(V)/BTEX Surrogates	ES1004308-010	QC208	**Toluene-D8**	2037-26-5	119 %	81-117 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES1004308-003	BH53_4.0-4.4	**4-Bromofluorobenzene**	460-00-4	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**

Sub-Matrix: **TCLP LEACHATE**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment

Sub-Matrix: **TCLP LEACHATE**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP075(SIM)S: Phenolic Compound Surrogates	ES1004308-003	BH53_4.0-4.4	**Phenol-d6**	13127-88-3	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075(SIM)S: Phenolic Compound Surrogates	ES1004308-003	BH53_4.0-4.4	**2-Chlorophenol-D4**	93951-73-6	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075(SIM)S: Phenolic Compound Surrogates	ES1004308-003	BH53_4.0-4.4	**2.4.6-Tribromophenol**	118-79-6	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075(SIM)T: PAH Surrogates	ES1004308-003	BH53_4.0-4.4	**2-Fluorobiphenyl**	321-60-8	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075(SIM)T: PAH Surrogates	ES1004308-003	BH53_4.0-4.4	**Anthracene-d10**	1719-06-8	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP075(SIM)T: PAH Surrogates	ES1004308-003	BH53_4.0-4.4	**4-Terphenyl-d14**	1718-51-0	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **ES1004308**	Page	: 1 of 28
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 08-MAR-2010
Sampler	: KO	Issue Date	: 17-MAR-2010
Order number	: 1303951		
		No. of samples received	: 21
Quote number	: SY/259/09 V2	No. of samples analysed	: 15

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA002 : pH (Soils) (QC Lot: 1273610)									
ES1004308-001	BH53_1.1-1.5	EA002: pH Value	----	0.1	pH Unit	8.2	8.2	0.0	0% - 20%
EA055: Moisture Content (QC Lot: 1273151)									
EB1003813-004	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	80.4	80.5	0.0	0% - 20%
ES1004308-005	BH67_0.4-0.43	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	14.2	13.8	2.4	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 1275248)									
ES1004218-025	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	110	130	19.4	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	10	9	17.4	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	2	3	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	3	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Antimony	7440-36-0	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	22	24	9.9	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	78	62	23.5	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	96	110	12.8	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	13	13	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	69	60	13.1	0% - 50%
		EG005T: Aluminium	7429-90-5	50	mg/kg	2780	1770	# 44.6	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	7010	7900	11.9	0% - 20%
ES1004284-006	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	4	3	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	240	250	6.6	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	638	535	17.5	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	9	10	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	32	26	18.8	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Antimony	7440-36-0	5	mg/kg	6	7	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	47	51	9.1	0% - 50%
		EG005T: Copper	7440-50-8	5	mg/kg	217	318	# 37.6	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	877	873	0.4	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	4160	3710	11.6	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1275248) - continued									
ES1004284-006	Anonymous	EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	46	49	7.8	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	79	72	9.5	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	3020	3380	11.3	0% - 20%
		EG005T: Aluminium	7429-90-5	50	mg/kg	10600	10800	2.2	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	94000	78800	17.6	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1275586)									
ES1004266-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	2	2	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	60	60	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	7	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	2	2	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Antimony	7440-36-0	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	11	11	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	18	16	6.8	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	165	162	2.1	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	266	188	# 34.2	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	18	18	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	793	789	0.5	0% - 20%
		EG005T: Aluminium	7429-90-5	50	mg/kg	6730	6580	2.2	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	8910	9130	2.4	0% - 20%
ES1004308-013	QC212	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	470	560	18.7	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	44	52	18.6	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	4	40.6	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Antimony	7440-36-0	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	29	36	22.9	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	54	57	5.2	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	129	166	# 25.1	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1275586) - continued									
ES1004308-013	QC212	EG005T: Vanadium	7440-62-2	5	mg/kg	39	31	23.4	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	10	12	13.9	No Limit
		EG005T: Aluminium	7429-90-5	50	mg/kg	2530	2490	1.7	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	22500	21500	4.6	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1275249)									
ES1004218-025	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	0.0	No Limit
ES1004284-006	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1275587)									
ES1004266-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1004308-013	QC212	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1275123)									
ES1004218-026	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1004308-013	QC212	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	2.4	2.4	0.0	No Limit
EK026G: Total Cyanide By Discrete Analyser (QC Lot: 1273293)									
ES1004130-011	Anonymous	EK026G: Total Cyanide	57-12-5	1	mg/kg	158	163	3.4	0% - 20%
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QC Lot: 1276811)									
ES1004218-004	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
ES1004308-008	BH61_2-2.4	EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EP004: Organic Matter (QC Lot: 1273618)									
ES1004308-001	BH53_1.1-1.5	EP004: Organic Matter	----	0.5	%	1.3	1.3	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	0.8	0.8	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1273019)									
ES1004308-003	BH53_4.0-4.4	EP074: Benzene	71-43-2	0.2	mg/kg	678	773	13.2	0% - 20%
		EP074: Toluene	108-88-3	0.5	mg/kg	670	683	1.8	0% - 20%
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	50.7	48.0	5.5	0% - 20%
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	470	454	3.6	0% - 20%
		EP074: Styrene	100-42-5	0.5	mg/kg	191	182	4.8	0% - 20%
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	197	183	7.4	0% - 20%
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	77.0	71.4	7.5	0% - 20%
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	197	183	7.7	0% - 20%
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1273019)									
ES1004308-003	BH53_4.0-4.4	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<100	<100	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074B: Oxygenated Compounds (QC Lot: 1273019) - continued									
ES1004308-003	BH53_4.0-4.4	EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<100	<100	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<100	<100	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<100	<100	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1273019)									
ES1004308-003	BH53_4.0-4.4	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
EP074D: Fumigants (QC Lot: 1273019)									
ES1004308-003	BH53_4.0-4.4	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1273019)									
ES1004308-003	BH53_4.0-4.4	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<100	<100	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<100	<100	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<100	<100	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<100	<100	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<100	<100	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<100	<100	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074F: Halogenated Aromatic Compounds (QC Lot: 1273019)									
ES1004308-003	BH53_4.0-4.4	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 1273019)									
ES1004308-003	BH53_4.0-4.4	EP074: Chloroform	67-66-3	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<10.0	<10.0	0.0	No Limit
EP074H: Naphthalene (QC Lot: 1273019)									
ES1004308-003	BH53_4.0-4.4	EP074: Naphthalene	91-20-3	5	mg/kg	5500	6070	10.0	0% - 20%
EP075(SIM)A: Phenolic Compounds (QC Lot: 1272940)									
ES1004308-001	BH53_1.1-1.5	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	1.2	2.0	45.1	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	0.8	1.2	44.6	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	0.7	1.1	47.9	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	1.6	2.8	52.3	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1272940)									
ES1004308-001	BH53_1.1-1.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	20.8	16.9	# 20.7	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	13.0	10.4	# 21.5	0% - 20%
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	5.4	2.9	# 59.7	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	15.6	7.0	# 76.3	0% - 50%
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	91.2	55.6	# 48.5	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	25.7	19.1	# 29.1	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	142	106	# 29.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	128	94.0	# 30.4	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	52.3	45.4	14.1	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1272940) - continued									
ES1004308-001	BH53_1.1-1.5	EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	36.1	30.5	16.7	0% - 20%
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	50.4	42.1	18.0	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	13.8	21.0	# 41.8	0% - 20%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	38.1	33.0	14.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	14.7	14.0	4.3	0% - 20%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	4.4	4.3	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	16.8	15.5	8.1	0% - 20%
EP075A: Phenolic Compounds (QC Lot: 1273781)									
ES1004018-016	Anonymous	EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1273781)									
ES1004018-016	Anonymous	EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1273781) - continued									
ES1004018-016	Anonymous	EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	<1	0.0	No Limit
EP075C: Phthalate Esters (QC Lot: 1273781)									
ES1004018-016	Anonymous	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: bis(2-ethylhexyl) phthalate	117-81-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075D: Nitrosamines (QC Lot: 1273781)									
ES1004018-016	Anonymous	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 1273781)									
ES1004018-016	Anonymous	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075F: Haloethers (QC Lot: 1273781)									
ES1004018-016	Anonymous	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 1273781)									
ES1004018-016	Anonymous	EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075H: Anilines and Benzidines (QC Lot: 1273781)									
ES1004018-016	Anonymous	EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 1273781)									
ES1004018-016	Anonymous	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075I: Organochlorine Pesticides (QC Lot: 1273781) - continued									
ES1004018-016	Anonymous	EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 1273781)									
ES1004018-016	Anonymous	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1272941)									
ES1004308-001	BH53_1.1-1.5	EP071: C15 - C28 Fraction	----	100	mg/kg	1920	2190	13.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	1330	1370	2.8	0% - 50%
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1004308-013	QC212	EP071: C15 - C28 Fraction	----	100	mg/kg	8390	8000	4.7	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	4380	4520	3.2	0% - 20%
		EP071: C10 - C14 Fraction	----	50	mg/kg	420	420	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1273018)									
ES1004308-003	BH53_4.0-4.4	EP080: C6 - C9 Fraction	----	10	mg/kg	3000	3020	0.9	0% - 20%
ES1004308-009	BH61_3-3.4	EP080: C6 - C9 Fraction	----	10	mg/kg	75	63	18.0	No Limit
EP080: BTEX (QC Lot: 1273018)									
ES1004308-003	BH53_4.0-4.4	EP080: Benzene	71-43-2	0.2	mg/kg	677	757	11.2	0% - 20%
		EP080: Toluene	108-88-3	0.5	mg/kg	616	640	3.8	0% - 20%
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	56.4	54.1	4.1	0% - 20%
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	429	414	3.6	0% - 20%
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	177	166	6.7	0% - 20%
ES1004308-009	BH61_3-3.4	EP080: Benzene	71-43-2	0.2	mg/kg	11.1	11.2	0.0	0% - 20%
		EP080: Toluene	108-88-3	0.5	mg/kg	13.9	13.3	4.4	0% - 20%
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	6.2	6.3	0.0	0% - 50%
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	15.6	15.6	0.0	0% - 20%
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	6.2	5.9	4.1	0% - 50%

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005C: Leachable Metals by ICPAES (QC Lot: 1273762)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005C: Leachable Metals by ICPAES (QC Lot: 1273762) - continued									
ES1004283-001	Anonymous	EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Barium	7440-39-3	0.1	mg/L	0.2	0.2	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	0.4	0.4	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	3.3	3.2	0.0	0% - 20%
		EG005C: Lead	7439-92-1	0.1	mg/L	1.6	1.6	0.0	0% - 50%
		EG005C: Manganese	7439-96-5	0.1	mg/L	0.2	0.2	0.0	No Limit
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	15.3	14.9	2.7	0% - 20%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1274381)									
ES1004278-006	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	0.026	0.026	0.0	0% - 20%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.038	0.037	0.0	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Vanadium	7440-62-2	0.001	mg/L	<0.01	<0.01	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.001	mg/L	0.011	0.011	0.0	0% - 50%
EG035C: Leachable Mercury by FIMS (QC Lot: 1279258)									
ES1004218-004	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1274380)									
ES1004278-006	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1273281)									
ES1004217-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1004217-011	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEX (QC Lot: 1273281)									
ES1004217-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080: BTEX (QC Lot: 1273281) - continued									
ES1004217-011	Anonymous	EP080: Benzene	71-43-2	1	µg/L	1	1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1275248)								
EG005T: Aluminium	7429-90-5	50	mg/kg	<50	----	----	----	----
EG005T: Antimony	7440-36-0	5	mg/kg	<5	----	----	----	----
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	102	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	102	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	98.5	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	99.0	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	100	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	97.3	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	96.7	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	95.0	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	103	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	99.4	88.3	116
EG005T: Selenium	7782-49-2	5	mg/kg	<5	2.94 mg/kg	92.0	70	130
EG005T: Silver	7440-22-4	2	mg/kg	<2	5.60 mg/kg	92.7	70	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	26.07 mg/kg	102	70	130
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	102	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	95.1	88.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1275586)								
EG005T: Aluminium	7429-90-5	50	mg/kg	<50	2041 mg/kg	121	70	130
EG005T: Antimony	7440-36-0	5	mg/kg	<5	----	----	----	----
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	109	70	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	120	70	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	110	70	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	107	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	102	89.2	117
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	102	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	106	90.1	114
EG005T: Iron	7439-89-6	50	mg/kg	<50	13134 mg/kg	119	70	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	103	85.2	111
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.60 mg/kg	106	70	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	104	88.3	116
EG005T: Selenium	7782-49-2	5	mg/kg	<5	2.94 mg/kg	90.3	70	130
EG005T: Silver	7440-22-4	2	mg/kg	<2	5.60 mg/kg	104	70	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	26.07 mg/kg	98.2	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1275586) - continued								
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	104	70	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	98.0	88.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275249)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	68.3	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275587)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	77.9	67	118
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275123)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	94.0	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1273293)								
EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	20.0 mg/kg	90.2	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1276811)								
EK028G: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	2.0 mg/kg	97.0	70	130
EP004: Organic Matter (QCLot: 1273618)								
EP004: Organic Matter	----	0.5	%	<0.5	4.58 %	# 77.7	86	111
EP004: Total Organic Carbon	----	0.5	%	<0.5	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1273019)								
EP074: Benzene	71-43-2	0.5	mg/kg	<0.5	1 mg/kg	114	64	126
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	109	63	135
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	110	64	124
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	108	66	126
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	97.5	67	121
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	108	66	124
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	110	64	124
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	113	59	129
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	111	63	125
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	114	61	127
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	111	62	126
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	113	62	126
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	112	60	126
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	114	57	129
EP074B: Oxygenated Compounds (QCLot: 1273019)								
EP074: Vinyl Acetate	108-05-4	1	mg/kg	----	10 mg/kg	81.3	11	155
		5	mg/kg	<5	----	----	----	----
EP074: 2-Butanone (MEK)	78-93-3	1	mg/kg	----	10 mg/kg	82.5	37	169
		5	mg/kg	<5	----	----	----	----
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	1	mg/kg	----	10 mg/kg	85.8	55	133
		5	mg/kg	<5	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)
				Result	Concentration	LCS	Low	High
EP074B: Oxygenated Compounds (QCLot: 1273019) - continued								
EP074: 2-Hexanone (MBK)	591-78-6	1	mg/kg	----	10 mg/kg	84.6	57	133
		5	mg/kg	<5	----	----	----	----
EP074C: Sulfonated Compounds (QCLot: 1273019)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	101	53	135
EP074D: Fumigants (QCLot: 1273019)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	96.2	57	129
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	98.6	68	122
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	88.4	59	127
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	86.5	53	129
EP074E: Halogenated Aliphatic Compounds (QCLot: 1273019)								
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	----	10 mg/kg	83.2	28.9	146
		5	mg/kg	<5	----	----	----	----
EP074: Chloromethane	74-87-3	1	mg/kg	----	10 mg/kg	101	43	140
		5	mg/kg	<5	----	----	----	----
EP074: Vinyl chloride	75-01-4	1	mg/kg	----	10 mg/kg	101	41	149
		5	mg/kg	<5	----	----	----	----
EP074: Bromomethane	74-83-9	1	mg/kg	----	10 mg/kg	118	44	152
		5	mg/kg	<5	----	----	----	----
EP074: Chloroethane	75-00-3	1	mg/kg	----	10 mg/kg	103	49	149
		5	mg/kg	<5	----	----	----	----
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	----	10 mg/kg	114	53	139
		5	mg/kg	<5	----	----	----	----
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	108	57	133
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	102	48	134
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	100	62	128
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	102	64	126
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	102	66	124
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	98.0	61	125
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	102	62	128
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	99.7	56	128
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	97.7	70	124
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	96.6	65	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	93.7	67	123
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	97.0	70	122
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	101	71	121
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	114	64	144
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	94.5	57	125
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	92.3	39	141
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	86.0	56	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1273019) - continued								
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	90.8	57	127
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	92.2	62	126
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	89.0	26.4	144
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	101	51	133
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	116	48	136
EP074F: Halogenated Aromatic Compounds (QCLot: 1273019)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	107	67	125
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	107	68	122
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	114	63	127
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	110	64	126
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	112	66	124
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	105	64	126
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	109	67	121
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	111	54	134
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	105	58	132
EP074G: Trihalomethanes (QCLot: 1273019)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	97.8	67	123
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	89.0	60	126
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	97.8	58	124
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	85.3	57	121
EP074H: Naphthalene (QCLot: 1273019)								
EP074: Naphthalene	91-20-3	0.5	mg/kg	----	1 mg/kg	94.1	63	131
		5	mg/kg	<5	----	----	----	----
EP075(SIM)A: Phenolic Compounds (QCLot: 1272940)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	84.7	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	80.6	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	78.6	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	77.1	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	85.7	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	77.4	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	81.1	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	82.4	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	81.6	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	62.5	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	# 64.3	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	7.8	1.23	91.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1272940)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	87.5	81.9	113

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1272940) - continued								
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	83.7	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	# 79.6	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	85.7	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	82.1	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	81.1	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	79.9	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	81.8	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	87.9	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	89.1	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	88.3	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	82.3	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	# 117	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	95.7	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	91.0	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	103	72.4	114
EP075A: Phenolic Compounds (QCLot: 1273781)								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.25 mg/kg	93.9	66.9	114
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.25 mg/kg	83.5	58.5	108
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.25 mg/kg	75.4	43	103
EP075: 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	2.5 mg/kg	71.5	35.9	109
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	54.4	49.4	109
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.25 mg/kg	37.3	.15	116
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.25 mg/kg	60.4	52.5	106
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.25 mg/kg	53.2	48.2	98.6
EP075: 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	1.25 mg/kg	71.4	59	106
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.25 mg/kg	50.6	44.4	101
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.25 mg/kg	56.5	48	107
EP075: Pentachlorophenol	87-86-5	1.0	mg/kg	<1	2.5 mg/kg	10.8	4.43	89.2
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1273781)								
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.25 mg/kg	85.8	63.7	108
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.25 mg/kg	75.9	60.8	110
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.25 mg/kg	72.0	59.1	110
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.25 mg/kg	81.9	58.8	106
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.25 mg/kg	77.2	61.7	110
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	73.3	59.2	110
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.25 mg/kg	92.2	61.9	108
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.25 mg/kg	70.2	58.3	107
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.25 mg/kg	78.4	58.5	110
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.25 mg/kg	78.4	60.4	109

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1273781) - continued								
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.25 mg/kg	65.4	59.5	110
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	80.8	57.2	111
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.25 mg/kg	74.6	58.4	113
EP075: Benzo(b) & Benzo(k)fluoranthene	205-99-2	1	mg/kg	----	2.5 mg/kg	66.8	57.1	112
	207-08-9	1.0	mg/kg	<1	----	----	----	----
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.25 mg/kg	69.8	48.1	106
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.25 mg/kg	72.7	56.6	108
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.25 mg/kg	64.0	52.7	108
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.25 mg/kg	63.4	56.8	110
EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.25 mg/kg	63.3	54.7	110
EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.25 mg/kg	70.3	55	112
EP075C: Phthalate Esters (QCLot: 1273781)								
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.25 mg/kg	76.3	60.1	111
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.25 mg/kg	73.3	62.3	114
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.25 mg/kg	77.8	65.5	122
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.25 mg/kg	71.2	61.6	112
EP075: bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg	----	1.25 mg/kg	82.7	66.6	135
		5.0	mg/kg	<5.0	----	----	----	----
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.25 mg/kg	74.4	59	116
EP075D: Nitrosamines (QCLot: 1273781)								
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.25 mg/kg	60.3	39.4	124
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.25 mg/kg	96.6	62.7	112
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	----	1.25 mg/kg	# 41.8	42.8	102
		1.0	mg/kg	<1.0	----	----	----	----
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.25 mg/kg	57.8	52.4	112
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.25 mg/kg	73.6	60.6	107
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.25 mg/kg	69.3	59.6	108
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.25 mg/kg	69.2	59.4	106
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6	1.0	mg/kg	<1.0	2.5 mg/kg	61.0	38	110
	122-39-4							
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.25 mg/kg	61.6	16.3	123
EP075E: Nitroaromatics and Ketones (QCLot: 1273781)								
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.25 mg/kg	88.1	27.3	129
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.25 mg/kg	78.3	62.6	110
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.25 mg/kg	72.2	64.4	112
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.25 mg/kg	74.5	64	110
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	----	1.25 mg/kg	82.8	58	114
		1.0	mg/kg	<1.0	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 1273781) - continued								
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	----	1.25 mg/kg	87.9	55.8	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.25 mg/kg	83.4	2.24	93
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.25 mg/kg	45.2	3.12	108
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.25 mg/kg	83.5	48.3	98.5
EP075: Azobenzene	103-33-3	1	mg/kg	----	1.25 mg/kg	85.1	61.4	113
		1.0	mg/kg	<1	----	----	----	----
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.25 mg/kg	87.2	33	108
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.25 mg/kg	74.0	58.1	110
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.25 mg/kg	92.0	36.1	102
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.25 mg/kg	64.0	55.8	106
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.25 mg/kg	72.5	49.4	105
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.25 mg/kg	74.7	53.5	105
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.25 mg/kg	75.7	57.4	112
EP075F: Haloethers (QCLot: 1273781)								
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.25 mg/kg	78.0	63.1	113
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.25 mg/kg	79.7	62.4	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.25 mg/kg	66.5	59	111
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.25 mg/kg	81.5	56.4	109
EP075G: Chlorinated Hydrocarbons (QCLot: 1273781)								
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.25 mg/kg	69.2	60.4	106
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.25 mg/kg	71.8	62.1	107
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.25 mg/kg	70.3	61.3	107
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.25 mg/kg	71.7	53.8	107
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.25 mg/kg	67.9	62.9	108
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.25 mg/kg	63.6	39.1	110
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.25 mg/kg	77.9	59.3	110
EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	----	1.25 mg/kg	66.7	17.2	106
		2.5	mg/kg	<2.5	----	----	----	----
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.25 mg/kg	68.2	60	110
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	----	1.25 mg/kg	71.0	59.9	111
		1.0	mg/kg	<1.0	----	----	----	----
EP075H: Anilines and Benzidines (QCLot: 1273781)								
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.25 mg/kg	85.4	13.2	108
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.25 mg/kg	88.1	19.9	114
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	----	1.25 mg/kg	68.8	57.4	109
		1.0	mg/kg	<1.0	----	----	----	----
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	----	1.25 mg/kg	74.8	31.5	93.7
		1.0	mg/kg	<1.0	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075H: Anilines and Benzidines (QCLot: 1273781) - continued								
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.25 mg/kg	70.3	60.2	111
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.25 mg/kg	74.5	48.6	97.6
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.25 mg/kg	74.2	61	109
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.25 mg/kg	63.9	15.6	101
EP075I: Organochlorine Pesticides (QCLot: 1273781)								
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.25 mg/kg	73.5	59.5	110
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.25 mg/kg	78.8	53.4	113
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.25 mg/kg	77.5	58.2	112
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.25 mg/kg	78.2	56.9	114
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.25 mg/kg	71.1	52	108
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.25 mg/kg	76.9	54.9	112
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.25 mg/kg	76.1	54.6	113
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.25 mg/kg	81.3	51.7	115
EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	1.25 mg/kg	70.4	60.3	112
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.25 mg/kg	80.6	61.9	116
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.25 mg/kg	98.0	49	110
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.25 mg/kg	77.2	59.5	112
EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	1.25 mg/kg	81.0	58.5	116
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.25 mg/kg	87.4	52.6	114
EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	----	1.25 mg/kg	65.6	39.2	113
		1.0	mg/kg	<1.0	----	----	----	----
EP075J: Organophosphorus Pesticides (QCLot: 1273781)								
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.25 mg/kg	66.5	24.6	109
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.25 mg/kg	66.0	46.4	118
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.25 mg/kg	79.8	50.3	116
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.25 mg/kg	71.7	41.7	119
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.25 mg/kg	76.0	52.1	121
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.25 mg/kg	70.1	43	116
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.25 mg/kg	70.8	51.1	115
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.25 mg/kg	71.9	50.9	115
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	----	----	----
		0.55	mg/kg	----	1.375 mg/kg	76.9	45.3	104
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.25 mg/kg	71.6	51.5	116
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.25 mg/kg	71.6	47.3	115
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1272941)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	99.0	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	99.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	99.0	72.6	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1273018)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1273018) - continued								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	88.3	68.4	128
EP080: BTEX (QCLot: 1273018)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	83.8	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	99.0	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	87.1	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	90.4	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	89.1	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005C: Leachable Metals by ICPAES (QCLot: 1273762)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	0.1 mg/L	92.8	70	130
EG005C: Barium	7440-39-3	0.1	mg/L	<0.1	0.1 mg/L	86.1	70	130
EG005C: Beryllium	7440-41-7	0.05	mg/L	<0.05	0.1 mg/L	102	70	130
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.1 mg/L	100	70	130
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	0.1 mg/L	97.0	70	130
EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	0.1 mg/L	98.0	70	130
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	0.1 mg/L	90.2	70	130
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	0.1 mg/L	96.5	70	130
EG005C: Manganese	7439-96-5	0.1	mg/L	<0.1	0.1 mg/L	73.5	70	130
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	0.1 mg/L	97.3	70	130
EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	0.1 mg/L	84.9	70	130
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	0.1 mg/L	95.2	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1274381)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	95.7	88	110
EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	94.9	80	114
EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	94.8	85	109
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	94.1	89	107
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	95.8	91	111
EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	96.7	89	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	94.6	87	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	96.1	90	110
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	97.5	87	113
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	94.2	89	109
EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	# 87.2	91	109
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	97.1	85	115
EG035C: Leachable Mercury by FIMS (QCLot: 1279258)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG035C: Leachable Mercury by FIMS (QCLot: 1279258) - continued								
EG035C: Mercury	7439-97-6	0.001	mg/L	<0.0010	0.010 mg/L	# 74.4	83	119
EG035F: Dissolved Mercury by FIMS (QCLot: 1274380)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	104	86	116
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1273812)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	97.2	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	105	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	102	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	104	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	102	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	100	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	88.0	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	87.4	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	104	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	104	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	77.1	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	91.9	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	98.6	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	101	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	101	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	87.2	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1273281)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	85.6	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274070)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1274070) - continued								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	100 µg/L	98.8	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	100 µg/L	114	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	100 µg/L	100	62.7	131
EP080: BTEX (QCLot: 1273281)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	94.4	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	82.2	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	85.3	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	81.0	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	80.8	77.9	121

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1275248)							
ES1004218-025	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	92.0	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	93.2	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	96.0	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	97.0	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	91.6	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	93.4	70	130
		EG005T: Selenium	7782-49-2	50 mg/kg	98.6	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	96.2	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1275586)							
ES1004266-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	93.8	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	99.2	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	95.4	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	106	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	100	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	98.6	70	130
		EG005T: Selenium	7782-49-2	50 mg/kg	92.5	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	116	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275249)							
ES1004218-025	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	76.6	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1275587)							
ES1004266-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	91.4	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1275123)							
ES1004218-026	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	# Not Determined	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1273293)							
ES1004130-011	Anonymous	EK026G: Total Cyanide	57-12-5	20.0 mg/kg	# Not Determined	70	130
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser (QCLot: 1276811)							
ES1004218-004	Anonymous	EK028G: Weak Acid Dissociable Cyanide	----	2.0 mg/kg	88.9	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1273019)							
ES1004308-003	BH53_4.0-4.4	EP074: Benzene	71-43-2	2.5 mg/kg	# Not Determined	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	# Not Determined	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1273019)							
ES1004308-003	BH53_4.0-4.4	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	# Not Determined	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	# Not Determined	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP074F: Halogenated Aromatic Compounds (QCLot: 1273019)							
ES1004308-003	BH53_4.0-4.4	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	# Not Determined	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1272940)							
ES1004308-001	BH53_1.1-1.5	EP075(SIM): Phenol	108-95-2	10 mg/kg	91.2	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	84.3	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	77.6	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	87.8	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	35.3	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1272940)							
ES1004308-001	BH53_1.1-1.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	# 68.5	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	# Not Determined	70	130
EP075A: Phenolic Compounds (QCLot: 1273781)							
ES1004018-016	Anonymous	EP075: Phenol	108-95-2	5 mg/kg	77.4	60	130
		EP075: 2-Chlorophenol	95-57-8	5 mg/kg	78.8	60	130
		EP075: 2-Nitrophenol	88-75-5	5 mg/kg	71.6	50	130
		EP075: 4-Chloro-3-Methylphenol	59-50-7	5 mg/kg	78.4	50	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	17.6	5	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 1273781)							
ES1004018-016	Anonymous	EP075: Acenaphthene	83-32-9	5 mg/kg	71.6	50	130
		EP075: Pyrene	129-00-0	5 mg/kg	72.1	50	130
EP075D: Nitrosamines (QCLot: 1273781)							
ES1004018-016	Anonymous	EP075: N-Nitrosodi-n-propylamine	621-64-7	5 mg/kg	79.2	50	130
EP075E: Nitroaromatics and Ketones (QCLot: 1273781)							
ES1004018-016	Anonymous	EP075: 2.4-Dinitrotoluene	121-14-2	5 mg/kg	100	40	130
EP075G: Chlorinated Hydrocarbons (QCLot: 1273781)							
ES1004018-016	Anonymous	EP075: 1.4-Dichlorobenzene	106-46-7	5 mg/kg	73.8	60	130
		EP075: 1.2.4-Trichlorobenzene	120-82-1	5 mg/kg	71.2	50	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1272941)							
ES1004308-001	BH53_1.1-1.5	EP071: C10 - C14 Fraction	----	640 mg/kg	109	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	88.2	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	95.4	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1273018)							
ES1004308-003	BH53_4.0-4.4	EP080: C6 - C9 Fraction	----	26 mg/kg	# Not Determined	70	130
EP080: BTEX (QCLot: 1273018)							
ES1004308-003	BH53_4.0-4.4	EP080: Benzene	71-43-2	2.5 mg/kg	# Not Determined	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	# Not Determined	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	# Not Determined	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEX (QCLot: 1273018) - continued							
ES1004308-003	BH53_4.0-4.4	EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	# Not Determined	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	# Not Determined	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005C: Leachable Metals by ICPAES (QCLot: 1273762)							
ES1004308-003	BH53_4.0-4.4	EG005C: Arsenic	7440-38-2	1 mg/L	105	70	130
		EG005C: Barium	7440-39-3	1 mg/L	102	70	130
		EG005C: Beryllium	7440-41-7	1 mg/L	104	70	130
		EG005C: Cadmium	7440-43-9	0.250 mg/L	102	70	130
		EG005C: Chromium	7440-47-3	1 mg/L	104	70	130
		EG005C: Cobalt	7440-48-4	1 mg/L	98.3	70	130
		EG005C: Copper	7440-50-8	1 mg/L	108	70	130
		EG005C: Lead	7439-92-1	1 mg/L	99.3	70	130
		EG005C: Manganese	7439-96-5	1 mg/L	92.4	70	130
		EG005C: Nickel	7440-02-0	1 mg/L	99.2	70	130
		EG005C: Vanadium	7440-62-2	1 mg/L	103	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	99.8	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 1274381)							
ES1004278-008	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	93.6	70	130
		EG020A-F: Beryllium	7440-41-7	0.2 mg/L	98.6	70	130
		EG020A-F: Barium	7440-39-3	0.2 mg/L	94.4	70	130
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	93.0	70	130
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	96.0	70	130
		EG020A-F: Cobalt	7440-48-4	0.2 mg/L	93.2	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	93.8	70	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	94.9	70	130
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	98.4	70	130
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	92.8	70	130
		EG020A-F: Vanadium	7440-62-2	0.2 mg/L	102	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	95.2	70	130
EG035C: Leachable Mercury by FIMS (QCLot: 1279258)							
ES1004218-004	Anonymous	EG035C: Mercury	7439-97-6	0.1 mg/L	76.1	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1274380)							
ES1004278-007	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	100	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1273281)							

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1273281) - continued							
ES1004217-001	Anonymous	EP080: C6 - C9 Fraction	----	250 µg/L	113	70	130
EP080: BTEX (QCLot: 1273281)							
ES1004217-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	95.3	70	130
		EP080: Toluene	108-88-3	25 µg/L	88.7	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	94.6	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	93.3	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	92.2	70	130

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1004308**	Page	: 1 of 29
Client	: **AECOM Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY DAVIS	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.davis@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: BARANGAROO S4150014	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303951		
C-O-C number	: ----	Date Samples Received	: 08-MAR-2010
Sampler	: KO	Issue Date	: 17-MAR-2010
Site	: ----		
		No. of samples received	: 21
Quote number	: SY/259/09 V2	No. of samples analysed	: 15

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG005T: Poor precision was obtained for Aluminium on sample ES1004218#25 due to sample heterogeneity.**
- **EG005T: Poor precision was obtained for Copper on sample ES1004284#6 due to sample heterogeneity. Results have been confirmed by re-extraction and reanalysis.**
- **EG005T: Poor precision was obtained for Manganese on sample ES1004266 #1 due to sample heterogeneity.**
- **EG005T: Poor precision was obtained for Manganese on sample ES1004308#13 due to sample heterogeneity. Results have been confirmed by re-extraction and reanalysis.**
- **EG-005T:LCS recovery for Zinc falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**
- **EG-020F: LCS recovery for Vanadium falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**
- **EG035-C:LCS recovery for Mercury falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**
- **eg048g: spike failed for hexavalent chromium by alkaline digest due to matrix interference.**
- **EP004: LCS recovery for Organic Matter fall outside ALS dynamic control limits. However, they are within the acceptance criteria based on ALS DQO. No further action is required.**
- **EP074, EP075: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly. Poor surrogate recovery due to sample matrix interferences.**
- **EP075(SIM): Poor duplicate precision and matrix spike recovery due to sample heterogeneity. Confirmed by re-extraction and re-analysis.**
- **EP075(SIM): Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly. Surrogate is not determined.**
- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**
- **EP080: Level of Reporting raised for toluene due to ambient background levels in the laboratory.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH53_1.1-1.5	BH53_2.0-2.4	BH53_4.0-4.4	BH51_0.4-0.5	BH67_0.4-0.43
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-001	ES1004308-002	ES1004308-003	ES1004308-004	ES1004308-005
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**8.2**	**8.2**	**8.5**	----	**4.4**
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**26.1**	**30.0**	**23.5**	**13.5**	**14.2**
EG005T: Total Metals by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	----	**3340**	**2880**	----	**2160**
Antimony	7440-36-0	5	mg/kg	----	<5	<5	----	<5
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	**6**
Barium	7440-39-3	10	mg/kg	**60**	**50**	**100**	**20**	**100**
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**7**	**4**	**6**	**3**	**110**
Cobalt	7440-48-4	2	mg/kg	**2**	<2	**2**	**2**	**10**
Copper	7440-50-8	5	mg/kg	**17**	**28**	**47**	**10**	**75**
Iron	7439-89-6	50	mg/kg	----	**11100**	**12900**	----	----
Lead	7439-92-1	5	mg/kg	**95**	**323**	**589**	**46**	**203**
Manganese	7439-96-5	5	mg/kg	**172**	**204**	**189**	**24**	**172**
Nickel	7440-02-0	2	mg/kg	**4**	**3**	**5**	<2	**98**
Selenium	7782-49-2	5	mg/kg	----	<5	<5	----	<5
Silver	7440-22-4	2	mg/kg	----	<2	<2	----	<2
Tin	7440-31-5	5	mg/kg	----	**11**	**12**	----	<5
Vanadium	7440-62-2	5	mg/kg	**12**	**9**	**15**	**8**	**37**
Zinc	7440-66-6	5	mg/kg	**75**	**68**	**159**	**36**	**86**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.1**	**0.1**	**0.2**	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	**0.5**	----	**0.9**
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	**76**	**56**	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	<1	<1	----	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	**8.4**	----	----
After HCl pH	----	0.1	pH Unit	----	----	**2.0**	----	----
Extraction Fluid Number	----	1	-	----	----	**1**	----	----
Final pH	----	0.1	pH Unit	----	----	**5.1**	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	**1.3**	----	**3.2**	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH53_1.1-1.5	BH53_2.0-2.4	BH53_4.0-4.4	BH51_0.4-0.5	BH67_0.4-0.43
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-001	ES1004308-002	ES1004308-003	ES1004308-004	ES1004308-005
EP004: Organic Matter - Continued								
^ Total Organic Carbon	----	0.5	%	**0.8**	----	**1.9**	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	**678**	----	----
Toluene	108-88-3	0.5	mg/kg	----	----	**670**	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	**50.7**	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	**470**	----	----
Styrene	100-42-5	0.5	mg/kg	----	----	**191**	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	**197**	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	<10.0	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	<10.0	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	**77.0**	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	<10.0	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	**197**	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	<10.0	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	<10.0	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	<10.0	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	<100	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	<100	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	<100	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	<100	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	<10.0	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	<10.0	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	<10.0	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	<10.0	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	<10.0	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	<100	----	----
Chloromethane	74-87-3	5	mg/kg	----	----	<100	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	<100	----	----
Bromomethane	74-83-9	5	mg/kg	----	----	<100	----	----
Chloroethane	75-00-3	5	mg/kg	----	----	<100	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	<100	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	<10.0	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	----	<10.0	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH53_1.1-1.5	BH53_2.0-2.4	BH53_4.0-4.4	BH51_0.4-0.5	BH67_0.4-0.43
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-001	ES1004308-002	ES1004308-003	ES1004308-004	ES1004308-005
EP074E: Halogenated Aliphatic Compounds - Continued								
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	<10.0	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	<10.0	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	<10.0	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	<10.0	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	<10.0	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	<10.0	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	<10.0	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	<10.0	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	<10.0	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	<10.0	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	<10.0	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	<10.0	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	<10.0	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	<10.0	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	<10.0	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	<10.0	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	<10.0	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	<10.0	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	<10.0	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	<10.0	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	<10.0	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	----	<10.0	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	<10.0	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	<10.0	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	<10.0	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	<10.0	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	<10.0	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	<10.0	----	----
Bromoform	75-25-2	0.5	mg/kg	----	----	<10.0	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	**1.2**	**3.5**	----	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	**0.8**	**3.2**	----	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	**1.6**	**4.3**	----	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	**0.7**	**3.8**	----	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH53_1.1-1.5	BH53_2.0-2.4	BH53_4.0-4.4	BH51_0.4-0.5	BH67_0.4-0.43
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-001	ES1004308-002	ES1004308-003	ES1004308-004	ES1004308-005
EP075(SIM)A: Phenolic Compounds - Continued								
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	----	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**20.8**	**48.3**	----	<0.5	**0.9**
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	**13.0**	**28.3**	----	<0.5	**3.2**
Acenaphthene	83-32-9	0.5	mg/kg	**5.4**	**11.4**	----	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	**15.6**	**56.1**	----	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**91.2**	**302**	----	**0.8**	**7.9**
Anthracene	120-12-7	0.5	mg/kg	**25.7**	**84.8**	----	<0.5	**3.4**
Fluoranthene	206-44-0	0.5	mg/kg	**142**	**316**	----	**1.9**	**17.7**
Pyrene	129-00-0	0.5	mg/kg	**128**	**277**	----	**2.0**	**16.6**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**52.3**	**92.8**	----	**1.3**	**16.2**
Chrysene	218-01-9	0.5	mg/kg	**36.1**	**63.4**	----	**1.1**	**17.6**
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	**50.4**	**77.8**	----	**1.4**	**20.3**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**13.8**	**27.5**	----	**0.7**	**8.7**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**38.1**	**70.7**	----	**0.9**	**5.5**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**14.7**	**23.2**	----	<0.5	**5.3**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**4.4**	**7.1**	----	<0.5	**1.6**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**16.8**	**23.9**	----	**0.5**	**6.3**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**668**	**1510**	----	**10.6**	**131**
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	**540**	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<2.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	**444**	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	**872**	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<2.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	**664**	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<2.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<2.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<2.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<2.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<2.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH53_1.1-1.5	BH53_2.0-2.4	BH53_4.0-4.4	BH51_0.4-0.5	BH67_0.4-0.43
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-001	ES1004308-002	ES1004308-003	ES1004308-004	ES1004308-005
EP075A: Phenolic Compounds - Continued								
Pentachlorophenol	87-86-5	1	mg/kg	----	----	<5	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	**4330**	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	**757**	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	<2.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	**657**	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	**108**	----	----
Fluorene	86-73-7	0.5	mg/kg	----	----	**344**	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	**1390**	----	----
Anthracene	120-12-7	0.5	mg/kg	----	----	**343**	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	**747**	----	----
Pyrene	129-00-0	0.5	mg/kg	----	----	**710**	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	<2.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	**275**	----	----
Chrysene	218-01-9	0.5	mg/kg	----	----	**257**	----	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	----	**305**	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	<2.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	**291**	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	<2.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	**49.0**	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	**12.1**	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	**53.5**	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	<2.5	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	<2.5	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	<2.5	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	<2.5	----	----
bis(2-ethylhexyl) phthalate	117-81-7	0.5	mg/kg	----	----	<2.5	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	<2.5	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	<2.5	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	<2.5	----	----
N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	----	----	<2.5	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	<2.5	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	<2.5	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	<2.5	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	<2.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH53_1.1-1.5	BH53_2.0-2.4	BH53_4.0-4.4	BH51_0.4-0.5	BH67_0.4-0.43
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-001	ES1004308-002	ES1004308-003	ES1004308-004	ES1004308-005
EP075D: Nitrosamines - Continued								
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	----	----	<5.0	----	----
Methapyrilene	91-80-5	0.5	mg/kg	----	----	<2.5	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	----	**33.9**	----	----
Acetophenone	98-86-2	0.5	mg/kg	----	----	<2.5	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	<2.5	----	----
Isophorone	78-59-1	0.5	mg/kg	----	----	<2.5	----	----
2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	----	----	<2.5	----	----
2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	----	----	<2.5	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	<2.5	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	<2.5	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	<2.5	----	----
Azobenzene	103-33-3	1	mg/kg	----	----	<2	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	<2.5	----	----
Phenacetin	62-44-2	0.5	mg/kg	----	----	<2.5	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	<2.5	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	<2.5	----	----
Pronamide	23950-58-5	0.5	mg/kg	----	----	<2.5	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	<2.5	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	<2.5	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	<2.5	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	<2.5	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	<2.5	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	<2.5	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	<2.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	<2.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	<2.5	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	<2.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	<2.5	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	<2.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	<2.5	----	----
Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	----	----	<2.5	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	<2.5	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	----	----	<2.5	----	----
EP075H: Anilines and Benzidines								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH53_1.1-1.5	BH53_2.0-2.4	BH53_4.0-4.4	BH51_0.4-0.5	BH67_0.4-0.43
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-001	ES1004308-002	ES1004308-003	ES1004308-004	ES1004308-005
EP075H: Anilines and Benzidines - Continued								
Aniline	62-53-3	0.5	mg/kg	----	----	<2.5	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	<2.5	----	----
2-Nitroaniline	88-74-4	0.5	mg/kg	----	----	<2.5	----	----
3-Nitroaniline	99-09-2	0.5	mg/kg	----	----	<2.5	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	**274**	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	<2.5	----	----
Carbazole	86-74-8	0.5	mg/kg	----	----	**175**	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	<2.5	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	----	<2.5	----	----
beta-BHC	319-85-7	0.5	mg/kg	----	----	<2.5	----	----
gamma-BHC	58-89-9	0.5	mg/kg	----	----	<2.5	----	----
delta-BHC	319-86-8	0.5	mg/kg	----	----	<2.5	----	----
Heptachlor	76-44-8	0.5	mg/kg	----	----	<2.5	----	----
Aldrin	309-00-2	0.5	mg/kg	----	----	<2.5	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	----	<2.5	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	----	<2.5	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	----	<2.5	----	----
Dieldrin	60-57-1	0.5	mg/kg	----	----	<2.5	----	----
Endrin	72-20-8	0.5	mg/kg	----	----	<2.5	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	----	<2.5	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	----	<2.5	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	----	<2.5	----	----
4.4`-DDT	50-29-3	0.5	mg/kg	----	----	<2.5	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	----	<2.5	----	----
Dimethoate	60-51-5	0.5	mg/kg	----	----	<2.5	----	----
Diazinon	333-41-5	0.5	mg/kg	----	----	<2.5	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	----	<2.5	----	----
Malathion	121-75-5	0.5	mg/kg	----	----	<2.5	----	----
Fenthion	55-38-9	0.5	mg/kg	----	----	<2.5	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	----	<2.5	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	----	<2.5	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	----	<2.8	----	----
Prothiofos	34643-46-4	0.5	mg/kg	----	----	<2.5	----	----
Ethion	563-12-2	0.5	mg/kg	----	----	<2.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	**3000**	<10	<10

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	BH53_1.1-1.5	BH53_2.0-2.4	BH53_4.0-4.4	BH51_0.4-0.5	BH67_0.4-0.43
				Client sampling date / time	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00	06-MAR-2010 15:00
					ES1004308-001	ES1004308-002	ES1004308-003	ES1004308-004	ES1004308-005
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	**260**	**28400**	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**1920**	**4540**	**46800**	<100	**700**
C29 - C36 Fraction	----	100	mg/kg		**1330**	**2430**	**11000**	<100	**570**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**3250**	**7230**	**86200**	<50	**1270**
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		**0.4**	**2.7**	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	**1.4**	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	**0.8**	----	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	<0.5	<0.5
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**Not Determined**	----	----
Toluene-D8	2037-26-5	0.1	%		----	----	**Not Determined**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**Not Determined**	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**76.1**	**82.8**	----	**86.1**	**84.0**
2-Chlorophenol-D4	93951-73-6	0.1	%		**79.6**	**81.2**	----	**85.6**	**84.6**
2.4.6-Tribromophenol	118-79-6	0.1	%		**74.1**	**80.7**	----	**81.4**	**87.8**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**81.2**	**83.4**	----	**89.6**	**90.0**
Anthracene-d10	1719-06-8	0.1	%		**78.8**	**79.5**	----	**88.1**	**87.1**
4-Terphenyl-d14	1718-51-0	0.1	%		**67.8**	**54.6**	----	**96.8**	**93.6**
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.1	%		----	----	**Not Determined**	----	----
Phenol-d6	13127-88-3	0.1	%		----	----	**69.5**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		----	----	**66.9**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		----	----	**Not Determined**	----	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.1	%		----	----	**50.3**	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%		----	----	**56.0**	----	----
2-Fluorobiphenyl	321-60-8	0.1	%		----	----	**60.1**	----	----
Anthracene-d10	1719-06-8	0.1	%		----	----	**88.0**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	**64.4**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**106**	**103**	**Not Determined**	**112**	**110**
Toluene-D8	2037-26-5	0.1	%		**99.2**	**98.8**	**Not Determined**	**106**	**103**
4-Bromofluorobenzene	460-00-4	0.1	%		**104**	**96.7**	**Not Determined**	**111**	**107**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH43_0.4-0.5	BH61_0.3-0.4	BH61_2-2.4	BH61_3-3.4	QC208
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	07-MAR-2010 15:00	07-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-006	ES1004308-007	ES1004308-008	ES1004308-009	ES1004308-010
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	**7.4**	**6.4**	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**38.6**	**10.9**	**34.2**	**14.5**	**21.6**
EG005T: Total Metals by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	**2280**	----	**2810**	**1280**	----
Antimony	7440-36-0	5	mg/kg	<5	----	<5	<5	----
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	**5**	<5
Barium	7440-39-3	10	mg/kg	**100**	**30**	**680**	**10**	**40**
Beryllium	7440-41-7	1	mg/kg	**2**	**1**	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**2**	**7**	**50**	**12**	**5**
Cobalt	7440-48-4	2	mg/kg	**4**	**12**	<2	<2	<2
Copper	7440-50-8	5	mg/kg	**19**	<5	**32**	**16**	**9**
Iron	7439-89-6	50	mg/kg	----	----	**22900**	**18000**	----
Lead	7439-92-1	5	mg/kg	**16**	**26**	**58**	**5**	**77**
Manganese	7439-96-5	5	mg/kg	**27**	**202**	**78**	**26**	**73**
Nickel	7440-02-0	2	mg/kg	**7**	**9**	**5**	<2	<2
Selenium	7782-49-2	5	mg/kg	<5	----	<5	<5	----
Silver	7440-22-4	2	mg/kg	<2	----	<2	<2	----
Tin	7440-31-5	5	mg/kg	<5	----	<5	<5	----
Vanadium	7440-62-2	5	mg/kg	**8**	**13**	**35**	**12**	**11**
Zinc	7440-66-6	5	mg/kg	**40**	**38**	**12**	<5	**168**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**0.2**
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	<0.5	**2.3**	----
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	**13**	----	----
EK028G: Weak Acid Dissociable Cyanide By Discrete Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	----	<1	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	<0.5	----	----
^ Total Organic Carbon	----	0.5	%	----	----	<0.5	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	----	**11.2**	----
Toluene	108-88-3	0.5	mg/kg	----	----	----	**14.7**	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	**5.9**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH43_0.4-0.5	BH61_0.3-0.4	BH61_2-2.4	BH61_3-3.4	QC208
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	07-MAR-2010 15:00	07-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-006	ES1004308-007	ES1004308-008	ES1004308-009	ES1004308-010
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	**16.2**	----
Styrene	100-42-5	0.5	mg/kg	----	----	----	<1.0	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	**5.8**	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	----	<1.0	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	----	<1.0	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	----	**3.1**	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	----	<1.0	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	----	**8.4**	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	----	<1.0	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	----	<1.0	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	----	<1.0	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	----	<10	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	----	<10	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	----	<10	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	----	<10	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	----	<1.0	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	----	<1.0	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	----	<1.0	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	----	<1.0	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	----	<1.0	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	----	<10	----
Chloromethane	74-87-3	5	mg/kg	----	----	----	<10	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	----	<10	----
Bromomethane	74-83-9	5	mg/kg	----	----	----	<10	----
Chloroethane	75-00-3	5	mg/kg	----	----	----	<10	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	----	<10	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	----	<1.0	----
Iodomethane	74-88-4	0.5	mg/kg	----	----	----	<1.0	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	----	<1.0	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	----	<1.0	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	----	<1.0	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	----	<1.0	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	----	<1.0	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	----	<1.0	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH43_0.4-0.5	BH61_0.3-0.4	BH61_2-2.4	BH61_3-3.4	QC208
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	07-MAR-2010 15:00	07-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-006	ES1004308-007	ES1004308-008	ES1004308-009	ES1004308-010
EP074E: Halogenated Aliphatic Compounds - Continued								
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	----	<1.0	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	----	<1.0	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	----	<1.0	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	----	<1.0	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	----	<1.0	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	----	<1.0	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	----	<1.0	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	----	<1.0	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	----	<1.0	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	----	<1.0	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	----	<1.0	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	----	<1.0	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	----	<1.0	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	<1.0	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	----	<1.0	----
Bromobenzene	108-86-1	0.5	mg/kg	----	----	----	<1.0	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	----	<1.0	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	----	<1.0	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	----	<1.0	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	----	<1.0	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	----	<1.0	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	----	<1.0	----
Bromoform	75-25-2	0.5	mg/kg	----	----	----	<1.0	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	**0.8**
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	**1.5**	----	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	----	**2.2**	----	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	**0.8**	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	----	----	<2.0	----	<2.0

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH43_0.4-0.5	BH61_0.3-0.4	BH61_2-2.4	BH61_3-3.4	QC208
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	07-MAR-2010 15:00	07-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-006	ES1004308-007	ES1004308-008	ES1004308-009	ES1004308-010
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	**51.2**	----	**7.1**
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	**2.0**	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	**47.6**	----	**6.1**
Acenaphthene	83-32-9	0.5	mg/kg	----	----	**4.8**	----	**2.3**
Fluorene	86-73-7	0.5	mg/kg	----	----	**23.8**	----	**5.5**
Phenanthrene	85-01-8	0.5	mg/kg	----	----	**267**	----	**23.2**
Anthracene	120-12-7	0.5	mg/kg	----	----	**91.6**	----	**10.0**
Fluoranthene	206-44-0	0.5	mg/kg	----	----	**423**	----	**55.7**
Pyrene	129-00-0	0.5	mg/kg	----	----	**412**	----	**47.7**
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	**217**	----	**28.3**
Chrysene	218-01-9	0.5	mg/kg	----	----	**164**	----	**20.3**
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	**182**	----	**30.0**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	**28.0**	----	**11.2**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	**162**	----	**20.7**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	**39.5**	----	**7.8**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	**13.2**	----	**2.3**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	**41.5**	----	**8.6**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	**2170**	----	**287**
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	<1.2	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	<1.2	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	<1.2	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	----	<2.5	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	<1.2	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	<1.2	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	<1.2	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	<1.2	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	----	<1.2	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	<1.2	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	<1.2	----
Pentachlorophenol	87-86-5	1	mg/kg	----	----	----	<2	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	**318**	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	----	**81.2**	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	----	<1.2	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	**47.8**	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	**7.3**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH43_0.4-0.5	BH61_0.3-0.4	BH61_2-2.4	BH61_3-3.4	QC208
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	07-MAR-2010 15:00	07-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-006	ES1004308-007	ES1004308-008	ES1004308-009	ES1004308-010
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	0.5	mg/kg	----	----	----	**38.4**	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	**113**	----
Anthracene	120-12-7	0.5	mg/kg	----	----	----	**30.1**	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	**60.1**	----
Pyrene	129-00-0	0.5	mg/kg	----	----	----	**55.7**	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	----	<1.2	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	**18.9**	----
Chrysene	218-01-9	0.5	mg/kg	----	----	----	**14.6**	----
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	----	----	**17**	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	----	<1.2	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	**14.3**	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	----	<1.2	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	**4.2**	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	**1.3**	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	**4.7**	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	----	<1.2	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	----	<1.2	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	----	<1.2	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	----	<1.2	----
bis(2-ethylhexyl) phthalate	117-81-7	0.5	mg/kg	----	----	----	<1.2	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	----	<1.2	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	----	<1.2	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	----	<1.2	----
N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	----	----	----	<1.2	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	----	<1.2	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	----	<1.2	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	----	<1.2	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	----	<1.2	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	----	----	----	<2.5	----
Methapyrilene	91-80-5	0.5	mg/kg	----	----	----	<1.2	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	----	----	<1.2	----
Acetophenone	98-86-2	0.5	mg/kg	----	----	----	<1.2	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	----	<1.2	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH43_0.4-0.5	BH61_0.3-0.4	BH61_2-2.4	BH61_3-3.4	QC208
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	07-MAR-2010 15:00	07-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-006	ES1004308-007	ES1004308-008	ES1004308-009	ES1004308-010
EP075E: Nitroaromatics and Ketones - Continued								
Isophorone	78-59-1	0.5	mg/kg	----	----	----	<1.2	----
2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	----	----	----	<1.2	----
2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	----	----	----	<1.2	----
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	----	<1.2	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	----	<1.2	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	----	<1.2	----
Azobenzene	103-33-3	1	mg/kg	----	----	----	<1	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	----	<1.2	----
Phenacetin	62-44-2	0.5	mg/kg	----	----	----	<1.2	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	----	<1.2	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	----	<1.2	----
Pronamide	23950-58-5	0.5	mg/kg	----	----	----	<1.2	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	----	<1.2	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	----	<1.2	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	----	<1.2	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	----	<1.2	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	----	<1.2	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	----	<1.2	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	<1.2	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	<1.2	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	<1.2	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	----	<1.2	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	<1.2	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	----	<1.2	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	<1.2	----
Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	----	----	----	<1.2	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	----	<1.2	----
Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	----	----	----	<1.2	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	----	----	<1.2	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	----	<1.2	----
2-Nitroaniline	88-74-4	0.5	mg/kg	----	----	----	<1.2	----
3-Nitroaniline	99-09-2	0.5	mg/kg	----	----	----	<1.2	----
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	----	**25.3**	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	----	<1.2	----
Carbazole	86-74-8	0.5	mg/kg	----	----	----	**16.5**	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH43_0.4-0.5	BH61_0.3-0.4	BH61_2-2.4	BH61_3-3.4	QC208
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	07-MAR-2010 15:00	07-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-006	ES1004308-007	ES1004308-008	ES1004308-009	ES1004308-010
EP075H: Anilines and Benzidines - Continued								
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	----	<1.2	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	----	----	<1.2	----
beta-BHC	319-85-7	0.5	mg/kg	----	----	----	<1.2	----
gamma-BHC	58-89-9	0.5	mg/kg	----	----	----	<1.2	----
delta-BHC	319-86-8	0.5	mg/kg	----	----	----	<1.2	----
Heptachlor	76-44-8	0.5	mg/kg	----	----	----	<1.2	----
Aldrin	309-00-2	0.5	mg/kg	----	----	----	<1.2	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	----	----	<1.2	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	----	----	<1.2	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	----	----	<1.2	----
Dieldrin	60-57-1	0.5	mg/kg	----	----	----	<1.2	----
Endrin	72-20-8	0.5	mg/kg	----	----	----	<1.2	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	----	----	<1.2	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	----	----	<1.2	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	----	----	<1.2	----
4.4`-DDT	50-29-3	0.5	mg/kg	----	----	----	<1.2	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	----	----	<1.2	----
Dimethoate	60-51-5	0.5	mg/kg	----	----	----	<1.2	----
Diazinon	333-41-5	0.5	mg/kg	----	----	----	<1.2	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	----	----	<1.2	----
Malathion	121-75-5	0.5	mg/kg	----	----	----	<1.2	----
Fenthion	55-38-9	0.5	mg/kg	----	----	----	<1.2	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	----	----	<1.2	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	----	----	<1.2	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	----	----	<1.4	----
Prothiofos	34643-46-4	0.5	mg/kg	----	----	----	<1.2	----
Ethion	563-12-2	0.5	mg/kg	----	----	----	<1.2	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	**67**	**75**	<10
C10 - C14 Fraction	----	50	mg/kg	----	<50	**450**	**320**	<50
C15 - C28 Fraction	----	100	mg/kg	----	<100	**8130**	**1220**	**1040**
C29 - C36 Fraction	----	100	mg/kg	----	<100	**4660**	**460**	**860**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	**13200**	**2000**	**1900**
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	**32.7**	----	**0.3**
Toluene	108-88-3	0.5	mg/kg	----	<0.5	**9.5**	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: BH43_0.4-0.5	BH61_0.3-0.4	BH61_2-2.4	BH61_3-3.4	QC208
				Client sampling date / time: 06-MAR-2010 15:00	06-MAR-2010 15:00	07-MAR-2010 15:00	07-MAR-2010 15:00	06-MAR-2010 15:00
				ES1004308-006	ES1004308-007	ES1004308-008	ES1004308-009	ES1004308-010
EP080: BTEX - Continued								
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	**5.4**	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	**1.4**	----	<0.5
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	**107**	----
Toluene-D8	2037-26-5	0.1	%	----	----	----	**108**	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	**118**	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	**84.6**	----	**85.8**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**81.5**	----	**85.9**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**89.4**	----	**79.2**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**85.2**	----	**87.6**
Anthracene-d10	1719-06-8	0.1	%	----	----	**80.2**	----	**83.7**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**44.9**	----	**81.6**
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	----	----	----	**88.7**	----
Phenol-d6	13127-88-3	0.1	%	----	----	----	**54.0**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	**56.1**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	----	**Not Determined**	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.1	%	----	----	----	**Not Determined**	----
1.2-Dichlorobenzene-D4	2199-69-1	0.1	%	----	----	----	**50.2**	----
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	**60.0**	----
Anthracene-d10	1719-06-8	0.1	%	----	----	----	**68.3**	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	**55.5**	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**113**	**101**	**94.9**	**112**
Toluene-D8	2037-26-5	0.1	%	----	**106**	**106**	**95.6**	**119**
4-Bromofluorobenzene	460-00-4	0.1	%	----	**112**	**89.5**	**109**	**104**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC211	QC212	TB17	----	----
				Client sampling date / time: 07-MAR-2010 15:00	07-MAR-2010 15:00	05-MAR-2010 15:00	----	----
				ES1004308-012	ES1004308-013	ES1004308-015	----	----
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**6.0**	----	----	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**36.5**	**32.7**	**10.1**	----	----
EG005T: Total Metals by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	**1780**	**2530**	----	----	----
Antimony	7440-36-0	5	mg/kg	<5	<5	----	----	----
Arsenic	7440-38-2	5	mg/kg	<5	<5	----	----	----
Barium	7440-39-3	10	mg/kg	**530**	**470**	----	----	----
Beryllium	7440-41-7	1	mg/kg	<1	<1	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	**49**	**44**	----	----	----
Cobalt	7440-48-4	2	mg/kg	<2	<2	----	----	----
Copper	7440-50-8	5	mg/kg	**21**	**29**	----	----	----
Iron	7439-89-6	50	mg/kg	**27300**	**22500**	----	----	----
Lead	7439-92-1	5	mg/kg	**49**	**54**	----	----	----
Manganese	7439-96-5	5	mg/kg	**20**	**129**	----	----	----
Nickel	7440-02-0	2	mg/kg	<2	**3**	----	----	----
Selenium	7782-49-2	5	mg/kg	<5	<5	----	----	----
Silver	7440-22-4	2	mg/kg	<2	<2	----	----	----
Tin	7440-31-5	5	mg/kg	<5	<5	----	----	----
Vanadium	7440-62-2	5	mg/kg	**50**	**39**	----	----	----
Zinc	7440-66-6	5	mg/kg	**9**	**10**	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	**1.9**	**2.4**	----	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	<0.5	<0.5	----	----	----
^ Total Organic Carbon	----	0.5	%	<0.5	<0.5	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	----	----
Styrene	100-42-5	0.5	mg/kg	----	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC211	QC212	TB17	----	----
				Client sampling date / time: 07-MAR-2010 15:00	07-MAR-2010 15:00	05-MAR-2010 15:00	----	----
				ES1004308-012	ES1004308-013	ES1004308-015	----	----
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	<0.5	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	<0.5	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	<0.5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	<5	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	<0.5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	<5	----	----
Chloromethane	74-87-3	5	mg/kg	----	----	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	<5	----	----
Bromomethane	74-83-9	5	mg/kg	----	----	<5	----	----
Chloroethane	75-00-3	5	mg/kg	----	----	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	----	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	<0.5	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: QC211	QC212	TB17	----	----
				Client sampling date / time: 07-MAR-2010 15:00	07-MAR-2010 15:00	05-MAR-2010 15:00	----	----
				ES1004308-012	ES1004308-013	ES1004308-015	----	----
EP074E: Halogenated Aliphatic Compounds - Continued								
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	<0.5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	----	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	<0.5	----	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	<0.5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg	----	----	<0.5	----	----
EP074H: Naphthalene								
Naphthalene	91-20-3	5	mg/kg	----	----	<5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	**1.9**	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	**1.4**	**1.7**	----	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	**2.4**	**2.5**	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	**0.9**	**0.9**	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	QC211	QC212	TB17	----	----
				Client sampling date / time	07-MAR-2010 15:00	07-MAR-2010 15:00	05-MAR-2010 15:00	----	----
Compound	CAS Number	LOR	Unit		ES1004308-012	ES1004308-013	ES1004308-015	----	----
EP075(SIM)A: Phenolic Compounds - Continued									
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	----	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg		<2.0	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		45.3	57.4	----	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg		2.3	2.2	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		50.2	55.2	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		5.1	4.8	----	----	----
Fluorene	86-73-7	0.5	mg/kg		24.6	22.0	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		303	254	----	----	----
Anthracene	120-12-7	0.5	mg/kg		106	97.0	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		500	428	----	----	----
Pyrene	129-00-0	0.5	mg/kg		488	422	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		253	220	----	----	----
Chrysene	218-01-9	0.5	mg/kg		196	164	----	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		251	185	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		44.4	33.9	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		189	163	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		42.7	36.3	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		14.1	11.7	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		43.4	36.2	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		2560	2190	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		20	29	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		280	420	----	----	----
C15 - C28 Fraction	----	100	mg/kg		6180	8390	----	----	----
C29 - C36 Fraction	----	100	mg/kg		3420	4380	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		9880	13200	----	----	----
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		7.8	13.1	----	----	----
Toluene	108-88-3	0.5	mg/kg		2.8	4.6	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		1.9	2.6	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	0.6	----	----	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	117	----	----
Toluene-D8	2037-26-5	0.1	%		----	----	108	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	116	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	QC211	QC212	TB17	----	----
				Client sampling date / time	07-MAR-2010 15:00	07-MAR-2010 15:00	05-MAR-2010 15:00	----	----
					ES1004308-012	ES1004308-013	ES1004308-015	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**91.0**	**90.9**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**88.0**	**88.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**90.3**	**96.0**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**90.4**	**92.6**	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**85.7**	**84.7**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**40.8**	**44.4**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**94.6**	**99.5**	**109**	----	----
Toluene-D8	2037-26-5	0.1	%		**94.2**	**100**	**111**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**95.3**	**97.8**	**116**	----	----

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	BH53_4.0-4.4	----	----	----	----
				Client sampling date / time	10-MAR-2010 12:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1004308-003	----	----	----	----
EG005C: Leachable Metals by ICPAES									
Arsenic	7440-38-2	0.1	mg/L		<0.1	----	----	----	----
Barium	7440-39-3	0.1	mg/L		**0.1**	----	----	----	----
Beryllium	7440-41-7	0.05	mg/L		<0.05	----	----	----	----
Cadmium	7440-43-9	0.05	mg/L		<0.05	----	----	----	----
Chromium	7440-47-3	0.1	mg/L		<0.1	----	----	----	----
Cobalt	7440-48-4	0.1	mg/L		<0.1	----	----	----	----
Copper	7440-50-8	0.1	mg/L		<0.1	----	----	----	----
Lead	7439-92-1	0.1	mg/L		**0.1**	----	----	----	----
Manganese	7439-96-5	0.1	mg/L		**0.4**	----	----	----	----
Nickel	7440-02-0	0.1	mg/L		<0.1	----	----	----	----
Vanadium	7440-62-2	0.1	mg/L		<0.1	----	----	----	----
Zinc	7440-66-6	0.1	mg/L		**0.4**	----	----	----	----
EG035C: Leachable Mercury by FIMS									
Mercury	7439-97-6	0.0010	mg/L		<0.0010	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		**3600**	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		**189**	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<37.4	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		**50.4**	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		**52.4**	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<37.4	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<37.4	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<37.4	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<37.4	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<37.4	----	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L		<37.4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<37.4	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<37.4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<37.4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<37.4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<37.4	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**Not Determined**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**Not Determined**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**Not Determined**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**Not Determined**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**Not Determined**	----	----	----	----

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	BH53_4.0-4.4	----	----	----	----
				Client sampling date / time	10-MAR-2010 12:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1004308-003	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		**Not Determined**	----	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC209	QC213	----	----	----
				Client sampling date / time: 06-MAR-2010 15:00	07-MAR-2010 15:00	----	----	----
				ES1004308-011	ES1004308-014	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	----	----	----
Barium	7440-39-3	0.001	mg/L	<0.001	<0.001	----	----	----
Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	----	----	----
Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	----	----	----
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	----	----	----
C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	----	----	----
EP080: BTEX								
Benzene	71-43-2	1	µg/L	<1	<1	----	----	----
Toluene	108-88-3	2	µg/L	<5	<5	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**112**	**118**	----	----	----
Toluene-D8	2037-26-5	0.1	%	**99.1**	**99.6**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**101**	**103**	----	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	23	120
1.2-Dichlorobenzene-D4	2199-69-1	32	129
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

Sub-Matrix: WATER		Recovery Limits (%)	

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

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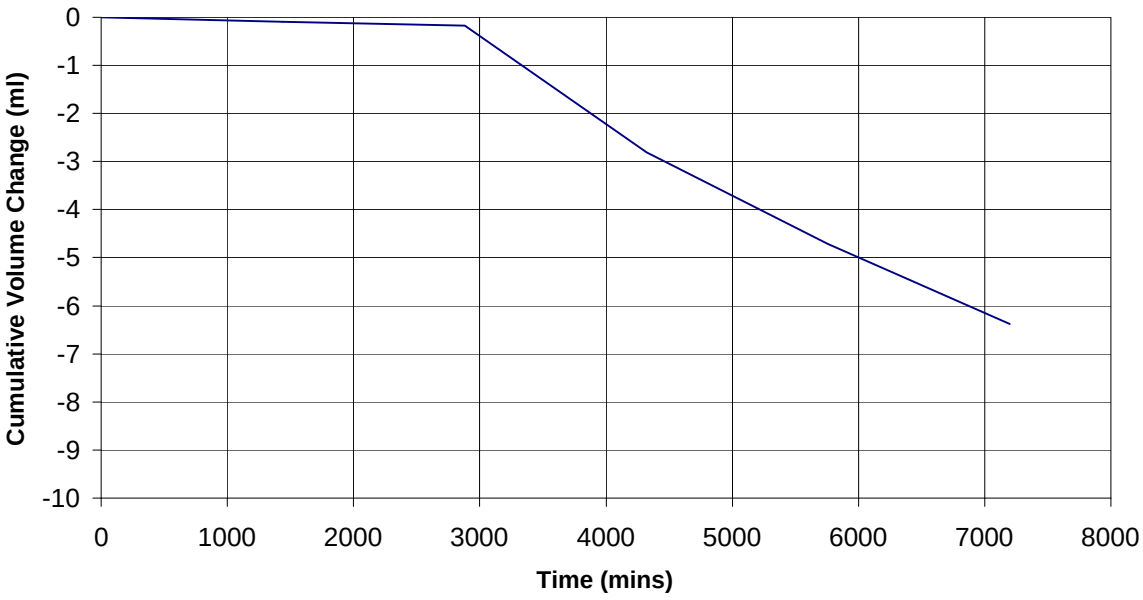
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
Level 11, 44 Market St, Sydney 2000

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	23/2/10
LABORATORY NUMBER:	56747	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH 32 5.5 to 5.9m		
SAMPLE DESCRIPTION:	SANDY CLAY: grey, medium plasticity, fine to coarse sand, with fine to medium gravel (fill).		



CONFINING PRESSURE (kPa): 150

BACK PRESSURE (kPa): 100

HEAD PRESSURE (kPa): 115

B' RESPONSE: 1.0

PERMEABILITY: 3.94E-10 metres/sec

Comments:

TX07: issue 1: March 2007; auth CWS

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Signed Name: C W Stabb

Title: Manager Date: 3/09/2010

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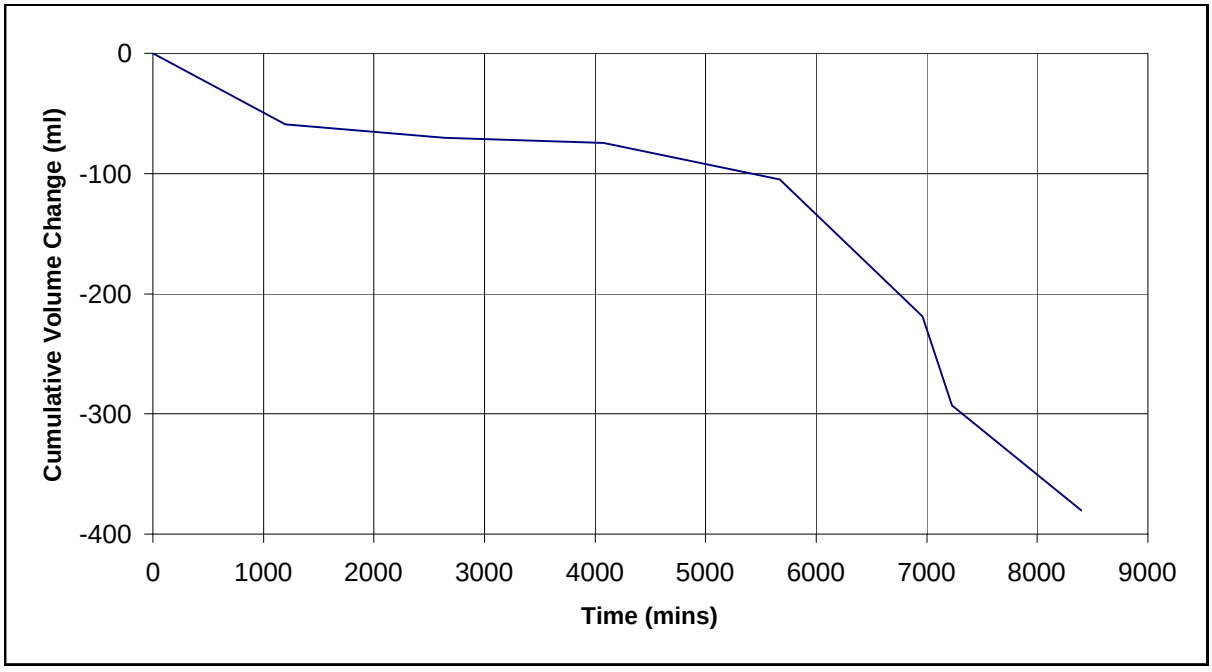
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
Level 11, 44 Market St, Sydney 2000

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	23/2/10
LABORATORY NUMBER:	56748	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH 21 14.5 to 14.9m		
SAMPLE DESCRIPTION:	CLAYEY SAND: mottled yellow-brown & grey, fine to coarse sand, low plasticity.		



CONFINING PRESSURE (kPa): 150

BACK PRESSURE (kPa): 100

HEAD PRESSURE (kPa): 115

B' RESPONSE: 1.0

PERMEABILITY: 2.79E-08 metres/sec

Comments:

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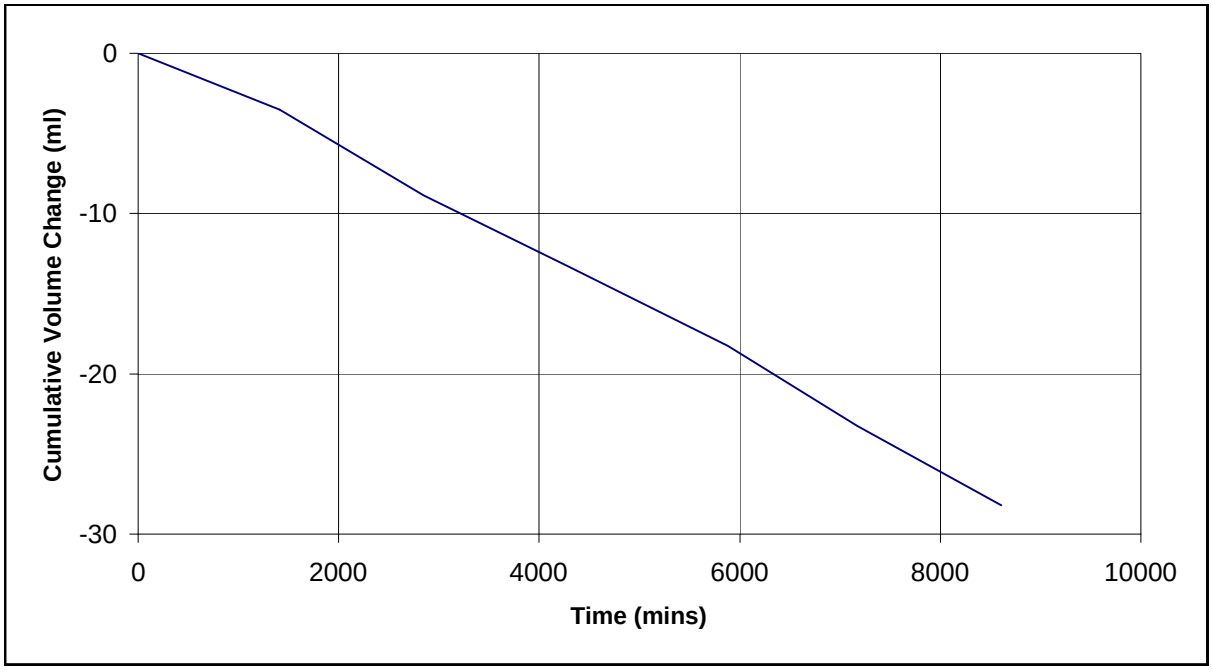
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
Level 11, 44 Market St, Sydney 2000

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	23/2/10
LABORATORY NUMBER:	56749	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH 32 13.0 to 13.4m		
SAMPLE DESCRIPTION:	CLAYEY SAND: dark grey, fine to coarse sand, low plasticity, organic.		



CONFINING PRESSURE (kPa):	150	
BACK PRESSURE (kPa):	100	
HEAD PRESSURE (kPa):	115	
B' RESPONSE:	1.0	
PERMEABILITY:	1.05E-09	metres/sec

Comments:

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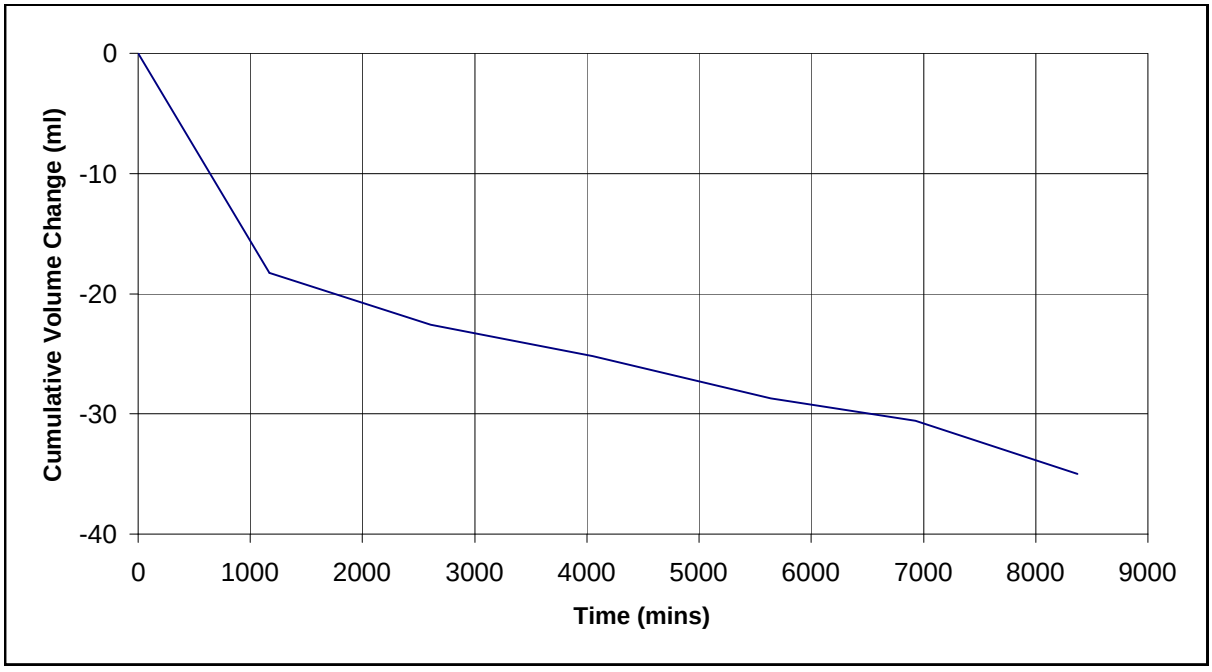
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
Level 11, 44 Market St, Sydney 2000

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	23/2/10
LABORATORY NUMBER:	56750	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH 20 3.2 to 3.6m		
SAMPLE DESCRIPTION:	CLAYEY SAND: mottled red-brown, yellow-brown & grey, fine to coarse sand, low plasticity.		



CONFINING PRESSURE (kPa):	150	
BACK PRESSURE (kPa):	100	
HEAD PRESSURE (kPa):	115	
B' RESPONSE:	1.0	
PERMEABILITY:	6.74E-10	metres/sec

Comments:

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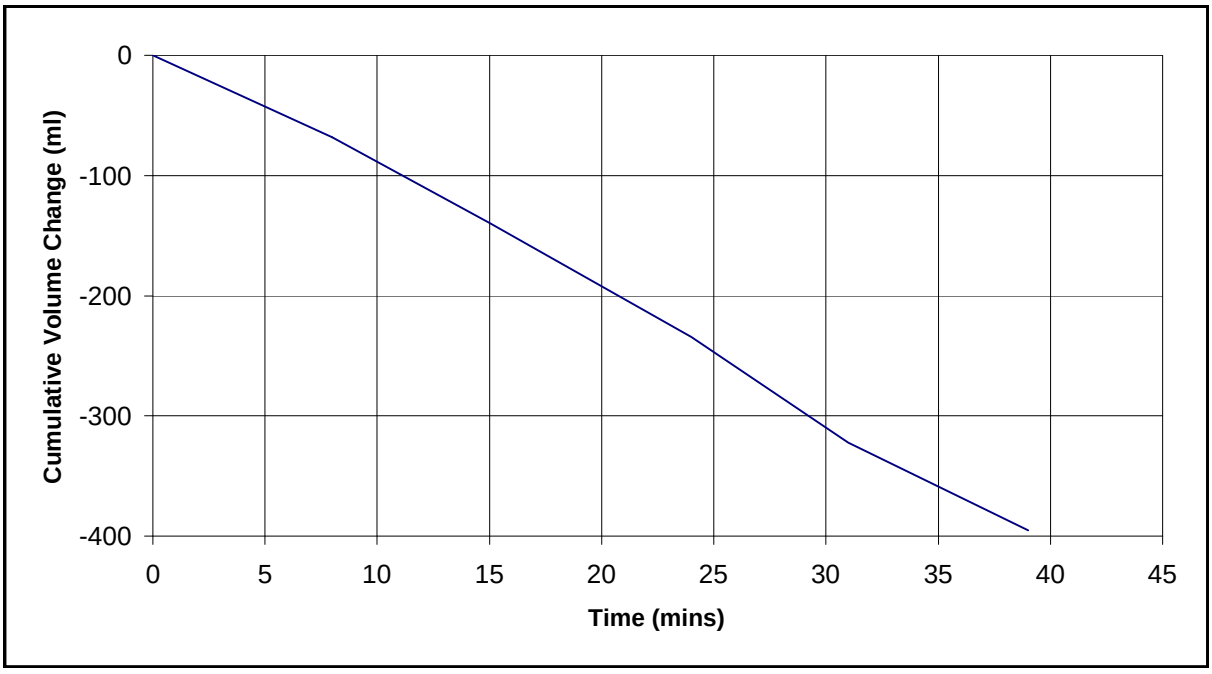
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
Level 11, 44 Market St, Sydney 2000

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	23/2/10
LABORATORY NUMBER:	56751	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH 18 6.3 to 6.6m		
SAMPLE DESCRIPTION:	SAND: brown & grey, fine to medium sand, some clay.		



CONFINING PRESSURE (kPa): 150

BACK PRESSURE (kPa): 100

HEAD PRESSURE (kPa): 115

B' RESPONSE: 1.0

PERMEABILITY: 4.11E-06 metres/sec

Comments:

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Title: Manager Date: 3/09/2010

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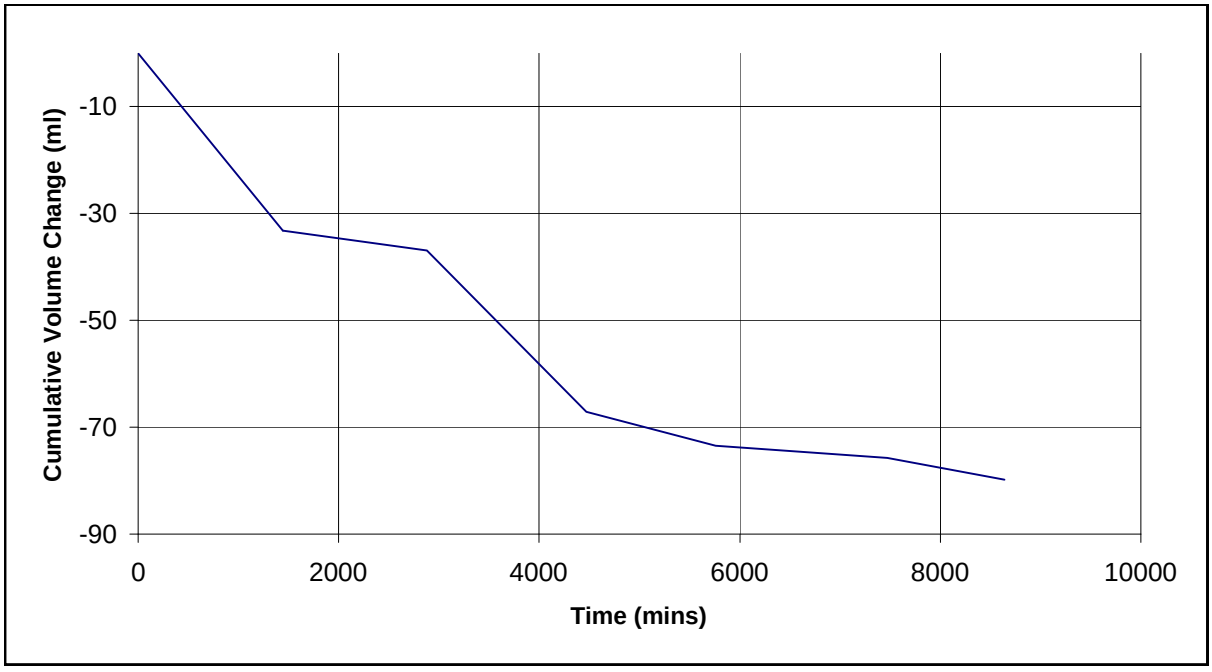
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
Level 11, 44 Market St, Sydney 2000

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	23/2/10
LABORATORY NUMBER:	56752	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH 33 5.3 to 5.7m		
SAMPLE DESCRIPTION:	SAND: grey, fine to coarse, some clay and some fine gravel.		



CONFINING PRESSURE (kPa): 150

BACK PRESSURE (kPa): 100

HEAD PRESSURE (kPa): 115

B' RESPONSE: 1.0

PERMEABILITY: 4.04E-09 metres/sec

Comments: **initial part of test used to determine permeability as it is assumed that the system may have become blocked from the 4000m mark.**

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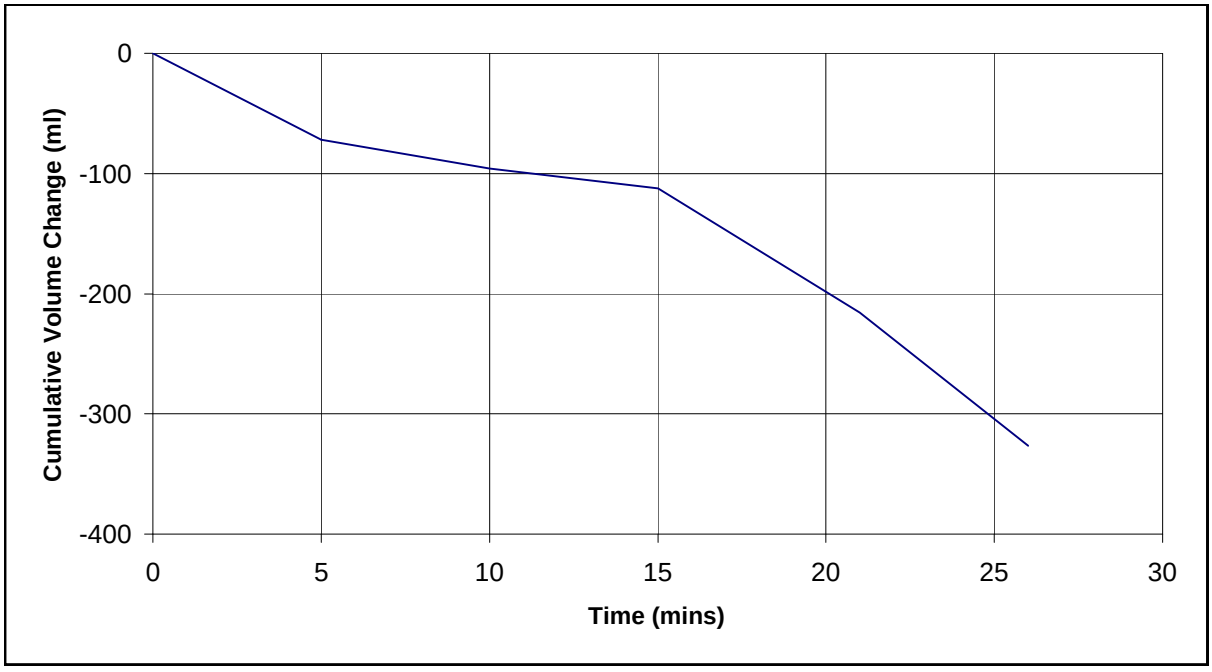
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
Level 11, 44 Market St, Sydney 2000

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	23/2/10
LABORATORY NUMBER:	56754	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH 15 6.2 to 6.6m		
SAMPLE DESCRIPTION:	GRAVELLY SAND: brown, fine to coarse sand, fine to medium gravel, some silt and clay.		



CONFINING PRESSURE (kPa): 150

BACK PRESSURE (kPa): 100

HEAD PRESSURE (kPa): 115

B' RESPONSE: 1.0

PERMEABILITY: 7.56E-06 metres/sec

Comments:

TX07: issue 1: March 2007; auth CWS

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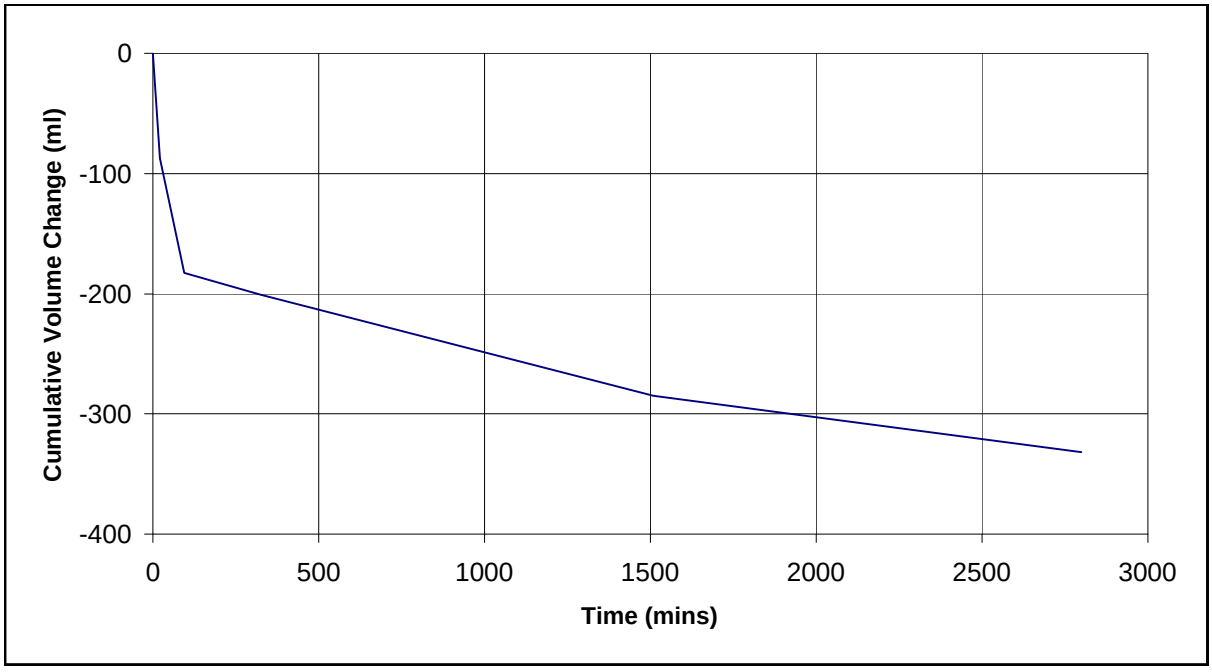
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
Level 11, 44 Market St, Sydney 2000

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	23/2/10
LABORATORY NUMBER:	56756	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	SV02 2.1 to 2.4m		
SAMPLE DESCRIPTION:	SAND: brown, fine to coarse sand, some clay, some fine to medium gravel.		



CONFINING PRESSURE (kPa):	150	
BACK PRESSURE (kPa):	100	
HEAD PRESSURE (kPa):	115	
B' RESPONSE:	1.0	
PERMEABILITY:	1.74E-08	metres/sec

Comments:

TX07: issue 1: March 2007; auth CWS

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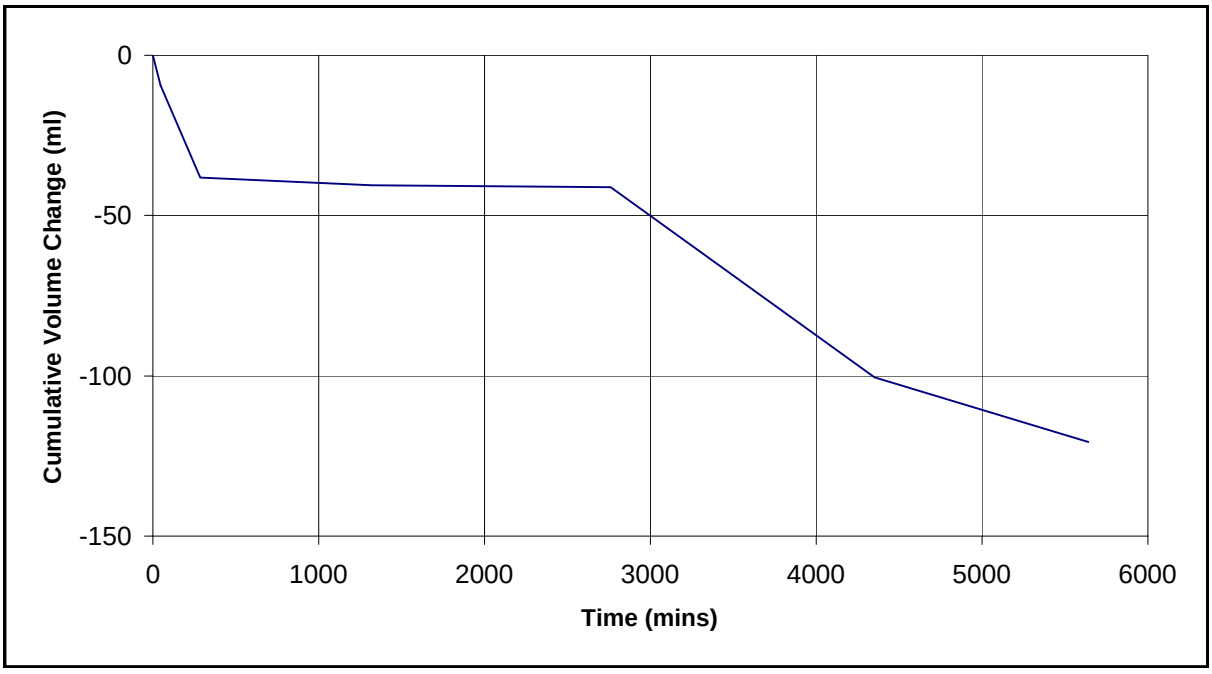
PERMEABILITY TEST REPORT

AS1289 6.7.3 / Head Vol 3: Ch 10.4

CLIENT: **AECOM**
Level 11, 44 Market St, Sydney 2000

PROJECT: **Barangaroo**

JOB NUMBER:	062-040	**DATE TESTED:**	23/2/10
LABORATORY NUMBER:	56757	**SAMPLED BY:**	AECOM
SAMPLE SOURCE:	BH 4 5.0 to 5.9m		
SAMPLE DESCRIPTION:	SAND: brown, fine to coarse, some silt, trace of fine gravel.		



CONFINING PRESSURE (kPa): 150

BACK PRESSURE (kPa): 100

HEAD PRESSURE (kPa): 115

B' RESPONSE: 1.0

PERMEABILITY: 1.20E-08 metres/sec

Comments:

TX07: issue 1: March 2007; auth CWS

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Signed Name: C W Stabb

Title: Manager Date: 3/09/2010

LabMark
ENVIRONMENTAL LABORATORIES

ilac-MRA NATA Accreditation No. 1645

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AQIS
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Quarantine Approved Premises criteria 5.1 for quarantine containment level 1 (QCI) facilities. Class five criteria cover premises utilised for research, analysis and testing of biological material, soil, animal, plant and human products.

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION

Laboratory Report No:	E047350	Cover Page 1 of 4 plus Sample Results
Client Name:	AECOM Australia Pty Ltd	
Client Reference:	Barangaroo	
Contact Name:	Anthony Davis	
Chain of Custody No:	na	Date Received: 18/03/2010
Sample Matrix:	WATER	Date Reported: 25/03/2010

This Final Certificate of Analysis consists of sample results, DQI's, method descriptions, laboratory definitions, and internationally recognised NATA accreditation and endorsement. The DQO compliance relates specifically to QA/QC results as performed as part of the sample analysis, and may provide an indication of sample result quality. Transfer of report ownership from Labmark to the client shall only occur once full & final payment has been settled and verified. All report copies may be retracted where full payment has not occured within the agreed settlement period.

QUALITY ASSURANCE CRITERIA

Accuracy:	matrix spike:	1 in first 5-20, then 1 every 20 samples
	lcs, crm, method:	1 per analytical batch
	surrogate spike:	addition per target organic method
Precision:	laboratory duplicate:	1 in first 5-10, then 1 every 10 samples
	laboratory triplicate:	re-extracted & reported when duplicate RPD values exceed acceptance criteria
Holding Times:	soils, waters:	Refer to LabMark Preservation & THT table VOC's 14 days water / soil VAC's 7 days water or 14 days acidified VAC's 14 days soil SVOC's 7 days water, 14 days soil Pesticides 7 days water, 14 days soil Metals 6 months general elements Mercury 28 days
Confirmation:	target organic analysis:	GC/MS, or confirmatory column
Sensitivity:	EQL:	Typically 2-5 x Method Detection Limit (MDL)

QUALITY CONTROL GLOBAL ACCEPTANCE CRITERIA (GAC)

Accuracy:	spike, lcs, crm surrogate:	general analytes 70% - 130% recovery phenol analytes 50% - 130% recovery organophosphorous pesticide analytes 60% - 130% recovery phenoxy acid herbicides, organotin 50% - 130% recovery
	anion/cation bal:	+/- 10% (0-3 meq/l), +/- 5% (>3 meq/l)
Precision:	method blank:	not detected >95% of the reported EQL
	duplicate lab RPD (metals):	0-30% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)
	duplicate lab RPD:	0-50% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)

QUALITY CONTROL ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)

Accuracy:	spike, lcs, crm surrogate:	analyte specific recovery data <3xsd of historical mean
Uncertainty:	spike, lcs:	measurement calculated from historical analyte specific control charts

RESULT ANNOTATION

Data Quality Objective	s:	matrix spike recovery	p:	pending	bcs: batch specific lcs
Data Quality Indicator	d:	laboratory duplicate	lcs:	laboratory control sample	bmb: batch specific mb
Estimated Quantitation Limit	t:	laboratory triplicate	crm:	certified reference material	
not applicable	r:	RPD relative % difference	mb:	method blank	

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NEPC GUIDELINE COMPLIANCE - DQO

1. GENERAL

A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.

B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.

C. Laboratory QA/QC samples are specific to this project.

D. Inter-laboratory proficiency results are available upon request. NATA accreditation details available at www.nata.asn.au.

E. VOC spikes & surrogates added to samples during extraction, SVOC spikes & surrogates added prior to extraction.

F. Recovery data outside GAC limits shall be investigated and compared to ASAC (historical mean +/- 3sd). If recovery data <20%, then the relevant results for that compound are considered not reliable.

G. Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. Anomolous QC data is examined in conjunction with other QC samples and a final decision whether to accept or reject results is provided by the professional judgement of the senior analyst. The USEPA-CLP National Functional Guidelines are referred to for specific recommendations.

H. Extraction (preparation) date refers to the date that sample preparation was initiated. Note that certain methods not requiring sample preparation (eg. VOCs in water, etc) may report a common extraction and analysis date.

I. LabMark shall maintain an official copy of this Certificate of Analysis for all tracable reference purposes.

2. CHAIN OF CUSTODY (COC) & SAMPLE RECEIPT NOTICE (SRN) REQUIREMENTS

A. SRN issued to client upon sample receipt & login verification.

B. Preservation & sampling date details specified on COC and SRN, unless noted.

C. Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

A. NATA accreditation held for each in-house method and sample matrix type reported, unless noted below (Refer to subcontracted test reports for NATA accreditation status).

B. NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA documents. Corporate Accreditation No. 13542.

C. Subcontracted analyses: Refer to Sample Receipt Notice and additional DQO comments.

Reported by Sydney Analytical Laboratories, NATA accreditation No.1884.

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4. QA/QC FREQUENCY COMPLIANCE TABLE SPECIFIC TO THIS REPORT

Matrix: **WATER**

Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	Petroleum Hydrocarbons (TPH)	1	0	0%	0	0	0%
2	Volatile Organic Compounds (VOC)	1	0	0%	0	0	0%
5	Semivolatile Organic Compounds (SVOC)	1	0	0%	0	0	0%
11	Filtered mercury	1	0	0%	0	0	0%
12	Filtered metals	1	0	0%	0	0	0%
13	Free Cyanide	1	0	0%	0	0	0%
14	Weak Acid Dissociable Cyanide	1	0	0%	0	0	0%
15	Total Organic Carbon (TOC)	1	1	100%	0	0	0%
16	Speciated Chromium	1	0	0%	0	0	0%

GLOSSARY:

#d	number of discrete duplicate extractions/analyses performed.
%d-ratio	NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).
#t	number of triplicate extractions/analyses performed.
#s	number of spiked samples analysed.
%s-ratio	USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).

5. ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT

A. All tests were conducted by LabMark Environmental Sydney, NATA accreditation No. 13542, unless indicated below.
B. SVOC (soil) LCS recovery range is 21% - 158%.
C. SVOC (soil) sample surrogate recovery range is 23% - 91%, corresponding LCS recovery range is 65% - 117%, MB range is 65% - 120%.
D. Refer to LabMark historical control chart recovery range data. QA/QC (SVOC) results reported within 3sd of the historical analyte specific mean results, and therefore considered acceptable for laboratory release.
B. The following test was conducted by Sydney Analytical Laboratories, NATA accreditation No.1884. :- Total Organic Carbon, SAL reference # SAL22697, reported on 24/3/10

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ENVIRONMENTAL LABORATORIES

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

Environmental Laboratory Industry Group
Foundation Member

Laboratory Report: E047350

Cover Page 4 of 4

Laboratory QA/QC data shall relate specifically to this report, and may provide an indication of site specific sample result quality. LabMark DOES NOT report NON-RELEVANT BATCH QA/QC data. Acceptance of this self assessment certificate does not preclude any requirement for a QA/QC review by a accredited contaminated site EPA auditor, when and wherever necessary. Laboratory QA/QC self assessment references available upon request.

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HISTORICAL CONTROL CHART DATA - QA/QC

Analyte mean and standard deviation

SVOC_W

For the period: 01/01/2009 12:00:00 AM to 31/12/2009 11:59:59 PM

SPIKES

Analyte Name	n	Mean	1 SD	Range	2 SD	Range	3 SD	Range
1,2,4,5-tetrachlorobenzene	7	58	22	36 to 80	44	14 to 102	66	0 to 124
1,2,4-trichlorobenzene	6	86	21	65 to 107	42	44 to 128	63	23 to 149
1,2-dichlorobenzene	8	81	17	64 to 98	34	47 to 115	51	30 to 132
1,3-dichlorobenzene	8	80	19	61 to 99	38	42 to 118	57	23 to 137
1,4-dichlorobenzene	8	78	15	63 to 93	30	48 to 108	45	33 to 123
1,4-dinitrobenzene	8	96	14	82 to 110	28	68 to 124	42	54 to 138
1-naphthylamine	8	80	39	41 to 119	78	2 to 158	117	0 to 197
2,3,4,6-tetrachlorophenol	8	74	10	64 to 84	20	54 to 94	30	44 to 104
2,4,5-trichlorophenol	8	92	15	77 to 107	30	62 to 122	45	47 to 137
2,4,6-TBP (Surr @ 25ug/l)	8	97	17	80 to 114	34	63 to 131	51	46 to 148
2,4,6-trichlorophenol	8	84	11	73 to 95	22	62 to 106	33	51 to 117
2,4-dichlorophenol	8	84	13	71 to 97	26	58 to 110	39	45 to 123
2,4-dimethylphenol	7	82	30	52 to 112	60	22 to 142	90	0 to 172
2,4-dinitrotoluene	8	86	18	68 to 104	36	50 to 122	54	32 to 140
2,6-dichlorophenol	8	85	11	74 to 96	22	63 to 107	33	52 to 118
2,6-dinitrotoluene	8	90	17	73 to 107	34	56 to 124	51	39 to 141
2-(acetylamino) fluorene	8	92	26	66 to 118	52	40 to 144	78	14 to 170
2-chloronaphthalene	8	90	19	71 to 109	38	52 to 128	57	33 to 147
2-chlorophenol	8	85	10	75 to 95	20	65 to 105	30	55 to 115
2-FBP (Surr @ 25ug/l)	8	84	13	71 to 97	26	58 to 110	39	45 to 123
2-FP (Surr @ 25ug/l)	8	60	17	43 to 77	34	26 to 94	51	9 to 111
2-methylnaphthalene	8	90	14	76 to 104	28	62 to 118	42	48 to 132
2-methylphenol	8	77	18	59 to 95	36	41 to 113	54	23 to 131
2-naphthylamine	6	91	45	46 to 136	90	1 to 181	135	0 to 226
2-nitroaniline	8	88	14	74 to 102	28	60 to 116	42	46 to 130
2-nitrophenol	8	90	20	70 to 110	40	50 to 130	60	30 to 150
3-&4-methylphenol	8	58	29	29 to 87	58	0 to 116	87	0 to 145
3-methylcholanthrene	8	75	11	64 to 86	22	53 to 97	33	42 to 108
3-nitroaniline	8	71	14	57 to 85	28	43 to 99	42	29 to 113
4,4-DDD	8	69	32	37 to 101	64	5 to 133	96	0 to 165
4,4-DDE	8	92	14	78 to 106	28	64 to 120	42	50 to 134
4,4-DDT	8	61	33	28 to 94	66	0 to 127	99	0 to 160
4-(dimethylamino) azobenzene	8	70	23	47 to 93	46	24 to 116	69	1 to 139
4-aminobiphenyl	8	94	16	78 to 110	32	62 to 126	48	46 to 142
4-bromophenyl phenyl ether	8	87	11	76 to 98	22	65 to 109	33	54 to 120
4-chloro-3-methylphenol	8	82	11	71 to 93	22	60 to 104	33	49 to 115
4-chloroaniline	6	81	32	49 to 113	64	17 to 145	96	0 to 177
4-chlorophenyl phenyl ether	8	94	14	80 to 108	28	66 to 122	42	52 to 136
4-nitroaniline	8	74	23	51 to 97	46	28 to 120	69	5 to 143
5-nitro-o-toluidine	7	92	10	82 to 102	20	72 to 112	30	62 to 122

7,12-dimethylbenz(a)anthracene	**8**	**65**	19	46 to 84	38	27 to 103	57	8 to 122
a-BHC	**8**	**83**	10	73 to 93	20	63 to 103	30	53 to 113
Acenaphthene	**8**	**90**	10	80 to 100	20	70 to 110	30	60 to 120
Acenaphthylene	**8**	**93**	13	80 to 106	26	67 to 119	39	54 to 132
Acetophenone	**8**	**93**	14	79 to 107	28	65 to 121	42	51 to 135
Aldrin	**8**	**84**	14	70 to 98	28	56 to 112	42	42 to 126
Aniline	**7**	**65**	21	44 to 86	42	23 to 107	63	2 to 128
Anthracene	**8**	**89**	12	77 to 101	24	65 to 113	36	53 to 125
Azinophos methyl	**7**	**81**	36	45 to 117	72	9 to 153	108	0 to 189
Azobenzene	**8**	**97**	15	82 to 112	30	67 to 127	45	52 to 142
b-BHC	**8**	**82**	13	69 to 95	26	56 to 108	39	43 to 121
Benz(a)anthracene	**8**	**93**	12	81 to 105	24	69 to 117	36	57 to 129
Benzo(a) pyrene	**8**	**88**	15	73 to 103	30	58 to 118	45	43 to 133
Benzo(b)&(k)fluoranthene	**8**	**79**	18	61 to 97	36	43 to 115	54	25 to 133
Benzo(g,h,i)perylene	**8**	**86**	9	77 to 95	18	68 to 104	27	59 to 113
Benzyl alcohol	**7**	**71**	33	38 to 104	66	5 to 137	99	0 to 170
Bis(2-chloroethoxy) methane	**8**	**93**	19	74 to 112	38	55 to 131	57	36 to 150
Bis(2-chloroethyl)ether	**8**	**98**	24	74 to 122	48	50 to 146	72	26 to 170
Bis(2-chloroisopropyl) ether	**8**	**93**	16	77 to 109	32	61 to 125	48	45 to 141
Bis(2-ethylhexyl) phthalate	**8**	**111**	20	91 to 131	40	71 to 151	60	51 to 171
Butyl benzyl phthalate	**8**	**102**	18	84 to 120	36	66 to 138	54	48 to 156
Carbazole	**8**	**93**	8	85 to 101	16	77 to 109	24	69 to 117
Chlorpyrifos	**8**	**91**	12	79 to 103	24	67 to 115	36	55 to 127
Chrysene	**8**	**97**	12	85 to 109	24	73 to 121	36	61 to 133
cis-chlordane	**8**	**93**	18	75 to 111	36	57 to 129	54	39 to 147
Coumaphos	**8**	**91**	27	64 to 118	54	37 to 145	81	10 to 172
d-BHC	**8**	**90**	15	75 to 105	30	60 to 120	45	45 to 135
Demeton-O	**8**	**80**	13	67 to 93	26	54 to 106	39	41 to 119
Demeton-S	**8**	**86**	9	77 to 95	18	68 to 104	27	59 to 113
Di-n-butyl phthalate	**8**	**101**	12	89 to 113	24	77 to 125	36	65 to 137
Di-n-octyl phthalate	**8**	**97**	25	72 to 122	50	47 to 147	75	22 to 172
Diazinon	**8**	**84**	20	64 to 104	40	44 to 124	60	24 to 144
Dibenz(a,h)anthracene	**8**	**91**	17	74 to 108	34	57 to 125	51	40 to 142
Dibenzofuran	**7**	**95**	15	80 to 110	30	65 to 125	45	50 to 140
Dichlorvos	**8**	**87**	15	72 to 102	30	57 to 117	45	42 to 132
Dieldrin	**8**	**90**	11	79 to 101	22	68 to 112	33	57 to 123
Diethylphthalate	**8**	**98**	10	88 to 108	20	78 to 118	30	68 to 128
Dimethoate	**8**	**77**	20	57 to 97	40	37 to 117	60	17 to 137
Dimethyl phthalate	**8**	**96**	16	80 to 112	32	64 to 128	48	48 to 144
Diphenylamine	**8**	**94**	16	78 to 110	32	62 to 126	48	46 to 142
Disulfoton	**8**	**83**	28	55 to 111	56	27 to 139	84	0 to 167
Endosulfan I	**8**	**93**	12	81 to 105	24	69 to 117	36	57 to 129
Endosulfan II	**8**	**89**	11	78 to 100	22	67 to 111	33	56 to 122
Endosulfan sulphate	**8**	**84**	24	60 to 108	48	36 to 132	72	12 to 156
Endrin	**8**	**83**	33	50 to 116	66	17 to 149	99	0 to 182
Endrin aldehyde	**8**	**98**	15	83 to 113	30	68 to 128	45	53 to 143
Endrin ketone	**8**	**108**	21	87 to 129	42	66 to 150	63	45 to 171
EPN	**8**	**94**	27	67 to 121	54	40 to 148	81	13 to 175
Ethoprop	**8**	**103**	18	85 to 121	36	67 to 139	54	49 to 157

Ethyl methanesulfonate	**8**	**83**	22	61 to 105	44	39 to 127	66	17 to 149
Fenitrothion	**8**	**80**	19	61 to 99	38	42 to 118	57	23 to 137
Fensulfothion	**8**	**70**	37	33 to 107	74	0 to 144	111	0 to 181
Fenthion	**8**	**84**	11	73 to 95	22	62 to 106	33	51 to 117
Fluoranthene	**8**	**95**	11	84 to 106	22	73 to 117	33	62 to 128
Fluorene	**8**	**90**	12	78 to 102	24	66 to 114	36	54 to 126
g-BHC (Lindane)	**8**	**93**	21	72 to 114	42	51 to 135	63	30 to 156
Heptachlor	**8**	**79**	19	60 to 98	38	41 to 117	57	22 to 136
Heptachlor epoxide	**8**	**88**	14	74 to 102	28	60 to 116	42	46 to 130
Hexachlorobenzene	**8**	**85**	9	76 to 94	18	67 to 103	27	58 to 112
Hexachlorobutadiene	**8**	**74**	18	56 to 92	36	38 to 110	54	20 to 128
Hexachlorocyclopentadiene	**8**	**56**	34	22 to 90	68	0 to 124	102	0 to 158
Hexachloroethane	**8**	**75**	16	59 to 91	32	43 to 107	48	27 to 123
Hexachloropropene	**8**	**61**	26	35 to 87	52	9 to 113	78	0 to 139
Indeno(1,2,3-c,d)pyrene	**8**	**87**	14	73 to 101	28	59 to 115	42	45 to 129
Isophorone	**8**	**88**	15	73 to 103	30	58 to 118	45	43 to 133
Isosafrole	**8**	**89**	19	70 to 108	38	51 to 127	57	32 to 146
Malathion	**8**	**86**	26	60 to 112	52	34 to 138	78	8 to 164
Methoxychlor	**8**	**70**	37	33 to 107	74	0 to 144	111	0 to 181
Methyl methanesulfonate	**8**	**50**	14	36 to 64	28	22 to 78	42	8 to 92
Methyl parathion	**8**	**76**	21	55 to 97	42	34 to 118	63	13 to 139
Mevinphos (Phosdrin)	**8**	**89**	19	70 to 108	38	51 to 127	57	32 to 146
N-nitrosodi-n-butylamine	**8**	**91**	22	69 to 113	44	47 to 135	66	25 to 157
N-nitrosodi-n-propylamine	**8**	**89**	27	62 to 116	54	35 to 143	81	8 to 170
N-nitrosodiethylamine	**8**	**78**	23	55 to 101	46	32 to 124	69	9 to 147
N-nitrosomorpholine	**8**	**58**	12	46 to 70	24	34 to 82	36	22 to 94
N-nitrosopiperidine	**8**	**89**	22	67 to 111	44	45 to 133	66	23 to 155
N-nitrosopyrrolidine	**7**	**92**	39	53 to 131	78	14 to 170	117	0 to 209
Naled (Dibrom)	**4**	**76**	13	63 to 89	26	50 to 102	39	37 to 115
Naphthalene	**8**	**90**	17	73 to 107	34	56 to 124	51	39 to 141
NB-d5 (Surr @ 25ug/l)	**8**	**83**	20	63 to 103	40	43 to 123	60	23 to 143
Nitrobenzene	**8**	**89**	25	64 to 114	50	39 to 139	75	14 to 164
o-toluidine	**8**	**97**	39	58 to 136	78	19 to 175	117	0 to 214
Parathion	**8**	**79**	12	67 to 91	24	55 to 103	36	43 to 115
Pentachlorobenzene	**8**	**81**	8	73 to 89	16	65 to 97	24	57 to 105
Pentachloroethane	**8**	**74**	18	56 to 92	36	38 to 110	54	20 to 128
Pentachloronitrobenzene	**8**	**80**	13	67 to 93	26	54 to 106	39	41 to 119
Pentachlorophenol	**8**	**80**	18	62 to 98	36	44 to 116	54	26 to 134
Phenacetin	**8**	**89**	16	73 to 105	32	57 to 121	48	41 to 137
Phenanthrene	**8**	**91**	11	80 to 102	22	69 to 113	33	58 to 124
Phenol	**8**	**42**	13	29 to 55	26	16 to 68	39	3 to 81
Phenol-d5 (Surr @ 25ug/l)	**8**	**62**	41	21 to 103	82	0 to 144	123	0 to 185
Phorate	**8**	**94**	14	80 to 108	28	66 to 122	42	52 to 136
Profenofos	**8**	**83**	23	60 to 106	46	37 to 129	69	14 to 152
Prothiofos	**8**	**79**	13	66 to 92	26	53 to 105	39	40 to 118
Pyrene	**8**	**92**	11	81 to 103	22	70 to 114	33	59 to 125
Ronnel	**8**	**86**	15	71 to 101	30	56 to 116	45	41 to 131
Safrole	**8**	**89**	19	70 to 108	38	51 to 127	57	32 to 146
Stirophos	**8**	**78**	32	46 to 110	64	14 to 142	96	0 to 174

Sulfotepp	**8**	**91**	13	78 to 104	26	65 to 117	39	52 to 130
TP-d14 (Surr @ 25ug/l)	**7**	**92**	20	72 to 112	40	52 to 132	60	32 to 152
trans-chlordane	**8**	**93**	15	78 to 108	30	63 to 123	45	48 to 138
Trichloronate	**8**	**86**	6	80 to 92	12	74 to 98	18	68 to 104

LCS_W

Analyte Name	**n**	**Mean**	1 SD	Range	2 SD	Range	3 SD	Range
1,2,4,5-tetrachlorobenzene	**22**	**59**	25	34 to 84	50	9 to 109	75	0 to 134
1,2,4-trichlorobenzene	**22**	**79**	24	55 to 103	48	31 to 127	72	7 to 151
1,2-dichlorobenzene	**22**	**77**	21	56 to 98	42	35 to 119	63	14 to 140
1,3-dichlorobenzene	**22**	**73**	21	52 to 94	42	31 to 115	63	10 to 136
1,4-dichlorobenzene	**22**	**77**	23	54 to 100	46	31 to 123	69	8 to 146
1,4-dinitrobenzene	**22**	**92**	22	70 to 114	44	48 to 136	66	26 to 158
1-naphthylamine	**22**	**99**	30	69 to 129	60	39 to 159	90	9 to 189
2,3,4,6-tetrachlorophenol	**22**	**79**	20	59 to 99	40	39 to 119	60	19 to 139
2,4,5-trichlorophenol	**22**	**88**	20	68 to 108	40	48 to 128	60	28 to 148
2,4,6-TBP (Surr @ 25ug/l)	**22**	**92**	17	75 to 109	34	58 to 126	51	41 to 143
2,4,6-trichlorophenol	**22**	**84**	16	68 to 100	32	52 to 116	48	36 to 132
2,4-dichlorophenol	**22**	**87**	19	68 to 106	38	49 to 125	57	30 to 144
2,4-dimethylphenol	**22**	**85**	21	64 to 106	42	43 to 127	63	22 to 148
2,4-dinitrotoluene	**22**	**89**	14	75 to 103	28	61 to 117	42	47 to 131
2,6-dichlorophenol	**22**	**88**	18	70 to 106	36	52 to 124	54	34 to 142
2,6-dinitrotoluene	**22**	**91**	19	72 to 110	38	53 to 129	57	34 to 148
2-(acetylamino) fluorene	**22**	**85**	19	66 to 104	38	47 to 123	57	28 to 142
2-chloronaphthalene	**22**	**88**	19	69 to 107	38	50 to 126	57	31 to 145
2-chlorophenol	**22**	**91**	22	69 to 113	44	47 to 135	66	25 to 157
2-FBP (Surr @ 25ug/l)	**22**	**89**	21	68 to 110	42	47 to 131	63	26 to 152
2-FP (Surr @ 25ug/l)	**22**	**73**	26	47 to 99	52	21 to 125	78	0 to 151
2-methylnaphthalene	**22**	**88**	18	70 to 106	36	52 to 124	54	34 to 142
2-methylphenol	**22**	**85**	21	64 to 106	42	43 to 127	63	22 to 148
2-naphthylamine	**22**	**109**	22	87 to 131	44	65 to 153	66	43 to 175
2-nitroaniline	**22**	**90**	20	70 to 110	40	50 to 130	60	30 to 150
2-nitrophenol	**22**	**88**	20	68 to 108	40	48 to 128	60	28 to 148
3-&4-methylphenol	**22**	**76**	30	46 to 106	60	16 to 136	90	0 to 166
3-methylcholanthrene	**22**	**86**	17	69 to 103	34	52 to 120	51	35 to 137
3-nitroaniline	**22**	**84**	25	59 to 109	50	34 to 134	75	9 to 159
4,4-DDD	**22**	**93**	20	73 to 113	40	53 to 133	60	33 to 153
4,4-DDE	**22**	**93**	18	75 to 111	36	57 to 129	54	39 to 147
4,4-DDT	**22**	**87**	20	67 to 107	40	47 to 127	60	27 to 147
4-(dimethylamino) azobenzene	**22**	**87**	20	67 to 107	40	47 to 127	60	27 to 147
4-aminobiphenyl	**22**	**93**	16	77 to 109	32	61 to 125	48	45 to 141
4-bromophenyl phenyl ether	**22**	**88**	15	73 to 103	30	58 to 118	45	43 to 133
4-chloro-3-methylphenol	**22**	**86**	18	68 to 104	36	50 to 122	54	32 to 140
4-chloroaniline	**22**	**93**	32	61 to 125	64	29 to 157	96	0 to 189
4-chlorophenyl phenyl ether	**22**	**89**	16	73 to 105	32	57 to 121	48	41 to 137
4-nitroaniline	**22**	**93**	19	74 to 112	38	55 to 131	57	36 to 150
5-nitro-o-toluidine	**22**	**89**	14	75 to 103	28	61 to 117	42	47 to 131
7,12-dimethylbenz(a)anthracene	**22**	**93**	23	70 to 116	46	47 to 139	69	24 to 162
a-BHC	**22**	**93**	17	76 to 110	34	59 to 127	51	42 to 144

Acenaphthene	**22**	**90**	14	76 to 104	28	62 to 118	42	48 to 132
Acenaphthylene	**22**	**94**	17	77 to 111	34	60 to 128	51	43 to 145
Acetophenone	**22**	**89**	21	68 to 110	42	47 to 131	63	26 to 152
Aldrin	**22**	**87**	16	71 to 103	32	55 to 119	48	39 to 135
Aniline	**22**	**62**	27	35 to 89	54	8 to 116	81	0 to 143
Anthracene	**22**	**91**	13	78 to 104	26	65 to 117	39	52 to 130
Azinophos methyl	**22**	**94**	28	66 to 122	56	38 to 150	84	10 to 178
Azobenzene	**22**	**91**	18	73 to 109	36	55 to 127	54	37 to 145
b-BHC	**22**	**92**	20	72 to 112	40	52 to 132	60	32 to 152
Benz(a)anthracene	**22**	**93**	15	78 to 108	30	63 to 123	45	48 to 138
Benzo(a) pyrene	**22**	**95**	20	75 to 115	40	55 to 135	60	35 to 155
Benzo(b)&(k)fluoranthene	**22**	**86**	17	69 to 103	34	52 to 120	51	35 to 137
Benzo(g,h,i)perylene	**22**	**96**	16	80 to 112	32	64 to 128	48	48 to 144
Benzyl alcohol	**22**	**71**	30	41 to 101	60	11 to 131	90	0 to 161
Bis(2-chloroethoxy) methane	**22**	**94**	23	71 to 117	46	48 to 140	69	25 to 163
Bis(2-chloroethyl)ether	**22**	**91**	28	63 to 119	56	35 to 147	84	7 to 175
Bis(2-chloroisopropyl) ether	**22**	**91**	19	72 to 110	38	53 to 129	57	34 to 148
Bis(2-ethylhexyl) phthalate	**22**	**96**	20	76 to 116	40	56 to 136	60	36 to 156
Butyl benzyl phthalate	**22**	**97**	16	81 to 113	32	65 to 129	48	49 to 145
Carbazole	**22**	**92**	13	79 to 105	26	66 to 118	39	53 to 131
Chlorpyrifos	**22**	**89**	15	74 to 104	30	59 to 119	45	44 to 134
Chrysene	**22**	**94**	15	79 to 109	30	64 to 124	45	49 to 139
cis-chlordane	**22**	**92**	14	78 to 106	28	64 to 120	42	50 to 134
Coumaphos	**22**	**100**	23	77 to 123	46	54 to 146	69	31 to 169
d-BHC	**22**	**90**	16	74 to 106	32	58 to 122	48	42 to 138
Demeton-O	**22**	**81**	19	62 to 100	38	43 to 119	57	24 to 138
Demeton-S	**22**	**86**	18	68 to 104	36	50 to 122	54	32 to 140
Di-n-butyl phthalate	**22**	**102**	17	85 to 119	34	68 to 136	51	51 to 153
Di-n-octyl phthalate	**22**	**98**	19	79 to 117	38	60 to 136	57	41 to 155
Diazinon	**22**	**92**	22	70 to 114	44	48 to 136	66	26 to 158
Dibenz(a,h)anthracene	**22**	**102**	23	79 to 125	46	56 to 148	69	33 to 171
Dibenzofuran	**22**	**91**	14	77 to 105	28	63 to 119	42	49 to 133
Dichlorvos	**22**	**92**	21	71 to 113	42	50 to 134	63	29 to 155
Dieldrin	**22**	**93**	18	75 to 111	36	57 to 129	54	39 to 147
Diethylphthalate	**22**	**98**	16	82 to 114	32	66 to 130	48	50 to 146
Dimethoate	**22**	**87**	19	68 to 106	38	49 to 125	57	30 to 144
Dimethyl phthalate	**22**	**94**	18	76 to 112	36	58 to 130	54	40 to 148
Diphenylamine	**22**	**93**	16	77 to 109	32	61 to 125	48	45 to 141
Disulfoton	**22**	**92**	18	74 to 110	36	56 to 128	54	38 to 146
Endosulfan I	**22**	**89**	20	69 to 109	40	49 to 129	60	29 to 149
Endosulfan II	**22**	**88**	15	73 to 103	30	58 to 118	45	43 to 133
Endosulfan sulphate	**22**	**92**	21	71 to 113	42	50 to 134	63	29 to 155
Endrin	**22**	**95**	19	76 to 114	38	57 to 133	57	38 to 152
Endrin aldehyde	**22**	**91**	18	73 to 109	36	55 to 127	54	37 to 145
Endrin ketone	**22**	**99**	23	76 to 122	46	53 to 145	69	30 to 168
EPN	**22**	**85**	26	59 to 111	52	33 to 137	78	7 to 163
Ethoprop	**22**	**100**	18	82 to 118	36	64 to 136	54	46 to 154
Ethyl methanesulfonate	**22**	**85**	23	62 to 108	46	39 to 131	69	16 to 154
Fenitrothion	**22**	**87**	21	66 to 108	42	45 to 129	63	24 to 150

Fensulfothion	**22**	**82**	20	62 to 102	40	42 to 122	60	22 to 142
Fenthion	**22**	**84**	13	71 to 97	26	58 to 110	39	45 to 123
Fluoranthene	**22**	**92**	15	77 to 107	30	62 to 122	45	47 to 137
Fluorene	**22**	**89**	14	75 to 103	28	61 to 117	42	47 to 131
g-BHC (Lindane)	**22**	**92**	18	74 to 110	36	56 to 128	54	38 to 146
Heptachlor	**22**	**89**	18	71 to 107	36	53 to 125	54	35 to 143
Heptachlor epoxide	**22**	**91**	16	75 to 107	32	59 to 123	48	43 to 139
Hexachlorobenzene	**22**	**86**	14	72 to 100	28	58 to 114	42	44 to 128
Hexachlorobutadiene	**22**	**71**	17	54 to 88	34	37 to 105	51	20 to 122
Hexachlorocyclopentadiene	**22**	**68**	32	36 to 100	64	4 to 132	96	0 to 164
Hexachloroethane	**22**	**70**	19	51 to 89	38	32 to 108	57	13 to 127
Hexachloropropene	**22**	**68**	25	43 to 93	50	18 to 118	75	0 to 143
Indeno(1,2,3-c,d)pyrene	**22**	**93**	15	78 to 108	30	63 to 123	45	48 to 138
Isophorone	**22**	**96**	20	76 to 116	40	56 to 136	60	36 to 156
Isosafrole	**22**	**90**	16	74 to 106	32	58 to 122	48	42 to 138
Malathion	**22**	**97**	19	78 to 116	38	59 to 135	57	40 to 154
Methoxychlor	**22**	**93**	25	68 to 118	50	43 to 143	75	18 to 168
Methyl methanesulfonate	**22**	**58**	18	40 to 76	36	22 to 94	54	4 to 112
Methyl parathion	**22**	**82**	20	62 to 102	40	42 to 122	60	22 to 142
Mevinphos (Phosdrin)	**22**	**92**	22	70 to 114	44	48 to 136	66	26 to 158
N-nitrosodi-n-butylamine	**22**	**84**	27	57 to 111	54	30 to 138	81	3 to 165
N-nitrosodi-n-propylamine	**22**	**92**	23	69 to 115	46	46 to 138	69	23 to 161
N-nitrosodiethylamine	**22**	**83**	20	63 to 103	40	43 to 123	60	23 to 143
N-nitrosomorpholine	**22**	**63**	20	43 to 83	40	23 to 103	60	3 to 123
N-nitrosopiperidine	**22**	**92**	22	70 to 114	44	48 to 136	66	26 to 158
N-nitrosopyrrolidine	**22**	**75**	24	51 to 99	48	27 to 123	72	3 to 147
Naled (Dibrom)	**20**	**80**	23	57 to 103	46	34 to 126	69	11 to 149
Naphthalene	**22**	**84**	26	58 to 110	52	32 to 136	78	6 to 162
NB-d5 (Surr @ 25ug/l)	**22**	**91**	17	74 to 108	34	57 to 125	51	40 to 142
Nitrobenzene	**22**	**89**	22	67 to 111	44	45 to 133	66	23 to 155
o-toluidine	**22**	**102**	32	70 to 134	64	38 to 166	96	6 to 198
Parathion	**22**	**79**	11	68 to 90	22	57 to 101	33	46 to 112
Pentachlorobenzene	**22**	**82**	14	68 to 96	28	54 to 110	42	40 to 124
Pentachloroethane	**22**	**75**	19	56 to 94	38	37 to 113	57	18 to 132
Pentachloronitrobenzene	**22**	**85**	18	67 to 103	36	49 to 121	54	31 to 139
Pentachlorophenol	**22**	**74**	17	57 to 91	34	40 to 108	51	23 to 125
Phenacetin	**22**	**89**	16	73 to 105	32	57 to 121	48	41 to 137
Phenanthrene	**22**	**90**	12	78 to 102	24	66 to 114	36	54 to 126
Phenol	**22**	**50**	23	27 to 73	46	4 to 96	69	0 to 119
Phenol-d5 (Surr @ 25ug/l)	**22**	**68**	35	33 to 103	70	0 to 138	105	0 to 173
Phorate	**22**	**96**	21	75 to 117	42	54 to 138	63	33 to 159
Profenofos	**22**	**92**	20	72 to 112	40	52 to 132	60	32 to 152
Prothiofos	**22**	**80**	15	65 to 95	30	50 to 110	45	35 to 125
Pyrene	**22**	**92**	16	76 to 108	32	60 to 124	48	44 to 140
Ronnel	**22**	**91**	15	76 to 106	30	61 to 121	45	46 to 136
Safrole	**22**	**87**	20	67 to 107	40	47 to 127	60	27 to 147
Stirophos	**22**	**91**	24	67 to 115	48	43 to 139	72	19 to 163
Sulfotepp	**22**	**94**	15	79 to 109	30	64 to 124	45	49 to 139
TP-d14 (Surr @ 25ug/l)	**22**	**92**	18	74 to 110	36	56 to 128	54	38 to 146

trans-chlordane	**22**	**91**	14	77 to 105	28	63 to 119	42	49 to 133
Trichloronate	**22**	**84**	12	72 to 96	24	60 to 108	36	48 to 120

LabMark
ENVIRONMENTAL LABORATORIES

Laboratory Report No: E047350
Client Name: AECOM Australia Pty Ltd
Contact Name: Anthony Davis
Client Reference: Barangaroo S4150014

plus cover page
Date: 25/03/10
This report supercedes reports issued on: N/A

Final
Certificate
of Analysis

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		25/3/10	23/3/10	23/3/10							
Method : E004.1											
Petroleum Hydrocarbons (TPH)	**EQL**										
C10-C14 Fraction	50	860	--	<50							
C15-C28 Fraction	200	5490	79%	<200							
C29-C36 Fraction	50	660	--	<50							
Sum of TPH C10 - C36	--	7010	--	--							

Results expressed in ug/l unless otherwise specified

Comments:

E004.1: Triple extraction with DCM. Analysis by GC/FID.

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	24/3/10							
Laboratory Analysis Date		25/3/10	25/3/10	24/3/10							
Method : E016.1											
Volatile Organic Compounds (VOC)	**EQL**										
Volatile Aromatic Compounds											
Benzene	5	8	98%	<5							
Toluene	5	<5	95%	<5							
Ethylbenzene	5	<5	96%	<5							
meta- & para- xylene	10	<10	95%	<10							
ortho-xylene	5	<5	93%	<5							
Styrene	5	<5	97%	<5							
Isopropylbenzene	5	<5	94%	<5							
n-propylbenzene	5	<5	95%	<5							
1,3,5-trimethylbenzene	5	<5	93%	<5							
sec-butylbenzene	5	<5	94%	<5							
1,2,4-trimethylbenzene	5	<5	94%	<5							
tert-butylbenzene	5	<5	92%	<5							
p-isopropyltoluene	5	<5	94%	<5							
n-butylbenzene	5	<5	96%	<5							
Naphthalene	5	46	91%	<5							
Halogenated Aliphatics											
Dichlorodifluoromethane	50	<50	77%	<50							
Chloromethane	50	<50	88%	<50							
Vinyl chloride	50	<50	79%	<50							
Bromomethane	50	<50	93%	<50							
Chloroethane	50	<50	94%	<50							
Trichlorofluoromethane	50	<50	85%	<50							
1,1-dichloroethene	5	<5	90%	<5							
trans-1,2-dichloroethene	5	<5	94%	<5							
1,1-dichloroethane	5	<5	94%	<5							
cis-1,2-dichloroethene	5	<5	99%	<5							

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	24/3/10							
Laboratory Analysis Date		25/3/10	25/3/10	24/3/10							
Method : E016.1											
Volatile Organic Compounds (VOC)	**EQL**										
2,2-dichloropropane	5	<5	93%	<5							
Chloroform	5	<5	86%	<5							
1,1,1-trichloroethane	5	<5	87%	<5							
1,2-dichloroethane	5	<5	86%	<5							
1,1-dichloropropene	5	<5	94%	<5							
Carbon tetrachloride	5	<5	84%	<5							
Trichloroethene	5	<5	92%	<5							
1,2-dichloropropane	5	<5	99%	<5							
Dibromomethane	5	<5	92%	<5							
Bromodichloromethane	5	<5	90%	<5							
cis-1,3-dichloropropene	5	<5	97%	<5							
trans-1,3-dichloropropene	5	<5	95%	<5							
1,1,2-trichloroethane	5	<5	97%	<5							
1,3-dichloropropane	5	<5	93%	<5							
Chlorodibromomethane	5	<5	93%	<5							
Tetrachloroethene	5	<5	93%	<5							
1,2-dibromoethane	5	<5	96%	<5							
1,1,1,2-tetrachloroethane	5	<5	94%	<5							
Bromoform	5	<5	97%	<5							
1,1,2,2-tetrachloroethane	5	<5	102%	<5							
1,2,3-trichloropropane	5	<5	93%	<5							
1,2-dibromo-3-chloropropane	5	<5	93%	<5							
Hexachlorobutadiene	5	<5	90%	<5							
Halogenated Aromatics											
Chlorobenzene	5	<5	97%	<5							
Bromobenzene	5	<5	93%	<5							
2-chlorotoluene	5	<5	95%	<5							

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	24/3/10							
Laboratory Analysis Date		25/3/10	25/3/10	24/3/10							
Method : E016.1											
Volatile Organic Compounds (VOC)	**EQL**										
4-chlorotoluene	5	<5	96%	<5							
1,3-dichlorobenzene	5	<5	95%	<5							
1,4-dichlorobenzene	5	<5	95%	<5							
1,2-dichlorobenzene	5	<5	93%	<5							
1,2,4-trichlorobenzene	5	<5	96%	<5							
1,2,3-trichlorobenzene	5	<5	88%	<5							
Oxygenated Compounds											
2-butanone (MEK)	5	<5	106%	<5							
2-pentanone	5	<5	107%	<5							
2-hexanone (MBK)	5	<5	109%	<5							
4-methyl-2-pentanone (MIBK)	5	<5	102%	<5							
Vinyl acetate	5	<5	100%	<5							
Ethyl acetate	5	<5	93%	<5							
tert-butylmethylether (TBME)	5	<5	95%	<5							
Sulphonated Compounds											
Carbon disulfide	5	<5	97%	<5							
Surrogate Standards											
4-BFB (Surr @ 100ug/l)	--	*104%*	*102%*	*102%*							
1,2-DCE-d4 (Surr @ 100ug/l)	--	*88%*	*90%*	*100%*							
Toluene-d8 (Surr @ 100ug/l)	--	*100%*	*99%*	*99%*							

Results expressed in ug/l unless otherwise specified

Comments:

E016.1: Direct analysis by P&T/GC/MS. (NB) Acetone and Dichloromethane not reported unless requested.

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E017.1 **Semivolatile Organic Compounds (SVOC)**	**EQL**										
Phenols											
Phenol	2	<2	36%	<2							
2-chlorophenol	2	<2	95%	<2							
2-methylphenol	2	20	79%	<2							
3-&4-methylphenol	4	7	79%	<4							
2-nitrophenol	2	<2	84%	<2							
2,4-dimethylphenol	2	37	110%	<2							
2,4-dichlorophenol	2	<2	106%	<2							
2,6-dichlorophenol	2	<2	94%	<2							
4-chloro-3-methylphenol	2	<2	97%	<2							
2,4,6-trichlorophenol	2	<2	100%	<2							
2,4,5-trichlorophenol	2	<2	105%	<2							
2,3,4,6-tetrachlorophenol	2	<2	69%	<2							
Pentachlorophenol	4	<4	94%	<4							
Polynuclear Aromatic Hydrocarbons											
Naphthalene	2	34	80%	<2							
2-methylnaphthalene	2	<2	80%	<2							
2-chloronaphthalene	2	<2	97%	<2							
Acenaphthylene	2	<2	92%	<2							
Acenaphthene	2	2	91%	<2							
Fluorene	2	<2	99%	<2							
Phenanthrene	2	<2	90%	<2							
Anthracene	2	<2	95%	<2							
Fluoranthene	2	<2	102%	<2							
Pyrene	2	<2	99%	<2							
2-(acetylamino) fluorene	2	<2	112%	<2							
Benz(a)anthracene	2	<2	95%	<2							

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E017.1											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Chrysene	2	<2	96%	<2							
Benzo(b)&(k)fluoranthene	4	<4	100%	<4							
7,12-dimethylbenz(a)anthracene	2	<2	76%	<2							
Benzo(a) pyrene	2	<2	107%	<2							
3-methylcholanthrene	2	<2	111%	<2							
Indeno(1,2,3-c,d)pyrene	2	<2	93%	<2							
Dibenz(a,h)anthracene	2	<2	91%	<2							
Benzo(g,h,i)perylene	2	<2	93%	<2							
Phthalates											
Dimethyl phthalate	2	<2	103%	<2							
Diethylphthalate	2	<2	102%	<2							
Di-n-butyl phthalate	2	<2	107%	<2							
Butyl benzyl phthalate	2	<2	104%	<2							
Bis(2-ethylhexyl) phthalate	20	<20	130%	<20							
Di-n-octyl phthalate	2	<2	87%	<2							
Nitrosamines											
N-nitrosodiethylamine	2	<2	90%	<2							
N-nitrosopyrrolidine	4	<4	63%	<4							
N-nitrosomorpholine	2	<2	52%	<2							
N-nitrosodi-n-propylamine	2	<2	96%	<2							
N-nitrosopiperidine	2	<2	86%	<2							
N-nitrosodi-n-butylamine	2	<2	87%	<2							
Diphenylamine	2	<2	112%	<2							
4-aminobiphenyl	2	<2	112%	<2							
Organochlorine Pesticides											
a-BHC	2	<2	88%	<2							
b-BHC	2	<2	85%	<2							

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E017.1											
Semivolatile Organic Compounds (SVOC)	**EQL**										
d-BHC	2	<2	93%	<2							
g-BHC (Lindane)	2	<2	100%	<2							
Heptachlor	2	<2	103%	<2							
Aldrin	2	<2	95%	<2							
Heptachlor epoxide	2	<2	101%	<2							
Endosulfan I	2	<2	99%	<2							
trans-chlordane	2	<2	98%	<2							
cis-chlordane	2	<2	99%	<2							
4,4-DDE	2	<2	98%	<2							
Dieldrin	2	<2	97%	<2							
Endrin	2	<2	96%	<2							
Endosulfan II	2	<2	102%	<2							
4,4-DDD	2	<2	99%	<2							
Endosulfan sulphate	2	<2	94%	<2							
Endrin aldehyde	2	<2	72%	<2							
Endrin ketone	2	<2	85%	<2							
4,4-DDT	4	<4	101%	<4							
Methoxychlor	2	<2	97%	<2							
Organophosphorus Pesticides											
Dichlorvos	2	<2	114%	<2							
Mevinphos (Phosdrin)	2	<2	105%	<2							
Demeton-O	2	<2	99%	<2							
Ethoprop	2	<2	107%	<2							
Naled (Dibrom)	2	<2	92%	<2							
Phorate	2	<2	105%	<2							
Demeton-S	2	<2	98%	<2							
Dimethoate	2	<2	90%	<2							

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E017.1											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Diazinon	2	<2	73%	<2							
Sulfotepp	2	<2	92%	<2							
Disulfoton	2	<2	76%	<2							
Methyl parathion	2	<2	92%	<2							
Ronnel	2	<2	91%	<2							
Malathion	2	<2	104%	<2							
Fenitrothion	2	<2	85%	<2							
Fenthion	2	<2	106%	<2							
Chlorpyrifos	2	<2	95%	<2							
Parathion	2	<2	99%	<2							
Trichloronate	2	<2	104%	<2							
EPN	2	<2	60%	<2							
Stirophos	2	<2	94%	<2							
Prothiofos	2	<2	99%	<2							
Profenofos	2	<2	91%	<2							
Fensulfothion	2	<2	107%	<2							
Azinophos methyl	2	<2	116%	<2							
Coumaphos	2	<2	91%	<2							
Nitroaromatics and Ketones											
Acetophenone	2	<2	93%	<2							
Isophorone	2	<2	103%	<2							
Nitrobenzene	2	<2	63%	<2							
1,4-dinitrobenzene	2	<2	116%	<2							
2,6-dinitrotoluene	4	<4	111%	<4							
2,4-dinitrotoluene	4	<4	106%	<4							
5-nitro-o-toluidine	2	<2	93%	<2							
Azobenzene	2	<2	99%	<2							

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E017.1											
Semivolatile Organic Compounds (SVOC)	**EQL**										
4-(dimethylamino) azobenzene	2	<2	93%	<2							
Phenacetin	2	<2	99%	<2							
Pentachloronitrobenzene	2	<2	93%	<2							
Anilines and Benzedines											
Aniline	2	<2	57%	<2							
4-chloroaniline	2	<2	88%	<2							
2-nitroaniline	4	<4	105%	<4							
3-nitroaniline	4	<4	97%	<4							
4-nitroaniline	2	<2	96%	<2							
Dibenzofuran	2	<2	103%	<2							
Carbazole	2	11	104%	<2							
o-toluidine	2	<2	120%	<2							
1-naphthylamine	2	<2	141%	<2							
2-naphthylamine	2	<2	158%	<2							
Chlorinated Hydrocarbons											
1,3-dichlorobenzene	2	<2	64%	<2							
1,4-dichlorobenzene	2	<2	70%	<2							
1,2-dichlorobenzene	2	<2	65%	<2							
1,2,4-trichlorobenzene	2	<2	67%	<2							
1,2,4,5-tetrachlorobenzene	2	<2	40%	<2							
Pentachlorobenzene	2	<2	90%	<2							
Hexachlorobenzene	2	<2	91%	<2							
Pentachloroethane	2	<2	68%	<2							
Hexachloroethane	2	<2	63%	<2							
Hexachloropropene	2	<2	78%	<2							
Hexachlorobutadiene	2	<2	78%	<2							
Hexachlorocyclopentadiene	4	<4	51%	<4							

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E017.1											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Haloethers											
Bis(2-chloroethyl)ether	2	<2	100%	<2							
Bis(2-chloroisopropyl) ether	2	<2	96%	<2							
Bis(2-chloroethoxy) methane	2	<2	64%	<2							
4-chlorophenyl phenyl ether	2	<2	103%	<2							
4-bromophenyl phenyl ether	2	<2	93%	<2							
Miscellaneous Compounds											
Methyl methanesulfonate	2	<2	54%	<2							
Ethyl methanesulfonate	2	<2	82%	<2							
Benzyl alcohol	2	<2	33%	<2							
Safrole	2	<2	86%	<2							
Isosafrole	2	<2	21%	<2							
Surrogate Standards											
2-FP (Surr @ 25ug/l)	--	*48%*	*117%*	*120%*							
Phenol-d5 (Surr @ 25ug/l)	--	*28%*	*65%*	*65%*							
NB-d5 (Surr @ 25ug/l)	--	*80%*	*88%*	*89%*							
2-FBP (Surr @ 25ug/l)	--	*80%*	*83%*	*83%*							
2,4,6-TBP (Surr @ 25ug/l)	--	*91%*	*96%*	*83%*							
TP-d14 (Surr @ 25ug/l)	--	*86%*	*91%*	*79%*							

Results expressed in ug/l unless otherwise specified

Comments: -

E017.1: Base/neutral and acidic extraction with DCM.Analysis by GC/MS.

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	24/3/10							
Laboratory Analysis Date		25/3/10	25/3/10	25/3/10							
Method : E026.1											
Filtered mercury	**EQL**										
Mercury	0.1	*<0.2	83%	<0.1							

Results expressed in ug/l unless otherwise specified

Comments: *EQL increased due to matrix interference.

E026.1: Analysis by CV-ICP-MS or FIMS following BrCl pre-treatment.

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	24/3/10							
Laboratory Analysis Date		25/3/10	25/3/10	25/3/10							
Method : E022.1											
Filtered metals	**EQL**										
Arsenic	1	*<20	96%	<1							
Barium	5	2420	102%	<5							
Beryllium	1	<1	100%	<1							
Cadmium	0.1	*<0.2	99%	<0.1							
Chromium	1	1	96%	<1							
Cobalt	1	11	99%	<1							
Copper	1	*<10	100%	<1							
Lead	1	<1	96%	<1							
Manganese	1	294	101%	<1							
Nickel	1	13	94%	<1							
Vanadium	5	*<10	101%	<5							
Zinc	5	12	101%	<5							

Results expressed in ug/l unless otherwise specified

Comments: *EQL increased due to matrix interference.

E022.1: Filtered sample directly analysed by ICP-MS.

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		18/3/10	18/3/10	18/3/10							
Laboratory Analysis Date		24/3/10	24/3/10	24/3/10							
Method : E040.1/E054.1											
Free Cyanide	**EQL**										
Free Cyanide	0.005	<0.005	89%	<0.005							

Results expressed in mg/l unless otherwise specified

Comments:

E040.1/E054.1: Micro-diffusion followed by analysis by colour.

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		18/3/10	18/3/10	18/3/10							
Laboratory Analysis Date		24/3/10	24/3/10	24/3/10							
Method : E040.1/E054.1											
Weak Acid Dissociable Cyanide	**EQL**										
WAD Cyanide	0.01	<0.01	70%	<0.01							

Results expressed in mg/l unless otherwise specified

Comments:

E040.1/E054.1: Acetate distillate collected in sodium hydroxide. Analysis by colour.

Laboratory Identification		**254617**	**254617d**	**254617r**	**mb**						
Sample Identification		QC321	QC	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		16/3/10	--	--	--						
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	--	24/3/10						
Laboratory Analysis Date		24/3/10	24/3/10	--	24/3/10						
Method : E2580											
Total Organic Carbon (TOC)	**EQL**										
Total Organic Carbon	1	65	63	3%	<1						

Results expressed in mg/l unless otherwise specified

Comments:

E2580: TOC analyser.

Laboratory Identification		**254617**	**lcs**	**mb**							
Sample Identification		QC321	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		18/3/10	18/3/10	18/3/10							
Laboratory Analysis Date		25/3/10	19/3/10	19/3/10							
Method : E043.1/E057.1											
Speciated Chromium	**EQL**										
Hexavalent Chromium	0.001	<0.001	108%	<0.001							

Results expressed in mg/l unless otherwise specified

Comments:

E043.1/E057.1: Determined by colour on filtered sample.

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 23/03/2010
Report Time : 1:08:29PM

Sample **Receipt** Notice (SRN) for **E047350**

Quality, Service, Support

Client Details		Laboratory Reference Information	
Client Name:	AECOM Australia Pty Ltd	**Please have this information ready when contacting Labmark.**	
Client Phone:	02 8484 8999		
Client Fax:	02 8484 8989	**Laboratory Report:**	**E047350**
Contact Name:	Anthony Davis	**Quotation Number:**	- Not provided, standard prices apply
Contact Email:	anthony.davis@aecom.com	**Laboratory Address:**	Unit 1, 8 Leighton Pl. Asquith NSW 2077
Client Address:	PO Box 726 Pymble NSW 2073	**Phone:**	61 2 9476 6533
		Fax:	61 2 9476 8219
Project Name:	Barangaroo		
Project Number:	S4150014	**Sample Receipt Contact:**	Ros Schacht
CoC Serial Number:	- Not provided -	**Email:**	Ros.Schacht@labmark.com.au
Purchase Order:	1303951	**Reporting Contact:**	Leanne Boag
Surcharge:	No surcharge applied (results by 6:30pm on due date)	**Email:**	leanne.boag@labmark.com.au
Sample Matrix:	WATER		
Date Sampled (earliest date):	16/03/2010	**NATA Accreditation:**	13542
Date Samples Received:	18/03/2010	**TGA GMP License:**	185-336 (Sydney)
Date Sample Receipt Notice issued:	23/03/2010	**APVMA License:**	6105 (Sydney)
Date Preliminary Report Due:	25/03/2010	**AQIS Approval:**	NO356 (Sydney)
Client TAT Request Date:	25/03/2010	**AQIS Entry Permit:**	200521534 (Sydney)

Reporting Requirements: Electronic Data Download required: Yes

Invoice Number: 10EA8665

Sample Condition: COC received with samples. Report number and lab ID's defined on COC.
Samples received in good order .
Samples received with cooling media: Crushed ice .
Samples received chilled.
Security seals not used .
Sample container & chemical preservation suitable .

Comments: TOC by SAL - results may be delayed | Unable to analyse ultra trace Metals, SVOC & CrVI - Metals reportable to 0.1-100 ug/L, SVOC to 2-20 ug/L & CrVI to 0.001 mg/L unless otherwise instructed

Holding Times: Date received allows for sufficient time to meet Technical Holding Times.

Preservation: Chemical preservation of samples satisfactory for requested analytes.

Important Notes:

LabMark shall responsibly dispose of spent customer soil and water samples which includes the disintegration of the sample label. A sample disposal fee of $1.00 is applicable on all samples received by the laboratory regardless of whether they have undergone analytical testing. Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur $5.00/ sample/ 3 months. Additional refrigerated storage shall incur $30/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

Analysis comments:

VOC E016.1: Acetone and Dichloromethane not reported unless requested.

Subcontracted Analyses:

Reported by Sydney Analytical Laboratories, NATA accreditation No.1884.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 23/03/2010
Report Time : 1:08:29PM

Sample **Receipt** Notice (SRN) for **E047350**

Quality, Service, Support

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE

No.	Date	Depth	Client Sample ID	Requested Analysis: Speciated Chromium	Free Cyanide	Filtered mercury	Filtered metals	PREP Not Reported	Semivolatile Organic Compounds (SVOC)	Petroleum Hydrocarbons (TPH)	Volatile Organic Compounds (VOC)	Weak Acid Dissociable Cyanide	External Total Organic Carbon (TOC)										
254617	16/03		QC321	●	●	●	●	●	●	●	●	●	●										
			Totals:	1	1	1	1	1	1	1	1	1	1										

'PREP Not Reported' refers to an internal laboratory instruction - client confirmation of this parameter is not required.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 23/03/2010
Report Time : 1:08:29PM

Sample **Receipt** Notice (SRN) for **E047350**

Quality, Service, Support

No.	Date	Depth	Client Sample ID	Requested Analysis																			
				M9 - MET-F_W	MET-F_W Barium	MET-F_W Beryllium	MET-F_W Manganese	MET-F_W Vanadium															
254617	16/03		QC321	●	●	●	●	●															
			Totals:	1	1	1	1	1															

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Updated COC received 17/3 10:45 EQ47350

Form: Batch 1 - Blocks 4 and 5

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09

Project Name: Barangaroo **Project Number:** s4150014 **Purchase Order Number:** 1303951

Sample collected by: **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications: * Bottles include 1 X 1L plastic, 1x 500ml Amber, 2xHCL vials, 2 x H2SO4 vials, 1 x TOC vial, 1 x ultra trace metals, 1 x ferrous iron, 1 x 250 ml Cn, 1 x 250 ml purple

	(Tick) Yes	No	N/A
1. Urgent TAT required? (please circle: 24hr 48hr ____days)			
2. Fast TAT Guarantee Required?	☐	☐	☐
3. Is any sediment layer present in waters to be excluded from extractions?	☐	☐	☐
4. Special storage requirements?	☐	☐	☑
5. Preservation requirement: ☐ Fax ☐ Hard copy ☑ Email	☐	☐	☐
6. Other requirements?	☐	☐	☐

7. Report Format: 8. Project Manager: tel:

Environmental Division Sydney
Work Order
ES1004947

Telephone : +61-2-8784 8555

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: fil'ed	acid	ice	other	Container (No. & type)	pH	Metals (M13 ultra trace)	Free Cyanide	WAD Cyanide	Cr VI (ultra trace)	TPH C10-C36	SVOC (standard level)	SVOC (ultra trace)	VOCs	Total Sulfur	Dissolved Iron	Nitrate	Ammonia	Total Organic Carbon	Minor Anions	Hold
1	MW08	16/03/2010			X		X	X	X		*	X	X	X	X	X	X		X	X					X		
2	MW14	16/03/2010			X		X	X	X		*	X	X	X	X	X	X	X		X					X		
3	MW213	16/03/2010			X		X	X	X		*	X	X	X	X	X	X	X		X					X		
~~2546172546174~~ (8)	QC320	16/03/2010			X		X	X	X		*		X	X	X	X	X		X	X					X		
~~2546172546174~~	QC321	16/03/2010			X		X	X	X		*		X	X	X	X	X		X	X					X		Please forward to Labmark with E.o.c
5	QC325	16/03/2010			X		X	X	X		*		X				X			X							Rinsate
6	MW24	16/03/2010			X		X	X	X		*	X	X	X	X	X	X		X	X					X		
7	TB301	16/03/2010			X		X	X	X		2 x vials						X			X							Trip blank

Relinquished By:
Name: Date:
of: Time:

Received by:
Name: Frank 17-3-10 Date:
of: ALS 10:45 Time:

Relinquished By:
Name: Frank 18-3-10 Date:
of: ALS 8:30 Time: 4.6°C

Received by: KRUPA 12:50
Name: Date: 18/03/10
of: LABMARK Time:

Printed copies of this document are uncontrolled

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	EQ47350
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

LabMark
ENVIRONMENTAL LABORATORIES

ilac-MRA NATA Accreditation No. 1645

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. NATA is a signatory to the APLAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

AQIS
AUSTRALIAN QUARANTINE AND INSPECTION SERVICE

SYDNEY License No. N0356.

Quarantine Approved Premises criteria 5.1 for quarantine containment level 1 (QCI) facilities. Class five criteria cover premises utilised for research, analysis and testing of biological material, soil, animal, plant and human products.

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION

Laboratory Report No:	E047352	Cover Page 1 of 4
Client Name:	AECOM Australia Pty Ltd	plus Sample Results
Client Reference:	Barangaroo	
Contact Name:	Anthony Davis	
Chain of Custody No:	na	Date Received: 18/03/2010
Sample Matrix:	WATER	Date Reported: 25/03/2010

This Final Certificate of Analysis consists of sample results, DQI's, method descriptions, laboratory definitions, and internationally recognised NATA accreditation and endorsement. The DQO compliance relates specifically to QA/QC results as performed as part of the sample analysis, and may provide an indication of sample result quality. Transfer of report ownership from Labmark to the client shall only occur once full & final payment has been settled and verified. All report copies may be retracted where full payment has not occured within the agreed settlement period.

QUALITY ASSURANCE CRITERIA

Accuracy:	matrix spike:	1 in first 5-20, then 1 every 20 samples
	lcs, crm, method:	1 per analytical batch
	surrogate spike:	addition per target organic method
Precision:	laboratory duplicate:	1 in first 5-10, then 1 every 10 samples
	laboratory triplicate:	re-extracted & reported when duplicate RPD values exceed acceptance criteria
Holding Times:	soils, waters:	Refer to LabMark Preservation & THT table VOC's 14 days water / soil VAC's 7 days water or 14 days acidified VAC's 14 days soil SVOC's 7 days water, 14 days soil Pesticides 7 days water, 14 days soil Metals 6 months general elements Mercury 28 days
Confirmation:	target organic analysis:	GC/MS, or confirmatory column
Sensitivity:	EQL:	Typically 2-5 x Method Detection Limit (MDL)

QUALITY CONTROL GLOBAL ACCEPTANCE CRITERIA (GAC)

Accuracy:	spike, lcs, crm surrogate:	general analytes 70% - 130% recovery phenol analytes 50% - 130% recovery organophosphorous pesticide analytes 60% - 130% recovery phenoxy acid herbicides, organotin 50% - 130% recovery
	anion/cation bal:	+/- 10% (0-3 meq/l), +/- 5% (>3 meq/l)
Precision:	method blank:	not detected >95% of the reported EQL
	duplicate lab RPD (metals):	0-30% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)
	duplicate lab RPD:	0-50% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)

QUALITY CONTROL ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)

Accuracy:	spike, lcs, crm surrogate:	analyte specific recovery data <3xsd of historical mean
Uncertainty:	spike, lcs:	measurement calculated from historical analyte specific control charts

RESULT ANNOTATION

Data Quality Objective	s:	matrix spike recovery	p:	pending	bcs: batch specific lcs
Data Quality Indicator	d:	laboratory duplicate	lcs:	laboratory control sample	bmb: batch specific mb
Estimated Quantitation Limit	t:	laboratory triplicate	crm:	certified reference material	
not applicable	r:	RPD relative % difference	mb:	method blank	

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NEPC GUIDELINE COMPLIANCE - DQO

1. GENERAL

A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.

B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.

C. Laboratory QA/QC samples are specific to this project.

D. Inter-laboratory proficiency results are available upon request. NATA accreditation details available at www.nata.asn.au.

E. VOC spikes & surrogates added to samples during extraction, SVOC spikes & surrogates added prior to extraction.

F. Recovery data outside GAC limits shall be investigated and compared to ASAC (historical mean +/- 3sd). If recovery data <20%, then the relevant results for that compound are considered not reliable.

G. Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. Anomolous QC data is examined in conjunction with other QC samples and a final decision whether to accept or reject results is provided by the professional judgement of the senior analyst. The USEPA-CLP National Functional Guidelines are referred to for specific recommendations.

H. Extraction (preparation) date refers to the date that sample preparation was initiated. Note that certain methods not requiring sample preparation (eg. VOCs in water, etc) may report a common extraction and analysis date.

I. LabMark shall maintain an official copy of this Certificate of Analysis for all tracable reference purposes.

2. CHAIN OF CUSTODY (COC) & SAMPLE RECEIPT NOTICE (SRN) REQUIREMENTS

A. SRN issued to client upon sample receipt & login verification.

B. Preservation & sampling date details specified on COC and SRN, unless noted.

C. Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

A. NATA accreditation held for each in-house method and sample matrix type reported, unless noted below (Refer to subcontracted test reports for NATA accreditation status).

B. NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA documents. Corporate Accreditation No. 13542.

C. Subcontracted analyses: Refer to Sample Receipt Notice and additional DQO comments.

Reported by Sydney Analytical Laboratories, NATA accreditation No.1884.

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Environmental Laboratory Industry Group
Foundation Member

Laboratory Report: E047352

4. QA/QC FREQUENCY COMPLIANCE TABLE SPECIFIC TO THIS REPORT

Matrix: **WATER**

Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	Volatile TPH by P&T (vTPH)	1	0	0%	0	0	0%
2	Petroleum Hydrocarbons (TPH)	1	0	0%	0	0	0%
3	Volatile Organic Compounds (VOC)	1	0	0%	0	0	0%
6	Semivolatile Organic Compounds (SVOC)	1	0	0%	0	0	0%
12	Filtered mercury	1	0	0%	0	0	0%
13	Filtered metals	1	0	0%	0	0	0%
14	Total alkalinity	1	0	0%	0	0	0%
15	Chloride	1	0	0%	0	0	0%
16	Sulphate	1	0	0%	0	0	0%
17	Nitrate as N	1	0	0%	0	0	0%
18	Ammonia as N	1	0	0%	0	0	0%
19	Free Cyanide	1	0	0%	0	0	0%
20	Weak Acid Dissociable Cyanide	1	0	0%	0	0	0%
21	Filtered metals	1	0	0%	0	0	0%
22	Unfiltered metals	1	0	0%	0	0	0%
23	Major cations	1	0	0%	0	0	0%
24	Total Organic Carbon (TOC)	1	1	100%	0	0	0%
25	Speciated Chromium	1	0	0%	0	0	0%

GLOSSARY:

#d number of discrete duplicate extractions/analyses performed.
%d-ratio NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).
#t number of triplicate extractions/analyses performed.
#s number of spiked samples analysed.
%s-ratio USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).

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5. ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT

A. All tests were conducted by LabMark Environmental Sydney, NATA accreditation No. 13542, unless indicated below.
B. SVOC (soil) LCS recovery range is 21% - 130%.
C. SVOC (soil) sample surrogate recovery range is 23% - 80%, corresponding LCS recovery range is 65% - 117%, MB range is 65% - 120%.
D.Refer to LabMark historical control chart recovery range data. QA/QC (SVOC) results reported within 3sd of the historical analyte specific mean results, and therefore considered acceptable for laboratory release.
B. The following test was conducted by Sydney Analytical Laboratories, NATA accreditation No.1884. :- Total Organic Carbon, SAL reference # SAL22696 reported on 24/3/10

Laboratory QA/QC data shall relate specifically to this report, and may provide an indication of site specific sample result quality. LabMark DOES NOT report NON-RELEVANT BATCH QA/QC data. Acceptance of this self assessment certificate does not preclude any requirement for a QA/QC review by a accredited contaminated site EPA auditor, when and wherever necessary. Laboratory QA/QC self assessment references available upon request.

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LabMark
ENVIRONMENTAL LABORATORIES

Laboratory Report No: E047352
Client Name: AECOM Australia Pty Ltd
Contact Name: Anthony Davis
Client Reference: Barangaroo S4150014

Page: 1 of 25
plus cover page
Date: 25/03/10
This report supercedes reports issued on: N/A

Final
Certificate
of Analysis

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	24/3/10							
Laboratory Analysis Date		25/3/10	24/3/10	24/3/10							
Method : E029.1/E016.1											
Volatile TPH by P&T (vTPH)	**EQL**										
C6-C9	50	<50	95%	<50							

Results expressed in ug/l unless otherwise specified

Comments:

E029.1/E016.1: Direct injection into P&T/GC/FID/MSD.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		25/3/10	23/3/10	23/3/10							
Method : E004.1											
Petroleum Hydrocarbons (TPH)	**EQL**										
C10-C14 Fraction	50	170	--	<50							
C15-C28 Fraction	200	580	79%	<200							
C29-C36 Fraction	50	<50	--	<50							
Sum of TPH C10 - C36	--	750	--	--							

Results expressed in ug/l unless otherwise specified

Comments:

E004.1: Triple extraction with DCM. Analysis by GC/FID.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	24/3/10							
Laboratory Analysis Date		25/3/10	25/3/10	24/3/10							
Method : E016.1											
Volatile Organic Compounds (VOC)	**EQL**										
Volatile Aromatic Compounds											
Benzene	5	<5	98%	<5							
Toluene	5	<5	95%	<5							
Ethylbenzene	5	<5	96%	<5							
meta- & para- xylene	10	<10	95%	<10							
ortho-xylene	5	<5	93%	<5							
Styrene	5	<5	97%	<5							
Isopropylbenzene	5	<5	94%	<5							
n-propylbenzene	5	<5	95%	<5							
1,3,5-trimethylbenzene	5	5	93%	<5							
sec-butylbenzene	5	<5	94%	<5							
1,2,4-trimethylbenzene	5	<5	94%	<5							
tert-butylbenzene	5	<5	92%	<5							
p-isopropyltoluene	5	<5	94%	<5							
n-butylbenzene	5	<5	96%	<5							
Naphthalene	5	<5	91%	<5							
Halogenated Aliphatics											
Dichlorodifluoromethane	50	<50	77%	<50							
Chloromethane	50	<50	88%	<50							
Vinyl chloride	50	<50	79%	<50							
Bromomethane	50	<50	93%	<50							
Chloroethane	50	<50	94%	<50							
Trichlorofluoromethane	50	<50	85%	<50							
1,1-dichloroethene	5	<5	90%	<5							
trans-1,2-dichloroethene	5	<5	94%	<5							
1,1-dichloroethane	5	<5	94%	<5							
cis-1,2-dichloroethene	5	<5	99%	<5							

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	24/3/10							
Laboratory Analysis Date		25/3/10	25/3/10	24/3/10							
Method : E016.1											
Volatile Organic Compounds (VOC)	**EQL**										
2,2-dichloropropane	5	<5	93%	<5							
Chloroform	5	<5	86%	<5							
1,1,1-trichloroethane	5	<5	87%	<5							
1,2-dichloroethane	5	<5	86%	<5							
1,1-dichloropropene	5	<5	94%	<5							
Carbon tetrachloride	5	<5	84%	<5							
Trichloroethene	5	<5	92%	<5							
1,2-dichloropropane	5	<5	99%	<5							
Dibromomethane	5	<5	92%	<5							
Bromodichloromethane	5	<5	90%	<5							
cis-1,3-dichloropropene	5	<5	97%	<5							
trans-1,3-dichloropropene	5	<5	95%	<5							
1,1,2-trichloroethane	5	<5	97%	<5							
1,3-dichloropropane	5	<5	93%	<5							
Chlorodibromomethane	5	<5	93%	<5							
Tetrachloroethene	5	<5	93%	<5							
1,2-dibromoethane	5	<5	96%	<5							
1,1,1,2-tetrachloroethane	5	<5	94%	<5							
Bromoform	5	<5	97%	<5							
1,1,2,2-tetrachloroethane	5	<5	102%	<5							
1,2,3-trichloropropane	5	<5	93%	<5							
1,2-dibromo-3-chloropropane	5	<5	93%	<5							
Hexachlorobutadiene	5	<5	90%	<5							
Halogenated Aromatics											
Chlorobenzene	5	<5	97%	<5							
Bromobenzene	5	<5	93%	<5							
2-chlorotoluene	5	<5	95%	<5							

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	24/3/10							
Laboratory Analysis Date		25/3/10	25/3/10	24/3/10							
Method : E016.1											
Volatile Organic Compounds (VOC)	**EQL**										
4-chlorotoluene	5	<5	96%	<5							
1,3-dichlorobenzene	5	<5	95%	<5							
1,4-dichlorobenzene	5	<5	95%	<5							
1,2-dichlorobenzene	5	<5	93%	<5							
1,2,4-trichlorobenzene	5	<5	96%	<5							
1,2,3-trichlorobenzene	5	<5	88%	<5							
Oxygenated Compounds											
2-butanone (MEK)	5	<5	106%	<5							
2-pentanone	5	<5	107%	<5							
2-hexanone (MBK)	5	<5	109%	<5							
4-methyl-2-pentanone (MIBK)	5	<5	102%	<5							
Vinyl acetate	5	<5	100%	<5							
Ethyl acetate	5	<5	93%	<5							
tert-butylmethylether (TBME)	5	<5	95%	<5							
Sulphonated Compounds											
Carbon disulfide	5	<5	97%	<5							
Surrogate Standards											
4-BFB (Surr @ 100ug/l)	--	*103%*	*102%*	*102%*							
1,2-DCE-d4 (Surr @ 100ug/l)	--	*88%*	*90%*	*100%*							
Toluene-d8 (Surr @ 100ug/l)	--	*101%*	*99%*	*99%*							

Results expressed in ug/l unless otherwise specified

Comments:

E016.1: Direct analysis by P&T/GC/MS. (NB) Acetone and Dichloromethane not reported unless requested.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E017.1 **Semivolatile Organic Compounds (SVOC)**	**EQL**										
Phenols											
Phenol	2	<2	36%	<2							
2-chlorophenol	2	<2	95%	<2							
2-methylphenol	2	<2	79%	<2							
3-&4-methylphenol	4	<4	79%	<4							
2-nitrophenol	2	<2	84%	<2							
2,4-dimethylphenol	2	<2	110%	<2							
2,4-dichlorophenol	2	<2	106%	<2							
2,6-dichlorophenol	2	<2	94%	<2							
4-chloro-3-methylphenol	2	<2	97%	<2							
2,4,6-trichlorophenol	2	<2	100%	<2							
2,4,5-trichlorophenol	2	<2	105%	<2							
2,3,4,6-tetrachlorophenol	2	<2	69%	<2							
Pentachlorophenol	4	<4	94%	<4							
Polynuclear Aromatic Hydrocarbons											
Naphthalene	2	<2	80%	<2							
2-methylnaphthalene	2	<2	80%	<2							
2-chloronaphthalene	2	<2	97%	<2							
Acenaphthylene	2	16	92%	<2							
Acenaphthene	2	<2	91%	<2							
Fluorene	2	<2	99%	<2							
Phenanthrene	2	<2	90%	<2							
Anthracene	2	<2	95%	<2							
Fluoranthene	2	<2	102%	<2							
Pyrene	2	<2	99%	<2							
2-(acetylamino) fluorene	2	<2	112%	<2							
Benz(a)anthracene	2	<2	95%	<2							

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E017.1											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Chrysene	2	<2	96%	<2							
Benzo(b)&(k)fluoranthene	4	<4	100%	<4							
7,12-dimethylbenz(a)anthracene	2	<2	76%	<2							
Benzo(a) pyrene	2	<2	107%	<2							
3-methylcholanthrene	2	<2	111%	<2							
Indeno(1,2,3-c,d)pyrene	2	<2	93%	<2							
Dibenz(a,h)anthracene	2	<2	91%	<2							
Benzo(g,h,i)perylene	2	<2	93%	<2							
Phthalates											
Dimethyl phthalate	2	<2	103%	<2							
Diethylphthalate	2	<2	102%	<2							
Di-n-butyl phthalate	2	<2	107%	<2							
Butyl benzyl phthalate	2	<2	104%	<2							
Bis(2-ethylhexyl) phthalate	20	<20	130%	<20							
Di-n-octyl phthalate	2	<2	87%	<2							
Nitrosamines											
N-nitrosodiethylamine	2	<2	90%	<2							
N-nitrosopyrrolidine	4	<4	63%	<4							
N-nitrosomorpholine	2	<2	52%	<2							
N-nitrosodi-n-propylamine	2	<2	96%	<2							
N-nitrosopiperidine	2	<2	86%	<2							
N-nitrosodi-n-butylamine	2	<2	87%	<2							
Diphenylamine	2	<2	112%	<2							
4-aminobiphenyl	2	<2	112%	<2							
Organochlorine Pesticides											
a-BHC	2	<2	88%	<2							
b-BHC	2	<2	85%	<2							

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E017.1											
Semivolatile Organic Compounds (SVOC)	**EQL**										
d-BHC	2	<2	93%	<2							
g-BHC (Lindane)	2	<2	100%	<2							
Heptachlor	2	<2	103%	<2							
Aldrin	2	<2	95%	<2							
Heptachlor epoxide	2	<2	101%	<2							
Endosulfan I	2	<2	99%	<2							
trans-chlordane	2	<2	98%	<2							
cis-chlordane	2	<2	99%	<2							
4,4-DDE	2	<2	98%	<2							
Dieldrin	2	<2	97%	<2							
Endrin	2	<2	96%	<2							
Endosulfan II	2	<2	102%	<2							
4,4-DDD	2	<2	99%	<2							
Endosulfan sulphate	2	<2	94%	<2							
Endrin aldehyde	2	<2	72%	<2							
Endrin ketone	2	<2	85%	<2							
4,4-DDT	4	<4	101%	<4							
Methoxychlor	2	<2	97%	<2							
Organophosphorus Pesticides											
Dichlorvos	2	<2	114%	<2							
Mevinphos (Phosdrin)	2	<2	105%	<2							
Demeton-O	2	<2	99%	<2							
Ethoprop	2	<2	107%	<2							
Naled (Dibrom)	2	<2	92%	<2							
Phorate	2	<2	105%	<2							
Demeton-S	2	<2	98%	<2							
Dimethoate	2	<2	90%	<2							

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E017.1											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Diazinon	2	<2	73%	<2							
Sulfotepp	2	<2	92%	<2							
Disulfoton	2	<2	76%	<2							
Methyl parathion	2	<2	92%	<2							
Ronnel	2	<2	91%	<2							
Malathion	2	<2	104%	<2							
Fenitrothion	2	<2	85%	<2							
Fenthion	2	<2	106%	<2							
Chlorpyrifos	2	<2	95%	<2							
Parathion	2	<2	99%	<2							
Trichloronate	2	<2	104%	<2							
EPN	2	<2	60%	<2							
Stirophos	2	<2	94%	<2							
Prothiofos	2	<2	99%	<2							
Profenofos	2	<2	91%	<2							
Fensulfothion	2	<2	107%	<2							
Azinophos methyl	2	<2	116%	<2							
Coumaphos	2	<2	91%	<2							
Nitroaromatics and Ketones											
Acetophenone	2	<2	93%	<2							
Isophorone	2	<2	103%	<2							
Nitrobenzene	2	<2	63%	<2							
1,4-dinitrobenzene	2	<2	116%	<2							
2,6-dinitrotoluene	4	<4	111%	<4							
2,4-dinitrotoluene	4	<4	106%	<4							
5-nitro-o-toluidine	2	<2	93%	<2							
Azobenzene	2	<2	99%	<2							

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E017.1											
Semivolatile Organic Compounds (SVOC)	**EQL**										
4-(dimethylamino) azobenzene	2	<2	93%	<2							
Phenacetin	2	<2	99%	<2							
Pentachloronitrobenzene	2	<2	93%	<2							
Anilines and Benzedines											
Aniline	2	<2	57%	<2							
4-chloroaniline	2	<2	88%	<2							
2-nitroaniline	4	<4	105%	<4							
3-nitroaniline	4	<4	97%	<4							
4-nitroaniline	2	<2	96%	<2							
Dibenzofuran	2	<2	103%	<2							
Carbazole	2	<2	104%	<2							
o-toluidine	2	<2	120%	<2							
1-naphthylamine	2	<2	141%	<2							
2-naphthylamine	2	<2	158%	<2							
Chlorinated Hydrocarbons											
1,3-dichlorobenzene	2	<2	64%	<2							
1,4-dichlorobenzene	2	<2	70%	<2							
1,2-dichlorobenzene	2	<2	65%	<2							
1,2,4-trichlorobenzene	2	<2	67%	<2							
1,2,4,5-tetrachlorobenzene	2	<2	40%	<2							
Pentachlorobenzene	2	<2	90%	<2							
Hexachlorobenzene	2	<2	91%	<2							
Pentachloroethane	2	<2	68%	<2							
Hexachloroethane	2	<2	63%	<2							
Hexachloropropene	2	<2	78%	<2							
Hexachlorobutadiene	2	<2	78%	<2							
Hexachlorocyclopentadiene	4	<4	51%	<4							

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		23/3/10	23/3/10	23/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E017.1											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Haloethers											
Bis(2-chloroethyl)ether	2	<2	100%	<2							
Bis(2-chloroisopropyl) ether	2	<2	96%	<2							
Bis(2-chloroethoxy) methane	2	<2	64%	<2							
4-chlorophenyl phenyl ether	2	<2	103%	<2							
4-bromophenyl phenyl ether	2	<2	93%	<2							
Miscellaneous Compounds											
Methyl methanesulfonate	2	<2	54%	<2							
Ethyl methanesulfonate	2	<2	82%	<2							
Benzyl alcohol	2	<2	33%	<2							
Safrole	2	<2	86%	<2							
Isosafrole	2	<2	21%	<2							
Surrogate Standards											
2-FP (Surr @ 25ug/l)	--	*43%*	*117%*	*120%*							
Phenol-d5 (Surr @ 25ug/l)	--	*23%*	*65%*	*65%*							
NB-d5 (Surr @ 25ug/l)	--	*73%*	*88%*	*89%*							
2-FBP (Surr @ 25ug/l)	--	*70%*	*83%*	*83%*							
2,4,6-TBP (Surr @ 25ug/l)	--	*80%*	*96%*	*83%*							
TP-d14 (Surr @ 25ug/l)	--	*74%*	*91%*	*79%*							

Results expressed in ug/l unless otherwise specified

Comments: -

E017.1: Base/neutral and acidic extraction with DCM.Analysis by GC/MS.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	24/3/10							
Laboratory Analysis Date		25/3/10	25/3/10	25/3/10							
Method : E026.1											
Filtered mercury	**EQL**										
Mercury	0.1	*<0.2	83%	<0.1							

Results expressed in ug/l unless otherwise specified

Comments: *EQL increased due to matrix interference.

E026.1: Analysis by CV-ICP-MS or FIMS following BrCl pre-treatment.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	24/3/10							
Laboratory Analysis Date		25/3/10	25/3/10	25/3/10							
Method : E022.1											
Filtered metals	**EQL**										
Arsenic	1	*<10	96%	<1							
Barium	5	70	102%	<5							
Beryllium	1	<1	100%	<1							
Cadmium	0.1	<0.1	99%	<0.1							
Chromium	1	*<5	96%	<1							
Cobalt	1	2	99%	<1							
Copper	1	*<10	100%	<1							
Lead	1	<1	96%	<1							
Manganese	1	368	101%	<1							
Nickel	1	87	94%	<1							
Vanadium	5	<5	101%	<5							
Zinc	5	97	101%	<5							

Results expressed in ug/l unless otherwise specified

Comments: *EQL increased due to matrix interference.

E022.1: Filtered sample directly analysed by ICP-MS.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		18/3/10	18/3/10	18/3/10							
Laboratory Analysis Date		25/3/10	25/3/10	25/3/10							
Method : E035.1											
Total alkalinity	**EQL**										
Alkalinity	5	250	98%	<5							

Results expressed in mg/l unless otherwise specified

Comments:

E035.1: Determination by colour and/or by titration. Results expressed as CaCO3.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		18/3/10	18/3/10	18/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E033.1/E045.1/E047.1											
Chloride	**EQL**										
Chloride	1	1900	101%	<1							

Results expressed in mg/l unless otherwise specified

Comments:

E033.1/E045.1/E047.1: Determination by colour and/or by Ion Chromatography. Sample filtered through a 0.45um filter prior to analysis.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		18/3/10	18/3/10	18/3/10							
Laboratory Analysis Date		23/3/10	23/3/10	23/3/10							
Method : E042.1/E045.1/E056.1											
Sulphate	**EQL**										
Sulphate	2	330	105%	<2							

Results expressed in mg/l unless otherwise specified

Comments:

E042.1/E045.1/E056.1: Determination by colour and/or by Ion Chromatography. Sample filtered through 0.45um prior to analysis.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		18/3/10	18/3/10	18/3/10							
Laboratory Analysis Date		19/3/10	19/3/10	19/3/10							
Method : E037.1/E051.1											
Nitrate as N	**EQL**										
NO3-N	0.01	<0.01	107%	<0.01							

Results expressed in mg/l unless otherwise specified

Comments:

E037.1/E051.1: Nitrate determined by colour. Sample filtered through 0.45um prior to analysis.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		18/3/10	18/3/10	18/3/10							
Laboratory Analysis Date		25/3/10	18/3/10	18/3/10							
Method : E036.1/E050.1											
Ammonia as N	**EQL**										
Ammonia	0.01	20	100%	<0.01							

Results expressed in mg/l unless otherwise specified

Comments:

E036.1/E050.1: Determined by colour. Sample filtered through 0.45um prior to analysis.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		18/3/10	18/3/10	18/3/10							
Laboratory Analysis Date		24/3/10	24/3/10	24/3/10							
Method : E040.1/E054.1											
Free Cyanide	**EQL**										
Free Cyanide	0.005	<0.005	89%	<0.005							

Results expressed in mg/l unless otherwise specified

Comments:

E040.1/E054.1: Micro-diffusion followed by analysis by colour.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		18/3/10	18/3/10	18/3/10							
Laboratory Analysis Date		24/3/10	24/3/10	24/3/10							
Method : E040.1/E054.1											
Weak Acid Dissociable Cyanide	**EQL**										
WAD Cyanide	0.01	0.02	70%	<0.01							

Results expressed in mg/l unless otherwise specified

Comments:

E040.1/E054.1: Acetate distillate collected in sodium hydroxide. Analysis by colour.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	24/3/10							
Laboratory Analysis Date		24/3/10	24/3/10	24/3/10							
Method : E020.1/E030.1											
Filtered metals	**EQL**										
Iron	0.05	16.2	97%	<0.05							

Results expressed in mg/l unless otherwise specified

Comments:

E020.1/E030.1: Filtered sample directly analysed by AAS and/or by ICP-OES.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	24/3/10							
Laboratory Analysis Date		24/3/10	24/3/10	24/3/10							
Method : E020.1/E030.1											
Unfiltered metals	**EQL**										
Sulphur	1	109	95%	<1							

Results expressed in mg/l unless otherwise specified

Comments:

E020.1/E030.1: 25ml digested in nitric/hydrochloric acid. Analysis by AAS and/or ICP-OES. (Silicon&Titanium determination are not covered by NATA accreditation).

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		18/3/10	18/3/10	18/3/10							
Laboratory Analysis Date		24/3/10	24/3/10	24/3/10							
Method : E020.1/E030.1											
Major cations	**EQL**										
Calcium	0.1	150	94%	<0.1							
Magnesium	0.1	105	91%	<0.1							
Sodium	0.1	1110	96%	<0.1							
Potassium	0.1	46.9	95%	<0.1							

Results expressed in mg/l unless otherwise specified

Comments:

E020.1/E030.1: Sample directly analysed by Flame AAS and/or ICP-OES.

Laboratory Identification		**254621**	**254621d**	**254621r**	**mb**						
Sample Identification		QC324	QC	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		16/3/10	--	--	--						
Laboratory Extraction (Preparation) Date		24/3/10	24/3/10	--	24/3/10						
Laboratory Analysis Date		24/3/10	24/3/10	--	24/3/10						
Method : E2580											
Total Organic Carbon (TOC)	**EQL**										
Total Organic Carbon	1	12	12	0%	<1						

Results expressed in mg/l unless otherwise specified

Comments:

E2580: TOC analyser.

Laboratory Identification		**254621**	**lcs**	**mb**							
Sample Identification		QC324	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		16/3/10	--	--							
Laboratory Extraction (Preparation) Date		18/3/10	18/3/10	18/3/10							
Laboratory Analysis Date		25/3/10	19/3/10	19/3/10							
Method : E043.1/E057.1											
Speciated Chromium	**EQL**										
Hexavalent Chromium	0.001	<0.001	108%	<0.001							

Results expressed in mg/l unless otherwise specified

Comments:

E043.1/E057.1: Determined by colour on filtered sample.

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 23/03/2010
Report Time : 1:07:05PM

Sample **Receipt** Notice (SRN) for **E047352**

Quality, Service, Support

Client Details		Laboratory Reference Information	
Client Name:	AECOM Australia Pty Ltd	**Please have this information ready when contacting Labmark.**	
Client Phone:	02 8484 8999		
Client Fax:	02 8484 8989	**Laboratory Report:**	**E047352**
Contact Name:	Anthony Davis	**Quotation Number:**	- Not provided, standard prices apply
Contact Email:	anthony.davis@aecom.com	**Laboratory Address:**	Unit 1, 8 Leighton Pl. Asquith NSW 2077
Client Address:	PO Box 726 Pymble NSW 2073	**Phone:**	61 2 9476 6533
		Fax:	61 2 9476 8219
Project Name:	Barangaroo		
Project Number:	S4150014	**Sample Receipt Contact:**	Ros Schacht
CoC Serial Number:	- Not provided -	**Email:**	Ros.Schacht@labmark.com.au
Purchase Order:	1303951	**Reporting Contact:**	Leanne Boag
Surcharge:	No surcharge applied (results by 6:30pm on due date)	**Email:**	leanne.boag@labmark.com.au
Sample Matrix:	WATER		
Date Sampled (earliest date):	16/03/2010	**NATA Accreditation:**	13542
Date Samples Received:	18/03/2010	**TGA GMP License:**	185-336 (Sydney)
Date Sample Receipt Notice issued:	23/03/2010	**APVMA License:**	6105 (Sydney)
Date Preliminary Report Due:	25/03/2010	**AQIS Approval:**	NO356 (Sydney)
Client TAT Request Date:	25/03/2010	**AQIS Entry Permit:**	200521534 (Sydney)

Reporting Requirements: Electronic Data Download required: Yes

Invoice Number: 10EA8667

Sample Condition: COC received with samples. Report number and lab ID's defined on COC.
Samples received in good order .
Samples received with cooling media: Crushed ice .
Samples received chilled.
Security seals not used .
Sample container & chemical preservation suitable .

Comments: TOC by SAL- results may be delayed | Anions as Cl, SO4 & Tot Alk unless otherwise instr | Unable to analyse ultra trace Metals, & CrVI - 0.1-100 ug/L & 0.001 mg/L respectively unless otherwise instr | Lab pres. for Tot Sulfur

Holding Times: Date received allows for sufficient time to meet Technical Holding Times.

Preservation: Chemical preservation of samples unsatisfactory for requested analytes.

Important Notes:

LabMark shall responsibly dispose of spent customer soil and water samples which includes the disintegration of the sample label. A sample disposal fee of $1.00 is applicable on all samples received by the laboratory regardless of whether they have undergone analytical testing. Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur $5.00/ sample/ 3 months. Additional refrigerated storage shall incur $30/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

Analysis comments:

VOC E016.1: Acetone and Dichloromethane not reported unless requested.

Subcontracted Analyses:

Reported by Sydney Analytical Laboratories, NATA accreditation No.1884.

Thank you for choosing Labmark to analyse your project samples.

Additional information on www.labmark.com.au

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 23/03/2010
Report Time : 1:07:05PM

Sample **Receipt** Notice (SRN) for **E047352**

Quality, Service, Support

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE

				Requested Analysis																		
No.	**Date**	**Depth**	**Client Sample ID**	Major cations	Chloride	Speciated Chromium	Free Cyanide	Filtered mercury	Filtered metals	Filtered metals	Unfiltered metals	Ammonia as N	Nitrite as N	Nitrate as N	NOx (as N)	PREP Not Reported	Sulphate	Semivolatile Organic Compounds (SVOC)	Total alkalinity	Petroleum Hydrocarbons (TPH)	Volatile Organic Compounds (VOC)	Volatile TPH by P&T (vTPH)	Weak Acid Dissociable Cyanide
254621	16/03		QC324	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
			Totals:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

'PREP Not Reported' refers to an internal laboratory instruction - client confirmation of this parameter is not required.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 23/03/2010
Report Time : 1:07:05PM

Sample **Receipt** Notice (SRN) for **E047352**

Quality, Service, Support

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE

No.	Date	Depth	Client Sample ID	Requested Analysis: External Total Organic Carbon (TOC)																			
254621	16/03		QC324	●																			
			Totals:	1																			

'PREP Not Reported' refers to an internal laboratory instruction - client confirmation of this parameter is not required.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 23/03/2010
Report Time : 1:07:05PM

Sample **Receipt** Notice (SRN) for **E047352**

Quality, Service, Support

No.	Date	Depth	Client Sample ID	Requested Analysis																			
				M9 - MET-F_W	MET-F_W Barium	MET-F_W Beryllium	MET-F_W Manganese	MET-F_W Vanadium	METF-AAS_W Iron	METT-AAS_W Sulphur													
254621	16/03		QC324	●	●	●	●	●	●	●													
			Totals:	1	1	1	1	1	1	1													

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Updated COC received 17/3 10:45

EQ47352

Form: Batch 2 - Declaration Area

AECOM

Chain of Custody & Analysis Request Form

Forward to Labmark

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:

Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09

Project Name: Barangaroo
Project Number: s4150014
Purchase Order Number: 1303951

Sample collected by:
Sample Results to be returned to: Anthony Davis and Kate Pigram

✓ also required as per AD 19/3/10.

Specifications: * Bottles include 1 X 1L plastic, 1x 500ml Amber, 2xHCL vials, 2 x H2SO4 vials, 1 x TOC vial, 1 x ultra trace metals, 1 x ferrous iron, 1 x 250 ml Cn, 1 x 250 ml purple

	(Tick) Yes	No	N/A
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐	☐	☐
2. Fast TAT Guarantee Required?	☐	☐	☐
3. Is any sediment layer present in waters to be excluded from extractions?	☐	☐	☐
4. Special storage requirements?	☐	☐	☑
5. Preservation requirement ☐ Fax ☐ Hard copy ☑ Email	☐	☐	☐
6. Other requirements?	☐	☐	☐
7. Report Format: 8. Project Manager: tel:	☐	☐	☐

Analysis Request

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filted	acid	Ice	other	Container (No. & type)	pH	Metals (M13 ultra trace)	Free Cyanide	WAD Cyanide	Cr VI (ultra trace)	TPH C10-C36 / TPH C6-C9	SVOC (standard level)	SVOC (ultra trace)	VOCs	Total Sulfur	Dissolved Iron	Nitrate	Ammonia	Total Organic Carbon	Minor Anions	Major Cations & Anions	Remarks & comments
1	MW200	16/03/2010			X		X	X	X		*	X	X	X	X	X	X	X		X	X	X	X	X	X		X	
2	MW209	16/03/2010			X		X	X	X		*	X	X	X	X	X	X	X		X	X	X	X	X	X		X	
3	MW198	16/03/2010			X		X	X	X		*	X	X	X	X	X	X	X		X	X	X	X	X	X		X	
4	QC322	16/03/2010			X		X	X	X		*																	Rinsate
5	QC323	16/03/2010			X		X	X	X		*		X	X	X	X	X	X		X	X	X	X	X	X		X	
254691	QC324	16/03/2010			X		X	X	X		*		X	X	X	X	X	X		X	X	X	X	X	X		X	Please forward to labmark with COC
6	TB302	16/03/2010			X		X	X	X		2 x vials						X				X							Acknowledged Josion Rinsate
7	QC326	16/03/2010			X		X	X	X		*		X				X				X							
8	MW210	16/03/2010			X		X	X	X		*	X	X			X	X	X		X		X	X	X	X		X	

Received by:
Date:
Name: Frank
Date: 17-3-10
Time:
of: ALS
Time: 10:45

Received by: KRUPA
Date: 18/03/10
Time: 12:50
Name:
of:

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Printed copies of this document are uncontrolled

Revision: Oct 09
BMS-PM-DV-F046

Environmental Division
Sydney
Work Order
ES1004956

Telephone : +61-2-8784 8555

Frank ALS 18-3-10 8:30 4.6°C

LabMark
ENVIRONMENTAL LABORATORIES

Accreditation No. 1645

AQIS
AUSTRALIAN QUARANTINE AND INSPECTION SERVICE

SYDNEY License No. N0356.

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. NATA is a signatory to the APLAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

Quarantine Approved Premises criteria 5.1 for quarantine containment level 1 (QCI) facilities. Class five criteria cover premises utilised for research, analysis and testing of biological material, soil, animal, plant and human products.

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION

Laboratory Report No:	E047095	Cover Page 1 of 4 plus Sample Results
Client Name:	AECOM Australia Pty Ltd	
Client Reference:	Barangaroo - Declaration Area	
Contact Name:	Anthony Davis	
Chain of Custody No:	na	Date Received: 01/03/2010
Sample Matrix:	SOIL	Date Reported: 10/03/2010

This Final Certificate of Analysis consists of sample results, DQI's, method descriptions, laboratory definitions, and internationally recognised NATA accreditation and endorsement. The DQO compliance relates specifically to QA/QC results as performed as part of the sample analysis, and may provide an indication of sample result quality. Transfer of report ownership from Labmark to the client shall only occur once full & final payment has been settled and verified. All report copies may be retracted where full payment has not occured within the agreed settlement period.

QUALITY ASSURANCE CRITERIA

Accuracy:	matrix spike:	1 in first 5-20, then 1 every 20 samples
	lcs, crm, method:	1 per analytical batch
	surrogate spike:	addition per target organic method
Precision:	laboratory duplicate:	1 in first 5-10, then 1 every 10 samples
	laboratory triplicate:	re-extracted & reported when duplicate RPD values exceed acceptance criteria
Holding Times:	soils, waters:	Refer to LabMark Preservation & THT table VOC's 14 days water / soil VAC's 7 days water or 14 days acidified VAC's 14 days soil SVOC's 7 days water, 14 days soil Pesticides 7 days water, 14 days soil Metals 6 months general elements Mercury 28 days
Confirmation:	target organic analysis:	GC/MS, or confirmatory column
Sensitivity:	EQL:	Typically 2-5 x Method Detection Limit (MDL)

QUALITY CONTROL GLOBAL ACCEPTANCE CRITERIA (GAC)

Accuracy:	spike, lcs, crm surrogate:	general analytes 70% - 130% recovery phenol analytes 50% - 130% recovery organophosphorous pesticide analytes 60% - 130% recovery phenoxy acid herbicides, organotin 50% - 130% recovery
	anion/cation bal:	+/- 10% (0-3 meq/l), +/- 5% (>3 meq/l)
Precision:	method blank:	not detected >95% of the reported EQL
	duplicate lab RPD (metals):	0-30% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)
	duplicate lab RPD:	0-50% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)

QUALITY CONTROL ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)

Accuracy:	spike, lcs, crm surrogate:	analyte specific recovery data <3xsd of historical mean
Uncertainty:	spike, lcs:	measurement calculated from historical analyte specific control charts

RESULT ANNOTATION

Data Quality Objective	s:	matrix spike recovery	p:	pending	bcs: batch specific lcs
Data Quality Indicator	d:	laboratory duplicate	lcs:	laboratory control sample	bmb: batch specific mb
Estimated Quantitation Limit	t:	laboratory triplicate	crm:	certified reference material	
not applicable	r:	RPD relative % difference	mb:	method blank	

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NEPC GUIDELINE COMPLIANCE - DQO

1. GENERAL

A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.

B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.

C. Laboratory QA/QC samples are specific to this project.

D. Inter-laboratory proficiency results are available upon request. NATA accreditation details available at www.nata.asn.au.

E. VOC spikes & surrogates added to samples during extraction, SVOC spikes & surrogates added prior to extraction.

F. Recovery data outside GAC limits shall be investigated and compared to ASAC (historical mean +/- 3sd). If recovery data <20%, then the relevant results for that compound are considered not reliable.

G. Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. Anomolous QC data is examined in conjunction with other QC samples and a final decision whether to accept or reject results is provided by the professional judgement of the senior analyst. The USEPA-CLP National Functional Guidelines are referred to for specific recommendations.

H. Extraction (preparation) date refers to the date that sample preparation was initiated. Note that certain methods not requiring sample preparation (eg. VOCs in water, etc) may report a common extraction and analysis date.

I. LabMark shall maintain an official copy of this Certificate of Analysis for all tracable reference purposes.

2. CHAIN OF CUSTODY (COC) & SAMPLE RECEIPT NOTICE (SRN) REQUIREMENTS

A. SRN issued to client upon sample receipt & login verification.

B. Preservation & sampling date details specified on COC and SRN, unless noted.

C. Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

A. NATA accreditation held for each in-house method and sample matrix type reported, unless noted below (Refer to subcontracted test reports for NATA accreditation status).

B. NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA documents. Corporate Accreditation No. 13542.

C. Subcontracted analyses: Refer to Sample Receipt Notice and additional DQO comments.

Reported by LabMark Environmental Sydney, NATA accreditation No. 13542

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4. QA/QC FREQUENCY COMPLIANCE TABLE SPECIFIC TO THIS REPORT

Matrix: **SOIL**

Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	BTEX by P&T	2	0	0%	0	0	0%
1	Volatile TPH by P&T (vTPH)	4	0	0%	0	0	0%
2	Petroleum Hydrocarbons (TPH)	4	0	0%	0	0	0%
3	Polyaromatic Hydrocarbons (PAH)	3	0	0%	0	0	0%
4	Phenols by GC/MS	3	0	0%	0	0	0%
5	Volatile Organic Compounds (VOC)	2	0	0%	0	0	0%
8	Acid extractable metals - mercury	4	0	0%	0	0	0%
9	Acid extractable metals	4	0	0%	0	0	0%
10	pH in soil	4	0	0%	0	0	0%
11	Acid extractable metals	3	0	0%	0	0	0%
12	Speciated Chromium	3	0	0%	0	0	0%
13	Free Cyanide	3	0	0%	0	0	0%
14	Semivolatile Organic Compounds (SVOC)	1	0	0%	0	0	0%
20	Weak Acid Dissociable Cyanide	3	0	0%	0	0	0%
21	Total Organic Carbon (TOC)	3	0	0%	0	0	0%
22	Moisture	4	--	--	--	--	--

GLOSSARY:

#d	number of discrete duplicate extractions/analyses performed.
%d-ratio	NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).
#t	number of triplicate extractions/analyses performed.
#s	number of spiked samples analysed.
%s-ratio	USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).

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5. ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT

A. All tests were conducted by LabMark Environmental Sydney, NATA accreditation No. 13542, unless indicated below.
B. SVOC (soil) LCS recovery range is 31% - 114%.
C. SVOC (soil) sample surrogate recovery range is 80% - 102%, corresponding LCS recovery range is 81% - 102%, MB range is 88% - 95%.
D.Refer to LabMark historical control chart recovery range data. QA/QC (SVOC) results reported within 3sd of the historical analyte specific mean results, and therefore considered acceptable for laboratory release.

Laboratory QA/QC data shall relate specifically to this report, and may provide an indication of site specific sample result quality. LabMark DOES NOT report NON-RELEVANT BATCH QA/QC data. Acceptance of this self assessment certificate does not preclude any requirement for a QA/QC review by a accredited contaminated site EPA auditor, when and wherever necessary. Laboratory QA/QC self assessment references available upon request.

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HISTORICAL CONTROL CHART DATA - QA/QC

Analyte mean and standard deviation

SVOC_S

For the period: 01/01/2009 12:00:00 AM to 31/12/2009 11:59:59 PM

SPIKES

Analyte Name	n	Mean	1 SD	Range	2 SD	Range	3 SD	Range
1,2,4,5-tetrachlorobenzene	**19**	**87**	20	67 to 107	40	47 to 127	60	27 to 147
1,2,4-trichlorobenzene	**21**	**94**	15	79 to 109	30	64 to 124	45	49 to 139
1,2-dichlorobenzene	**20**	**93**	13	80 to 106	26	67 to 119	39	54 to 132
1,3-dichlorobenzene	**22**	**94**	14	80 to 108	28	66 to 122	42	52 to 136
1,4-dichlorobenzene	**20**	**95**	12	83 to 107	24	71 to 119	36	59 to 131
1,4-dinitrobenzene	**21**	**86**	13	73 to 99	26	60 to 112	39	47 to 125
1-naphthylamine	**13**	**76**	42	34 to 118	84	0 to 160	126	0 to 202
2,3,4,6-tetrachlorophenol	**21**	**75**	18	57 to 93	36	39 to 111	54	21 to 129
2,4,5-trichlorophenol	**23**	**90**	13	77 to 103	26	64 to 116	39	51 to 129
2,4,6-TBP (Surr @ 5mg/kg)	**22**	**86**	14	72 to 100	28	58 to 114	42	44 to 128
2,4,6-trichlorophenol	**22**	**85**	15	70 to 100	30	55 to 115	45	40 to 130
2,4-dichlorophenol	**20**	**92**	19	73 to 111	38	54 to 130	57	35 to 149
2,4-dimethylphenol	**18**	**89**	19	70 to 108	38	51 to 127	57	32 to 146
2,4-dinitrotoluene	**23**	**94**	13	81 to 107	26	68 to 120	39	55 to 133
2,6-dichlorophenol	**21**	**85**	16	69 to 101	32	53 to 117	48	37 to 133
2,6-dinitrotoluene	**23**	**90**	12	78 to 102	24	66 to 114	36	54 to 126
2-(acetylamino) fluorene	**22**	**82**	23	59 to 105	46	36 to 128	69	13 to 151
2-chloronaphthalene	**22**	**93**	14	79 to 107	28	65 to 121	42	51 to 135
2-chlorophenol	**20**	**90**	13	77 to 103	26	64 to 116	39	51 to 129
2-FBP (Surr @ 5mg/kg)	**23**	**87**	10	77 to 97	20	67 to 107	30	57 to 117
2-FP (Surr @ 5mg/kg)	**22**	**85**	15	70 to 100	30	55 to 115	45	40 to 130
2-methylnaphthalene	**21**	**95**	9	86 to 104	18	77 to 113	27	68 to 122
2-methylphenol	**20**	**89**	16	73 to 105	32	57 to 121	48	41 to 137
2-naphthylamine	**16**	**80**	41	39 to 121	82	0 to 162	123	0 to 203
2-nitroaniline	**22**	**90**	14	76 to 104	28	62 to 118	42	48 to 132
2-nitrophenol	**23**	**82**	14	68 to 96	28	54 to 110	42	40 to 124
3-&4-methylphenol	**20**	**82**	21	61 to 103	42	40 to 124	63	19 to 145
3-methylcholanthrene	**21**	**90**	20	70 to 110	40	50 to 130	60	30 to 150
3-nitroaniline	**21**	**84**	19	65 to 103	38	46 to 122	57	27 to 141
4,4-DDD	**18**	**92**	14	78 to 106	28	64 to 120	42	50 to 134
4,4-DDE	**20**	**83**	11	72 to 94	22	61 to 105	33	50 to 116
4,4-DDT	**17**	**76**	25	51 to 101	50	26 to 126	75	1 to 151
4-(dimethylamino) azobenzene	**21**	**80**	20	60 to 100	40	40 to 120	60	20 to 140
4-aminobiphenyl	**21**	**89**	15	74 to 104	30	59 to 119	45	44 to 134
4-bromophenyl phenyl ether	**23**	**91**	12	79 to 103	24	67 to 115	36	55 to 127
4-chloro-3-methylphenol	**21**	**89**	16	73 to 105	32	57 to 121	48	41 to 137
4-chloroaniline	**21**	**93**	23	70 to 116	46	47 to 139	69	24 to 162
4-chlorophenyl phenyl ether	**22**	**89**	10	79 to 99	20	69 to 109	30	59 to 119
4-nitroaniline	**22**	**97**	17	80 to 114	34	63 to 131	51	46 to 148
5-nitro-o-toluidine	**23**	**88**	11	77 to 99	22	66 to 110	33	55 to 121

7,12-dimethylbenz(a)anthracene	**23**	**91**	23	68 to 114	46	45 to 137	69	22 to 160
a-BHC	**18**	**88**	11	77 to 99	22	66 to 110	33	55 to 121
Acenaphthene	**21**	**87**	10	77 to 97	20	67 to 107	30	57 to 117
Acenaphthylene	**23**	**93**	14	79 to 107	28	65 to 121	42	51 to 135
Acetophenone	**21**	**91**	12	79 to 103	24	67 to 115	36	55 to 127
Aldrin	**19**	**85**	17	68 to 102	34	51 to 119	51	34 to 136
Aniline	**18**	**72**	30	42 to 102	60	12 to 132	90	0 to 162
Anthracene	**21**	**86**	11	75 to 97	22	64 to 108	33	53 to 119
Azinophos methyl	**23**	**74**	26	48 to 100	52	22 to 126	78	0 to 152
Azobenzene	**22**	**85**	12	73 to 97	24	61 to 109	36	49 to 121
b-BHC	**19**	**88**	16	72 to 104	32	56 to 120	48	40 to 136
Benz(a)anthracene	**22**	**86**	18	68 to 104	36	50 to 122	54	32 to 140
Benzo(a) pyrene	**21**	**80**	25	55 to 105	50	30 to 130	75	5 to 155
Benzo(b)&(k)fluoranthene	**22**	**87**	21	66 to 108	42	45 to 129	63	24 to 150
Benzo(g,h,i)perylene	**21**	**84**	24	60 to 108	48	36 to 132	72	12 to 156
Benzyl alcohol	**20**	**72**	28	44 to 100	56	16 to 128	84	0 to 156
Bis(2-chloroethoxy) methane	**23**	**94**	20	74 to 114	40	54 to 134	60	34 to 154
Bis(2-chloroethyl)ether	**22**	**95**	17	78 to 112	34	61 to 129	51	44 to 146
Bis(2-chloroisopropyl) ether	**23**	**93**	13	80 to 106	26	67 to 119	39	54 to 132
Bis(2-ethylhexyl) phthalate	**21**	**92**	22	70 to 114	44	48 to 136	66	26 to 158
Butyl benzyl phthalate	**21**	**97**	19	78 to 116	38	59 to 135	57	40 to 154
Carbazole	**21**	**90**	11	79 to 101	22	68 to 112	33	57 to 123
Chlorpyrifos	**21**	**82**	14	68 to 96	28	54 to 110	42	40 to 124
Chrysene	**22**	**88**	20	68 to 108	40	48 to 128	60	28 to 148
cis-chlordane	**20**	**88**	9	79 to 97	18	70 to 106	27	61 to 115
Coumaphos	**23**	**81**	18	63 to 99	36	45 to 117	54	27 to 135
d-BHC	**18**	**84**	11	73 to 95	22	62 to 106	33	51 to 117
Demeton-O	**23**	**87**	18	69 to 105	36	51 to 123	54	33 to 141
Demeton-S	**23**	**89**	17	72 to 106	34	55 to 123	51	38 to 140
Di-n-butyl phthalate	**21**	**91**	11	80 to 102	22	69 to 113	33	58 to 124
Di-n-octyl phthalate	**21**	**102**	37	65 to 139	74	28 to 176	111	0 to 213
Diazinon	**23**	**57**	21	36 to 78	42	15 to 99	63	0 to 120
Dibenz(a,h)anthracene	**21**	**82**	21	61 to 103	42	40 to 124	63	19 to 145
Dibenzofuran	**23**	**94**	11	83 to 105	22	72 to 116	33	61 to 127
Dichlorvos	**23**	**85**	21	64 to 106	42	43 to 127	63	22 to 148
Dieldrin	**20**	**84**	12	72 to 96	24	60 to 108	36	48 to 120
Diethylphthalate	**21**	**95**	9	86 to 104	18	77 to 113	27	68 to 122
Dimethoate	**23**	**82**	12	70 to 94	24	58 to 106	36	46 to 118
Dimethyl phthalate	**23**	**95**	13	82 to 108	26	69 to 121	39	56 to 134
Diphenylamine	**21**	**91**	17	74 to 108	34	57 to 125	51	40 to 142
Disulfoton	**23**	**87**	22	65 to 109	44	43 to 131	66	21 to 153
Endosulfan I	**18**	**89**	15	74 to 104	30	59 to 119	45	44 to 134
Endosulfan II	**18**	**85**	12	73 to 97	24	61 to 109	36	49 to 121
Endosulfan sulphate	**20**	**77**	11	66 to 88	22	55 to 99	33	44 to 110
Endrin	**19**	**85**	16	69 to 101	32	53 to 117	48	37 to 133
Endrin aldehyde	**18**	**83**	15	68 to 98	30	53 to 113	45	38 to 128
Endrin ketone	**19**	**85**	14	71 to 99	28	57 to 113	42	43 to 127
EPN	**23**	**80**	20	60 to 100	40	40 to 120	60	20 to 140
Ethoprop	**23**	**86**	13	73 to 99	26	60 to 112	39	47 to 125

Ethyl methanesulfonate	**23**	**86**	18	68 to 104	36	50 to 122	54	32 to 140
Fenitrothion	**22**	**79**	19	60 to 98	38	41 to 117	57	22 to 136
Fensulfothion	**22**	**82**	23	59 to 105	46	36 to 128	69	13 to 151
Fenthion	**23**	**88**	15	73 to 103	30	58 to 118	45	43 to 133
Fluoranthene	**20**	**89**	10	79 to 99	20	69 to 109	30	59 to 119
Fluorene	**22**	**89**	13	76 to 102	26	63 to 115	39	50 to 128
g-BHC (Lindane)	**18**	**87**	13	74 to 100	26	61 to 113	39	48 to 126
Heptachlor	**17**	**85**	18	67 to 103	36	49 to 121	54	31 to 139
Heptachlor epoxide	**20**	**86**	11	75 to 97	22	64 to 108	33	53 to 119
Hexachlorobenzene	**18**	**93**	13	80 to 106	26	67 to 119	39	54 to 132
Hexachlorobutadiene	**21**	**93**	11	82 to 104	22	71 to 115	33	60 to 126
Hexachlorocyclopentadiene	**14**	**61**	39	22 to 100	78	0 to 139	117	0 to 178
Hexachloroethane	**22**	**84**	16	68 to 100	32	52 to 116	48	36 to 132
Hexachloropropene	**21**	**76**	15	61 to 91	30	46 to 106	45	31 to 121
Indeno(1,2,3-c,d)pyrene	**21**	**81**	20	61 to 101	40	41 to 121	60	21 to 141
Isophorone	**22**	**97**	21	76 to 118	42	55 to 139	63	34 to 160
Isosafrole	**21**	**90**	10	80 to 100	20	70 to 110	30	60 to 120
Malathion	**23**	**94**	16	78 to 110	32	62 to 126	48	46 to 142
Methoxychlor	**17**	**76**	19	57 to 95	38	38 to 114	57	19 to 133
Methyl methanesulfonate	**21**	**77**	16	61 to 93	32	45 to 109	48	29 to 125
Methyl parathion	**23**	**85**	18	67 to 103	36	49 to 121	54	31 to 139
Mevinphos (Phosdrin)	**21**	**88**	16	72 to 104	32	56 to 120	48	40 to 136
N-nitrosodi-n-butylamine	**21**	**93**	12	81 to 105	24	69 to 117	36	57 to 129
N-nitrosodi-n-propylamine	**21**	**85**	17	68 to 102	34	51 to 119	51	34 to 136
N-nitrosodiethylamine	**21**	**91**	19	72 to 110	38	53 to 129	57	34 to 148
N-nitrosomorpholine	**21**	**88**	13	75 to 101	26	62 to 114	39	49 to 127
N-nitrosopiperidine	**22**	**88**	13	75 to 101	26	62 to 114	39	49 to 127
N-nitrosopyrrolidine	**22**	**84**	12	72 to 96	24	60 to 108	36	48 to 120
Naphthalene	**21**	**99**	21	78 to 120	42	57 to 141	63	36 to 162
NB-d5 (Surr @ 5mg/kg)	**22**	**87**	14	73 to 101	28	59 to 115	42	45 to 129
Nitrobenzene	**21**	**81**	14	67 to 95	28	53 to 109	42	39 to 123
o-toluidine	**21**	**108**	27	81 to 135	54	54 to 162	81	27 to 189
Parathion	**23**	**86**	15	71 to 101	30	56 to 116	45	41 to 131
Pentachlorobenzene	**22**	**87**	16	71 to 103	32	55 to 119	48	39 to 135
Pentachloroethane	**23**	**88**	13	75 to 101	26	62 to 114	39	49 to 127
Pentachloronitrobenzene	**23**	**90**	15	75 to 105	30	60 to 120	45	45 to 135
Pentachlorophenol	**21**	**88**	23	65 to 111	46	42 to 134	69	19 to 157
Phenacetin	**23**	**99**	24	75 to 123	48	51 to 147	72	27 to 171
Phenanthrene	**21**	**89**	14	75 to 103	28	61 to 117	42	47 to 131
Phenol	**22**	**86**	24	62 to 110	48	38 to 134	72	14 to 158
Phenol-d5 (Surr @ 5mg/kg)	**21**	**84**	16	68 to 100	32	52 to 116	48	36 to 132
Phorate	**21**	**92**	15	77 to 107	30	62 to 122	45	47 to 137
Profenofos	**23**	**79**	17	62 to 96	34	45 to 113	51	28 to 130
Prothiofos	**23**	**90**	14	76 to 104	28	62 to 118	42	48 to 132
Pyrene	**20**	**85**	16	69 to 101	32	53 to 117	48	37 to 133
Ronnel	**23**	**80**	15	65 to 95	30	50 to 110	45	35 to 125
Safrole	**22**	**94**	10	84 to 104	20	74 to 114	30	64 to 124
Stirophos	**22**	**74**	17	57 to 91	34	40 to 108	51	23 to 125
Sulfotepp	**22**	**83**	15	68 to 98	30	53 to 113	45	38 to 128

TP-d14 (Surr @ 5mg/kg)	**22**	**88**	13	75 to 101	26	62 to 114	39	49 to 127
trans-chlordane	**20**	**89**	12	77 to 101	24	65 to 113	36	53 to 125
Trichloronate	**23**	**89**	14	75 to 103	28	61 to 117	42	47 to 131

LCS_S

Analyte Name	**n**	**Mean**	1 SD	Range	2 SD	Range	3 SD	Range
1,2,4,5-tetrachlorobenzene	**40**	**78**	21	57 to 99	42	36 to 120	63	15 to 141
1,2,4-trichlorobenzene	**44**	**97**	13	84 to 110	26	71 to 123	39	58 to 136
1,2-dichlorobenzene	**45**	**99**	13	86 to 112	26	73 to 125	39	60 to 138
1,3-dichlorobenzene	**45**	**99**	14	85 to 113	28	71 to 127	42	57 to 141
1,4-dichlorobenzene	**45**	**101**	14	87 to 115	28	73 to 129	42	59 to 143
1,4-dinitrobenzene	**45**	**96**	14	82 to 110	28	68 to 124	42	54 to 138
1-naphthylamine	**45**	**68**	26	42 to 94	52	16 to 120	78	0 to 146
2,3,4,6-tetrachlorophenol	**45**	**87**	19	68 to 106	38	49 to 125	57	30 to 144
2,4,5-trichlorophenol	**45**	**95**	11	84 to 106	22	73 to 117	33	62 to 128
2,4,6-TBP (Surr @ 5mg/kg)	**45**	**97**	13	84 to 110	26	71 to 123	39	58 to 136
2,4,6-trichlorophenol	**45**	**92**	11	81 to 103	22	70 to 114	33	59 to 125
2,4-dichlorophenol	**45**	**95**	18	77 to 113	36	59 to 131	54	41 to 149
2,4-dimethylphenol	**45**	**102**	16	86 to 118	32	70 to 134	48	54 to 150
2,4-dinitrotoluene	**45**	**100**	13	87 to 113	26	74 to 126	39	61 to 139
2,6-dichlorophenol	**45**	**96**	13	83 to 109	26	70 to 122	39	57 to 135
2,6-dinitrotoluene	**45**	**100**	14	86 to 114	28	72 to 128	42	58 to 142
2-(acetylamino) fluorene	**45**	**91**	18	73 to 109	36	55 to 127	54	37 to 145
2-chloronaphthalene	**45**	**98**	13	85 to 111	26	72 to 124	39	59 to 137
2-chlorophenol	**45**	**97**	14	83 to 111	28	69 to 125	42	55 to 139
2-FBP (Surr @ 5mg/kg)	**45**	**91**	11	80 to 102	22	69 to 113	33	58 to 124
2-FP (Surr @ 5mg/kg)	**45**	**93**	13	80 to 106	26	67 to 119	39	54 to 132
2-methylnaphthalene	**45**	**98**	14	84 to 112	28	70 to 126	42	56 to 140
2-methylphenol	**45**	**99**	16	83 to 115	32	67 to 131	48	51 to 147
2-naphthylamine	**44**	**68**	30	38 to 98	60	8 to 128	90	0 to 158
2-nitroaniline	**45**	**98**	17	81 to 115	34	64 to 132	51	47 to 149
2-nitrophenol	**45**	**94**	19	75 to 113	38	56 to 132	57	37 to 151
3-&4-methylphenol	**45**	**86**	20	66 to 106	40	46 to 126	60	26 to 146
3-methylcholanthrene	**45**	**99**	19	80 to 118	38	61 to 137	57	42 to 156
3-nitroaniline	**45**	**98**	14	84 to 112	28	70 to 126	42	56 to 140
4,4-DDD	**45**	**96**	15	81 to 111	30	66 to 126	45	51 to 141
4,4-DDE	**45**	**97**	15	82 to 112	30	67 to 127	45	52 to 142
4,4-DDT	**45**	**90**	14	76 to 104	28	62 to 118	42	48 to 132
4-(dimethylamino) azobenzene	**45**	**94**	19	75 to 113	38	56 to 132	57	37 to 151
4-aminobiphenyl	**45**	**100**	11	89 to 111	22	78 to 122	33	67 to 133
4-bromophenyl phenyl ether	**45**	**97**	9	88 to 106	18	79 to 115	27	70 to 124
4-chloro-3-methylphenol	**45**	**99**	15	84 to 114	30	69 to 129	45	54 to 144
4-chloroaniline	**44**	**74**	26	48 to 100	52	22 to 126	78	0 to 152
4-chlorophenyl phenyl ether	**45**	**99**	10	89 to 109	20	79 to 119	30	69 to 129
4-nitroaniline	**45**	**84**	19	65 to 103	38	46 to 122	57	27 to 141
5-nitro-o-toluidine	**45**	**98**	13	85 to 111	26	72 to 124	39	59 to 137
7,12-dimethylbenz(a)anthracene	**45**	**89**	19	70 to 108	38	51 to 127	57	32 to 146
a-BHC	**45**	**97**	12	85 to 109	24	73 to 121	36	61 to 133
Acenaphthene	**45**	**97**	12	85 to 109	24	73 to 121	36	61 to 133

Acenaphthylene	**45**	**96**	10	86 to 106	20	76 to 116	30	66 to 126
Acetophenone	**45**	**98**	11	87 to 109	22	76 to 120	33	65 to 131
Aldrin	**45**	**100**	13	87 to 113	26	74 to 126	39	61 to 139
Aniline	**45**	**69**	26	43 to 95	52	17 to 121	78	0 to 147
Anthracene	**45**	**97**	10	87 to 107	20	77 to 117	30	67 to 127
Azinophos methyl	**45**	**87**	22	65 to 109	44	43 to 131	66	21 to 153
Azobenzene	**45**	**100**	12	88 to 112	24	76 to 124	36	64 to 136
b-BHC	**45**	**102**	22	80 to 124	44	58 to 146	66	36 to 168
Benz(a)anthracene	**45**	**97**	13	84 to 110	26	71 to 123	39	58 to 136
Benzo(a) pyrene	**45**	**95**	18	77 to 113	36	59 to 131	54	41 to 149
Benzo(b)&(k)fluoranthene	**45**	**96**	17	79 to 113	34	62 to 130	51	45 to 147
Benzo(g,h,i)perylene	**45**	**101**	13	88 to 114	26	75 to 127	39	62 to 140
Benzyl alcohol	**45**	**97**	17	80 to 114	34	63 to 131	51	46 to 148
Bis(2-chloroethoxy) methane	**45**	**99**	16	83 to 115	32	67 to 131	48	51 to 147
Bis(2-chloroethyl)ether	**45**	**102**	15	87 to 117	30	72 to 132	45	57 to 147
Bis(2-chloroisopropyl) ether	**45**	**98**	14	84 to 112	28	70 to 126	42	56 to 140
Bis(2-ethylhexyl) phthalate	**45**	**94**	19	75 to 113	38	56 to 132	57	37 to 151
Butyl benzyl phthalate	**45**	**96**	16	80 to 112	32	64 to 128	48	48 to 144
Carbazole	**45**	**99**	11	88 to 110	22	77 to 121	33	66 to 132
Chlorpyrifos	**45**	**93**	13	80 to 106	26	67 to 119	39	54 to 132
Chrysene	**45**	**100**	13	87 to 113	26	74 to 126	39	61 to 139
cis-chlordane	**45**	**96**	14	82 to 110	28	68 to 124	42	54 to 138
Coumaphos	**45**	**93**	23	70 to 116	46	47 to 139	69	24 to 162
d-BHC	**45**	**96**	11	85 to 107	22	74 to 118	33	63 to 129
Demeton-O	**45**	**99**	14	85 to 113	28	71 to 127	42	57 to 141
Demeton-S	**45**	**101**	18	83 to 119	36	65 to 137	54	47 to 155
Di-n-butyl phthalate	**45**	**96**	10	86 to 106	20	76 to 116	30	66 to 126
Di-n-octyl phthalate	**45**	**99**	20	79 to 119	40	59 to 139	60	39 to 159
Diazinon	**45**	**68**	18	50 to 86	36	32 to 104	54	14 to 122
Dibenz(a,h)anthracene	**45**	**98**	19	79 to 117	38	60 to 136	57	41 to 155
Dibenzofuran	**45**	**99**	10	89 to 109	20	79 to 119	30	69 to 129
Dichlorvos	**45**	**96**	16	80 to 112	32	64 to 128	48	48 to 144
Dieldrin	**45**	**96**	10	86 to 106	20	76 to 116	30	66 to 126
Diethylphthalate	**45**	**101**	12	89 to 113	24	77 to 125	36	65 to 137
Dimethoate	**45**	**95**	14	81 to 109	28	67 to 123	42	53 to 137
Dimethyl phthalate	**45**	**101**	12	89 to 113	24	77 to 125	36	65 to 137
Diphenylamine	**45**	**99**	10	89 to 109	20	79 to 119	30	69 to 129
Disulfoton	**45**	**97**	19	78 to 116	38	59 to 135	57	40 to 154
Endosulfan I	**45**	**97**	12	85 to 109	24	73 to 121	36	61 to 133
Endosulfan II	**45**	**94**	12	82 to 106	24	70 to 118	36	58 to 130
Endosulfan sulphate	**45**	**94**	12	82 to 106	24	70 to 118	36	58 to 130
Endrin	**45**	**100**	20	80 to 120	40	60 to 140	60	40 to 160
Endrin aldehyde	**45**	**94**	18	76 to 112	36	58 to 130	54	40 to 148
Endrin ketone	**45**	**102**	17	85 to 119	34	68 to 136	51	51 to 153
EPN	**45**	**87**	23	64 to 110	46	41 to 133	69	18 to 156
Ethoprop	**45**	**100**	15	85 to 115	30	70 to 130	45	55 to 145
Ethyl methanesulfonate	**45**	**97**	18	79 to 115	36	61 to 133	54	43 to 151
Fenitrothion	**45**	**88**	16	72 to 104	32	56 to 120	48	40 to 136
Fensulfothion	**45**	**79**	18	61 to 97	36	43 to 115	54	25 to 133

Fenthion	**45**	**100**	16	84 to 116	32	68 to 132	48	52 to 148
Fluoranthene	**45**	**96**	9	87 to 105	18	78 to 114	27	69 to 123
Fluorene	**45**	**96**	11	85 to 107	22	74 to 118	33	63 to 129
g-BHC (Lindane)	**45**	**97**	16	81 to 113	32	65 to 129	48	49 to 145
Heptachlor	**45**	**99**	13	86 to 112	26	73 to 125	39	60 to 138
Heptachlor epoxide	**45**	**96**	13	83 to 109	26	70 to 122	39	57 to 135
Hexachlorobenzene	**45**	**97**	11	86 to 108	22	75 to 119	33	64 to 130
Hexachlorobutadiene	**45**	**99**	12	87 to 111	24	75 to 123	36	63 to 135
Hexachlorocyclopentadiene	**45**	**51**	23	28 to 74	46	5 to 97	69	0 to 120
Hexachloroethane	**45**	**97**	12	85 to 109	24	73 to 121	36	61 to 133
Hexachloropropene	**45**	**90**	11	79 to 101	22	68 to 112	33	57 to 123
Indeno(1,2,3-c,d)pyrene	**45**	**101**	14	87 to 115	28	73 to 129	42	59 to 143
Isophorone	**45**	**96**	18	78 to 114	36	60 to 132	54	42 to 150
Isosafrole	**45**	**95**	14	81 to 109	28	67 to 123	42	53 to 137
Malathion	**45**	**96**	13	83 to 109	26	70 to 122	39	57 to 135
Methoxychlor	**45**	**93**	19	74 to 112	38	55 to 131	57	36 to 150
Methyl methanesulfonate	**45**	**93**	14	79 to 107	28	65 to 121	42	51 to 135
Methyl parathion	**45**	**90**	13	77 to 103	26	64 to 116	39	51 to 129
Mevinphos (Phosdrin)	**45**	**98**	17	81 to 115	34	64 to 132	51	47 to 149
N-nitrosodi-n-butylamine	**45**	**96**	17	79 to 113	34	62 to 130	51	45 to 147
N-nitrosodi-n-propylamine	**45**	**97**	21	76 to 118	42	55 to 139	63	34 to 160
N-nitrosodiethylamine	**45**	**96**	17	79 to 113	34	62 to 130	51	45 to 147
N-nitrosomorpholine	**45**	**97**	15	82 to 112	30	67 to 127	45	52 to 142
N-nitrosopiperidine	**45**	**96**	15	81 to 111	30	66 to 126	45	51 to 141
N-nitrosopyrrolidine	**45**	**91**	18	73 to 109	36	55 to 127	54	37 to 145
Naphthalene	**44**	**97**	16	81 to 113	32	65 to 129	48	49 to 145
NB-d5 (Surr @ 5mg/kg)	**45**	**94**	11	83 to 105	22	72 to 116	33	61 to 127
Nitrobenzene	**45**	**96**	17	79 to 113	34	62 to 130	51	45 to 147
o-toluidine	**45**	**72**	33	39 to 105	66	6 to 138	99	0 to 171
Parathion	**45**	**96**	18	78 to 114	36	60 to 132	54	42 to 150
Pentachlorobenzene	**45**	**95**	11	84 to 106	22	73 to 117	33	62 to 128
Pentachloroethane	**45**	**97**	14	83 to 111	28	69 to 125	42	55 to 139
Pentachloronitrobenzene	**45**	**95**	11	84 to 106	22	73 to 117	33	62 to 128
Pentachlorophenol	**44**	**86**	18	68 to 104	36	50 to 122	54	32 to 140
Phenacetin	**45**	**98**	14	84 to 112	28	70 to 126	42	56 to 140
Phenanthrene	**45**	**96**	11	85 to 107	22	74 to 118	33	63 to 129
Phenol	**45**	**95**	18	77 to 113	36	59 to 131	54	41 to 149
Phenol-d5 (Surr @ 5mg/kg)	**45**	**93**	12	81 to 105	24	69 to 117	36	57 to 129
Phorate	**45**	**100**	15	85 to 115	30	70 to 130	45	55 to 145
Profenofos	**45**	**92**	19	73 to 111	38	54 to 130	57	35 to 149
Prothiofos	**45**	**98**	16	82 to 114	32	66 to 130	48	50 to 146
Pyrene	**45**	**97**	14	83 to 111	28	69 to 125	42	55 to 139
Ronnel	**45**	**94**	13	81 to 107	26	68 to 120	39	55 to 133
Safrole	**45**	**97**	12	85 to 109	24	73 to 121	36	61 to 133
Stirophos	**45**	**86**	15	71 to 101	30	56 to 116	45	41 to 131
Sulfotepp	**45**	**99**	14	85 to 113	28	71 to 127	42	57 to 141
TP-d14 (Surr @ 5mg/kg)	**45**	**92**	14	78 to 106	28	64 to 120	42	50 to 134
trans-chlordane	**45**	**96**	14	82 to 110	28	68 to 124	42	54 to 138
Trichloronate	**45**	**97**	13	84 to 110	26	71 to 123	39	58 to 136

Laboratory Identification		**251832**	**251833**	**251834**	**251835**	**lcs**	**mb**				
Sample Identification		QC221	QC224	QC226	QC232	QC	QC				
Depth (m)		--	--	--	--	--	--				
Sampling Date recorded on COC		22/2/10	22/2/10	22/2/10	23/2/10	--	--				
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10	3/3/10	3/3/10				
Laboratory Analysis Date		8/3/10	8/3/10	4/3/10	4/3/10	4/3/10	4/3/10				
Method : E029.2/E016.2											
BTEX by P&T	**EQL**										
Benzene	0.2	--	--	<0.2	<0.2	99%	<0.2				
Toluene	0.5	--	--	<0.5	<0.5	94%	<0.5				
Ethylbenzene	0.5	--	--	<0.5	<0.5	90%	<0.5				
meta- and para-Xylene	1	--	--	<1	<1	95%	<1				
ortho-Xylene	0.5	--	--	<0.5	<0.5	94%	<0.5				
Total Xylene	--	--	--	--	--	--	--				
CDFB (Surr @ 4 mg/kg)	--	--	--	*104%*	*103%*	*99%*	*99%*				
Method : E029.2/E016.2											
Volatile TPH by P&T (vTPH)	**EQL**										
C6 - C9 Fraction	10	<10	10	<10	<10	106%	<10				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E029.2/E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/FID/MSD.
E029.2/E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/MSD.

Laboratory Identification		**251832**	**251833**	**251834**	**251835**	**lcs**	**mb**				
Sample Identification		QC221	QC224	QC226	QC232	QC	QC				
Depth (m)		--	--	--	--	--	--				
Sampling Date recorded on COC		22/2/10	22/2/10	22/2/10	23/2/10	--	--				
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10	3/3/10	3/3/10				
Laboratory Analysis Date		4/3/10	4/3/10	4/3/10	4/3/10	3/3/10	3/3/10				
Method : E006.2											
Petroleum Hydrocarbons (TPH)	**EQL**										
C10 - C14 Fraction	50	<50	130	<50	<50	--	<50				
C15 - C28 Fraction	100	<100	110	320	<100	111%	<100				
C29 - C36 Fraction	100	<100	<100	270	<100	--	<100				
Sum of TPH C10 - C36	--	--	240	590	--	--	--				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/FID.

Laboratory Identification		**251832**	**251834**	**251835**	**lcs**	**mb**					
Sample Identification		QC221	QC226	QC232	QC	QC					
Depth (m)		--	--	--	--	--					
Sampling Date recorded on COC		22/2/10	22/2/10	23/2/10	--	--					
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10	3/3/10					
Laboratory Analysis Date		3/3/10	4/3/10	4/3/10	4/3/10	4/3/10					
Method : E007.2											
Polyaromatic Hydrocarbons (PAH)	**EQL**										
Naphthalene	0.5	<0.5	2.5	<0.5	95%	<0.5					
Acenaphthylene	0.5	<0.5	1.4	<0.5	94%	<0.5					
Acenaphthene	0.5	<0.5	1.4	<0.5	93%	<0.5					
Fluorene	0.5	<0.5	1.1	<0.5	95%	<0.5					
Phenanthrene	0.5	<0.5	4.7	<0.5	98%	<0.5					
Anthracene	0.5	<0.5	1.8	<0.5	95%	<0.5					
Fluoranthene	0.5	<0.5	10.1	<0.5	96%	<0.5					
Pyrene	0.5	<0.5	12.6	<0.5	95%	<0.5					
Benz(a)anthracene	0.5	<0.5	5.7	<0.5	99%	<0.5					
Chrysene	0.5	<0.5	4.9	<0.5	99%	<0.5					
Benzo(b)&(k)fluoranthene	1	<1	8	<1	97%	<1					
Benzo(a) pyrene	0.5	<0.5	5.3	<0.5	97%	<0.5					
Indeno(1,2,3-c,d)pyrene	0.5	<0.5	2.4	<0.5	96%	<0.5					
Dibenz(a,h)anthracene	0.5	<0.5	0.8	<0.5	96%	<0.5					
Benzo(g,h,i)perylene	0.5	<0.5	2.9	<0.5	97%	<0.5					
Sum of reported PAHs	--	--	65.6	--	--	--					
2-FBP (Surr @ 5mg/kg)	--	*89%*	*72%*	*88%*	*78%*	*91%*					
TP-d14 (Surr @ 5mg/kg)	--	*80%*	*73%*	*82%*	*77%*	*88%*					

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E007.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

Laboratory Identification		**251832**	**251834**	**251835**	**lcs**	**mb**					
Sample Identification		QC221	QC226	QC232	QC	QC					
Depth (m)		--	--	--	--	--					
Sampling Date recorded on COC		22/2/10	22/2/10	23/2/10	--	--					
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10	3/3/10					
Laboratory Analysis Date		3/3/10	4/3/10	4/3/10	3/3/10	3/3/10					
Method : E008.2											
Phenols by GC/MS	**EQL**										
Phenol	0.5	<0.5	<0.5	<0.5	82%	<0.5					
2-chlorophenol	0.5	<0.5	<0.5	<0.5	86%	<0.5					
2-methylphenol	0.5	<0.5	<0.5	<0.5	96%	<0.5					
3-&4-methylphenol	1.0	<1.0	<1.0	<1.0	86%	<1.0					
2-nitrophenol	0.5	<0.5	<0.5	<0.5	81%	<0.5					
2,4-dimethylphenol	0.5	<0.5	<0.5	<0.5	83%	<0.5					
2,4-dichlorophenol	0.5	<0.5	<0.5	<0.5	85%	<0.5					
4-chloro-3-methylphenol	0.5	<0.5	<0.5	<0.5	85%	<0.5					
2,4,6-trichlorophenol	0.5	<0.5	<0.5	<0.5	82%	<0.5					
2,4,5-trichlorophenol	0.5	<0.5	<0.5	<0.5	80%	<0.5					
Pentachlorophenol	1	<1	<1	<1	73%	<1					
Sum of reported phenols	--	--	--	--	--	--					
2-FP (Surr @ 5mg/kg)	--	*88%*	*69%*	*85%*	*77%*	*91%*					
Phenol-d5 (Surr @ 5mg/kg)	--	*89%*	*74%*	*87%*	*77%*	*84%*					
2,4,6-TBP (Surr @ 5mg/kg)	--	*82%*	*65%*	*81%*	*74%*	*83%*					

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E008.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

Laboratory Identification		**251832**	**251833**	**lcs**	**mb**						
Sample Identification		QC221	QC224	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		22/2/10	22/2/10	--	--						
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10						
Laboratory Analysis Date		8/3/10	8/3/10	8/3/10	8/3/10						
Method : E016.2											
Volatile Organic Compounds (VOC)	**EQL**										
Volatile Aromatic Compounds											
Benzene	0.5	<0.5	3.3	105%	<0.5						
Toluene	0.5	<0.5	3.4	98%	<0.5						
Ethylbenzene	0.5	<0.5	1.3	96%	<0.5						
m- & p-xylene	1	<1	4	97%	<1						
o-xylene	0.5	<0.5	1.8	98%	<0.5						
Styrene	0.5	<0.5	<0.5	97%	<0.5						
Isopropylbenzene	0.5	<0.5	<0.5	97%	<0.5						
n-propylbenzene	0.5	<0.5	<0.5	99%	<0.5						
1,3,5-trimethylbenzene	0.5	<0.5	0.9	97%	<0.5						
sec-butylbenzene	0.5	<0.5	<0.5	98%	<0.5						
1,2,4-trimethylbenzene	0.5	<0.5	1.9	98%	<0.5						
tert-butylbenzene	0.5	<0.5	<0.5	98%	<0.5						
p-isopropyltoluene	0.5	<0.5	<0.5	98%	<0.5						
n-butylbenzene	0.5	<0.5	<0.5	98%	<0.5						
Naphthalene	0.5	<0.5	50.7	126%	<0.5						
Halogenated Aliphatics											
Dichlorodifluoromethane	5	<5	<5	87%	<5						
Chloromethane	5	<5	<5	89%	<5						
Vinyl chloride	5	<5	<5	89%	<5						
Bromomethane	5	<5	<5	126%	<5						
Chloroethane	5	<5	<5	102%	<5						
Trichlorofluoromethane	5	<5	<5	94%	<5						
1,1-dichloroethene	0.5	<0.5	<0.5	94%	<0.5						
trans-1,2-dichloroethene	0.5	<0.5	<0.5	95%	<0.5						
1,1-dichloroethane	0.5	<0.5	<0.5	97%	<0.5						
cis-1,2-dichloroethene	0.5	<0.5	<0.5	96%	<0.5						

Laboratory Identification		**251832**	**251833**	**lcs**	**mb**						
Sample Identification		QC221	QC224	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		22/2/10	22/2/10	--	--						
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10						
Laboratory Analysis Date		8/3/10	8/3/10	8/3/10	8/3/10						
Method : E016.2											
Volatile Organic Compounds (VOC)	**EQL**										
2,2-dichloropropane	0.5	<0.5	<0.5	94%	<0.5						
Chloroform	0.5	<0.5	<0.5	98%	<0.5						
1,1,1-trichloroethane	0.5	<0.5	<0.5	96%	<0.5						
1,2-dichloroethane	0.5	<0.5	<0.5	98%	<0.5						
1,1-dichloropropene	0.5	<0.5	<0.5	98%	<0.5						
Carbon tetrachloride	0.5	<0.5	<0.5	100%	<0.5						
Trichloroethene	0.5	<0.5	<0.5	105%	<0.5						
1,2-dichloropropane	0.5	<0.5	<0.5	102%	<0.5						
Dibromomethane	0.5	<0.5	<0.5	100%	<0.5						
Bromodichloromethane	0.5	<0.5	<0.5	99%	<0.5						
cis-1,3-dichloropropene	0.5	<0.5	<0.5	98%	<0.5						
trans-1,3-dichloropropene	0.5	<0.5	<0.5	99%	<0.5						
1,1,2-trichloroethane	0.5	<0.5	<0.5	100%	<0.5						
1,3-dichloropropane	0.5	<0.5	<0.5	101%	<0.5						
Chlorodibromomethane	0.5	<0.5	<0.5	99%	<0.5						
Tetrachloroethene	0.5	<0.5	<0.5	98%	<0.5						
1,2-dibromoethane	0.5	<0.5	<0.5	100%	<0.5						
1,1,1,2-tetrachloroethane	0.5	<0.5	<0.5	97%	<0.5						
Bromoform	0.5	<0.5	<0.5	97%	<0.5						
1,1,2,2-tetrachloroethane	0.5	<0.5	<0.5	89%	<0.5						
1,2,3-trichloropropane	0.5	<0.5	<0.5	101%	<0.5						
1,2-dibromo-3-chloropropane	0.5	<0.5	<0.5	115%	<0.5						
Hexachlorobutadiene	0.5	<0.5	<0.5	100%	<0.5						
Halogenated Aromatics											
Chlorobenzene	0.5	<0.5	<0.5	97%	<0.5						
Bromobenzene	0.5	<0.5	<0.5	98%	<0.5						
2-chlorotoluene	0.5	<0.5	<0.5	98%	<0.5						

Laboratory Identification		**251832**	**251833**	**lcs**	**mb**						
Sample Identification		QC221	QC224	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		22/2/10	22/2/10	--	--						
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10						
Laboratory Analysis Date		8/3/10	8/3/10	8/3/10	8/3/10						
Method : E016.2											
Volatile Organic Compounds (VOC)	**EQL**										
4-chlorotoluene	0.5	<0.5	<0.5	98%	<0.5						
1,3-dichlorobenzene	0.5	<0.5	<0.5	98%	<0.5						
1,4-dichlorobenzene	0.5	<0.5	<0.5	99%	<0.5						
1,2-dichlorobenzene	0.5	<0.5	<0.5	99%	<0.5						
1,2,4-trichlorobenzene	0.5	<0.5	<0.5	113%	<0.5						
1,2,3-trichlorobenzene	0.5	<0.5	<0.5	125%	<0.5						
Oxygenated Compounds											
Vinyl acetate	5	<5	<5	98%	<5						
Ethyl acetate	0.5	<0.5	<0.5	87%	<0.5						
tert-butylmethylether (TBME)	0.5	<0.5	<0.5	98%	<0.5						
Sulphonated Compounds											
Carbon disulfide	0.5	<0.5	<0.5	90%	<0.5						
Surrogate Standards											
BCP (Surr @ 20mg/kg)	--	*97%*	*93%*	*102%*	*100%*						
DCFB (Surr @ 20mg/kg)	--	*111%*	*107%*	*100%*	*111%*						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/MS. (NB) Acetone and Dichloromethane not reported unless requested.

Laboratory Identification		**251832**	**251833**	**251834**	**251835**	**crm**	**lcs**	**mb**			
Sample Identification		QC221	QC224	QC226	QC232	QC	QC	QC			
Depth (m)		--	--	--	--	--	--	--			
Sampling Date recorded on COC		22/2/10	22/2/10	22/2/10	23/2/10	--	--	--			
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10	3/3/10	3/3/10	3/3/10			
Laboratory Analysis Date		4/3/10	4/3/10	4/3/10	4/3/10	3/3/10	3/3/10	3/3/10			
Method : E026.2											
Acid extractable metals - mercury	**EQL**										
Mercury	0.05	<0.05	0.07	0.20	<0.05	76%	81%	<0.05			

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Identification		**251832**	**251833**	**251834**	**251835**	**crm**	**lcs**	**mb**			
Sample Identification		QC221	QC224	QC226	QC232	QC	QC	QC			
Depth (m)		--	--	--	--	--	--	--			
Sampling Date recorded on COC		22/2/10	22/2/10	22/2/10	23/2/10	--	--	--			
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10	3/3/10	3/3/10	3/3/10			
Laboratory Analysis Date		5/3/10	5/3/10	5/3/10	5/3/10	4/3/10	4/3/10	4/3/10			
Method : E022.2											
Acid extractable metals	**EQL**										
Arsenic	1	<1	12	4	3	101%	90%	<1			
Barium	5	<5	14	36	33	107%	106%	<5			
Beryllium	1	<1	<1	<1	<1	117%	111%	<1			
Cadmium	0.1	<0.1	<0.1	0.2	<0.1	89%	104%	<0.1			
Chromium	1	4	25	10	10	101%	81%	<1			
Cobalt	1	<1	3	2	7	86%	85%	<1			
Copper	2	<2	4	27	6	96%	85%	<2			
Lead	2	5	10	123	16	92%	95%	<2			
Manganese	5	8	53	68	424	102%	84%	<5			
Nickel	1	<1	9	5	8	85%	83%	<1			
Vanadium	5	6	31	16	14	88%	91%	<5			
Zinc	5	6	22	190	48	95%	87%	<5			

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Identification		**251832**	**251833**	**251834**	**251835**						
Sample Identification		QC221	QC224	QC226	QC232						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		22/2/10	22/2/10	22/2/10	23/2/10						
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10						
Laboratory Analysis Date		3/3/10	3/3/10	3/3/10	3/3/10						
Method : E018.2											
pH in soil	**EQL**										
pH (pH units)	0.1	8.2	8.9	9.6	9.4						

Results expressed in pH units unless otherwise specified

Comments:

E018.2: 1:5 soil leachate. Followed by measurement by pH ion selective electrode. Results expressed as per leachate.

Laboratory Identification		**251832**	**251833**	**251835**	**crm**	**lcs**	**mb**				
Sample Identification		QC221	QC224	QC232	QC	QC	QC				
Depth (m)		--	--	--	--	--	--				
Sampling Date recorded on COC		22/2/10	22/2/10	23/2/10	--	--	--				
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10	3/3/10	3/3/10				
Laboratory Analysis Date		4/3/10	4/3/10	4/3/10	4/3/10	4/3/10	4/3/10				
Method : E020.2/E030.2											
Acid extractable metals	**EQL**										
Iron	10	1030	17000	8730	93%	116%	<10				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E020.2/E030.2: 0.5g digested with nitric/hydrochloric acid . Analysis by AAS and/or ICP-OES.

Laboratory Identification		**251832**	**251833**	**251835**	**lcs**	**mb**					
Sample Identification		QC221	QC224	QC232	QC	QC					
Depth (m)		--	--	--	--	--					
Sampling Date recorded on COC		22/2/10	22/2/10	23/2/10	--	--					
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10	3/3/10					
Laboratory Analysis Date		5/3/10	5/3/10	5/3/10	5/3/10	5/3/10					
Method : E043.2/E057.2											
Speciated Chromium	**EQL**										
Hexavalent Chromium	1	<1	<1	<1	101%	<1					

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E043.2/E057.2: Alkaline digestion followed by determination by colour.

Laboratory Identification		**251832**	**251833**	**251835**	**lcs**	**mb**					
Sample Identification		QC221	QC224	QC232	QC	QC					
Depth (m)		--	--	--	--	--					
Sampling Date recorded on COC		22/2/10	22/2/10	23/2/10	--	--					
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10	3/3/10					
Laboratory Analysis Date		4/3/10	4/3/10	4/3/10	4/3/10	4/3/10					
Method : E040.2/E054.2 **Free Cyanide**	**EQL**										
Free Cyanide	1	<1	<1	<1	109%	<1					

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E040.2/E054.2: Neutral extract followed by Micro-diffusion. Analysis by colour.

Laboratory Identification		**251833**	**lcs**	**mb**							
Sample Identification		QC224	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		22/2/10	--	--							
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10							
Laboratory Analysis Date		6/3/10	6/3/10	6/3/10							
Method : E017.2											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Phenols											
Phenol	0.5	<0.5	81%	<0.5							
2-chlorophenol	0.5	<0.5	87%	<0.5							
2-methylphenol	0.5	<0.5	87%	<0.5							
3-&4-methylphenol	1	<1	78%	<1							
2-nitrophenol	0.5	<0.5	72%	<0.5							
2,4-dimethylphenol	0.5	6.5	114%	<0.5							
2,4-dichlorophenol	0.5	<0.5	83%	<0.5							
2,6-dichlorophenol	0.5	<0.5	71%	<0.5							
4-chloro-3-methylphenol	0.5	<0.5	72%	<0.5							
2,4,6-trichlorophenol	0.5	<0.5	84%	<0.5							
2,4,5-trichlorophenol	0.5	<0.5	82%	<0.5							
2,3,4,6-tetrachlorophenol	0.5	<0.5	62%	<0.5							
Pentachlorophenol	1	<1	56%	<1							
Polynuclear Aromatic Hydrocarbons											
Naphthalene	0.5	51.9	59%	<0.5							
2-methylnaphthalene	0.5	7.1	77%	<0.5							
2-chloronaphthalene	0.5	<0.5	87%	<0.5							
Acenaphthylene	0.5	2.2	82%	<0.5							
Acenaphthene	0.5	1	75%	<0.5							
Fluorene	0.5	2.6	73%	<0.5							
Phenanthrene	0.5	6.0	74%	<0.5							
Anthracene	0.5	1.4	74%	<0.5							
Fluoranthene	0.5	4.1	86%	<0.5							
Pyrene	0.5	2.8	74%	<0.5							
2-(acetylamino) fluorene	0.5	<0.5	71%	<0.5							
Benz(a)anthracene	0.5	1.3	76%	<0.5							

Laboratory Identification		**251833**	**lcs**	**mb**							
Sample Identification		QC224	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		22/2/10	--	--							
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10							
Laboratory Analysis Date		6/3/10	6/3/10	6/3/10							
Method : E017.2											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Chrysene	0.5	1.1	77%	<0.5							
Benzo(b)&(k)fluoranthene	1	1	72%	<1							
7,12-dimethylbenz(a)anthracene	0.5	<0.5	78%	<0.5							
Benzo(a) pyrene	0.5	1.0	74%	<0.5							
3-methylcholanthrene	0.5	<0.5	81%	<0.5							
Indeno(1,2,3-c,d)pyrene	0.5	<0.5	69%	<0.5							
Dibenz(a,h)anthracene	0.5	<0.5	68%	<0.5							
Benzo(g,h,i)perylene	0.5	<0.5	68%	<0.5							
Phthalates											
Dimethyl phthalate	0.5	<0.5	91%	<0.5							
Diethylphthalate	0.5	<0.5	83%	<0.5							
Di-n-butyl phthalate	0.5	<0.5	84%	<0.5							
Butyl benzyl phthalate	0.5	<0.5	86%	<0.5							
Bis(2-ethylhexyl) phthalate	5	<5	48%	<5							
Di-n-octyl phthalate	0.5	<0.5	82%	<0.5							
Nitrosamines											
N-nitrosodiethylamine	0.5	<0.5	82%	<0.5							
N-nitrosopyrrolidine	1	<1	94%	<1							
N-nitrosomorpholine	0.5	<0.5	84%	<0.5							
N-nitrosodi-n-propylamine	0.5	<0.5	98%	<0.5							
N-nitrosopiperidine	0.5	<0.5	91%	<0.5							
N-nitrosodi-n-butylamine	0.5	<0.5	78%	<0.5							
Diphenylamine	0.5	<0.5	82%	<0.5							
4-aminobiphenyl	0.5	<0.5	82%	<0.5							
Organochlorine Pesticides											
a-BHC	0.5	<0.5	80%	<0.5							
b-BHC	0.5	<0.5	79%	<0.5							

Laboratory Identification		**251833**	**lcs**	**mb**							
Sample Identification		QC224	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		22/2/10	--	--							
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10							
Laboratory Analysis Date		6/3/10	6/3/10	6/3/10							
Method : E017.2											
Semivolatile Organic Compounds (SVOC)	**EQL**										
d-BHC	0.5	<0.5	79%	<0.5							
g-BHC (Lindane)	0.5	<0.5	81%	<0.5							
Heptachlor	0.5	<0.5	81%	<0.5							
Aldrin	0.5	<0.5	80%	<0.5							
Heptachlor epoxide	0.5	<0.5	80%	<0.5							
Endosulfan I	0.5	<0.5	84%	<0.5							
trans-chlordane	0.5	<0.5	80%	<0.5							
cis-chlordane	0.5	<0.5	81%	<0.5							
4,4-DDE	0.5	<0.5	80%	<0.5							
Dieldrin	0.5	<0.5	83%	<0.5							
Endrin	0.5	<0.5	79%	<0.5							
Endosulfan II	0.5	<0.5	79%	<0.5							
4,4-DDD	0.5	<0.5	78%	<0.5							
Endosulfan sulphate	0.5	<0.5	81%	<0.5							
Endrin aldehyde	0.5	<0.5	91%	<0.5							
Endrin ketone	0.5	<0.5	84%	<0.5							
4,4-DDT	1	<1	76%	<1							
Methoxychlor	0.5	<0.5	80%	<0.5							
Organophosphorus Pesticides											
Dichlorvos	0.5	<0.5	57%	<0.5							
Mevinphos (Phosdrin)	0.5	<0.5	78%	<0.5							
Demeton-O	0.5	<0.5	75%	<0.5							
Ethoprop	0.5	<0.5	80%	<0.5							
Phorate	0.5	<0.5	80%	<0.5							
Demeton-S	0.5	<0.5	76%	<0.5							
Dimethoate	0.5	<0.5	79%	<0.5							
Diazinon	0.5	<0.5	31%	<0.5							

Laboratory Identification		**251833**	**lcs**	**mb**							
Sample Identification		QC224	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		22/2/10	--	--							
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10							
Laboratory Analysis Date		6/3/10	6/3/10	6/3/10							
Method : E017.2											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Sulfotepp	0.5	<0.5	69%	<0.5							
Disulfoton	0.5	<0.5	68%	<0.5							
Methyl parathion	0.5	<0.5	67%	<0.5							
Ronnel	0.5	<0.5	68%	<0.5							
Malathion	0.5	<0.5	81%	<0.5							
Fenitrothion	0.5	<0.5	50%	<0.5							
Fenthion	0.5	<0.5	79%	<0.5							
Chlorpyrifos	0.5	<0.5	72%	<0.5							
Parathion	0.5	<0.5	67%	<0.5							
Trichloronate	0.5	<0.5	76%	<0.5							
EPN	0.5	<0.5	68%	<0.5							
Stirophos	0.5	<0.5	45%	<0.5							
Prothiofos	0.5	<0.5	79%	<0.5							
Profenofos	0.5	<0.5	51%	<0.5							
Fensulfothion	0.5	<0.5	59%	<0.5							
Azinophos methyl	0.5	<0.5	59%	<0.5							
Coumaphos	0.5	<0.5	58%	<0.5							
Nitroaromatics and Ketones											
Acetophenone	0.5	<0.5	84%	<0.5							
Isophorone	0.5	<0.5	75%	<0.5							
Nitrobenzene	0.5	<0.5	62%	<0.5							
1,4-dinitrobenzene	0.5	<0.5	90%	<0.5							
2,6-dinitrotoluene	1	<1	82%	<1							
2,4-dinitrotoluene	1	<1	65%	<1							
5-nitro-o-toluidine	0.5	<0.5	74%	<0.5							
Azobenzene	0.5	<0.5	85%	<0.5							
4-(dimethylamino) azobenzene	0.5	<0.5	77%	<0.5							

Laboratory Identification		**251833**	**lcs**	**mb**							
Sample Identification		QC224	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		22/2/10	--	--							
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10							
Laboratory Analysis Date		6/3/10	6/3/10	6/3/10							
Method : E017.2											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Phenacetin	0.5	<0.5	89%	<0.5							
Pentachloronitrobenzene	0.5	<0.5	79%	<0.5							
Anilines and Benzedines											
Aniline	0.5	<0.5	35%	<0.5							
4-chloroaniline	0.5	<0.5	62%	<0.5							
2-nitroaniline	1	<1	57%	<1							
3-nitroaniline	1	<1	103%	<1							
4-nitroaniline	0.5	<0.5	72%	<0.5							
Dibenzofuran	0.5	2.7	80%	<0.5							
Carbazole	0.5	1.7	86%	<0.5							
o-toluidine	0.5	<0.5	49%	<0.5							
1-naphthylamine	0.5	<0.5	37%	<0.5							
2-naphthylamine	0.5	<0.5	43%	<0.5							
Chlorinated Hydrocarbons											
1,3-dichlorobenzene	0.5	<0.5	78%	<0.5							
1,4-dichlorobenzene	0.5	<0.5	80%	<0.5							
1,2-dichlorobenzene	0.5	<0.5	76%	<0.5							
1,2,4-trichlorobenzene	0.5	<0.5	77%	<0.5							
1,2,4,5-tetrachlorobenzene	0.5	<0.5	45%	<0.5							
Pentachlorobenzene	0.5	<0.5	76%	<0.5							
Hexachlorobenzene	0.5	<0.5	80%	<0.5							
Pentachloroethane	0.5	<0.5	78%	<0.5							
Hexachloroethane	0.5	<0.5	81%	<0.5							
Hexachloropropene	0.5	<0.5	78%	<0.5							
Hexachlorobutadiene	0.5	<0.5	84%	<0.5							
Hexachlorocyclopentadiene	2	<2	34%	<2							
Haloethers											

Laboratory Identification		**251833**	**lcs**	**mb**							
Sample Identification		QC224	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		22/2/10	--	--							
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10							
Laboratory Analysis Date		6/3/10	6/3/10	6/3/10							
Method : E017.2											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Bis(2-chloroethyl)ether	0.5	<0.5	78%	<0.5							
Bis(2-chloroisopropyl) ether	0.5	<0.5	88%	<0.5							
Bis(2-chloroethoxy) methane	0.5	<0.5	80%	<0.5							
4-chlorophenyl phenyl ether	0.5	<0.5	82%	<0.5							
4-bromophenyl phenyl ether	0.5	<0.5	80%	<0.5							
Miscellaneous Compounds											
Methyl methanesulfonate	0.5	<0.5	78%	<0.5							
Ethyl methanesulfonate	0.5	<0.5	84%	<0.5							
Benzyl alcohol	0.5	<0.5	83%	<0.5							
Safrole	0.5	<0.5	61%	<0.5							
Isosafrole	0.5	<0.5	98%	<0.5							
Surrogate Standards											
2-FP (Surr @ 5mg/kg)	--	*102%*	*96%*	*95%*							
Phenol-d5 (Surr @ 5mg/kg)	--	*100%*	*102%*	*94%*							
NB-d5 (Surr @ 5mg/kg)	--	*86%*	*85%*	*88%*							
2-FBP (Surr @ 5mg/kg)	--	*89%*	*86%*	*94%*							
2,4,6-TBP (Surr @ 5mg/kg)	--	*80%*	*82%*	*89%*							
TP-d14 (Surr @ 5mg/kg)	--	*95%*	*81%*	*90%*							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E017.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

Laboratory Identification		**251832**	**251833**	**251835**	**lcs**	**mb**					
Sample Identification		QC221	QC224	QC232	QC	QC					
Depth (m)		--	--	--	--	--					
Sampling Date recorded on COC		22/2/10	22/2/10	23/2/10	--	--					
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10	3/3/10					
Laboratory Analysis Date		4/3/10	4/3/10	4/3/10	4/3/10	4/3/10					
Method : E040.2/E054.2 **Weak Acid Dissociable Cyanide**	**EQL**										
WAD Cyanide	1	<1	<1	<1	74%	<1					

Results expressed in mg/l unless otherwise specified

Comments:

E040.2/E054.2: Caustic soil extraction, Acetate distillate collected in sodium hydroxide. Analysis by colour.

Laboratory Identification		**251832**	**251833**	**251835**	**mb**						
Sample Identification		QC221	QC224	QC232	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		22/2/10	22/2/10	23/2/10	--						
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10						
Laboratory Analysis Date		8/3/10	8/3/10	8/3/10	8/3/10						
Method : Walkley Black											
Total Organic Carbon (TOC)	**EQL**										
TOC	0.1	<0.1	2.9	0.2	<0.1						

Results expressed in % w/w unless otherwise specified

Comments:

Walkley Black: Total Organic Carbon by Titration (Walkley Black method)

Laboratory Identification		**251832**	**251833**	**251834**	**251835**						
Sample Identification		QC221	QC224	QC226	QC232						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		22/2/10	22/2/10	22/2/10	23/2/10						
Laboratory Extraction (Preparation) Date		3/3/10	3/3/10	3/3/10	3/3/10						
Laboratory Analysis Date		4/3/10	4/3/10	4/3/10	4/3/10						
Method : E005.2											
Moisture	**EQL**										
Moisture	--	13	38	14	15						

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

LabMark
ENVIRONMENTAL LABORATORIES

Quality, Service, Support

Report Date : 1/03/2010
Report Time : 1:32:23PM

Sample **Receipt** Notice (SRN) for **E047095**

Client Details

Client Name:	AECOM Australia Pty Ltd
Client Phone:	02 8484 8999
Client Fax:	02 8484 8989
Contact Name:	Anthony Davis
Contact Email:	anthony.davis@aecom.com
Client Address:	PO Box 726 Pymble NSW 2073
Project Name:	Barangaroo - Declaration Area
Project Number:	S4150014
CoC Serial Number:	- Not provided -
Purchase Order:	1303951
Surcharge:	No surcharge applied (results by 6:30pm on due date)
Sample Matrix:	SOIL

Date Sampled (earliest date):	22/02/2010
Date Samples Received:	01/03/2010
Date Sample Receipt Notice issued:	01/03/2010
Date Preliminary Report Due:	09/03/2010
Client TAT Request Date:	09/03/2010

Laboratory Reference Information

Please have this information ready when contacting Labmark.

Laboratory Report:	**E047095**
Quotation Number:	- Not provided, standard prices apply
Laboratory Address:	Unit 1, 8 Leighton Pl. Asquith NSW 2077
Phone:	61 2 9476 6533
Fax:	61 2 9476 8219
Sample Receipt Contact:	Ros Schacht
Email:	Ros.Schacht@labmark.com.au
Reporting Contact:	Leanne Boag
Email:	leanne.boag@labmark.com.au

NATA Accreditation:	13542
TGA GMP License:	185-336 (Sydney)
APVMA License:	6105 (Sydney)
AQIS Approval:	NO356 (Sydney)
AQIS Entry Permit:	200521534 (Sydney)

Reporting Requirements: Electronic Data Download required: Yes

Invoice Number: 10EA8407

Sample Condition: COC received with samples. Report number and lab ID's defined on COC.
Samples received in good order .
Samples received with cooling media: Crushed ice .
Samples received chilled.
Security seals intact .
Sample container & chemical preservation suitable .

Comments: M13 as As, Be, Ba, Cd, Cr, Co, Cu, Ni, Pb, Mn, V, Zn, Hg and Phenols as Speciated unless otherwise instructed | Sampling dates as labelled unless otherwise instructed | VOC includes BTEX

Holding Times: Date received allows for sufficient time to meet Technical Holding Times.
Note: There are Samples within this batch that have been received by the laboratory 0 day(s) after Technical Holding Times expire. LabMark cannot guarantee THT compliance, refer to the extraction dates detailed in the sample grid for confirmation.

Preservation: Chemical preservation of samples satisfactory for requested analytes.

Important Notes:

LabMark shall responsibly dispose of spent customer soil and water samples which includes the disintegration of the sample label. A sample disposal fee of $1.00 is applicable on all samples received by the laboratory regardless of whether they have undergone analytical testing. Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur $5.00/ sample/ 3 months. Additional refrigerated storage shall incur $30/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

Analysis comments:

VOC E016.2: Acetone and Dichloromethane not reported unless requested.

Subcontracted Analyses:

Reported by LabMark Environmental Sydney, NATA accreditation No. 13542

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 1/03/2010
Report Time : 1:32:23PM

Sample **Receipt** Notice (SRN) for **E047095**

Quality, Service, Support

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE

No.	Date	Depth	Client Sample ID	Requested Analysis																			
				BTEX by P&T	Speciated Chromium	Free Cyanide	Acid extractable metals - mercury	Acid extractable metals	Acid extractable metals	Moisture	Polyaromatic Hydrocarbons (PAH)	pH in soil	Phenols by GC/MS	PREP Not Reported	Semivolatile Organic Compounds (SVOC)	Total Organic Carbon (TOC)	Petroleum Hydrocarbons (TPH)	Volatile Organic Compounds (VOC)	Volatile TPH by P&T (vTPH)	Volatile TPH by P&T (vTPH)	Weak Acid Dissociable Cyanide		
251832	22/02		QC221		●	●	●	●	●	●	●	●	●	●		●	●	●		●	●		
251833	22/02		QC224		●	●	●	●	●	●		●		●	●	●	●	●	●		●		
251834	22/02		QC226	●			●		●	●	●	●	●	●			●		●				
251835	23/02		QC232	●	●	●	●	●	●	●	●	●	●	●		●	●		●		●		
			Totals:	2	3	3	4	3	4	4	3	4	3	4	1	3	4	2	3	1	3		

'PREP Not Reported' refers to an internal laboratory instruction - client confirmation of this parameter is not required.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 1/03/2010
Report Time : 1:32:23PM

Sample **Receipt** Notice (SRN) for **E047095**

Quality, Service, Support

No.	Date	Depth	Client Sample ID	Requested Analysis																			
				M9 - MET-T_S	MET-AAS_S Iron	MET-T_S Barium	MET-T_S Beryllium	MET-T_S Manganese	MET-T_S Vanadium														
251832	22/02		QC221	●	●	●	●	●	●														
251833	22/02		QC224	●	●	●	●	●	●														
251834	22/02		QC226	●		●	●	●	●														
251835	23/02		QC232	●	●	●	●	●	●														
			Totals:	4	3	4	4	4	4														

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

(1)

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com,
kate.pigram@aecom.com

Laboratory Details
Lab. Name: LABMARK
Lab. Address:
Contact Name:
Lab. Ref: LEIGHTON PL, ASBESTOS
Tel: 94766533
Fax: 94768219
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo – Declaration Area **Project Number:** S41500014 **Purchase Order Number:** 1303951

Sample collected by: DANIEL FOX & KATE **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications: AGEAM

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: ESDAT FORMAT REQ'D 8. Project Manager: ANTHONY DAVIS tel: 8484 8999			

	Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals + Hg	TPH/BTEX	PAH	Phenols	SVOC	asbestos	Free Cyanide	WAD Cyanide	ASLP	TCLP	Cr VI	Voc	Fe	TOC	TPH(C6-C36)	Remarks & comments
2518	32	QC221	22/02/10		X					X			X	X	X	X	X			X	X			X	X	X	X		
2518	33	QC224	↓		↓					↓			X	X				X		X	X			X	X	X	X	X	
2518	34	QC226	↓		↓					↓			X	X	X	X	X												
2518	35	QC232	↓	23/2/10 "Label	↓					↓			X	X	X	X	X			X	X			X		X	X		
													4	4	3	3	3	1		3	3			3	2	3	3	1	

Relinquished By:	Received by:		
Name: ANTHONY DAVIS Date: 25/2/10	Name: FAST	Date: 26/2/10	Received in good condition? Yes/No/NA
of: AECOM Time:	of: ALS	Time: 7:10am	Samples received chilled? Yes/No/NA
			Transport Co:
Relinquished By:	**Received by:** EQ47095		Received in good condition? Yes/No/NA
Name: Frank Date: 01/03/10	Name:	Date: 1/3/10	Samples received chilled? Yes/No/NA 6.5°C
of: ALS Time: 8:30 5.6°C	of: LABMARK SYDNEY	Time: 1200	Transport Co:

Method of Shipment: ☐ Courier ☐ Postal ☐ By Hand
Consignment Note No.:
Method of Shipment: ☑ Courier ☐ Postal ☐ By Hand
Consignment Note No.: N/A
Transport Co: CAPITAL

~~Printed copies of this document are uncontrolled~~

LabMark
ENVIRONMENTAL LABORATORIES

Accreditation No. 1645

AQIS
AUSTRALIAN QUARANTINE AND INSPECTION SERVICE

SYDNEY License No. N0356.

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. NATA is a signatory to the APLAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

Quarantine Approved Premises criteria 5.1 for quarantine containment level 1 (QCI) facilities. Class five criteria cover premises utilised for research, analysis and testing of biological material, soil, animal, plant and human products.

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION

Laboratory Report No:	E047201
Client Name:	AECOM Australia Pty Ltd
Client Reference:	Barangaroo
Contact Name:	Anthony Davis
Chain of Custody No:	na
Sample Matrix:	SOIL

Cover Page 1 of 4
plus Sample Results

Date Received: 05/03/2010
Date Reported: 12/03/2010

This Final Certificate of Analysis consists of sample results, DQI's, method descriptions, laboratory definitions, and internationally recognised NATA accreditation and endorsement. The DQO compliance relates specifically to QA/QC results as performed as part of the sample analysis, and may provide an indication of sample result quality. Transfer of report ownership from Labmark to the client shall only occur once full & final payment has been settled and verified. All report copies may be retracted where full payment has not occured within the agreed settlement period.

QUALITY ASSURANCE CRITERIA

Accuracy:	matrix spike:	1 in first 5-20, then 1 every 20 samples
	lcs, crm, method:	1 per analytical batch
	surrogate spike:	addition per target organic method
Precision:	laboratory duplicate:	1 in first 5-10, then 1 every 10 samples
	laboratory triplicate:	re-extracted & reported when duplicate RPD values exceed acceptance criteria
Holding Times:	soils, waters:	Refer to LabMark Preservation & THT table VOC's 14 days water / soil VAC's 7 days water or 14 days acidified VAC's 14 days soil SVOC's 7 days water, 14 days soil Pesticides 7 days water, 14 days soil Metals 6 months general elements Mercury 28 days
Confirmation:	target organic analysis:	GC/MS, or confirmatory column
Sensitivity:	EQL:	Typically 2-5 x Method Detection Limit (MDL)

QUALITY CONTROL GLOBAL ACCEPTANCE CRITERIA (GAC)

Accuracy:	spike, lcs, crm surrogate:	general analytes 70% - 130% recovery phenol analytes 50% - 130% recovery organophosphorous pesticide analytes 60% - 130% recovery phenoxy acid herbicides, organotin 50% - 130% recovery
	anion/cation bal:	+/- 10% (0-3 meq/l), +/- 5% (>3 meq/l)
Precision:	method blank:	not detected >95% of the reported EQL
	duplicate lab RPD (metals):	0-30% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)
	duplicate lab RPD:	0-50% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)

QUALITY CONTROL ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)

Accuracy:	spike, lcs, crm surrogate:	analyte specific recovery data <3xsd of historical mean
Uncertainty:	spike, lcs:	measurement calculated from historical analyte specific control charts

RESULT ANNOTATION

Data Quality Objective	s:	matrix spike recovery	p:	pending	bcs: batch specific lcs
Data Quality Indicator	d:	laboratory duplicate	lcs:	laboratory control sample	bmb: batch specific mb
Estimated Quantitation Limit	t:	laboratory triplicate	crm:	certified reference material	
not applicable	r:	RPD relative % difference	mb:	method blank	

Simon Mills
Quality Control (Report signatory)
simon.mills@labmark.com.au

Geoff Weir
Authorising Chemist (NATA signatory)
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Jeremy Truong
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NEPC GUIDELINE COMPLIANCE - DQO

1. GENERAL

A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.

B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.

C. Laboratory QA/QC samples are specific to this project.

D. Inter-laboratory proficiency results are available upon request. NATA accreditation details available at www.nata.asn.au.

E. VOC spikes & surrogates added to samples during extraction, SVOC spikes & surrogates added prior to extraction.

F. Recovery data outside GAC limits shall be investigated and compared to ASAC (historical mean +/- 3sd). If recovery data <20%, then the relevant results for that compound are considered not reliable.

G. Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. Anomolous QC data is examined in conjunction with other QC samples and a final decision whether to accept or reject results is provided by the professional judgement of the senior analyst. The USEPA-CLP National Functional Guidelines are referred to for specific recommendations.

H. Extraction (preparation) date refers to the date that sample preparation was initiated. Note that certain methods not requiring sample preparation (eg. VOCs in water, etc) may report a common extraction and analysis date.

I. LabMark shall maintain an official copy of this Certificate of Analysis for all tracable reference purposes.

2. CHAIN OF CUSTODY (COC) & SAMPLE RECEIPT NOTICE (SRN) REQUIREMENTS

A. SRN issued to client upon sample receipt & login verification.

B. Preservation & sampling date details specified on COC and SRN, unless noted.

C. Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

A. NATA accreditation held for each in-house method and sample matrix type reported, unless noted below (Refer to subcontracted test reports for NATA accreditation status).

B. NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA documents. Corporate Accreditation No. 13542.

C. Subcontracted analyses: Refer to Sample Receipt Notice and additional DQO comments.

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4. QA/QC FREQUENCY COMPLIANCE TABLE SPECIFIC TO THIS REPORT

Matrix: **SOIL**

Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	BTEX by P&T	1	0	0%	0	0	0%
1	Volatile TPH by P&T (vTPH)	1	0	0%	0	0	0%
2	Petroleum Hydrocarbons (TPH)	1	0	0%	0	0	0%
3	Polyaromatic Hydrocarbons (PAH)	1	0	0%	0	0	0%
4	Phenols by GC/MS	1	0	0%	0	0	0%
5	Acid extractable metals - mercury	1	0	0%	0	0	0%
6	Acid extractable metals	1	0	0%	0	0	0%
7	Moisture	1	--	--	--	--	--

GLOSSARY:

#d	number of discrete duplicate extractions/analyses performed.
%d-ratio	NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).
#t	number of triplicate extractions/analyses performed.
#s	number of spiked samples analysed.
%s-ratio	USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).

5. ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT

A. All tests were conducted by LabMark Environmental Sydney, NATA accreditation No. 13542, unless indicated below.

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ENVIRONMENTAL LABORATORIES

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

Environmental Laboratory Industry Group
Foundation Member

Laboratory Report: E047201

Cover Page 4 of 4

Laboratory QA/QC data shall relate specifically to this report, and may provide an indication of site specific sample result quality. LabMark DOES NOT report NON-RELEVANT BATCH QA/QC data. Acceptance of this self assessment certificate does not preclude any requirement for a QA/QC review by a accredited contaminated site EPA auditor, when and wherever necessary. Laboratory QA/QC self assessment references available upon request.

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LabMark Environmental Laboratories ABN 30 008 127 802
* SYDNEY: Unit 1, 8 Leighton Place Asquith NSW 2077 * MELBOURNE: 1868 Dandenong Road, Clayton VIC 3168
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LabMark
ENVIRONMENTAL LABORATORIES

Laboratory Report No: E047201
Client Name: AECOM Australia Pty Ltd
Contact Name: Anthony Davis
Client Reference: Barangaroo S4150014

Page: 1 of 7
plus cover page
Date: 12/03/10
This report supercedes reports issued on: N/A

Final
Certificate
of Analysis

Laboratory Identification		**252838**	**lcs**	**mb**							
Sample Identification		QC121	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		2/3/10	--	--							
Laboratory Extraction (Preparation) Date		10/3/10	10/3/10	10/3/10							
Laboratory Analysis Date		11/3/10	12/3/10	12/3/10							
Method : E029.2/E016.2											
BTEX by P&T	**EQL**										
Benzene	0.2	0.7	114%	<0.2							
Toluene	0.5	1.6	98%	<0.5							
Ethylbenzene	0.5	<0.5	91%	<0.5							
meta- and para-Xylene	1	2	96%	<1							
ortho-Xylene	0.5	0.8	96%	<0.5							
Total Xylene	--	2.8	--	--							
CDFB (Surr @ 4 mg/kg)	--	*94%*	*98%*	*102%*							
Method : E029.2/E016.2											
Volatile TPH by P&T (vTPH)	**EQL**										
C6 - C9 Fraction	10	<10	120%	<10							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E029.2/E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/FID/MSD.
E029.2/E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/MSD.

Laboratory Identification		**252838**	**lcs**	**mb**							
Sample Identification		QC121	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		2/3/10	--	--							
Laboratory Extraction (Preparation) Date		10/3/10	10/3/10	10/3/10							
Laboratory Analysis Date		11/3/10	10/3/10	10/3/10							
Method : E006.2											
Petroleum Hydrocarbons (TPH)	**EQL**										
C10 - C14 Fraction	50	270	--	<50							
C15 - C28 Fraction	100	550	111%	<100							
C29 - C36 Fraction	100	120	--	<100							
Sum of TPH C10 - C36	--	940	--	--							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/FID.

Laboratory Identification		**252838**	**lcs**	**mb**							
Sample Identification		QC121	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		2/3/10	--	--							
Laboratory Extraction (Preparation) Date		10/3/10	10/3/10	10/3/10							
Laboratory Analysis Date		11/3/10	10/3/10	10/3/10							
Method : E007.2											
Polyaromatic Hydrocarbons (PAH)	**EQL**										
Naphthalene	0.5	222	89%	<0.5							
Acenaphthylene	0.5	14.8	92%	<0.5							
Acenaphthene	0.5	3.1	86%	<0.5							
Fluorene	0.5	25.0	84%	<0.5							
Phenanthrene	0.5	58.3	88%	<0.5							
Anthracene	0.5	14.4	90%	<0.5							
Fluoranthene	0.5	39.2	92%	<0.5							
Pyrene	0.5	27.3	89%	<0.5							
Benz(a)anthracene	0.5	11.3	95%	<0.5							
Chrysene	0.5	7.9	83%	<0.5							
Benzo(b)&(k)fluoranthene	1	10	89%	<1							
Benzo(a) pyrene	0.5	6.6	89%	<0.5							
Indeno(1,2,3-c,d)pyrene	0.5	2.4	86%	<0.5							
Dibenz(a,h)anthracene	0.5	1	76%	<0.5							
Benzo(g,h,i)perylene	0.5	2.4	90%	<0.5							
Sum of reported PAHs	--	445.7	--	--							
2-FBP (Surr @ 5mg/kg)	--	*81%*	*93%*	*87%*							
TP-d14 (Surr @ 5mg/kg)	--	*115%*	*99%*	*94%*							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E007.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

Laboratory Identification		**252838**	**lcs**	**mb**							
Sample Identification		QC121	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		2/3/10	--	--							
Laboratory Extraction (Preparation) Date		10/3/10	10/3/10	10/3/10							
Laboratory Analysis Date		11/3/10	10/3/10	10/3/10							
Method : E008.2											
Phenols by GC/MS	**EQL**										
Phenol	0.5	<0.5	87%	<0.5							
2-chlorophenol	0.5	<0.5	90%	<0.5							
2-methylphenol	0.5	<0.5	86%	<0.5							
3-&4-methylphenol	1.0	<1.0	88%	<1.0							
2-nitrophenol	0.5	<0.5	92%	<0.5							
2,4-dimethylphenol	0.5	0.7	76%	<0.5							
2,4-dichlorophenol	0.5	<0.5	96%	<0.5							
4-chloro-3-methylphenol	0.5	<0.5	77%	<0.5							
2,4,6-trichlorophenol	0.5	<0.5	85%	<0.5							
2,4,5-trichlorophenol	0.5	<0.5	92%	<0.5							
Pentachlorophenol	1	<1	80%	<1							
Sum of reported phenols	--	0.7	--	--							
2-FP (Surr @ 5mg/kg)	--	*82%*	*97%*	*92%*							
Phenol-d5 (Surr @ 5mg/kg)	--	*78%*	*87%*	*80%*							
2,4,6-TBP (Surr @ 5mg/kg)	--	*102%*	*90%*	*78%*							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E008.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

Laboratory Identification		**252838**	**crm**	**lcs**	**mb**						
Sample Identification		QC121	QC	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		2/3/10	--	--	--						
Laboratory Extraction (Preparation) Date		10/3/10	10/3/10	10/3/10	10/3/10						
Laboratory Analysis Date		11/3/10	10/3/10	10/3/10	10/3/10						
Method : E026.2											
Acid extractable metals - mercury	**EQL**										
Mercury	0.05	<0.05	83%	91%	<0.05						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Identification		**252838**	**crm**	**lcs**	**mb**						
Sample Identification		QC121	QC	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		2/3/10	--	--	--						
Laboratory Extraction (Preparation) Date		10/3/10	10/3/10	10/3/10	10/3/10						
Laboratory Analysis Date		10/3/10	10/3/10	10/3/10	10/3/10						
Method : E022.2											
Acid extractable metals	**EQL**										
Arsenic	1	9	101%	95%	<1						
Barium	5	11	95%	103%	<5						
Beryllium	1	<1	79%	88%	<1						
Cadmium	0.1	<0.1	95%	96%	<0.1						
Chromium	1	12	100%	95%	<1						
Cobalt	1	<1	94%	97%	<1						
Copper	2	2	114%	96%	<2						
Lead	2	10	104%	106%	<2						
Manganese	5	<5	89%	95%	<5						
Nickel	1	3	91%	99%	<1						
Vanadium	5	43	79%	95%	<5						
Zinc	5	7	104%	100%	<5						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Identification		**252838**									
Sample Identification		QC121									
Depth (m)		--									
Sampling Date recorded on COC		2/3/10									
Laboratory Extraction (Preparation) Date		10/3/10									
Laboratory Analysis Date		11/3/10									
Method : E005.2											
Moisture	**EQL**										
Moisture	--	16									

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

LabMark
ENVIRONMENTAL LABORATORIES

Quality, Service, Support

Report Date : 8/03/2010
Report Time : 10:35:40AM

Sample **Receipt** Notice (SRN) for **E047201**

Client Details		Laboratory Reference Information	
Client Name:	AECOM Australia Pty Ltd	**Please have this information ready when contacting Labmark.**	
Client Phone:	02 8484 8999		
Client Fax:	02 8484 8989	**Laboratory Report:**	**E047201**
Contact Name:	Anthony Davis	**Quotation Number:**	- Not provided, standard prices apply
Contact Email:	anthony.davis@aecom.com	**Laboratory Address:**	Unit 1, 8 Leighton Pl. Asquith NSW 2077
Client Address:	PO Box 726 Pymble NSW 2073	**Phone:**	61 2 9476 6533
		Fax:	61 2 9476 8219
Project Name:	Barangaroo		
Project Number:	S4150014	**Sample Receipt Contact:**	Ros Schacht
CoC Serial Number:	- Not provided -	**Email:**	Ros.Schacht@labmark.com.au
Purchase Order:	- Not provided -	**Reporting Contact:**	Leanne Boag
Surcharge:	No surcharge applied (results by 6:30pm on due date)	**Email:**	leanne.boag@labmark.com.au
Sample Matrix:	SOIL		
Date Sampled (earliest date):	02/03/2010	**NATA Accreditation:**	13542
Date Samples Received:	05/03/2010	**TGA GMP License:**	185-336 (Sydney)
Date Sample Receipt Notice issued:	08/03/2010	**APVMA License:**	6105 (Sydney)
Date Preliminary Report Due:	12/03/2010	**AQIS Approval:**	NO356 (Sydney)
Client TAT Request Date:	12/03/2010	**AQIS Entry Permit:**	200521534 (Sydney)

Reporting Requirements: Electronic Data Download required: Yes

Invoice Number: 10EA8514

Sample Condition: COC received with samples. Report number and lab ID's defined on COC.
Samples received in good order .
Samples received with cooling media: Crushed ice .
Samples received chilled.
Security seals intact .
Sample container & chemical preservation suitable .

Comments: M13 as As, Ba, Be Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, Hg and Phenols as Speciated unless otherwise instructed

Holding Times: Date received allows for sufficient time to meet Technical Holding Times.

Preservation: Chemical preservation of samples satisfactory for requested analytes.

Important Notes:

LabMark shall responsibly dispose of spent customer soil and water samples which includes the disintegration of the sample label. A sample disposal fee of $1.00 is applicable on all samples received by the laboratory regardless of whether they have undergone analytical testing. Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur $5.00/ sample/ 3 months. Additional refrigerated storage shall incur $30/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

Analysis comments:

Subcontracted Analyses:

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 8/03/2010
Report Time : 10:35:40AM

Sample **Receipt** Notice (SRN) for **E047201**

Quality, Service, Support

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE

No.	Date	Depth	Client Sample ID	Requested Analysis: BTEX by P&T	Acid extractable metals - mercury	Acid extractable metals	Moisture	Polyaromatic Hydrocarbons (PAH)	Phenols by GC/MS	PREP Not Reported	Petroleum Hydrocarbons (TPH)	Volatile TPH by P&T (vTPH)											
252838	02/03		QC121	●	●	●	●	●	●	●	●	●											
			Totals:	1	1	1	1	1	1	1	1	1											

'PREP Not Reported' refers to an internal laboratory instruction - client confirmation of this parameter is not required.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 8/03/2010
Report Time : 10:35:40AM

Sample **Receipt** Notice (SRN) for **E047201**

Quality, Service, Support

				Requested Analysis																		
No.	**Date**	**Depth**	**Client Sample ID**	M9 - MET-T_S	MET-T_S Barium	MET-T_S Beryllium	MET-T_S Manganese	MET-T_S Vanadium														
252838	02/03		QC121	●	●	●	●	●														
			Totals:	1	1	1	1	1														

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

AECOM

Form: Declaration Area BATCH 1

Chain of Custody & Analysis Request Form

AECOM - Sydney
P.O. Box 726
Pymble NSW 2073 Australia
Tel: +61 2 8484 8999
Fax: +61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: LABMARK
Lab. Address:
Contact Name:
Lab. Ref:
Tel: 44766533
Fax: 94768219
Preliminary Report by:
Final Report by:
Lab Quote No: SY-259-09 V2

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:**

Sample collected by: Kate Pigram **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☑ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
requirements?	☐ Yes	☐ No	☐ N/A

7. Report Format: ☐ Fax ☐ Hard copy ☑ Email 8. Project Manager: Anthony Davis tel: (02) 8484 8999

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)
252838	QC121	2/3/10		X							1x250ml pun + lid

Analysis Request

pH	Metals (M13)	TPH (C6-C36)/BTEX	PAHs	Phenols	SVOC	Asbestos	Free Cyanide	WAD Cyanide	Total Cyanide	ASLP (M13 and PAHs)	TCLP (M13 and PAHs)	TOC	Cr VI	Fe		HOLD
	X	X	X	X												

Remarks and Comments
M13 (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg, Ba, Be, Co, Mn, V)

Relinquished By:	Received by:			
Name: Anthony Davis	Date: 3/3/10	Name: EQ47201	Date: 5/3/10	
of:	Time:	of: Labmark	Time: 3:40pm	
Relinquished By:	**Received by:**			
Name: Frank	Date: 5-3-10	Name:	Date:	
of: AES	Time: 11am 4-6°C	of:	Time:	

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

LabMark
ENVIRONMENTAL LABORATORIES

Accreditation No. 1645

AQIS
AUSTRALIAN QUARANTINE AND INSPECTION SERVICE
SYDNEY License No. N0356.

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. NATA is a signatory to the APLAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

Quarantine Approved Premises criteria 5.1 for quarantine containment level 1 (QCI) facilities. Class five criteria cover premises utilised for research, analysis and testing of biological material, soil, animal, plant and human products.

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION

Laboratory Report No:	E047262	Cover Page 1 of 4 plus Sample Results
Client Name:	AECOM Australia Pty Ltd	
Client Reference:	Barangaroo	
Contact Name:	Anthony Davis	
Chain of Custody No:	na	Date Received: 11/03/2010
Sample Matrix:	SOIL	Date Reported: 22/03/2010

This Final Certificate of Analysis consists of sample results, DQI's, method descriptions, laboratory definitions, and internationally recognised NATA accreditation and endorsement. The DQO compliance relates specifically to QA/QC results as performed as part of the sample analysis, and may provide an indication of sample result quality. Transfer of report ownership from Labmark to the client shall only occur once full & final payment has been settled and verified. All report copies may be retracted where full payment has not occured within the agreed settlement period.

QUALITY ASSURANCE CRITERIA

Accuracy:	matrix spike:	1 in first 5-20, then 1 every 20 samples
	lcs, crm, method:	1 per analytical batch
	surrogate spike:	addition per target organic method
Precision:	laboratory duplicate:	1 in first 5-10, then 1 every 10 samples
	laboratory triplicate:	re-extracted & reported when duplicate RPD values exceed acceptance criteria
Holding Times:	soils, waters:	Refer to LabMark Preservation & THT table VOC's 14 days water / soil VAC's 7 days water or 14 days acidified VAC's 14 days soil SVOC's 7 days water, 14 days soil Pesticides 7 days water, 14 days soil Metals 6 months general elements Mercury 28 days
Confirmation:	target organic analysis:	GC/MS, or confirmatory column
Sensitivity:	EQL:	Typically 2-5 x Method Detection Limit (MDL)

QUALITY CONTROL GLOBAL ACCEPTANCE CRITERIA (GAC)

Accuracy:	spike, lcs, crm surrogate:	general analytes 70% - 130% recovery phenol analytes 50% - 130% recovery organophosphorous pesticide analytes 60% - 130% recovery phenoxy acid herbicides, organotin 50% - 130% recovery
	anion/cation bal:	+/- 10% (0-3 meq/l), +/- 5% (>3 meq/l)
Precision:	method blank:	not detected >95% of the reported EQL
	duplicate lab RPD (metals):	0-30% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)
	duplicate lab RPD:	0-50% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)

QUALITY CONTROL ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)

Accuracy:	spike, lcs, crm surrogate:	analyte specific recovery data <3xsd of historical mean
Uncertainty:	spike, lcs:	measurement calculated from historical analyte specific control charts

RESULT ANNOTATION

Data Quality Objective	s:	matrix spike recovery	p:	pending	bcs: batch specific lcs
Data Quality Indicator	d:	laboratory duplicate	lcs:	laboratory control sample	bmb: batch specific mb
Estimated Quantitation Limit	t:	laboratory triplicate	crm:	certified reference material	
not applicable	r:	RPD relative % difference	mb:	method blank	

Simon Mills
Quality Control (Report signatory)
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Geoff Weir
Authorising Chemist (NATA signatory)
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NEPC GUIDELINE COMPLIANCE - DQO

1. GENERAL

A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.

B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.

C. Laboratory QA/QC samples are specific to this project.

D. Inter-laboratory proficiency results are available upon request. NATA accreditation details available at www.nata.asn.au.

E. VOC spikes & surrogates added to samples during extraction, SVOC spikes & surrogates added prior to extraction.

F. Recovery data outside GAC limits shall be investigated and compared to ASAC (historical mean +/- 3sd). If recovery data <20%, then the relevant results for that compound are considered not reliable.

G. Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. Anomolous QC data is examined in conjunction with other QC samples and a final decision whether to accept or reject results is provided by the professional judgement of the senior analyst. The USEPA-CLP National Functional Guidelines are referred to for specific recommendations.

H. Extraction (preparation) date refers to the date that sample preparation was initiated. Note that certain methods not requiring sample preparation (eg. VOCs in water, etc) may report a common extraction and analysis date.

I. LabMark shall maintain an official copy of this Certificate of Analysis for all tracable reference purposes.

2. CHAIN OF CUSTODY (COC) & SAMPLE RECEIPT NOTICE (SRN) REQUIREMENTS

A. SRN issued to client upon sample receipt & login verification.

B. Preservation & sampling date details specified on COC and SRN, unless noted.

C. Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

A. NATA accreditation held for each in-house method and sample matrix type reported, unless noted below (Refer to subcontracted test reports for NATA accreditation status).

B. NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA documents. Corporate Accreditation No. 13542.

C. Subcontracted analyses: Refer to Sample Receipt Notice and additional DQO comments.

Reported by LabMark Environmental Sydney, NATA accreditation No. 13542

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Environmental Laboratory Industry Group
Foundation Member

Laboratory Report: E047262

4. QA/QC FREQUENCY COMPLIANCE TABLE SPECIFIC TO THIS REPORT

Matrix: **SOIL**

Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	Volatile TPH by P&T (vTPH)	1	0	0%	0	0	0%
2	Petroleum Hydrocarbons (TPH)	1	0	0%	0	0	0%
3	Volatile Organic Compounds (VOC)	1	0	0%	0	0	0%
6	Acid extractable metals - mercury	1	0	0%	0	0	0%
7	Acid extractable metals	1	0	0%	0	0	0%
8	pH in soil	1	0	0%	0	0	0%
9	Acid extractable metals	1	0	0%	0	0	0%
10	Speciated Chromium	1	0	0%	0	0	0%
11	Total Cyanide	1	0	0%	0	0	0%
12	Semivolatile Organic Compounds (SVOC)	1	0	0%	0	0	0%
18	Weak Acid Dissociable Cyanide	1	0	0%	0	0	0%
19	Total Organic Carbon (TOC)	1	0	0%	0	0	0%
20	Moisture	1	--	--	--	--	--

GLOSSARY:

#d	number of discrete duplicate extractions/analyses performed.
%d-ratio	NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).
#t	number of triplicate extractions/analyses performed.
#s	number of spiked samples analysed.
%s-ratio	USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).

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Laboratory Report: E047262

5. ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT

A. All tests were conducted by LabMark Environmental Sydney, NATA accreditation No. 13542, unless indicated below.
B. SVOC (soil) LCS recovery range is 21% - 149%
C. Refer to LabMark historical control chart recovery range data. QA/QC (SVOC) results reported within 3sd of the historical analyte specific mean results, and therefore considered acceptable for laboratory release.

Laboratory QA/QC data shall relate specifically to this report, and may provide an indication of site specific sample result quality. LabMark DOES NOT report NON-RELEVANT BATCH QA/QC data. Acceptance of this self assessment certificate does not preclude any requirement for a QA/QC review by a accredited contaminated site EPA auditor, when and wherever necessary. Laboratory QA/QC self assessment references available upon request.

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HISTORICAL CONTROL CHART DATA - QA/QC

Analyte mean and standard deviation

SVOC_S

For the period: 01/01/2009 12:00:00 AM to 31/12/2009 11:59:59 PM

SPIKES

Analyte Name	n	Mean	1 SD	Range	2 SD	Range	3 SD	Range
1,2,4,5-tetrachlorobenzene	**19**	**87**	20	67 to 107	40	47 to 127	60	27 to 147
1,2,4-trichlorobenzene	**21**	**94**	15	79 to 109	30	64 to 124	45	49 to 139
1,2-dichlorobenzene	**20**	**93**	13	80 to 106	26	67 to 119	39	54 to 132
1,3-dichlorobenzene	**22**	**94**	14	80 to 108	28	66 to 122	42	52 to 136
1,4-dichlorobenzene	**20**	**95**	12	83 to 107	24	71 to 119	36	59 to 131
1,4-dinitrobenzene	**21**	**86**	13	73 to 99	26	60 to 112	39	47 to 125
1-naphthylamine	**13**	**76**	42	34 to 118	84	0 to 160	126	0 to 202
2,3,4,6-tetrachlorophenol	**21**	**75**	18	57 to 93	36	39 to 111	54	21 to 129
2,4,5-trichlorophenol	**23**	**90**	13	77 to 103	26	64 to 116	39	51 to 129
2,4,6-TBP (Surr @ 5mg/kg)	**22**	**86**	14	72 to 100	28	58 to 114	42	44 to 128
2,4,6-trichlorophenol	**22**	**85**	15	70 to 100	30	55 to 115	45	40 to 130
2,4-dichlorophenol	**20**	**92**	19	73 to 111	38	54 to 130	57	35 to 149
2,4-dimethylphenol	**18**	**89**	19	70 to 108	38	51 to 127	57	32 to 146
2,4-dinitrotoluene	**23**	**94**	13	81 to 107	26	68 to 120	39	55 to 133
2,6-dichlorophenol	**21**	**85**	16	69 to 101	32	53 to 117	48	37 to 133
2,6-dinitrotoluene	**23**	**90**	12	78 to 102	24	66 to 114	36	54 to 126
2-(acetylamino) fluorene	**22**	**82**	23	59 to 105	46	36 to 128	69	13 to 151
2-chloronaphthalene	**22**	**93**	14	79 to 107	28	65 to 121	42	51 to 135
2-chlorophenol	**20**	**90**	13	77 to 103	26	64 to 116	39	51 to 129
2-FBP (Surr @ 5mg/kg)	**23**	**87**	10	77 to 97	20	67 to 107	30	57 to 117
2-FP (Surr @ 5mg/kg)	**22**	**85**	15	70 to 100	30	55 to 115	45	40 to 130
2-methylnaphthalene	**21**	**95**	9	86 to 104	18	77 to 113	27	68 to 122
2-methylphenol	**20**	**89**	16	73 to 105	32	57 to 121	48	41 to 137
2-naphthylamine	**16**	**80**	41	39 to 121	82	0 to 162	123	0 to 203
2-nitroaniline	**22**	**90**	14	76 to 104	28	62 to 118	42	48 to 132
2-nitrophenol	**23**	**82**	14	68 to 96	28	54 to 110	42	40 to 124
3-&4-methylphenol	**20**	**82**	21	61 to 103	42	40 to 124	63	19 to 145
3-methylcholanthrene	**21**	**90**	20	70 to 110	40	50 to 130	60	30 to 150
3-nitroaniline	**21**	**84**	19	65 to 103	38	46 to 122	57	27 to 141
4,4-DDD	**18**	**92**	14	78 to 106	28	64 to 120	42	50 to 134
4,4-DDE	**20**	**83**	11	72 to 94	22	61 to 105	33	50 to 116
4,4-DDT	**17**	**76**	25	51 to 101	50	26 to 126	75	1 to 151
4-(dimethylamino) azobenzene	**21**	**80**	20	60 to 100	40	40 to 120	60	20 to 140
4-aminobiphenyl	**21**	**89**	15	74 to 104	30	59 to 119	45	44 to 134
4-bromophenyl phenyl ether	**23**	**91**	12	79 to 103	24	67 to 115	36	55 to 127
4-chloro-3-methylphenol	**21**	**89**	16	73 to 105	32	57 to 121	48	41 to 137
4-chloroaniline	**21**	**93**	23	70 to 116	46	47 to 139	69	24 to 162
4-chlorophenyl phenyl ether	**22**	**89**	10	79 to 99	20	69 to 109	30	59 to 119
4-nitroaniline	**22**	**97**	17	80 to 114	34	63 to 131	51	46 to 148
5-nitro-o-toluidine	**23**	**88**	11	77 to 99	22	66 to 110	33	55 to 121

7,12-dimethylbenz(a)anthracene	**23**	**91**	23	68 to 114	46	45 to 137	69	22 to 160
a-BHC	**18**	**88**	11	77 to 99	22	66 to 110	33	55 to 121
Acenaphthene	**21**	**87**	10	77 to 97	20	67 to 107	30	57 to 117
Acenaphthylene	**23**	**93**	14	79 to 107	28	65 to 121	42	51 to 135
Acetophenone	**21**	**91**	12	79 to 103	24	67 to 115	36	55 to 127
Aldrin	**19**	**85**	17	68 to 102	34	51 to 119	51	34 to 136
Aniline	**18**	**72**	30	42 to 102	60	12 to 132	90	0 to 162
Anthracene	**21**	**86**	11	75 to 97	22	64 to 108	33	53 to 119
Azinophos methyl	**23**	**74**	26	48 to 100	52	22 to 126	78	0 to 152
Azobenzene	**22**	**85**	12	73 to 97	24	61 to 109	36	49 to 121
b-BHC	**19**	**88**	16	72 to 104	32	56 to 120	48	40 to 136
Benz(a)anthracene	**22**	**86**	18	68 to 104	36	50 to 122	54	32 to 140
Benzo(a) pyrene	**21**	**80**	25	55 to 105	50	30 to 130	75	5 to 155
Benzo(b)&(k)fluoranthene	**22**	**87**	21	66 to 108	42	45 to 129	63	24 to 150
Benzo(g,h,i)perylene	**21**	**84**	24	60 to 108	48	36 to 132	72	12 to 156
Benzyl alcohol	**20**	**72**	28	44 to 100	56	16 to 128	84	0 to 156
Bis(2-chloroethoxy) methane	**23**	**94**	20	74 to 114	40	54 to 134	60	34 to 154
Bis(2-chloroethyl)ether	**22**	**95**	17	78 to 112	34	61 to 129	51	44 to 146
Bis(2-chloroisopropyl) ether	**23**	**93**	13	80 to 106	26	67 to 119	39	54 to 132
Bis(2-ethylhexyl) phthalate	**21**	**92**	22	70 to 114	44	48 to 136	66	26 to 158
Butyl benzyl phthalate	**21**	**97**	19	78 to 116	38	59 to 135	57	40 to 154
Carbazole	**21**	**90**	11	79 to 101	22	68 to 112	33	57 to 123
Chlorpyrifos	**21**	**82**	14	68 to 96	28	54 to 110	42	40 to 124
Chrysene	**22**	**88**	20	68 to 108	40	48 to 128	60	28 to 148
cis-chlordane	**20**	**88**	9	79 to 97	18	70 to 106	27	61 to 115
Coumaphos	**23**	**81**	18	63 to 99	36	45 to 117	54	27 to 135
d-BHC	**18**	**84**	11	73 to 95	22	62 to 106	33	51 to 117
Demeton-O	**23**	**87**	18	69 to 105	36	51 to 123	54	33 to 141
Demeton-S	**23**	**89**	17	72 to 106	34	55 to 123	51	38 to 140
Di-n-butyl phthalate	**21**	**91**	11	80 to 102	22	69 to 113	33	58 to 124
Di-n-octyl phthalate	**21**	**102**	37	65 to 139	74	28 to 176	111	0 to 213
Diazinon	**23**	**57**	21	36 to 78	42	15 to 99	63	0 to 120
Dibenz(a,h)anthracene	**21**	**82**	21	61 to 103	42	40 to 124	63	19 to 145
Dibenzofuran	**23**	**94**	11	83 to 105	22	72 to 116	33	61 to 127
Dichlorvos	**23**	**85**	21	64 to 106	42	43 to 127	63	22 to 148
Dieldrin	**20**	**84**	12	72 to 96	24	60 to 108	36	48 to 120
Diethylphthalate	**21**	**95**	9	86 to 104	18	77 to 113	27	68 to 122
Dimethoate	**23**	**82**	12	70 to 94	24	58 to 106	36	46 to 118
Dimethyl phthalate	**23**	**95**	13	82 to 108	26	69 to 121	39	56 to 134
Diphenylamine	**21**	**91**	17	74 to 108	34	57 to 125	51	40 to 142
Disulfoton	**23**	**87**	22	65 to 109	44	43 to 131	66	21 to 153
Endosulfan I	**18**	**89**	15	74 to 104	30	59 to 119	45	44 to 134
Endosulfan II	**18**	**85**	12	73 to 97	24	61 to 109	36	49 to 121
Endosulfan sulphate	**20**	**77**	11	66 to 88	22	55 to 99	33	44 to 110
Endrin	**19**	**85**	16	69 to 101	32	53 to 117	48	37 to 133
Endrin aldehyde	**18**	**83**	15	68 to 98	30	53 to 113	45	38 to 128
Endrin ketone	**19**	**85**	14	71 to 99	28	57 to 113	42	43 to 127
EPN	**23**	**80**	20	60 to 100	40	40 to 120	60	20 to 140
Ethoprop	**23**	**86**	13	73 to 99	26	60 to 112	39	47 to 125

Ethyl methanesulfonate	**23**	**86**	18	68 to 104	36	50 to 122	54	32 to 140
Fenitrothion	**22**	**79**	19	60 to 98	38	41 to 117	57	22 to 136
Fensulfothion	**22**	**82**	23	59 to 105	46	36 to 128	69	13 to 151
Fenthion	**23**	**88**	15	73 to 103	30	58 to 118	45	43 to 133
Fluoranthene	**20**	**89**	10	79 to 99	20	69 to 109	30	59 to 119
Fluorene	**22**	**89**	13	76 to 102	26	63 to 115	39	50 to 128
g-BHC (Lindane)	**18**	**87**	13	74 to 100	26	61 to 113	39	48 to 126
Heptachlor	**17**	**85**	18	67 to 103	36	49 to 121	54	31 to 139
Heptachlor epoxide	**20**	**86**	11	75 to 97	22	64 to 108	33	53 to 119
Hexachlorobenzene	**18**	**93**	13	80 to 106	26	67 to 119	39	54 to 132
Hexachlorobutadiene	**21**	**93**	11	82 to 104	22	71 to 115	33	60 to 126
Hexachlorocyclopentadiene	**14**	**61**	39	22 to 100	78	0 to 139	117	0 to 178
Hexachloroethane	**22**	**84**	16	68 to 100	32	52 to 116	48	36 to 132
Hexachloropropene	**21**	**76**	15	61 to 91	30	46 to 106	45	31 to 121
Indeno(1,2,3-c,d)pyrene	**21**	**81**	20	61 to 101	40	41 to 121	60	21 to 141
Isophorone	**22**	**97**	21	76 to 118	42	55 to 139	63	34 to 160
Isosafrole	**21**	**90**	10	80 to 100	20	70 to 110	30	60 to 120
Malathion	**23**	**94**	16	78 to 110	32	62 to 126	48	46 to 142
Methoxychlor	**17**	**76**	19	57 to 95	38	38 to 114	57	19 to 133
Methyl methanesulfonate	**21**	**77**	16	61 to 93	32	45 to 109	48	29 to 125
Methyl parathion	**23**	**85**	18	67 to 103	36	49 to 121	54	31 to 139
Mevinphos (Phosdrin)	**21**	**88**	16	72 to 104	32	56 to 120	48	40 to 136
N-nitrosodi-n-butylamine	**21**	**93**	12	81 to 105	24	69 to 117	36	57 to 129
N-nitrosodi-n-propylamine	**21**	**85**	17	68 to 102	34	51 to 119	51	34 to 136
N-nitrosodiethylamine	**21**	**91**	19	72 to 110	38	53 to 129	57	34 to 148
N-nitrosomorpholine	**21**	**88**	13	75 to 101	26	62 to 114	39	49 to 127
N-nitrosopiperidine	**22**	**88**	13	75 to 101	26	62 to 114	39	49 to 127
N-nitrosopyrrolidine	**22**	**84**	12	72 to 96	24	60 to 108	36	48 to 120
Naphthalene	**21**	**99**	21	78 to 120	42	57 to 141	63	36 to 162
NB-d5 (Surr @ 5mg/kg)	**22**	**87**	14	73 to 101	28	59 to 115	42	45 to 129
Nitrobenzene	**21**	**81**	14	67 to 95	28	53 to 109	42	39 to 123
o-toluidine	**21**	**108**	27	81 to 135	54	54 to 162	81	27 to 189
Parathion	**23**	**86**	15	71 to 101	30	56 to 116	45	41 to 131
Pentachlorobenzene	**22**	**87**	16	71 to 103	32	55 to 119	48	39 to 135
Pentachloroethane	**23**	**88**	13	75 to 101	26	62 to 114	39	49 to 127
Pentachloronitrobenzene	**23**	**90**	15	75 to 105	30	60 to 120	45	45 to 135
Pentachlorophenol	**21**	**88**	23	65 to 111	46	42 to 134	69	19 to 157
Phenacetin	**23**	**99**	24	75 to 123	48	51 to 147	72	27 to 171
Phenanthrene	**21**	**89**	14	75 to 103	28	61 to 117	42	47 to 131
Phenol	**22**	**86**	24	62 to 110	48	38 to 134	72	14 to 158
Phenol-d5 (Surr @ 5mg/kg)	**21**	**84**	16	68 to 100	32	52 to 116	48	36 to 132
Phorate	**21**	**92**	15	77 to 107	30	62 to 122	45	47 to 137
Profenofos	**23**	**79**	17	62 to 96	34	45 to 113	51	28 to 130
Prothiofos	**23**	**90**	14	76 to 104	28	62 to 118	42	48 to 132
Pyrene	**20**	**85**	16	69 to 101	32	53 to 117	48	37 to 133
Ronnel	**23**	**80**	15	65 to 95	30	50 to 110	45	35 to 125
Safrole	**22**	**94**	10	84 to 104	20	74 to 114	30	64 to 124
Stirophos	**22**	**74**	17	57 to 91	34	40 to 108	51	23 to 125
Sulfotepp	**22**	**83**	15	68 to 98	30	53 to 113	45	38 to 128

TP-d14 (Surr @ 5mg/kg)	**22**	**88**	13	75 to 101	26	62 to 114	39	49 to 127
trans-chlordane	**20**	**89**	12	77 to 101	24	65 to 113	36	53 to 125
Trichloronate	**23**	**89**	14	75 to 103	28	61 to 117	42	47 to 131

LCS_S

Analyte Name	**n**	**Mean**	1 SD	Range	2 SD	Range	3 SD	Range
1,2,4,5-tetrachlorobenzene	**40**	**78**	21	57 to 99	42	36 to 120	63	15 to 141
1,2,4-trichlorobenzene	**44**	**97**	13	84 to 110	26	71 to 123	39	58 to 136
1,2-dichlorobenzene	**45**	**99**	13	86 to 112	26	73 to 125	39	60 to 138
1,3-dichlorobenzene	**45**	**99**	14	85 to 113	28	71 to 127	42	57 to 141
1,4-dichlorobenzene	**45**	**101**	14	87 to 115	28	73 to 129	42	59 to 143
1,4-dinitrobenzene	**45**	**96**	14	82 to 110	28	68 to 124	42	54 to 138
1-naphthylamine	**45**	**68**	26	42 to 94	52	16 to 120	78	0 to 146
2,3,4,6-tetrachlorophenol	**45**	**87**	19	68 to 106	38	49 to 125	57	30 to 144
2,4,5-trichlorophenol	**45**	**95**	11	84 to 106	22	73 to 117	33	62 to 128
2,4,6-TBP (Surr @ 5mg/kg)	**45**	**97**	13	84 to 110	26	71 to 123	39	58 to 136
2,4,6-trichlorophenol	**45**	**92**	11	81 to 103	22	70 to 114	33	59 to 125
2,4-dichlorophenol	**45**	**95**	18	77 to 113	36	59 to 131	54	41 to 149
2,4-dimethylphenol	**45**	**102**	16	86 to 118	32	70 to 134	48	54 to 150
2,4-dinitrotoluene	**45**	**100**	13	87 to 113	26	74 to 126	39	61 to 139
2,6-dichlorophenol	**45**	**96**	13	83 to 109	26	70 to 122	39	57 to 135
2,6-dinitrotoluene	**45**	**100**	14	86 to 114	28	72 to 128	42	58 to 142
2-(acetylamino) fluorene	**45**	**91**	18	73 to 109	36	55 to 127	54	37 to 145
2-chloronaphthalene	**45**	**98**	13	85 to 111	26	72 to 124	39	59 to 137
2-chlorophenol	**45**	**97**	14	83 to 111	28	69 to 125	42	55 to 139
2-FBP (Surr @ 5mg/kg)	**45**	**91**	11	80 to 102	22	69 to 113	33	58 to 124
2-FP (Surr @ 5mg/kg)	**45**	**93**	13	80 to 106	26	67 to 119	39	54 to 132
2-methylnaphthalene	**45**	**98**	14	84 to 112	28	70 to 126	42	56 to 140
2-methylphenol	**45**	**99**	16	83 to 115	32	67 to 131	48	51 to 147
2-naphthylamine	**44**	**68**	30	38 to 98	60	8 to 128	90	0 to 158
2-nitroaniline	**45**	**98**	17	81 to 115	34	64 to 132	51	47 to 149
2-nitrophenol	**45**	**94**	19	75 to 113	38	56 to 132	57	37 to 151
3-&4-methylphenol	**45**	**86**	20	66 to 106	40	46 to 126	60	26 to 146
3-methylcholanthrene	**45**	**99**	19	80 to 118	38	61 to 137	57	42 to 156
3-nitroaniline	**45**	**98**	14	84 to 112	28	70 to 126	42	56 to 140
4,4-DDD	**45**	**96**	15	81 to 111	30	66 to 126	45	51 to 141
4,4-DDE	**45**	**97**	15	82 to 112	30	67 to 127	45	52 to 142
4,4-DDT	**45**	**90**	14	76 to 104	28	62 to 118	42	48 to 132
4-(dimethylamino) azobenzene	**45**	**94**	19	75 to 113	38	56 to 132	57	37 to 151
4-aminobiphenyl	**45**	**100**	11	89 to 111	22	78 to 122	33	67 to 133
4-bromophenyl phenyl ether	**45**	**97**	9	88 to 106	18	79 to 115	27	70 to 124
4-chloro-3-methylphenol	**45**	**99**	15	84 to 114	30	69 to 129	45	54 to 144
4-chloroaniline	**44**	**74**	26	48 to 100	52	22 to 126	78	0 to 152
4-chlorophenyl phenyl ether	**45**	**99**	10	89 to 109	20	79 to 119	30	69 to 129
4-nitroaniline	**45**	**84**	19	65 to 103	38	46 to 122	57	27 to 141
5-nitro-o-toluidine	**45**	**98**	13	85 to 111	26	72 to 124	39	59 to 137
7,12-dimethylbenz(a)anthracene	**45**	**89**	19	70 to 108	38	51 to 127	57	32 to 146
a-BHC	**45**	**97**	12	85 to 109	24	73 to 121	36	61 to 133
Acenaphthene	**45**	**97**	12	85 to 109	24	73 to 121	36	61 to 133

Acenaphthylene	**45**	**96**	10	86 to 106	20	76 to 116	30	66 to 126
Acetophenone	**45**	**98**	11	87 to 109	22	76 to 120	33	65 to 131
Aldrin	**45**	**100**	13	87 to 113	26	74 to 126	39	61 to 139
Aniline	**45**	**69**	26	43 to 95	52	17 to 121	78	0 to 147
Anthracene	**45**	**97**	10	87 to 107	20	77 to 117	30	67 to 127
Azinophos methyl	**45**	**87**	22	65 to 109	44	43 to 131	66	21 to 153
Azobenzene	**45**	**100**	12	88 to 112	24	76 to 124	36	64 to 136
b-BHC	**45**	**102**	22	80 to 124	44	58 to 146	66	36 to 168
Benz(a)anthracene	**45**	**97**	13	84 to 110	26	71 to 123	39	58 to 136
Benzo(a) pyrene	**45**	**95**	18	77 to 113	36	59 to 131	54	41 to 149
Benzo(b)&(k)fluoranthene	**45**	**96**	17	79 to 113	34	62 to 130	51	45 to 147
Benzo(g,h,i)perylene	**45**	**101**	13	88 to 114	26	75 to 127	39	62 to 140
Benzyl alcohol	**45**	**97**	17	80 to 114	34	63 to 131	51	46 to 148
Bis(2-chloroethoxy) methane	**45**	**99**	16	83 to 115	32	67 to 131	48	51 to 147
Bis(2-chloroethyl)ether	**45**	**102**	15	87 to 117	30	72 to 132	45	57 to 147
Bis(2-chloroisopropyl) ether	**45**	**98**	14	84 to 112	28	70 to 126	42	56 to 140
Bis(2-ethylhexyl) phthalate	**45**	**94**	19	75 to 113	38	56 to 132	57	37 to 151
Butyl benzyl phthalate	**45**	**96**	16	80 to 112	32	64 to 128	48	48 to 144
Carbazole	**45**	**99**	11	88 to 110	22	77 to 121	33	66 to 132
Chlorpyrifos	**45**	**93**	13	80 to 106	26	67 to 119	39	54 to 132
Chrysene	**45**	**100**	13	87 to 113	26	74 to 126	39	61 to 139
cis-chlordane	**45**	**96**	14	82 to 110	28	68 to 124	42	54 to 138
Coumaphos	**45**	**93**	23	70 to 116	46	47 to 139	69	24 to 162
d-BHC	**45**	**96**	11	85 to 107	22	74 to 118	33	63 to 129
Demeton-O	**45**	**99**	14	85 to 113	28	71 to 127	42	57 to 141
Demeton-S	**45**	**101**	18	83 to 119	36	65 to 137	54	47 to 155
Di-n-butyl phthalate	**45**	**96**	10	86 to 106	20	76 to 116	30	66 to 126
Di-n-octyl phthalate	**45**	**99**	20	79 to 119	40	59 to 139	60	39 to 159
Diazinon	**45**	**68**	18	50 to 86	36	32 to 104	54	14 to 122
Dibenz(a,h)anthracene	**45**	**98**	19	79 to 117	38	60 to 136	57	41 to 155
Dibenzofuran	**45**	**99**	10	89 to 109	20	79 to 119	30	69 to 129
Dichlorvos	**45**	**96**	16	80 to 112	32	64 to 128	48	48 to 144
Dieldrin	**45**	**96**	10	86 to 106	20	76 to 116	30	66 to 126
Diethylphthalate	**45**	**101**	12	89 to 113	24	77 to 125	36	65 to 137
Dimethoate	**45**	**95**	14	81 to 109	28	67 to 123	42	53 to 137
Dimethyl phthalate	**45**	**101**	12	89 to 113	24	77 to 125	36	65 to 137
Diphenylamine	**45**	**99**	10	89 to 109	20	79 to 119	30	69 to 129
Disulfoton	**45**	**97**	19	78 to 116	38	59 to 135	57	40 to 154
Endosulfan I	**45**	**97**	12	85 to 109	24	73 to 121	36	61 to 133
Endosulfan II	**45**	**94**	12	82 to 106	24	70 to 118	36	58 to 130
Endosulfan sulphate	**45**	**94**	12	82 to 106	24	70 to 118	36	58 to 130
Endrin	**45**	**100**	20	80 to 120	40	60 to 140	60	40 to 160
Endrin aldehyde	**45**	**94**	18	76 to 112	36	58 to 130	54	40 to 148
Endrin ketone	**45**	**102**	17	85 to 119	34	68 to 136	51	51 to 153
EPN	**45**	**87**	23	64 to 110	46	41 to 133	69	18 to 156
Ethoprop	**45**	**100**	15	85 to 115	30	70 to 130	45	55 to 145
Ethyl methanesulfonate	**45**	**97**	18	79 to 115	36	61 to 133	54	43 to 151
Fenitrothion	**45**	**88**	16	72 to 104	32	56 to 120	48	40 to 136
Fensulfothion	**45**	**79**	18	61 to 97	36	43 to 115	54	25 to 133

Fenthion	**45**	**100**	16	84 to 116	32	68 to 132	48	52 to 148
Fluoranthene	**45**	**96**	9	87 to 105	18	78 to 114	27	69 to 123
Fluorene	**45**	**96**	11	85 to 107	22	74 to 118	33	63 to 129
g-BHC (Lindane)	**45**	**97**	16	81 to 113	32	65 to 129	48	49 to 145
Heptachlor	**45**	**99**	13	86 to 112	26	73 to 125	39	60 to 138
Heptachlor epoxide	**45**	**96**	13	83 to 109	26	70 to 122	39	57 to 135
Hexachlorobenzene	**45**	**97**	11	86 to 108	22	75 to 119	33	64 to 130
Hexachlorobutadiene	**45**	**99**	12	87 to 111	24	75 to 123	36	63 to 135
Hexachlorocyclopentadiene	**45**	**51**	23	28 to 74	46	5 to 97	69	0 to 120
Hexachloroethane	**45**	**97**	12	85 to 109	24	73 to 121	36	61 to 133
Hexachloropropene	**45**	**90**	11	79 to 101	22	68 to 112	33	57 to 123
Indeno(1,2,3-c,d)pyrene	**45**	**101**	14	87 to 115	28	73 to 129	42	59 to 143
Isophorone	**45**	**96**	18	78 to 114	36	60 to 132	54	42 to 150
Isosafrole	**45**	**95**	14	81 to 109	28	67 to 123	42	53 to 137
Malathion	**45**	**96**	13	83 to 109	26	70 to 122	39	57 to 135
Methoxychlor	**45**	**93**	19	74 to 112	38	55 to 131	57	36 to 150
Methyl methanesulfonate	**45**	**93**	14	79 to 107	28	65 to 121	42	51 to 135
Methyl parathion	**45**	**90**	13	77 to 103	26	64 to 116	39	51 to 129
Mevinphos (Phosdrin)	**45**	**98**	17	81 to 115	34	64 to 132	51	47 to 149
N-nitrosodi-n-butylamine	**45**	**96**	17	79 to 113	34	62 to 130	51	45 to 147
N-nitrosodi-n-propylamine	**45**	**97**	21	76 to 118	42	55 to 139	63	34 to 160
N-nitrosodiethylamine	**45**	**96**	17	79 to 113	34	62 to 130	51	45 to 147
N-nitrosomorpholine	**45**	**97**	15	82 to 112	30	67 to 127	45	52 to 142
N-nitrosopiperidine	**45**	**96**	15	81 to 111	30	66 to 126	45	51 to 141
N-nitrosopyrrolidine	**45**	**91**	18	73 to 109	36	55 to 127	54	37 to 145
Naphthalene	**44**	**97**	16	81 to 113	32	65 to 129	48	49 to 145
NB-d5 (Surr @ 5mg/kg)	**45**	**94**	11	83 to 105	22	72 to 116	33	61 to 127
Nitrobenzene	**45**	**96**	17	79 to 113	34	62 to 130	51	45 to 147
o-toluidine	**45**	**72**	33	39 to 105	66	6 to 138	99	0 to 171
Parathion	**45**	**96**	18	78 to 114	36	60 to 132	54	42 to 150
Pentachlorobenzene	**45**	**95**	11	84 to 106	22	73 to 117	33	62 to 128
Pentachloroethane	**45**	**97**	14	83 to 111	28	69 to 125	42	55 to 139
Pentachloronitrobenzene	**45**	**95**	11	84 to 106	22	73 to 117	33	62 to 128
Pentachlorophenol	**44**	**86**	18	68 to 104	36	50 to 122	54	32 to 140
Phenacetin	**45**	**98**	14	84 to 112	28	70 to 126	42	56 to 140
Phenanthrene	**45**	**96**	11	85 to 107	22	74 to 118	33	63 to 129
Phenol	**45**	**95**	18	77 to 113	36	59 to 131	54	41 to 149
Phenol-d5 (Surr @ 5mg/kg)	**45**	**93**	12	81 to 105	24	69 to 117	36	57 to 129
Phorate	**45**	**100**	15	85 to 115	30	70 to 130	45	55 to 145
Profenofos	**45**	**92**	19	73 to 111	38	54 to 130	57	35 to 149
Prothiofos	**45**	**98**	16	82 to 114	32	66 to 130	48	50 to 146
Pyrene	**45**	**97**	14	83 to 111	28	69 to 125	42	55 to 139
Ronnel	**45**	**94**	13	81 to 107	26	68 to 120	39	55 to 133
Safrole	**45**	**97**	12	85 to 109	24	73 to 121	36	61 to 133
Stirophos	**45**	**86**	15	71 to 101	30	56 to 116	45	41 to 131
Sulfotepp	**45**	**99**	14	85 to 113	28	71 to 127	42	57 to 141
TP-d14 (Surr @ 5mg/kg)	**45**	**92**	14	78 to 106	28	64 to 120	42	50 to 134
trans-chlordane	**45**	**96**	14	82 to 110	28	68 to 124	42	54 to 138
Trichloronate	**45**	**97**	13	84 to 110	26	71 to 123	39	58 to 136

LabMark
ENVIRONMENTAL LABORATORIES

Laboratory Report No: E047262
Client Name: AECOM Australia Pty Ltd
Contact Name: Anthony Davis
Client Reference: Barangaroo S4150014

Date: 22/03/10
This report supercedes reports issued on: N/A

Final
Certificate
of Analysis

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		16/3/10	16/3/10	16/3/10							
Method : E029.2/E016.2											
Volatile TPH by P&T (vTPH)	**EQL**										
C6 - C9 Fraction	10	<10	109%	<10							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E029.2/E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/FID/MSD.

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		18/3/10	15/3/10	15/3/10							
Method : E006.2											
Petroleum Hydrocarbons (TPH)	**EQL**										
C10 - C14 Fraction	50	<50	--	<50							
C15 - C28 Fraction	100	<100	119%	<100							
C29 - C36 Fraction	100	<100	--	<100							
Sum of TPH C10 - C36	--	--	--	--							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/FID.

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		16/3/10	15/3/10	16/3/10							
Method : E016.2											
Volatile Organic Compounds (VOC)	**EQL**										
Volatile Aromatic Compounds											
Benzene	0.5	<0.5	101%	<0.5							
Toluene	0.5	<0.5	108%	<0.5							
Ethylbenzene	0.5	<0.5	97%	<0.5							
m- & p-xylene	1	<1	97%	<1							
o-xylene	0.5	<0.5	98%	<0.5							
Styrene	0.5	<0.5	100%	<0.5							
Isopropylbenzene	0.5	<0.5	97%	<0.5							
n-propylbenzene	0.5	<0.5	97%	<0.5							
1,3,5-trimethylbenzene	0.5	<0.5	97%	<0.5							
sec-butylbenzene	0.5	<0.5	96%	<0.5							
1,2,4-trimethylbenzene	0.5	<0.5	96%	<0.5							
tert-butylbenzene	0.5	<0.5	97%	<0.5							
p-isopropyltoluene	0.5	<0.5	96%	<0.5							
n-butylbenzene	0.5	<0.5	94%	<0.5							
Naphthalene	0.5	<0.5	92%	<0.5							
Halogenated Aliphatics											
Dichlorodifluoromethane	5	<5	119%	<5							
Chloromethane	5	<5	114%	<5							
Vinyl chloride	5	<5	102%	<5							
Bromomethane	5	<5	123%	<5							
Chloroethane	5	<5	107%	<5							
Trichlorofluoromethane	5	<5	102%	<5							
1,1-dichloroethene	0.5	<0.5	104%	<0.5							
trans-1,2-dichloroethene	0.5	<0.5	107%	<0.5							
1,1-dichloroethane	0.5	<0.5	108%	<0.5							
cis-1,2-dichloroethene	0.5	<0.5	109%	<0.5							

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		16/3/10	15/3/10	16/3/10							
Method : E016.2											
Volatile Organic Compounds (VOC)	**EQL**										
2,2-dichloropropane	0.5	<0.5	118%	<0.5							
Chloroform	0.5	<0.5	104%	<0.5							
1,1,1-trichloroethane	0.5	<0.5	103%	<0.5							
1,2-dichloroethane	0.5	<0.5	107%	<0.5							
1,1-dichloropropene	0.5	<0.5	107%	<0.5							
Carbon tetrachloride	0.5	<0.5	104%	<0.5							
Trichloroethene	0.5	<0.5	96%	<0.5							
1,2-dichloropropane	0.5	<0.5	90%	<0.5							
Dibromomethane	0.5	<0.5	97%	<0.5							
Bromodichloromethane	0.5	<0.5	94%	<0.5							
cis-1,3-dichloropropene	0.5	<0.5	107%	<0.5							
trans-1,3-dichloropropene	0.5	<0.5	108%	<0.5							
1,1,2-trichloroethane	0.5	<0.5	109%	<0.5							
1,3-dichloropropane	0.5	<0.5	108%	<0.5							
Chlorodibromomethane	0.5	<0.5	107%	<0.5							
Tetrachloroethene	0.5	<0.5	106%	<0.5							
1,2-dibromoethane	0.5	<0.5	109%	<0.5							
1,1,1,2-tetrachloroethane	0.5	<0.5	99%	<0.5							
Bromoform	0.5	<0.5	98%	<0.5							
1,1,2,2-tetrachloroethane	0.5	<0.5	100%	<0.5							
1,2,3-trichloropropane	0.5	<0.5	99%	<0.5							
1,2-dibromo-3-chloropropane	0.5	<0.5	94%	<0.5							
Hexachlorobutadiene	0.5	<0.5	92%	<0.5							
Halogenated Aromatics											
Chlorobenzene	0.5	<0.5	99%	<0.5							
Bromobenzene	0.5	<0.5	98%	<0.5							
2-chlorotoluene	0.5	<0.5	98%	<0.5							

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		16/3/10	15/3/10	16/3/10							
Method : E016.2											
Volatile Organic Compounds (VOC)	**EQL**										
4-chlorotoluene	0.5	<0.5	98%	<0.5							
1,3-dichlorobenzene	0.5	<0.5	98%	<0.5							
1,4-dichlorobenzene	0.5	<0.5	98%	<0.5							
1,2-dichlorobenzene	0.5	<0.5	99%	<0.5							
1,2,4-trichlorobenzene	0.5	<0.5	92%	<0.5							
1,2,3-trichlorobenzene	0.5	<0.5	89%	<0.5							
Oxygenated Compounds											
Vinyl acetate	5	<5	114%	<5							
Ethyl acetate	0.5	<0.5	110%	<0.5							
tert-butylmethylether (TBME)	0.5	<0.5	109%	<0.5							
Sulphonated Compounds											
Carbon disulfide	0.5	<0.5	108%	<0.5							
Surrogate Standards											
BCP (Surr @ 20mg/kg)	--	*89%*	*107%*	*105%*							
DCFB (Surr @ 20mg/kg)	--	*86%*	*93%*	*103%*							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/MS. (NB) Acetone and Dichloromethane not reported unless requested.

Laboratory Identification		**253559**	**crm**	**lcs**	**mb**						
Sample Identification		QC126	QC	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		5/3/10	--	--	--						
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10	15/3/10						
Laboratory Analysis Date		16/3/10	16/3/10	16/3/10	16/3/10						
Method : E026.2											
Acid extractable metals - mercury	**EQL**										
Mercury	0.05	0.14	90%	89%	<0.05						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Identification		**253559**	**crm**	**lcs**	**mb**						
Sample Identification		QC126	QC	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		5/3/10	--	--	--						
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10	15/3/10						
Laboratory Analysis Date		16/3/10	16/3/10	16/3/10	16/3/10						
Method : E022.2											
Acid extractable metals	**EQL**										
Arsenic	1	2	108%	114%	<1						
Barium	5	34	82%	100%	<5						
Beryllium	1	<1	94%	88%	<1						
Cadmium	0.1	<0.1	97%	97%	<0.1						
Chromium	1	5	124%	123%	<1						
Cobalt	1	1	112%	129%	<1						
Copper	2	10	116%	124%	<2						
Lead	2	131	98%	102%	<2						
Manganese	5	44	105%	132%	<5						
Nickel	1	2	111%	126%	<1						
Vanadium	5	16	97%	121%	<5						
Zinc	5	65	112%	126%	<5						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Identification		**253559**									
Sample Identification		QC126									
Depth (m)		--									
Sampling Date recorded on COC		5/3/10									
Laboratory Extraction (Preparation) Date		15/3/10									
Laboratory Analysis Date		15/3/10									
Method : E018.2											
pH in soil	**EQL**										
pH (pH units)	0.1	9.3									

Results expressed in pH units unless otherwise specified

Comments:

E018.2: 1:5 soil leachate. Followed by measurement by pH ion selective electrode. Results expressed as per leachate.

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		16/3/10	16/3/10	16/3/10							
Method : E020.2/E030.2											
Acid extractable metals	**EQL**										
Iron	10	7900	100%	<10							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E020.2/E030.2: 0.5g digested with nitric/hydrochloric acid . Analysis by AAS and/or ICP-OES.

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		16/3/10	16/3/10	16/3/10							
Method : E043.2/E057.2											
Speciated Chromium	**EQL**										
Hexavalent Chromium	1	<1	92%	<1							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E043.2/E057.2: Alkaline digestion followed by determination by colour.

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		18/3/10	18/3/10	18/3/10							
Method : E040.2/E054.2											
Total Cyanide	**EQL**										
Total Cyanide	1	<1	90%	<1							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E040.2/E054.2: Caustic extract followed by strong acid distillion. Analysis by colour.

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		15/3/10	15/3/10	15/3/10							
Method : E017.2											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Phenols											
Phenol	0.5	<0.5	111%	<0.5							
2-chlorophenol	0.5	<0.5	128%	<0.5							
2-methylphenol	0.5	<0.5	112%	<0.5							
3-&4-methylphenol	1	<1	99%	<1							
2-nitrophenol	0.5	<0.5	90%	<0.5							
2,4-dimethylphenol	0.5	<0.5	123%	<0.5							
2,4-dichlorophenol	0.5	<0.5	149%	<0.5							
2,6-dichlorophenol	0.5	<0.5	84%	<0.5							
4-chloro-3-methylphenol	0.5	<0.5	97%	<0.5							
2,4,6-trichlorophenol	0.5	<0.5	95%	<0.5							
2,4,5-trichlorophenol	0.5	<0.5	90%	<0.5							
2,3,4,6-tetrachlorophenol	0.5	<0.5	64%	<0.5							
Pentachlorophenol	1	<1	82%	<1							
Polynuclear Aromatic Hydrocarbons											
Naphthalene	0.5	<0.5	124%	<0.5							
2-methylnaphthalene	0.5	<0.5	98%	<0.5							
2-chloronaphthalene	0.5	<0.5	127%	<0.5							
Acenaphthylene	0.5	<0.5	86%	<0.5							
Acenaphthene	0.5	<0.5	78%	<0.5							
Fluorene	0.5	<0.5	79%	<0.5							
Phenanthrene	0.5	0.8	80%	<0.5							
Anthracene	0.5	<0.5	86%	<0.5							
Fluoranthene	0.5	1.3	97%	<0.5							
Pyrene	0.5	1.1	85%	<0.5							
2-(acetylamino) fluorene	0.5	<0.5	87%	<0.5							
Benz(a)anthracene	0.5	0.5	93%	<0.5							

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		15/3/10	15/3/10	15/3/10							
Method : E017.2											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Chrysene	0.5	0.6	96%	<0.5							
Benzo(b)&(k)fluoranthene	1	<1	84%	<1							
7,12-dimethylbenz(a)anthracene	0.5	<0.5	107%	<0.5							
Benzo(a) pyrene	0.5	0.6	78%	<0.5							
3-methylcholanthrene	0.5	<0.5	88%	<0.5							
Indeno(1,2,3-c,d)pyrene	0.5	<0.5	82%	<0.5							
Dibenz(a,h)anthracene	0.5	<0.5	100%	<0.5							
Benzo(g,h,i)perylene	0.5	<0.5	84%	<0.5							
Phthalates											
Dimethyl phthalate	0.5	<0.5	126%	<0.5							
Diethylphthalate	0.5	<0.5	87%	<0.5							
Di-n-butyl phthalate	0.5	<0.5	95%	<0.5							
Butyl benzyl phthalate	0.5	<0.5	94%	<0.5							
Bis(2-ethylhexyl) phthalate	5	<5	38%	<5							
Di-n-octyl phthalate	0.5	<0.5	105%	<0.5							
Nitrosamines											
N-nitrosodiethylamine	0.5	<0.5	105%	<0.5							
N-nitrosopyrrolidine	1	<1	82%	<1							
N-nitrosomorpholine	0.5	<0.5	116%	<0.5							
N-nitrosodi-n-propylamine	0.5	<0.5	128%	<0.5							
N-nitrosopiperidine	0.5	<0.5	112%	<0.5							
N-nitrosodi-n-butylamine	0.5	<0.5	105%	<0.5							
Diphenylamine	0.5	<0.5	86%	<0.5							
4-aminobiphenyl	0.5	<0.5	86%	<0.5							
Organochlorine Pesticides											
a-BHC	0.5	<0.5	94%	<0.5							
b-BHC	0.5	<0.5	89%	<0.5							

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		15/3/10	15/3/10	15/3/10							
Method : E017.2											
Semivolatile Organic Compounds (SVOC)	**EQL**										
d-BHC	0.5	<0.5	91%	<0.5							
g-BHC (Lindane)	0.5	<0.5	96%	<0.5							
Heptachlor	0.5	<0.5	89%	<0.5							
Aldrin	0.5	<0.5	94%	<0.5							
Heptachlor epoxide	0.5	<0.5	93%	<0.5							
Endosulfan I	0.5	<0.5	97%	<0.5							
trans-chlordane	0.5	<0.5	92%	<0.5							
cis-chlordane	0.5	<0.5	96%	<0.5							
4,4-DDE	0.5	<0.5	95%	<0.5							
Dieldrin	0.5	<0.5	92%	<0.5							
Endrin	0.5	<0.5	99%	<0.5							
Endosulfan II	0.5	<0.5	94%	<0.5							
4,4-DDD	0.5	<0.5	94%	<0.5							
Endosulfan sulphate	0.5	<0.5	90%	<0.5							
Endrin aldehyde	0.5	<0.5	94%	<0.5							
Endrin ketone	0.5	<0.5	110%	<0.5							
4,4-DDT	1	<1	94%	<1							
Methoxychlor	0.5	<0.5	105%	<0.5							
Organophosphorus Pesticides											
Dichlorvos	0.5	<0.5	112%	<0.5							
Mevinphos (Phosdrin)	0.5	<0.5	123%	<0.5							
Demeton-O	0.5	<0.5	83%	<0.5							
Ethoprop	0.5	<0.5	86%	<0.5							
Phorate	0.5	<0.5	86%	<0.5							
Demeton-S	0.5	<0.5	91%	<0.5							
Dimethoate	0.5	<0.5	90%	<0.5							
Diazinon	0.5	<0.5	31%	<0.5							

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		15/3/10	15/3/10	15/3/10							
Method : E017.2											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Sulfotepp	0.5	<0.5	75%	<0.5							
Disulfoton	0.5	<0.5	80%	<0.5							
Methyl parathion	0.5	<0.5	63%	<0.5							
Ronnel	0.5	<0.5	79%	<0.5							
Malathion	0.5	<0.5	88%	<0.5							
Fenitrothion	0.5	<0.5	51%	<0.5							
Fenthion	0.5	<0.5	90%	<0.5							
Chlorpyrifos	0.5	<0.5	83%	<0.5							
Parathion	0.5	<0.5	74%	<0.5							
Trichloronate	0.5	<0.5	93%	<0.5							
EPN	0.5	<0.5	72%	<0.5							
Stirophos	0.5	<0.5	55%	<0.5							
Prothiofos	0.5	<0.5	88%	<0.5							
Profenofos	0.5	<0.5	57%	<0.5							
Fensulfothion	0.5	<0.5	68%	<0.5							
Azinophos methyl	0.5	<0.5	73%	<0.5							
Coumaphos	0.5	<0.5	75%	<0.5							
Nitroaromatics and Ketones											
Acetophenone	0.5	<0.5	118%	<0.5							
Isophorone	0.5	<0.5	123%	<0.5							
Nitrobenzene	0.5	<0.5	82%	<0.5							
1,4-dinitrobenzene	0.5	<0.5	108%	<0.5							
2,6-dinitrotoluene	1	<1	116%	<1							
2,4-dinitrotoluene	1	<1	72%	<1							
5-nitro-o-toluidine	0.5	<0.5	78%	<0.5							
Azobenzene	0.5	<0.5	90%	<0.5							
4-(dimethylamino) azobenzene	0.5	<0.5	77%	<0.5							

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		15/3/10	15/3/10	15/3/10							
Method : E017.2											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Phenacetin	0.5	<0.5	92%	<0.5							
Pentachloronitrobenzene	0.5	<0.5	88%	<0.5							
Anilines and Benzedines											
Aniline	0.5	<0.5	47%	<0.5							
4-chloroaniline	0.5	<0.5	49%	<0.5							
2-nitroaniline	1	<1	96%	<1							
3-nitroaniline	1	<1	93%	<1							
4-nitroaniline	0.5	<0.5	53%	<0.5							
Dibenzofuran	0.5	<0.5	86%	<0.5							
Carbazole	0.5	<0.5	98%	<0.5							
o-toluidine	0.5	<0.5	42%	<0.5							
1-naphthylamine	0.5	<0.5	21%	<0.5							
2-naphthylamine	0.5	<0.5	25%	<0.5							
Chlorinated Hydrocarbons											
1,3-dichlorobenzene	0.5	<0.5	120%	<0.5							
1,4-dichlorobenzene	0.5	<0.5	103%	<0.5							
1,2-dichlorobenzene	0.5	<0.5	118%	<0.5							
1,2,4-trichlorobenzene	0.5	<0.5	123%	<0.5							
1,2,4,5-tetrachlorobenzene	0.5	<0.5	63%	<0.5							
Pentachlorobenzene	0.5	<0.5	84%	<0.5							
Hexachlorobenzene	0.5	<0.5	94%	<0.5							
Pentachloroethane	0.5	<0.5	111%	<0.5							
Hexachloroethane	0.5	<0.5	107%	<0.5							
Hexachloropropene	0.5	<0.5	93%	<0.5							
Hexachlorobutadiene	0.5	<0.5	108%	<0.5							
Hexachlorocyclopentadiene	2	<2	42%	<2							
Haloethers											

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		15/3/10	15/3/10	15/3/10							
Method : E017.2											
Semivolatile Organic Compounds (SVOC)	**EQL**										
Bis(2-chloroethyl)ether	0.5	<0.5	109%	<0.5							
Bis(2-chloroisopropyl) ether	0.5	<0.5	126%	<0.5							
Bis(2-chloroethoxy) methane	0.5	<0.5	95%	<0.5							
4-chlorophenyl phenyl ether	0.5	<0.5	89%	<0.5							
4-bromophenyl phenyl ether	0.5	<0.5	92%	<0.5							
Miscellaneous Compounds											
Methyl methanesulfonate	0.5	<0.5	128%	<0.5							
Ethyl methanesulfonate	0.5	<0.5	116%	<0.5							
Benzyl alcohol	0.5	<0.5	109%	<0.5							
Safrole	0.5	<0.5	127%	<0.5							
Isosafrole	0.5	<0.5	118%	<0.5							
Surrogate Standards											
2-FP (Surr @ 5mg/kg)	--	*114%*	*125%*	*125%*							
Phenol-d5 (Surr @ 5mg/kg)	--	*121%*	*126%*	*113%*							
NB-d5 (Surr @ 5mg/kg)	--	*115%*	*122%*	*127%*							
2-FBP (Surr @ 5mg/kg)	--	*98%*	*116%*	*114%*							
2,4,6-TBP (Surr @ 5mg/kg)	--	*75%*	*86%*	*94%*							
TP-d14 (Surr @ 5mg/kg)	--	*114%*	*125%*	*129%*							

Results expressed in mg/kg dry weight unless otherwise specified

Comments: -

E017.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

Laboratory Identification		**253559**	**lcs**	**mb**							
Sample Identification		QC126	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		5/3/10	--	--							
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10	15/3/10							
Laboratory Analysis Date		18/3/10	18/3/10	18/3/10							
Method : E040.2/E054.2											
Weak Acid Dissociable Cyanide	**EQL**										
WAD Cyanide	1	<1	107%	<1							

Results expressed in mg/l unless otherwise specified

Comments:

E040.2/E054.2: Caustic soil extraction, Acetate distillate collected in sodium hydroxide. Analysis by colour.

Laboratory Identification		**253559**	**mb**								
Sample Identification		QC126	QC								
Depth (m)		--	--								
Sampling Date recorded on COC		5/3/10	--								
Laboratory Extraction (Preparation) Date		15/3/10	15/3/10								
Laboratory Analysis Date		18/3/10	19/3/10								
Method : Walkley Black											
Total Organic Carbon (TOC)	**EQL**										
TOC	0.1	0.3	<0.1								

Results expressed in % w/w unless otherwise specified

Comments:

Walkley Black: Total Organic Carbon by Titration (Walkley Black method)

Laboratory Identification		**253559**									
Sample Identification		QC126									
Depth (m)		--									
Sampling Date recorded on COC		5/3/10									
Laboratory Extraction (Preparation) Date		15/3/10									
Laboratory Analysis Date		16/3/10									
Method : E005.2											
Moisture	**EQL**										
Moisture	--	16									

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 11/03/2010
Report Time : 5:14:51PM

Sample **Receipt** Notice (SRN) for **E047262**

Quality, Service, Support

Client Details		Laboratory Reference Information	
Client Name:	AECOM Australia Pty Ltd	**Please have this information ready when contacting Labmark.**	
Client Phone:	02 8484 8999		
Client Fax:	02 8484 8989	**Laboratory Report:**	**E047262**
Contact Name:	Anthony Davis	**Quotation Number:**	- Not provided, standard prices apply
Contact Email:	anthony.davis@aecom.com	**Laboratory Address:**	Unit 1, 8 Leighton Pl. Asquith NSW 2077
Client Address:	PO Box 726 Pymble NSW 2073	**Phone:**	61 2 9476 6533
		Fax:	61 2 9476 8219
Project Name:	Barangaroo		
Project Number:	S4150014	**Sample Receipt Contact:**	Ros Schacht
CoC Serial Number:	- Not provided -	**Email:**	Ros.Schacht@labmark.com.au
Purchase Order:	1303951	**Reporting Contact:**	Leanne Boag
Surcharge:	No surcharge applied (results by 6:30pm on due date)	**Email:**	leanne.boag@labmark.com.au
Sample Matrix:	SOIL		
Date Sampled (earliest date):	05/03/2010	**NATA Accreditation:**	13542
Date Samples Received:	11/03/2010	**TGA GMP License:**	185-336 (Sydney)
Date Sample Receipt Notice issued:	11/03/2010	**APVMA License:**	6105 (Sydney)
Date Preliminary Report Due:	18/03/2010	**AQIS Approval:**	NO356 (Sydney)
Client TAT Request Date:	18/03/2010	**AQIS Entry Permit:**	200521534 (Sydney)

Reporting Requirements: Electronic Data Download required: Yes

Invoice Number: 10EA8575

Sample Condition: COC received with samples. Report number and lab ID's defined on COC.
Samples received in good order .
Samples received with cooling media: Crushed ice .
Samples received chilled.
Security seals not used .
Sample container & chemical preservation suitable .

Comments: M13 as As, Be, Ba, Cd, Cr, Co, Cu, Ni, Pb Mn, V, Zn, Hg unless otherwise instructed

Holding Times: Date received allows for sufficient time to meet Technical Holding Times.

Preservation: Chemical preservation of samples satisfactory for requested analytes.

Important Notes:

LabMark shall responsibly dispose of spent customer soil and water samples which includes the disintegration of the sample label. A sample disposal fee of $1.00 is applicable on all samples received by the laboratory regardless of whether they have undergone analytical testing. Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur $5.00/ sample/ 3 months. Additional refrigerated storage shall incur $30/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

Analysis comments:

VOC E016.2: Acetone and Dichloromethane not reported unless requested.

Subcontracted Analyses:

Reported by LabMark Environmental Sydney, NATA accreditation No. 13542

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 11/03/2010
Report Time : 5:14:51PM

Sample **Receipt** Notice (SRN) for **E047262**

Quality, Service, Support

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE

No.	Date	Depth	Client Sample ID	Requested Analysis: Speciated Chromium	Acid extractable metals - mercury	Acid extractable metals	Acid extractable metals	Moisture	pH in soil	PREP Not Reported	Semivolatile Organic Compounds (SVOC)	Total Organic Carbon (TOC)	Total Cyanide	Petroleum Hydrocarbons (TPH)	Volatile Organic Compounds (VOC)	Volatile TPH by P&T (vTPH)	Weak Acid Dissociable Cyanide						
253559	05/03		QC126	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
			Totals:	1	1	1	1	1	1	1	1	1	1	1	1	1	1						

'PREP Not Reported' refers to an internal laboratory instruction - client confirmation of this parameter is not required.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

LabMark
ENVIRONMENTAL LABORATORIES

Report Date : 11/03/2010
Report Time : 5:14:51PM

Sample **Receipt** Notice (SRN) for **E047262**

Quality, Service, Support

No.	Date	Depth	Client Sample ID	Requested Analysis																			
				M9 - MET-T_S	MET-AAS_S Iron	MET-T_S Barium	MET-T_S Beryllium	MET-T_S Manganese	MET-T_S Vanadium														
253559	05/03		QC126	●	●	●	●	●	●														
			Totals:	1	1	1	1	1	1														

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

BATCH 1.
downgradient Declaration avec

3/4

AECOM

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
PO Box 726
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email anthony.davis@aecom.com, kate.pigram@aecom.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277 Woodpark Rd, Smithfield
Contact Name:
Lab. Ref:
Tel: 87848555
Fax: 87848500
Preliminary Report by:
Final Report by:
Lab Quote No: **SY-259-09 V2**

Project Name: Barangaroo **Project Number:** S4150014 **Purchase Order Number:** 1303951

Sample collected by: Lauren Kovnis **Sample Results to be returned to:** Anthony Davis and Kate Pigram

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr ____ days)	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☐ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☐ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: 8. Project Manager:		tel:	

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	pH	Metals M13	TPH/BTEX	PAH	Phenols	SVOC/VOC	asbestos	Cyanide (total)	WAD Cyanide	ASLP (M13 + PAH)	TCLP (M13 + PAH)	Cr VI	Fe	TPH (C6 - C36)	SPOCAS	Remarks & comments
11	BH56_13.0-13.2	5.3.10		X					X		1x jar		X	X	X	X											
12	BH56_14.5-15.0	5.3.10		X					X		"	X	X				X		X	X			X	X	X		X	
13	BH56_17.5-17.8	5.3.10		X					X		1x jar 1x ziplock bag		X	X	X	X												
14	BH56_19.0-19.4	5.3.10		X					X		1x jar																	
15	QC125	5.3.10		X					X		"	X	X				X		X	X			X	X	X		X	
253559 *	QC126	5.3.10		X					X		"	X	X				X		X	X			X	X	X		X	Pls forward to Labmark.
17	QC127	5.3.10		X					X		"																	
18	QC128	5.3.10		X					X		"																	
19	BH56_20.5-20.9	5.3.10		X					X		"		X	X	X	X												
20	BH56_21.4-21.6	5.3.10		X					X		"		X	X	X	X			X	X								

Relinquished By:
Name: Anthony Davis Date: 9/3/10
of: Time:

Received by:
Name: Frank Date: 10-3-10
of: ALS Time: 10:30

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Relinquished By:
Name: Frank Date: 11/3/10
of: ALS Time: 10:30

Received by: E047262
Name: JANE WALKER Date: 11/3/10
of: LABMARK Time: 13:15

Received in good condition?	Yes/No/NA	Method of Shipment	☐ Courier ☐ Postal ☐ By Hand
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

ANALYTICAL REPORT

25 March 2010

AECOM -Sydney
Level 8, 44 Market Street
NSW 2000

Attention: **Steve Masters**

Your Reference: S4150014-Barangaroo DGI- AECOM -ENV 10792

Our Reference: SE76754 Samples: 18 Summa Canisters
Received: 18/03/2010

Preliminary Report Sent: Not Issued

These samples were analysed in accordance with your written instructions.

VOC T014:- Analysis conducted by SGS Special Projects Division-Sydney.

For and on Behalf of:
SGS ENVIRONMENTAL SERVICES

Sample Receipt:	Angela Mamalicos	AU.SampleReceipt.Sydney@sgs.com
Production Manager:	Huong Crawford	Huong.Crawford@sgs.com

Results Approved and/or Authorised by:

Ly Kim Ha
Organics Signatory

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Environmental Services Unit 16/33 Maddox Street Alexandria NSW 2015 Australia
t +61 (0)2 8594 0400 f + 61 (0)2 8594 0499 www.au.sgs.com

VOC in Canisters, TO14A list Our Reference: Your Reference Sample Matrix Date Sampled - On Time On Date Sampled - Off Time Off	UNITS ---------- ----------	SE76754-1 SV01/0.5, Canister ID:4290 6L Summa Canister - Ambient Air 17/03/2010 8:50am 18/03/2010 8:50am	SE76754-2 SV01/1.5, Canister ID:4506 6L Summa Canister - Ambient Air 17/03/2010 8:50am 18/03/2010 8:50am	SE76754-3 SV02/0.5, Canister ID:3465 6L Summa Canister - Ambient Air 17/03/2010 9:02am 18/03/2010 9:02am	SE76754-4 SV02/1.5, Canister ID:3517 6L Summa Canister - Ambient Air 17/03/2010 9:02am 18/03/2010 9:02am	SE76754-5 SV03, Canister ID:4289 6L Summa Canister - Ambient Air 17/03/2010 9:25am 18/03/2010 9:25am
Date Sampling(TO15)		17/03/2010	17/03/2010	17/03/2010	17/03/2010	17/03/2010
Date Analysed (TO15)		19/03/2010	19/03/2010	19/03/2010	19/03/2010	19/03/2010
Dichlorodifluoromethane	ppbv	<4.0	<4.0	<4.0	<4.0	<4.0
1,2-Dichlorotetrafluoroethane -Freon 114	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Chloromethane (Methyl Chloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Vinyl chloride (Chloroethylene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,3-Butadiene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Bromomethane (Methyl Bromide)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroethane (Ethyl Chloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Trichlorofluoromethane (Freon 11)	ppbv	7.7	8.9	4.9	3.9	<2.0
1,1-Dichloroethene (Vinylidene Chloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,2-Trichlorotrifluoroethane -Freon113	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride (Dichloromethane)	ppbv	<20.0	<20.0	<20.0	<20.0	<20.0
2-Propenenitrile	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1- Dichloroethane (Ethylidene Chloride	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
cis-1,2-Dichloroethene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroform (Trichloromethane)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1-Trichloroethane (Methyl Chloroform	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Carbontetrachloride	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Benzene (Cyclohexatriene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dichloroethane (Ethylene Dichloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Trichloroethene (Trichloroethylene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dichloropropane (Propylene Dichlorid	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
cis-1,3-Dichloropropene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene (Methyl Benzene)	ppbv	<2.0	<2.0	<2.0	<2.0	4.0
trans-1,3-Dichloropropene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,2-Trichloroethane (Vinyl Trichloride	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dibromoethane (Ethylene Dibromide)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Tetrachloroethene (Perchloroethylene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Chlorobenzene (Phenyl Chloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Ethylbenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
m-& *p*-Xylene 1,3/1,4-Dimethylxylene	ppbv	<4.0	<4.0	<4.0	<4.0	<4.0
o-Xylene (1,2-Dimethylbenzene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0

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VOC in Canisters, TO14A list						
Our Reference:	UNITS	SE76754-1	SE76754-2	SE76754-3	SE76754-4	SE76754-5
Your Reference	----------	SV01/0.5, Canister ID:4290	SV01/1.5, Canister ID:4506	SV02/0.5, Canister ID:3465	SV02/1.5, Canister ID:3517	SV03, Canister ID:4289
Sample Matrix	----------	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air
Date Sampled - On		17/03/2010	17/03/2010	17/03/2010	17/03/2010	17/03/2010
Time On		8:50am	8:50am	9:02am	9:02am	9:25am
Date Sampled - Off		18/03/2010	18/03/2010	18/03/2010	18/03/2010	18/03/2010
Time Off		8:50am	8:50am	9:02am	9:02am	9:25am
Styrene (Vinyl Benzene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,2,2-Tetrachloroethane	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,3,5-Trimethylbenzene(Mesitylene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,4-Trimethylbenzene(Pseudocumene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,3-Dichlorobenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dichlorobenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,4-Trichlorobenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Hexachloro-1,3-butadiene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
4-Bromofluorobenzene *Surrogate 3*	%	87.0	88.0	95.0	88.0	96.0
4-Bromochloromethane	%	90	90	90	100	100
1,4-Difluorobenzene	%	90	100	90	90	90
Chlorobenzene-d5	%	90	90	90	90	90

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t +61 (0)2 8594 0400 f + 61 (0)2 8594 0499 www.au.sgs.com

VOC in Canisters, TO14A list Our Reference:	UNITS	SE76754-6	SE76754-7	SE76754-8	SE76754-9	SE76754-10
Your Reference	----------	SV04, Canister ID:3514	SV05/0.7, Canister ID:2256	SV05/1.7, Canister ID:4295	SV06, Canister ID:4293	SV07/0.6, Canister ID:4287
Sample Matrix	----------	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air
Date Sampled - On Time On Date Sampled - Off Time Off		17/03/2010 10:04am 18/03/2010 10:04am	16/03/2010 11:08am 17/03/2010 11:08am	16/03/2010 11:08am 17/03/2010 11:08am	16/03/2010 11:11am 17/03/2010 11:11am	16/03/2010 11:02am 17/03/2010 11:03am
Date Sampling(TO15)		17/03/2010	17/03/2010	17/03/2010	16/03/2010	16/03/2010
Date Analysed (TO15)		19/03/2010	19/03/2010	19/03/2010	19/03/2010	20/03/2010
Dichlorodifluoromethane	ppbv	<4.0	<4.0	<4.0	<4.0	<4.0
1,2-Dichlorotetrafluoroethane -Freon 114	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Chloromethane (Methyl Chloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Vinyl chloride (Chloroethylene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,3-Butadiene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Bromomethane (Methyl Bromide)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroethane (Ethyl Chloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Trichlorofluoromethane (Freon 11)	ppbv	4.7	<2.0	<2.0	<2.0	<2.0
1,1-Dichloroethene (Vinylidene Chloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,2-Trichlorotrifluoroethane -Freon113	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride (Dichloromethane)	ppbv	<20.0	<20.0	<20.0	<20.0	<20.0
2-Propenenitrile	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1- Dichloroethane (Ethylidene Chloride	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
cis-1,2-Dichloroethene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroform (Trichloromethane)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1-Trichloroethane (Methyl Chloroform	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Carbontetrachloride	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Benzene (Cyclohexatriene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dichloroethane (Ethylene Dichloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Trichloroethene (Trichloroethylene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dichloropropane (Propylene Dichlorid	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
cis-1,3-Dichloropropene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene (Methyl Benzene)	ppbv	<2.0	3.1	15	11	<2.0
trans-1,3-Dichloropropene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,2-Trichloroethane (Vinyl Trichloride	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dibromoethane (Ethylene Dibromide)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Tetrachloroethene (Perchloroethylene)	ppbv	<2.0	<2.0	2.0	<2.0	<2.0
Chlorobenzene (Phenyl Chloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Ethylbenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
m-& *p*-Xylene 1,3/1,4-Dimethylxylene	ppbv	<4.0	<4.0	<4.0	<4.0	<4.0
o-Xylene (1,2-Dimethylbenzene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0

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VOC in Canisters, TO14A list Our Reference:	UNITS	SE76754-6	SE76754-7	SE76754-8	SE76754-9	SE76754-10
Your Reference	----------	SV04, Canister ID:3514	SV05/0.7, Canister ID:2256	SV05/1.7, Canister ID:4295	SV06, Canister ID:4293	SV07/0.6, Canister ID:4287
Sample Matrix	----------	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air
Date Sampled - On Time On Date Sampled - Off Time Off		17/03/2010 10:04am 18/03/2010 10:04am	16/03/2010 11:08am 17/03/2010 11:08am	16/03/2010 11:08am 17/03/2010 11:08am	16/03/2010 11:11am 17/03/2010 11:11am	16/03/2010 11:02am 17/03/2010 11:03am
Styrene (Vinyl Benzene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,2,2-Tetrachloroethane	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,3,5-Trimethylbenzene (Mesitylene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,4-Trimethylbenzene (Pseudocumene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,3-Dichlorobenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene	ppbv	2.3	<2.0	<2.0	<2.0	<2.0
1,2-Dichlorobenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,4-Trichlorobenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Hexachloro-1,3-butadiene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
4-Bromofluorobenzene *Surrogate 3*	%	93.0	103	96.0	98.0	102
4-Bromochloromethane	%	100	100	90	90	80
1,4-Difluorobenzene	%	90	90	90	90	70
Chlorobenzene-d5	%	90	90	90	90	80

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VOC in Canisters, TO14A list Our Reference:	UNITS	SE76754-11	SE76754-12	SE76754-13	SE76754-14	SE76754-15
Your Reference	----------	SV07/1.6, Canister ID:2255	SV08, Canister ID:2253	SV09, Canister ID:3463	SV10 Canister ID:4294	SV11/0.5, Canister ID:4288
Sample Matrix	----------	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air
Date Sampled - On Time On Date Sampled - Off Time Off		16/03/2010 11:02am 17/03/2010 11:03am	17/03/2010 8:38am 18/03/2010 8:38am	15/03/2010 15:08pm 16/03/2010 15:26pm	17/03/2010 8:32am 18/03/2010 8:32am	15/03/2010 15:33pm 16/03/2010 15:33pm
Date Sampling(TO15)		16/03/2010	17/03/2010	15/03/2010	17/03/2010	15/03/2010
Date Analysed (TO15)		20/03/2010	20/03/2010	20/03/2010	20/03/2010	20/03/2010
Dichlorodifluoromethane	ppbv	<4.0	<4.0	<4.0	<4.0	<4.0
1,2-Dichlorotetrafluoroethane -Freon 114	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Chloromethane (Methyl Chloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Vinyl chloride (Chloroethylene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,3-Butadiene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Bromomethane (Methyl Bromide)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroethane (Ethyl Chloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Trichlorofluoromethane (Freon 11)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1-Dichloroethene (Vinylidene Chloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,2-Trichlorotrifluoroethane -Freon113	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride (Dichloromethane)	ppbv	<20.0	<20.0	<20.0	<20.0	<20.0
2-Propenenitrile	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1- Dichloroethane (Ethylidene Chloride	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
cis-1,2-Dichloroethene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroform (Trichloromethane)	ppbv	2.5	<2.0	2.7	<2.0	<2.0
1,1,1-Trichloroethane (Methyl Chloroform	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Carbontetrachloride	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Benzene (Cyclohexatriene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dichloroethane (Ethylene Dichloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Trichloroethene (Trichloroethylene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dichloropropane (Propylene Dichlorid	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
cis-1,3-Dichloropropene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene (Methyl Benzene)	ppbv	6.2	2.8	<2.0	11	5.6
trans-1,3-Dichloropropene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,2-Trichloroethane (Vinyl Trichloride	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dibromoethane (Ethylene Dibromide)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Tetrachloroethene (Perchloroethylene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Chlorobenzene (Phenyl Chloride)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Ethylbenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
m-& *p*-Xylene 1,3/1,4-Dimethylxylene	ppbv	<4.0	<4.0	<4.0	<4.0	<4.0
o-Xylene (1,2-Dimethylbenzene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0

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VOC in Canisters, TO14A list Our Reference:	UNITS	SE76754-11	SE76754-12	SE76754-13	SE76754-14	SE76754-15
Your Reference	----------	SV07/1.6, Canister ID:2255	SV08, Canister ID:2253	SV09, Canister ID:3463	SV10 Canister ID:4294	SV11/0.5, Canister ID:4288
Sample Matrix	----------	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air
Date Sampled - On Time On Date Sampled - Off Time Off		16/03/2010 11:02am 17/03/2010 11:03am	17/03/2010 8:38am 18/03/2010 8:38am	15/03/2010 15:08pm 16/03/2010 15:26pm	17/03/2010 8:32am 18/03/2010 8:32am	15/03/2010 15:33pm 16/03/2010 15:33pm
Styrene (Vinyl Benzene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,2,2-Tetrachloroethane	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,3,5-Trimethylbenzene (Mesitylene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,4-Trimethylbenzene (Pseudocumene)	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,3-Dichlorobenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dichlorobenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,4-Trichlorobenzene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
Hexachloro-1,3-butadiene	ppbv	<2.0	<2.0	<2.0	<2.0	<2.0
4-Bromofluorobenzene *Surrogate 3*	%	89.0	91.0	102	95.0	106
4-Bromochloromethane	%	80	80	100	80	90
1,4-Difluorobenzene	%	80	80	80	80	80
Chlorobenzene-d5	%	80	80	90	90	90

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VOC in Canisters, TO14A list Our Reference: Your Reference Sample Matrix Date Sampled - On Time On Date Sampled - Off Time Off	UNITS ---------- ----------	SE76754-16 SV11/1.5, Canister ID:3469 6L Summa Canister - Ambient Air 15/03/2010 15:33pm 16/03/2010 15:33pm	SE76754-17 QC1, Canister ID: 3516 6L Summa Canister - Ambient Air 17/03/2010 8:32am 18/03/2010 8:32am	SE76754-18 QC2, Canister ID: 3518 6L Summa Canister - Ambient Air 17/03/2010 8:38am 18/03/2010 8:38am
Date Sampling(TO15)		17/03/2010	17/03/2010	17/03/2010
Date Analysed (TO15)		20/03/2010	20/03/2010	20/03/2010
Dichlorodifluoromethane	ppbv	<4.0	<4.0	<4.0
1,2-Dichlorotetrafluoroethane -Freon 114	ppbv	<2.0	<2.0	<2.0
Chloromethane (Methyl Chloride)	ppbv	<2.0	<2.0	<2.0
Vinyl chloride (Chloroethylene)	ppbv	<2.0	<2.0	<2.0
1,3-Butadiene	ppbv	<2.0	<2.0	<2.0
Bromomethane (Methyl Bromide)	ppbv	<2.0	<2.0	<2.0
Chloroethane (Ethyl Chloride)	ppbv	<2.0	<2.0	<2.0
Trichlorofluoromethane (Freon 11)	ppbv	<2.0	<2.0	<2.0
1,1-Dichloroethene (Vinylidene Chloride)	ppbv	<2.0	<2.0	<2.0
1,1,2-Trichlorotrifluoroethane -Freon113	ppbv	<2.0	<2.0	<2.0
Methylene chloride (Dichloromethane)	ppbv	<20.0	<20.0	<20.0
2-Propenenitrile	ppbv	<2.0	<2.0	<2.0
1,1- Dichloroethane (Ethylidene Chloride	ppbv	<2.0	<2.0	<2.0
cis-1,2-Dichloroethene	ppbv	<2.0	<2.0	<2.0
Chloroform (Trichloromethane)	ppbv	<2.0	<2.0	<2.0
1,1,1-Trichloroethane (Methyl Chloroform	ppbv	<2.0	<2.0	<2.0
Carbontetrachloride	ppbv	<2.0	<2.0	<2.0
Benzene (Cyclohexatriene)	ppbv	<2.0	<2.0	<2.0
1,2-Dichloroethane (Ethylene Dichloride)	ppbv	<2.0	<2.0	<2.0
Trichloroethene (Trichloroethylene)	ppbv	<2.0	<2.0	<2.0
1,2-Dichloropropane (Propylene Dichlorid	ppbv	<2.0	<2.0	<2.0
cis-1,3-Dichloropropene	ppbv	<2.0	<2.0	<2.0
Toluene (Methyl Benzene)	ppbv	6.7	9.8	2.5
trans-1,3-Dichloropropene	ppbv	<2.0	<2.0	<2.0
1,1,2-Trichloroethane (Vinyl Trichloride	ppbv	<2.0	<2.0	<2.0
1,2-Dibromoethane (Ethylene Dibromide)	ppbv	<2.0	<2.0	<2.0
Tetrachloroethene (Perchloroethylene)	ppbv	<2.0	<2.0	<2.0
Chlorobenzene (Phenyl Chloride)	ppbv	<2.0	<2.0	<2.0
Ethylbenzene	ppbv	<2.0	<2.0	<2.0
m-& *p*-Xylene 1,3/1,4-Dimethylxylene	ppbv	<4.0	<4.0	<4.0
o-Xylene (1,2-Dimethylbenzene)	ppbv	<2.0	<2.0	<2.0

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VOC in Canisters, TO14A list Our Reference:	UNITS	SE76754-16	SE76754-17	SE76754-18
Your Reference	----------	SV11/1.5, Canister ID:3469	QC1, Canister ID: 3516	QC2, Canister ID: 3518
Sample Matrix	----------	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air
Date Sampled - On Time On Date Sampled - Off Time Off		15/03/2010 15:33pm 16/03/2010 15:33pm	17/03/2010 8:32am 18/03/2010 8:32am	17/03/2010 8:38am 18/03/2010 8:38am
Styrene (Vinyl Benzene)	ppbv	<2.0	<2.0	<2.0
1,1,2,2-Tetrachloroethane	ppbv	<2.0	<2.0	<2.0
1,3,5-Trimethylbenzene(Mesitylene)	ppbv	<2.0	<2.0	<2.0
1,2,4-Trimethylbenzene(Pseudocumene)	ppbv	<2.0	<2.0	<2.0
1,3-Dichlorobenzene	ppbv	<2.0	<2.0	<2.0
1,4-Dichlorobenzene	ppbv	<2.0	<2.0	<2.0
1,2-Dichlorobenzene	ppbv	<2.0	<2.0	<2.0
1,2,4-Trichlorobenzene	ppbv	<2.0	<2.0	<2.0
Hexachloro-1,3-butadiene	ppbv	<2.0	<2.0	<2.0
4-Bromofluorobenzene *Surrogate 3*	%	94.0	87.0	79.0
4-Bromochloromethane	%	90	80	90
1,4-Difluorobenzene	%	80	80	80
Chlorobenzene-d5	%	90	80	80

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Miscellaneous - Non Routine Our Reference: Your Reference Sample Matrix Date Sampled - On Time On Date Sampled - Off Time Off	UNITS ---------- ---------- 	SE76754-1 SV01/0.5, Canister ID:4290 6L Summa Canister - Ambient Air 17/03/2010 8:50am 18/03/2010 8:50am	SE76754-2 SV01/1.5, Canister ID:4506 6L Summa Canister - Ambient Air 17/03/2010 8:50am 18/03/2010 8:50am	SE76754-3 SV02/0.5, Canister ID:3465 6L Summa Canister - Ambient Air 17/03/2010 9:02am 18/03/2010 9:02am	SE76754-4 SV02/1.5, Canister ID:3517 6L Summa Canister - Ambient Air 17/03/2010 9:02am 18/03/2010 9:02am	SE76754-5 SV03, Canister ID:4289 6L Summa Canister - Ambient Air 17/03/2010 9:25am 18/03/2010 9:25am
Date Sampling(TO15)		N/A	N/A	N/A	N/A	N/A
Date Analysed (TO15)		19/03/2010	19/03/2010	19/03/2010	19/03/2010	19/03/2010
Naphthalene*	ppbv	<4	16	9	36	<4

Miscellaneous - Non Routine Our Reference: Your Reference Sample Matrix Date Sampled - On Time On Date Sampled - Off Time Off	UNITS ---------- ---------- 	SE76754-6 SV04, Canister ID:3514 6L Summa Canister - Ambient Air 17/03/2010 10:04am 18/03/2010 10:04am	SE76754-7 SV05/0.7, Canister ID:2256 6L Summa Canister - Ambient Air 16/03/2010 11:08am 17/03/2010 11:08am	SE76754-8 SV05/1.7, Canister ID:4295 6L Summa Canister - Ambient Air 16/03/2010 11:08am 17/03/2010 11:08am	SE76754-9 SV06, Canister ID:4293 6L Summa Canister - Ambient Air 16/03/2010 11:11am 17/03/2010 11:11am	SE76754-10 SV07/0.6, Canister ID:4287 6L Summa Canister - Ambient Air 16/03/2010 11:02am 17/03/2010 11:03am
Date Sampling(TO15)		N/A	N/A	N/A	N/A	N/A
Date Analysed (TO15)		19/03/2010	19/03/2010	19/03/2010	19/03/2010	20/03/2010
Naphthalene*	ppbv	<4	33	73	7	<4

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Miscellaneous - Non Routine Our Reference:	UNITS	SE76754-11	SE76754-12	SE76754-13	SE76754-14	SE76754-15
Your Reference	----------	SV07/1.6, Canister ID:2255	SV08, Canister ID:2253	SV09, Canister ID:3463	SV10 Canister ID:4294	SV11/0.5, Canister ID:4288
Sample Matrix	----------	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air
Date Sampled - On Time On Date Sampled - Off Time Off		16/03/2010 11:02am 17/03/2010 11:03am	17/03/2010 8:38am 18/03/2010 8:38am	15/03/2010 15:08pm 16/03/2010 15:26pm	17/03/2010 8:32am 18/03/2010 8:32am	15/03/2010 15:33pm 16/03/2010 15:33pm
Date Sampling(TO15)		N/A	N/A	N/A	N/A	N/A
Date Analysed (TO15)		20/03/2010	20/03/2010	20/03/2010	20/03/2010	20/03/2010
Naphthalene*	ppbv	<4	9	4	6	29

Miscellaneous - Non Routine Our Reference:	UNITS	SE76754-16	SE76754-17	SE76754-18
Your Reference	----------	SV11/1.5, Canister ID:3469	QC1, Canister ID: 3516	QC2, Canister ID: 3518
Sample Matrix	----------	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air	6L Summa Canister - Ambient Air
Date Sampled - On Time On Date Sampled - Off Time Off		15/03/2010 15:33pm 16/03/2010 15:33pm	17/03/2010 8:32am 18/03/2010 8:32am	17/03/2010 8:38am 18/03/2010 8:38am
Date Sampling(TO15)		N/A	N/A	N/A
Date Analysed (TO15)		20/03/2010	20/03/2010	20/03/2010
Naphthalene*	ppbv	30	<4	7

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Method ID	Methodology Summary
AN455	Analysis of VOC's (as listed in USEPA TO-14A) in air by in house method AN455. Air samples including passivated canisters, tedlar bags and syringes.
SEO-100	Analysis of VOC's (as listed in USEPA TO-14A) in air by in house method SEO-100.

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QUALITY CONTROL VOC in Canisters, TO14A list	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Date Sampling(TO15)				N/A	SE76754-5	17/03/2010 || 17/03/2010	[NR]	[NR]
Date Analysed (TO15)				19/3/2010	SE76754-5	19/03/2010 || 19/03/2010	LCS	19/03/2010
Dichlorodifluoromethane	ppbv	0.8	AN455	<0.8	SE76754-5	<4.0 || <4.0	LCS	110%
1,2-Dichlorotetrafluoroethane -Freon 114	ppbv	0.4	AN455	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Chloromethane (Methyl Chloride)	ppbv	0.4	AN455	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Vinyl chloride (Chloroethylene)	ppbv	0.4	AN455	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
1,3-Butadiene	ppbv	0.4	AN455	<0.4	SE76754-5	<2.0 || <2.0	LCS	95%
Bromomethane (Methyl Bromide)	ppbv	0.4	AN455	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Chloroethane (Ethyl Chloride)	ppbv	0.4	AN455	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Trichlorofluoromethane (Freon 11)	ppbv	0.4	AN455	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
1,1-Dichloroethene (Vinylidene Chloride)	ppbv	0.4	AN455	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
1,1,2-Trichlorotrifluoroethane -Freon113	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	LCS	108%
Methylene chloride (Dichloromethane)	ppbv	4	AN455	<4.0	SE76754-5	<20.0 || <20.0	[NR]	[NR]
2-Propenenitrile	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
1,1- Dichloroethane (Ethylidene Chloride	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
cis-1,2-Dichloroethene	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Chloroform (Trichloromethane)	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	LCS	104%
1,1,1-Trichloroethane (Methyl Chloroform	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Carbontetrachloride	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Benzene (Cyclohexatriene)	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
1,2-Dichloroethane (Ethylene Dichloride)	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Trichloroethene (Trichloroethylene)	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	LCS	107%
1,2-Dichloropropane (Propylene Dichlorid	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
cis-1,3-Dichloropropene	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Toluene (Methyl Benzene)	ppbv	0.4	SEO-100	<0.4	SE76754-5	4.0 || 4.0 || RPD: 0	[NR]	[NR]

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QUALITY CONTROL VOC in Canisters, TO14A list	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
trans-1,3-Dichloropropene	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
1,1,2-Trichloroethane (Vinyl Trichloride	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	LCS	104%
1,2-Dibromoethane (Ethylene Dibromide)	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Tetrachloroethene (Perchloroethylene)	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Chlorobenzene (Phenyl Chloride)	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Ethylbenzene	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
m-& *p*-Xylene 1,3/1,4-Dimethylxylene	ppbv	0.8	SEO-100	<0.8	SE76754-5	<4.0 || <4.0	LCS	106%
o-Xylene (1,2-Dimethylbenzene)	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Styrene (Vinyl Benzene)	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
1,1,2,2-Tetrachloroethane	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
1,3,5-Trimethylbenzene (Mesitylene)	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
1,2,4-Trimethylbenzene (Pseudocumene)	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	LCS	99%
1,3-Dichlorobenzene	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
1,4-Dichlorobenzene	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
1,2-Dichlorobenzene	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
1,2,4-Trichlorobenzene	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	[NR]	[NR]
Hexachloro-1,3-butadiene	ppbv	0.4	SEO-100	<0.4	SE76754-5	<2.0 || <2.0	LCS	100%
4-Bromofluorobenzene *Surrogate 3*	%	0	AN455	89.0	SE76754-5	96.0 || 90.0 || RPD: 6	LCS	100%
4-Bromochloromethane	%	0	SEO-100	90	SE76754-5	100 || 90 || RPD: 11	LCS	92%
1,4-Difluorobenzene	%	0	SEO-100	80	SE76754-5	90 || 90 || RPD: 0	LCS	94%
Chlorobenzene-d5	%	0	SEO-100	80	SE76754-5	90 || 90 || RPD: 0	LCS	100%

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QUALITY CONTROL Miscellaneous - Non Routine	UNITS	LOR	METHOD	Blank
Date Sampling(TO15)				[NT]
Date Analysed (TO15)				19/3/2010
Naphthalene*	ppbv	4.0	SEO-100	<4

QUALITY CONTROL VOC in Canisters, TO14A list	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Date Sampling(TO15)		[NT]	[NT]	[NR]	[NR]
Date Analysed (TO15)		[NT]	[NT]	LCS	20/03/2010
Dichlorodifluoromethane	ppbv	[NT]	[NT]	LCS	108%
1,2-Dichlorotetrafluoroethane -Freon 114	ppbv	[NT]	[NT]	[NR]	[NR]
Chloromethane (Methyl Chloride)	ppbv	[NT]	[NT]	[NR]	[NR]
Vinyl chloride (Chloroethylene)	ppbv	[NT]	[NT]	[NR]	[NR]
1,3-Butadiene	ppbv	[NT]	[NT]	LCS	89%
Bromomethane (Methyl Bromide)	ppbv	[NT]	[NT]	[NR]	[NR]
Chloroethane (Ethyl Chloride)	ppbv	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane (Freon 11)	ppbv	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene (Vinylidene Chloride)	ppbv	[NT]	[NT]	[NR]	[NR]
1,1,2-Trichlorotrifluoroethane -Freon113	ppbv	[NT]	[NT]	LCS	109%
Methylene chloride (Dichloromethane)	ppbv	[NT]	[NT]	[NR]	[NR]
2-Propenenitrile	ppbv	[NT]	[NT]	[NR]	[NR]
1,1- Dichloroethane (Ethylidene Chloride	ppbv	[NT]	[NT]	[NR]	[NR]
cis-1,2-Dichloroethene	ppbv	[NT]	[NT]	[NR]	[NR]
Chloroform (Trichloromethane)	ppbv	[NT]	[NT]	LCS	105%
1,1,1-Trichloroethane (Methyl Chloroform	ppbv	[NT]	[NT]	[NR]	[NR]
Carbontetrachloride	ppbv	[NT]	[NT]	[NR]	[NR]
Benzene (Cyclohexatriene)	ppbv	[NT]	[NT]	[NR]	[NR]
1,2-Dichloroethane (Ethylene Dichloride)	ppbv	[NT]	[NT]	[NR]	[NR]

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QUALITY CONTROL VOC in Canisters, TO14A list	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Trichloroethene (Trichloroethylene)	ppbv	[NT]	[NT]	LCS	109%
1,2-Dichloropropane (Propylene Dichlorid	ppbv	[NT]	[NT]	[NR]	[NR]
cis-1,3-Dichloropropene	ppbv	[NT]	[NT]	[NR]	[NR]
Toluene (Methyl Benzene)	ppbv	[NT]	[NT]	[NR]	[NR]
trans-1,3-Dichloropropene	ppbv	[NT]	[NT]	[NR]	[NR]
1,1,2-Trichloroethane (Vinyl Trichloride	ppbv	[NT]	[NT]	LCS	105%
1,2-Dibromoethane (Ethylene Dibromide)	ppbv	[NT]	[NT]	[NR]	[NR]
Tetrachloroethene (Perchloroethylene)	ppbv	[NT]	[NT]	[NR]	[NR]
Chlorobenzene (Phenyl Chloride)	ppbv	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	ppbv	[NT]	[NT]	[NR]	[NR]
m-& *p*-Xylene 1,3/1,4-Dimethylxylene	ppbv	[NT]	[NT]	LCS	110%
o-Xylene (1,2-Dimethylbenzene)	ppbv	[NT]	[NT]	[NR]	[NR]
Styrene (Vinyl Benzene)	ppbv	[NT]	[NT]	[NR]	[NR]
1,1,2,2-Tetrachloroethane	ppbv	[NT]	[NT]	[NR]	[NR]
1,3,5-Trimethylbenzene (Mesitylene)	ppbv	[NT]	[NT]	[NR]	[NR]
1,2,4-Trimethylbenzene (Pseudocumene)	ppbv	[NT]	[NT]	LCS	104%
1,3-Dichlorobenzene	ppbv	[NT]	[NT]	[NR]	[NR]
1,4-Dichlorobenzene	ppbv	[NT]	[NT]	[NR]	[NR]
1,2-Dichlorobenzene	ppbv	[NT]	[NT]	[NR]	[NR]
1,2,4-Trichlorobenzene	ppbv	[NT]	[NT]	[NR]	[NR]
Hexachloro-1,3-butadiene	ppbv	[NT]	[NT]	LCS	100%
4-Bromofluorobenzene *Surrogate 3*	%	[NT]	[NT]	LCS	106%
4-Bromochloromethane	%	[NT]	[NT]	LCS	76%
1,4-Difluorobenzene	%	[NT]	[NT]	LCS	73%
Chlorobenzene-d5	%	[NT]	[NT]	LCS	80%

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Result Codes

[INS]	:	Insufficient Sample for this test	[RPD]	:	Relative Percentage Difference
[NR]	:	Not Requested	*	:	Not part of NATA Accreditation
[NT]	:	Not tested	[N/A]	:	Not Applicable

Report Comments

AIR TO14 - LOR raised due to sample matrix.
Samples analysed as received. Solid samples expressed on a dry weight basis.
Date Organics extraction commenced:
NATA Corporate Accreditation No. 2562, Site No 4354
Note: Test results are not corrected for recovery (excluding Air-toxics and Dioxins/Furans*)
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Quality Control Protocol

Method Blank: An analyte free matrix to which all reagents are added in the same volume or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. A method blank is prepared every 20 samples.
Duplicate: A separate portion of a sample being analysed that is treated the same as the other samples in the batch. One duplicate is processed at least every 10 samples.
Surrogate Spike: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are added to samples before extraction to monitor extraction efficiency and percent recovery in each sample.
Internal Standard: Added to all samples requiring analysis for organics (where relevant) or metals by ICP after the extraction/digestion process; the compounds/elements serve to give a standard of retention time and/or response, which is invariant from run-to-run with the instruments.
Laboratory Control Sample: A known matrix spiked with compound(s) representative of the target analytes. It is used to document laboratory performance. When the results of the matrix spike analysis indicates a potential problem due to the sample matrix itself, the LCS results are used to verify that the laboratory can perform the analysis in a clean matrix.
Matrix Spike: An aliquot of sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Quality Acceptance Criteria

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: http://www.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf

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Appendix K

Groundwater Field Sheets

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AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: KWANGAROO	Project Number: 84150014	Well No: BH1
Recorded By: RP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 20.08.10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☒50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 1.108	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): DRY	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ - _____) x (_____/2)^2 x 0.00314] + [0.2 x (0.00314 x _____^{2} x _____) – 0.2 x (0.00314 x _____^{2} x _____)] = _____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time: 0720	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
		WELL DRY = CANNOT SAMPLE							
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): _____

Observations during sampling (turbidity, colour, odour, sheen): _____

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BWANGAROO	Project Number: 84150014	Well No: BH 3
Recorded By: VP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 20.03.10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 3.301	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 2.169	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 2.801
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(____ - ____) x (____/2)^2 x 0.00314] + [0.2 x (0.00314 x ____^{2} x ____) – 0.2 x (0.00314 x ____^{2} x ____)] = ____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time: 0735	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
0737		0.5	1.35	6300	4.62	107	22.1°	2.305	
0739		1.0	1.30	6400	4.60	100	22.0°	2.506	
0741		1.5	1.25	6500	4.57	98	22.2°	2.698	
0743		2.0	1.22	6540	4.56	97	22.1°	2.908	
								DRY	
		WAIT FOR RECHARGE BEFORE SAMPLING							
				SWL = 2.503 @ SAMPLING 0810					
		→ NO extra 1x 500mL unpreserved for pH due to well not recharging pH from NUM							
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): clear slight yellow tinge, no turbidity

Observations during sampling (turbidity, colour, odour, sheen): slight H$_2$S odour, no sheen.

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
BH3	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
BH3	1x 0.5 L Amber	TPH/PAH	-	ALS	
BH3	1x 1 L Plastic	Major Anions/Cations	-	ALS	
BH3	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
BH3	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
BH3	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID
QC240	INSITE	

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: KALANGADOO	Project Number: S4150014	Well No: BH6
Recorded By: KP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 20.03.10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 4.457	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 3.124	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 4.000
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ - _____) x (_____/2)^2 x 0.00314] + [0.2 x (0.00314 x _____^{2} x _____) – 0.2 x (0.00314 x _____^{2} x _____)] = _____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time: 1000 Stop Time: 1023 Elapsed Time: Initial depth to water: (with pump in well) Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
1002		0.5	0.98	36700	6.42	84	23.4°	3.146	
1005		1.0	0.92	37400	6.40	88	23.4°	3.159	Lowered to 5L
1008		1.5	0.90	37600	6.42	90	23.3°	3.187	Clean
1011		2.0	0.88	37600	6.44	93	23.3°	3.203	@ 2L
1014		2.5	0.83	37500	6.46	95	23.3°	3.245	
1017		3.0	0.80	37600	6.47	97	23.4°	3.276	
1020		3.5	0.76	37700	6.48	100	23.4°	3.309	
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): light grey/brown, slightly turbid

Observations during sampling (turbidity, colour, odour, sheen): Slight hydrocarbon odour, v. slight sheen

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BAYANGAROO	Project Number: S4150014	Well No: BH7
Recorded By: CP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 30-06-10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC):	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC):	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ - _____) x (_____/2)^2 x 0.00314] + [0.2 x (0.00314 x _____^{2} x _____) – 0.2 x (0.00314 x _____^{2} x _____)] = _____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time: 0845	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
			TAR IMPACTED			NO SWL OR TD			
			TAKEN	TUBING		DOWN NAPL SEE			
			PHOTOS						
						APPROX 3m OF TAR/NAPL			
						-4m			
							@ BASE		
						PEARLESCENT SHEEN			
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): _____

Observations during sampling (turbidity, colour, odour, sheen): _____

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BUYANGADOO	Project Number:	Well No: BH10	
Recorded By: CP	Well Type: ☒ Monitor ☐ Extractor ☐ Other		
Date: 20.08.10	Well Material: ☒PVC ☐ SS ☐ Other		

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC):	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC):	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ - _____) x (_____/2)^2 x 0.00314] + [0.2 x (0.00314 x _____^{2} x _____) – 0.2 x (0.00314 x _____^{2} x _____)] = _____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time: 0900	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
			NOT IMPACTED NO SWL NO TD						
			NO SAMPLE						
					10-20cm TOP @ BASE				
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): _____

Observations during sampling (turbidity, colour, odour, sheen): _____

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^2+	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

COFFEY

Project Name: BAYANGNOD	Project Number: S4150014	Well No: MW15
Recorded By: VP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 20-08-10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC):	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC):	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ - _____) x (_____/2)^2 x 0.00314] + [0.2 x (0.00314 x _____^{2} x _____) – 0.2 x (0.00314 x _____^{2} x _____)] = _____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time: 1050	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
		NO IMPACTED			APPROX 5 – 10cm OF				
		@	BASE	IN	PERVASCENT		SHEEN		
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): _____

Observations during sampling (turbidity, colour, odour, sheen): _____

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^2+	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID	**Sampling notes:** well condition, weather, change in pump depth, equipment difficulties
			Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

ERM

Project Name: BAYANGADOO	Project Number: 84150014	Well No: MW15
Recorded By: RP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 15.03.10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 7.450	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 1.890	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 6.500
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(____ (TD) - ____ (WL)) x (____ (D)/2)^2 x 0.00314] + [0.2 x (0.00314 x ____ (borehole radius)^2 x ____ (TD-WL)) – 0.2 x (0.00314 x ____ (well radius)^2 x ____ (TD-WL))] = ____ 1 BV (L)

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)
1010	1030			

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
1012		0.5	0.72	2700	6.85	-135	24.1°		20 psi
1014		1.0	0.38	2820	6.84	-145	24.1°	NOT	
1017		1.5	0.07	2730	6.83	-164	24.1°	AVAILABLE	
1019		2.0	0.04	2690	6.83	-167	24.2°	DUE TO	
1021		2.5	0.02	2540	6.84	-172	24.3°	DRYING	
1023		3.0	0.02	2410	6.86	-177	24.5°	GROUND	
1025		3.5	0.01	2360	6.86	-177	24.6°		
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): light grey to brown tinge, v. slight turbidity

Observations during sampling (turbidity, colour, odour, sheen): Slight-moderate turbidity, slight-moderate odour, slight-moderate sheen

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW15	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
MW15	1x 0.5 L Amber	TPH/PAH	-	ALS	
MW15	1x 1 L Plastic	Major Anions/Cations	-	ALS	
MW15	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
MW15	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
MW15	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

DNAPL IN BASE OF WELL APPROX 50M

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name:	BRANGERO	Project Number:	84150014
Recorded By:	VP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	Well No: MW40
Date:	20-08-10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 19.956	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 1.823	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ - _____) x (_____/2)^2 x 0.00314] + [0.2 x (0.00314 x _____^{2} x _____) – 0.2 x (0.00314 x _____^{2} x _____)] = _____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time: 1235 Stop Time: 1250 Elapsed Time: Initial depth to water: (with pump in well) Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
1237		0.5	1.11	26800	6.68	-95	27.5°	1.906	
1239		1.0	0.75	29800	6.71	-90	27.2°	1.854	
1241		1.5	0.68	31400	6.71	-98	26.9°	1.844	
1243		2.0	0.59	32000	6.68	-98	26.7°	1.838	
1245		2.5	0.50	33500	6.66	-96	26.6°	1.841	
1247		3.0	0.43	34100	6.65	-97	26.5°	1.840	
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): clear v. slight brown tinge, no turbidity

Observations during sampling (turbidity, colour, odour, sheen): V. slight H_2S odour, no sheen

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW40	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
MW40	1x 0.5 L Amber	TPH/PAH	-	ALS	
MW40	1x 1 L Plastic	Major Anions/Cations	-	ALS	
MW40	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
MW40	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
MW40	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BARANGAROO DG1	Project Number: S4150014	Well No: MW45
Recorded By: KOB	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 19/3/10	Well Material: ☒ PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑ 50 ☐ 100 ☐ Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 1.55	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 1.775	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top: 1.5 Bottom: 12.8

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(____ (TD) - ____ (WL)) x (____ (D)/2)^2 x 0.00314] + [0.2 x (0.00314 x ____ (borehole radius)^2 x ____ (TD-WL)) – 0.2 x (0.00314 x ____ (well radius)^2 x ____ (TD-WL))] = ____ 1 BV (L)

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well) 1.760	Final depth to water: (after sampling, with pump in well) 1.690

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
11:02:59		0.5	2.74	36500	6.01	-57	24.4	1.765	CPM4
11:05:44		1.0	0.38	37500	5.73	-39	24.5	1.810	CPM6
11:06:24		1.5	0.28	37800	5.76	-39	24.1	1.830	CPM6
11:07:20		2.0	0.17	37900	5.75	-39	23.7	1.840	CPM5
11:08:08		2.5	0.14	38100	5.71	-36	23.6	1.840	CPM5
11:08:49		3.0	0.16	38300	5.69	-34	23.6	1.840	CPM5
11:09:31		3.5	0.14	38600	5.67	-32	23.6	1.835	CPM5
11:10:02		4.0	0.13	38700	5.66	-31	23.6	1.835	CPM5
11:10:55		4.5	0.14	38 400	5.61	-26	23.7	1.820	CPM5
11:11:51		5.0	0.15	39000	5.56	-20	23.7	1.820	CPM5
11:12:20		5.5	0.14	39 000	5.51	-16	23.7	1.820	CPM5
11:12:51		6.0	0.14	39100	5.55	-19	23.7	1.820	CPM5
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): Grey, turbid (silt), no sheen, no odour

Observations during sampling (turbidity, colour, odour, sheen): Milky/Cloudy (lower turbidity), no odour, no sheen

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW45	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties
Well cap + gutic cover on.

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: Kitsault DG1	Project Number:	Well No: MW52
Recorded By: Kate O'Brien	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 19/3/10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☐50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 5.010	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 2.170	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top: 1.5 Bottom: 4.9

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(____ (TD) - ____ (WL)) x (____ (D)/2)^2 x 0.00314] + [0.2 x (0.00314 x ____ (borehole radius)^2 x ____ (TD-WL)) – 0.2 x (0.00314 x ____ (well radius)^2 x ____ (TD-WL))] = ____ 1 BV (L)

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well) 2.170	Final depth to water: (after sampling, with pump in well) 2.180

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
09:35:10									
09:39:55		0.5	1.83	46000	6.72	222	24.0	2.175	CPM4
09:41:33		1.0	0.78	46300	7.18	197	24.5	2.170	CPM4
09:43:30		1.5	0.36	46700	7.48	176	24.9	2.200	CPM6
09:44:10		2.0	0.30	46800	7.54	170	25.0	2.200	CPM6
09:44:30		2.5	0.24	46900	7.57	165	25.1	2.190	CPM6
09:45:10		3.0	0.23	47100	7.58	159	25.1	2.170	CPM6
09:45:45		3.5	0.23	47200	7.55	149	25.2	2.180	CPM6
09:46:09		4.0	0.28	47400	7.50	138	25.3	2.180	CPM6
09:46:47		4.5	0.30	47500	7.43	125	25.4	2.180	"
09:47:21		5.0	0.33	47600	7.37	114	25.4	2.180	"
09:48:14		5.5	0.34	47600	7.31	104	25.5	2.180	"
09:48:33		6.0	0.35	47700	7.27	91	25.5	2.180	
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): Dark brown, turbid, very mild tar odors, no staining

Observations during sampling (turbidity, colour, odour, sheen): Pale yellow-brown, low turbidity, mild tar odors, no staining.

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW52	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BARANGAROO DG1	Project Number: SA150014	Well No: MW54
Recorded By: KOB	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 18-3-10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☐50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 2.86	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 1.415	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top: ~~1.8~~ 1.8 Bottom: 2.8

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ - _____) x (_____/2)^2 x 0.00314] + [0.2 x (0.00314 x _____^{2} x _____) – 0.2 x (0.00314 x _____^{2} x _____)] = _____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)
			1.215	

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
14:52:16									
14:55:37		0.5	0.94	2095	6.74	-50	28.1	2.130	0PM4
14:56:34		1.0	0.64	1912	6.51	-42	27.7	2.240	"
14:59:30		1.5	0.22	1677	6.21	-25	27.2	2.606	"
15:00:55		2.0	0.14	1620	6.14	-19	27.0		"
15:02:30		2.5	0.11	1599	6.15	-24	26.7	2.80	"
15:04:57		3.0	0.10	1595	6.14	-25	26.7	2.80	"
15:06:15		3.5	0.07	1592	6.16	-21	28.8	1.970	"
15:07.52		4.0	0.02	1589	6.08	-17	26.8	1.970	6PM4
15:08.45		4.5	0.03	1591	6.06	-15	26.8	1.970	
			RESAMPLE ON 19.3.10						
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): low turbidity, yellow-grey, no odour

Observations during sampling (turbidity, colour, odour, sheen): _____

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other: .....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW54	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BAYANEWOOD	Project Number: S4150014	Well No: BH53
Recorded By: YP	Well Type: ☑ Monitor ☐ Extractor ☐ Other	
Date: 30-03-10	Well Material: ☑ PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☐50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC):	☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other:
Water Level Depth (WL in m BTOC):	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☐ Other	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ (TD) - _____ (WL)) x (_____ (D)/2)^2 x 0.00314] + [0.2 x (0.00314 x _____ (borehole radius)^2 x _____ (TD-WL)) – 0.2 x (0.00314 x _____ (well radius)^2 x _____ (TD-WL))] = _____ 1 BV (L)

Start Time: 08:30	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
			TR	IMPACTED					
				NO SWL	NO	ID			
				APPROX 10CM OF TPH @ BASE					
				5CM @ SURFACE					
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): _____

Observations during sampling (turbidity, colour, odour, sheen): _____

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☐ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments

Quality Control Samples

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

Note: m BTOC = m below top of casing

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BARANGAROO DG1	Project Number: S4150004	Well No: MW54
Recorded By: KOB	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 19.3.10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☐50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 2-86	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 1.310	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top: 1.8 Bottom: 2-8

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ - _____) x (_____/2)^2 x 0.00314] + [0.2 x (0.00314 x _____^{2} x _____) – 0.2 x (0.00314 x _____^{2} x _____)] = _____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: 1.310 (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
12:04:50									
12:05:44		0.5	1.59	3330	6.48	-52	27.1	1.680	CPM4
12:06:40		1.0	0.56	2310	6.50	-55	26.9	1.780	CPM4
12:08:10		1.5	0.25	1985	6.49	-56	27.0	1.820	CPM3
12:12:09		2.5	0.08	1789	6.46	-55	27.0	1.880	CPM3
12:13:50		3.0	0.08	1739	6.42	-56	27.1	1.890	CPM2
12:16:30		3.5	0.03	1673	6.37	-55	27.2	1.940	CPM2
12:19:25		4.0	0.02	1630	6.35	-56	27.4	1.980	CPM1
12:23:02		4.5	0.03	1627	6.32	-60	27.6	1.990	CPM1
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): clear, colourless, hr odour, no sheen

Observations during sampling (turbidity, colour, odour, sheen): as above.

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☐ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW54	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^2+	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties
well dip + lid on.

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name:	KAPANGAZOO	Project Number: SA150014	Well No: MW56
Recorded By:	KP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date:	17.03.10	Well Material: ☒ PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☐50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 21.426	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 2.909	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 15.000
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(____ (TD) - ____ (WL)) x (____/2 (D))^2 x 0.00314] + [0.2 x (0.00314 x ____ (borehole radius)^2 x ____ (TD-WL)) – 0.2 x (0.00314 x ____ (well radius)^2 x ____ (TD-WL))] = ____ 1 BV (L)

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)
0812	0827			

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
0815		0.5	1.64	43000	6.16	-41	21.2°	3.113	40psi
0817		1.0	1.41	43000	5.99	-31	21.3°	3.207	1
0819		1.5	1.22	42900	5.67	-6	21.4°	3.294	
0822		2.0	1.18	42900	5.49	9	21.4°	3.346	
0824		2.5	1.02	42900	5.41	17	21.4°	3.401	
0825		3.0	1.00	43000	5.35	23	21.5°	3.487	
Groundwater equilibrium reached at		± 10%	± 3%		± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): Clear, slight yellow/brown tinge, v. slight turbidity, slight swampy odour, no sheen

Observations during sampling (turbidity, colour, odour, sheen):

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW56	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
MW56	1x 0.5 L Amber	TPH/PAH	-	ALS	
MW56	1x 1 L Plastic	Major Anions/Cations	-	ALS	
MW56	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
MW56	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
MW56	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

CONSTANT BEEP = 2.861
↳ TD = 11.079

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BARANGAROO	Project Number: 841500014	Well No: MW58
Recorded By: KP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 17.08.10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 11.079	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 2.457	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 9.000
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(____ (TD) - ____ (WL)) x (____ (D)/2)² x 0.00314] + [0.2 x (0.00314 x ____ (borehole radius)² x ____ (TD-WL)) – 0.2 x (0.00314 x ____ (well radius)² x ____ (TD-WL))] = ____ (1 BV (L))

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)
1450				

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
1452		0.5	1.41	84500	6.60	-55	29.4°	2.516	30 psi
1454		1.0	1.07	37400	5.96	-27	29.7°	2.609	1
1456		1.5	1.06	37500	5.96	-26	29.7°	2.743	
1459		2.0	1.11	37400	5.95	-24	29.6°	2.831	
1562		2.5	1.04	37500	5.95	-23	29.6°	2.907	
1566		3.0	1.03	37500	5.93	-20	29.6°	2.999	
1567		3.5	0.96	37500	5.91	-17	29.6°	3.065	
Groundwater equilibrium reached at		± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)		

Observations in first 1L purged (turbidity, colour, odour, sheen): Clear, slight grey tinge, moderate H_2S

Observations during sampling (turbidity, colour, odour, sheen): clear, no odour

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW58	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
MW58	1x 0.5 L Amber	TPH/PAH	-	ALS	
MW58	1x 1 L Plastic	Major Anions/Cations	-	ALS	
MW58	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
MW58	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
MW58	2 x 125 ml	Ultra Trace Metals/Fe^2+	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID
QC237	DUPLICATE	MW58
QC328	RINSATE	MW58

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BARANGAROO DG1 Blocks 4-5	Project Number: S4150014	Well No: MW60
Recorded By: KOB	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 18.3.10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 21.38	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 2.720	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top: 14 Bottom: 22

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(____ (TD) - ____ (WL)) x (____ (D)/2)^2 x 0.00314] + [0.2 x (0.00314 x ____ (borehole radius)^2 x ____ (TD-WL)) – 0.2 x (0.00314 x ____ (well radius)^2 x ____ (TD-WL))] = ____ 1 BV (L)

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
10:35:00									
10:39:47		0.5	1.81	45900	6.30	-35	27.4	2.910	CPM4
10:44:45		1.0	2.26	45500	5.34	38	25.3	2.970	CPM4
10:47:59		1.5	2.60	45400	5.10	58	24.5	2.670	CPM4
10:49:34		2.0	2.34	45500	5.02	63	24.2	2.620	CPM4
10:53:25		2.5	1.91	45400	4.70	80	24.5	2.570	CPM4
10:54:01		3.0	1.44	45500	4.61	88	24.5	2.650	CPM4
10:56:47		3.5	1.04	45800	4.54	93	24.5	2.680	CPM4
10:58:45		4.0	0.88	46000	4.49	97	24.5	2.860	CPM4
11:01:12		4.5	0.66	46300	4.40	102	24.4	2.900	CPM4
11:03:00		5.0	0.61	46400	4.35	106	24.3	3.200	CPM4
11:05:00		5.5	0.54	46500	4.30	110	24.2	3.80	CPM4
11:07:18		6.0	0.44	46900	4.23	120	23.8	3.80	CPM4
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): Orange/ish brown, moderate to High Turbidity, No odour/sheen

Observations during sampling (turbidity, colour, odour, sheen): Mild tar odour, orange, moderate turbidity, no sheen. lots of gas bubbles.

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW60	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties
Well cap and gate lid on.
swishing sounds down well when purging

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BARANGAROO	Project Number: S4150014	Well No: MW01
Recorded By: KP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 20-03-10	Well Material: ☒ PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑ 50 ☐ 100 ☐ Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 3.202	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 2.716	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ - _____) x (_____/2)² x 0.00314] + [0.2 x (0.00314 x _____² x _____) – 0.2 x (0.00314 x _____² x _____)] = _____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time: 1110 Stop Time: 1127 Elapsed Time: Initial depth to water: (with pump in well) Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
1112		0.5	0.27	333	5.96	-33	25.5°		
1114		1.0	NQM	Malfunction					
1117		1.5							
1120		2.0							
1123		2.5							
1125		3.0							

Groundwater equilibrium reached at	± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)

Observations in first 1L purged (turbidity, colour, odour, sheen): d-grey/brown, Moderate turbid

Observations during sampling (turbidity, colour, odour, sheen): Slight chemical odour, Slight sheen

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^2+	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☑ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BIRANGA200	Project Number: 84150014	Well No: MW62
Recorded By: CP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 17.03.10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 4.947	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 2.046	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 4.000
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(____ (TD) - ____ (WL)) x (____ (D)/2)^2 x 0.00314] + [0.2 x (0.00314 x ____ (borehole radius)^2 x ____ (TD-WL)) – 0.2 x (0.00314 x ____ (well radius)^2 x ____ (TD-WL))] = ____ 1 BV (L)

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)
1109	1125			

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
1111		0.5	0.18	37700	6.78	-198	27.2°	2.115	20psi
1113		1.0	0.14	34800	6.94	-214	27.3°	2.367	
1115		1.5	0.16	34800	7.06	-227	27.3°	2.513	
1118		2.0	0.07	34900	7.10	-231	27.4°	2.798	
1120		2.5	0.04	34800	7.13	-239	27.4°	2.903	Beginning Grab @ 2L
1122		3.0	0.03	34900	7.16	-246	27.4°	3.114	
Groundwater equilibrium reached at		± 10%		± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): Lt grey/brown, moderately turbid, strong H_2S odour, no sheen

Observations during sampling (turbidity, colour, odour, sheen):

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW62	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
MW62	1x 0.5 L Amber	TPH/PAH	-	ALS	
MW62	1x 1 L Plastic	Major Anions/Cations	-	ALS	
MW62	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
MW62	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
MW62	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BARANGAROO	Project Number: 84150014	Well No: MW64
Recorded By: VP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 20.03.10	Well Material: ☒ PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑ 50 ☐ 100 ☐ Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 9.071	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 1.996	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(TD - WL) x (D/2)^2 x 0.00314] + [0.2 x (0.00314 x borehole radius^2 x TD-WL) – 0.2 x (0.00314 x well radius^2 x TD-WL)] = 1 BV (L)

Start Time: 1335	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
1337		0.5	1.55	28000	6.77	-115	27.5°	2.113	
1340		1.0	0.95	28200	6.78	-119	27.8°	2.346	
1343		1.5	0.56	28700	6.85	-121	27.4°	2.549	
1347		2.0	0.33	28200	6.91	-122	26.8°	2.703	
1350		2.5	0.29	28000	6.92	-122	26.6°	2.996	
1353		3.0	0.27	27500	6.93	-122	26.5°	3.113	
1356		3.5	0.23	27200	6.94	-122	26.3°	3.346	
Groundwater equilibrium reached at		± 10%		± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): light orange/brown, slightly turbid

Observations during sampling (turbidity, colour, odour, sheen): slight tar/H2S odour, no sheen

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^2+	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

VERY SOFT orange brown clay on base.

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BARANGAROO DG1	Project Number: 541500014	Well No: MW68
Recorded By: KOB	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 18-3-10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☒50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 4.390	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 2.215	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top: 1.4 Bottom: 7.4

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

$$[(\underset{TD}{____} - \underset{WL}{____}) \times (\underset{D}{____}/2)^2 \times 0.00314] + [0.2 \times (0.00314 \times \underset{\text{borehole radius}}{____}^2 \times \underset{TD\text{-}WL}{____}) - 0.2 \times (0.00314 \times \underset{\text{well radius}}{____}^2 \times \underset{TD\text{-}WL}{____})] = \underset{1\ BV\ (L)}{____}$$

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well) 2.120	Final depth to water: (after sampling, with pump in well) 2.20

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
13:21:35									
13:22:00		0.5	RUN OUT OF GAS. CHANGE GAS BOTTLE						
13:39:53		0.5	0.71	33900	7.06	-102	31.3	2.210	CPM4
13:43:57		1.0	0.34	33800	6.84	-101	28.6	2.210	CPM6
13:47:06		1.5	0.16	33600	6.85	-117	27.6	2.170	CPM6
13:48:45		2.0	0.14	33800	6.83	-120	27.0	2.070	CPM6
13:51:15		2.5	0.09	33900	6.85	-127	26.7	2.200	CPM6
13:52.45		3.0	0.08	33900	6.85	-130	26.8	2.150	CPM6
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): Yellow-grey, moderate turbidity, tar odour, sheen (slight)

Observations during sampling (turbidity, colour, odour, sheen): Pale grey, low turbidity, tar odour, no sheen

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW68	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BARANGAROO DG1	Project Number: SA150014	Well No: MW69
Recorded By: KOB	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 19·3·10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☒ Other: Footvalve
Total Depth of Well (TD in m BTOC): 11·10	☒ ~~Pump~~ – Type: ☐ Submersible ☒ Bladder ☒ Other: ~~Micropurge~~
Water Level Depth (WL in m BTOC): 2·121	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top: 9 Bottom: 12

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(11·10 (TD) − 2·12 (WL)) × (0·05 (D)/2)² × 0.00314] + [0.2 × (0.00314 × 0·15² (borehole radius) × 9 (TD-WL)) − 0.2 × (0.00314 × 0·05² (well radius) × 9 (TD-WL))] = 18 (1 BV (L))

0·0000196

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
16:10:19		2	0·27	25900	6·69	−110	26·4		
16:12:33		9	0·13	24900	6·80	−121	24·6		
16:18:20		16	0·03	25150	6·74	−107	23·1	4·33	
16:23:29		27	0·08	26100	6·74	−112	23·0		
16:35:29		32	0·05	27300	6·61	−98	23·2	5·01	
16:42:00		45	0·03	27600	6·60	−105	23·1		
		54	0·15	24900	6·97	−135	22·9	5·62	
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): very turbid, dark orange brown, strong odour, sheen

Observations during sampling (turbidity, colour, odour, sheen): turbid, dark orange brown, strong odour, sheen

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☐ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW69	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties
Can't get micropurge past 1m bTOC – gets stuck.

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BARANGAROO DG1	Project Number: S4150014	Well No: MW74
Recorded By: KCB	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: ~~19.3.10~~ 18.3.10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 13.310	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 2.315	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 12.5
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top: 1.5 Bottom: 13.5

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(____ (TD) - ____ (WL)) x (____ (D)/2)^2 x 0.00314] + [0.2 x (0.00314 x ____ (borehole radius)^2 x ____ (TD-WL)) – 0.2 x (0.00314 x ____ (well radius)^2 x ____ (TD-WL))] = ____ 1 BV (L)

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well) 2.325	Final depth to water: (after sampling, with pump in well) 2.350

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
09:01:50									
09:06:30		0.5	3.02	43200	6.11	~~453~~	~~24.2~~	~~2.08~~	CPM4
09:09:30		1.0	0.89	43800	6.28	-91	24.4	2.080	"
09:12:00		1.5	0.32	44400	6.45	-137	24.1	2.090	"
09:14:00		2.0	0.23	44400	6.46	-143	24.0	2.090	"
09:16:15		2.5	0.14	44500	6.43	-148	23.9	2.080	"
09:17:40		3.0	0.14	44500	6.38	-148	23.9	2.070	"
09:19:18		3.5	0.14	44600	6.34	-149	23.9	2.075	"
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): dark greyish brown, very turbid, silt, mild H_2S odour, no sheen

Observations during sampling (turbidity, colour, odour, sheen): ~~dark~~ greyish brown, mod. turbid, stronger H_2S odour & no sheen

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW74	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID
/	/	/

Sampling notes: well condition, weather, change in pump depth, equipment difficulties
well cap and lid on.
soft bottom of well

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BARANGAROO DG1	Project Number: 84150014	Well No: MW198 (ERM)
Recorded By: KWB	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 16/3/10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 6.320	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 1.990	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 5.5
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : 3 Bottom: 9

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(____ (TD) - ____ (WL)) x (____ (D)/2)^2 x 0.00314] + [0.2 x (0.00314 x ____ (borehole radius)^2 x ____ (TD-WL)) – 0.2 x (0.00314 x ____ (well radius)^2 x ____ (TD-WL))] = ____ 1 BV (L)

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well) 1.945	Final depth to water: (after sampling, with pump in well) 1.985

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
10:53:00									
10:56:04		0.5	1.02	7280	~~8630~~	-31	22.6	~~2.035~~ 2.035	CPM4
10:57:49		1.0	0.57	7310	6.02	-14	22.6	~~2.035~~ 2.046	"
10:59:20		1.5	0.36	7180	5.92	-8	22.6	~~2.040~~ 2.060	"
11:01:08		2.0	0.30	7080	5.87	-5	22.6	2.060	"
11:02:20		2.5	0.24	6950	5.86	-5	22.6	2.070	"
11:04:30		3.0	0.20	6780	5.84	-5	22.6	2.070	"
11:05 to 12:00 sample + duplicate + triplicate.									
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): Yellow-brown, moderate-high turbidity, ter odour, no sheen.

Observations during sampling (turbidity, colour, odour, sheen): Pale yellow brown, low turbidity, ter odour, no sheen

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW198	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
"	1x 0.5 L Amber	TPH/PAH	-	ALS	
"	1x 1 L Plastic	Major Anions/Cations	-	ALS	
"	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
"	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
"	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID
QC323	duplicate	MW198
QC324	triplicate	"

Sampling notes: well condition, weather, change in pump depth, equipment difficulties
No well cap. Gatic cover on.

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BRANSWOOD	Project Number: S4150014	Well No: MW200
Recorded By: RP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 16.03.10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☐50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 7.369	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 2.020	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 6.000
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ - _____) x (_____/2)^2 x 0.00314] + [0.2 x (0.00314 x _____^{2} x _____) – 0.2 x (0.00314 x _____^{2} x _____)] = _____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time: 1056 | Stop Time: | Elapsed Time: | Initial depth to water: (with pump in well) | Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
1058		0.5	1.28	8840	6.39	-71	24.5°	2.304	
1100		1.0	0.62	10200	6.35	-76	24.4°	2.528	
1102		1.5	0.35	10930	6.34	-80	24.4°	2.709	
1105		2.0	0.17	11000	6.32	-87	24.4°	2.842	
1108		2.5	0.15	11350	6.34	-93	24.4°	3.010	
1111		3.0	0.07	11460	6.34	-93	24.4°	3.223	
1113		3.5	0.06	11540	6.35	-106	24.4°	3.379	
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): Clear to light grey tinge, Slightly turbid

Observations during sampling (turbidity, colour, odour, sheen): Moderate H_2S odour, Slight Sheen

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW200	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
MW200	1x 0.5 L Amber	TPH/PAH	-	ALS	
MW200	1x 1 L Plastic	Major Anions/Cations	-	ALS	
MW200	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
MW200	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
MW200	2 x 125 ml	Ultra Trace Metals/Fe^2+	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BOANGANDO	Project Number: S9150014	Well No: MW205
Recorded By: VP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 16.03.10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 19.563	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 2.905	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 18.000
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top: 15.000 Bottom: 19.500

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ - _____) x (_____/2)^2 x 0.00314] + [0.2 x (0.00314 x _____^{2} x _____) – 0.2 x (0.00314 x _____^{2} x _____)] = _____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
			TAR IMPACTED = DO NOT SAMPLE						
			TILL APPROPRIATE METHOD TO DO SO						
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): _____

Observations during sampling (turbidity, colour, odour, sheen): _____

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^2+	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

300m TAR/NAPL in base of well

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BOANGAMOO	Project Number: S41500014	Well No: MW204S
Recorded By: YP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 15.03.10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 4.305	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 1.520	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 3.500
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(____ (TD) - ____ (WL)) x (____ (D)/2)^2 x 0.00314] + [0.2 x (0.00314 x ____ (borehole radius)^2 x ____ (TD-WL)) – 0.2 x (0.00314 x ____ (well radius)^2 x ____ (TD-WL))] = ____ 1 BV (L)

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)
0828	0850			

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
0831		0.5	1.02	863	6.54	-61	24.5°	/	20psi
0833		1.0	0.63	739	6.58	-80	24.8°	NOT	
0835		1.5	0.60	680	6.63	-82	24.9°	AVAILABLE	
0837		2.0	0.69	672	6.65	-87	24.9°	DUE TO	
0840		2.5	0.67	640	6.69	-86	24.9°	PUMPING	
								SOUND	
		DRY @ 2.5L WAIT FOR RECHARGE							
0845		3.0	0.65	643	6.70	-87	24.8°		
0847		3.5	0.64	644	6.70	-88	24.8°		
0850		4.0	0.66	645	6.71	-86	24.6°	↓	
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): Clear slight yellow/brown tinge, no turbidity

Observations during sampling (turbidity, colour, odour, sheen): Slight - Moderate tur odour, slight sheen

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW204S	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
MW204S	1x 0.5 L Amber	TPH/PAH	-	ALS	
MW204S	1x 1 L Plastic	Major Anions/Cations	-	ALS	
MW204S	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
MW204S	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
MW204S	2 x 125 ml	Ultra Trace Metals/Fe^{2+}	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

NO GAIC COVER

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BAYANSA200	Project Number: 84150014	Well No: MW204D
Recorded By: KP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 15:03:10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☐50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 3.400	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 1.470	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 3.900
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ - _____) x (_____/2)^2 x 0.00314] + [0.2 x (0.00314 x _____^{2} x _____) – 0.2 x (0.00314 x _____^{2} x _____)] = _____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time: 1130	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
		TUBE IN WELL & CLOGGED UP SCREEN OF							
		MICROPURGE PUMP = CANNOT SAMPLE UNTIL							
			APPROPRIATE METHOD TO DO SO						
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): _____

Observations during sampling (turbidity, colour, odour, sheen): _____

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☐ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^{2}+	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Blockage in well (TAE)

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

Site Contamination Analysis – Water Quality Sampling Form

AECOM

Project Name: BALANGA200	Project Number: S4150014	Well No: MW206
Recorded By: VP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 16.03.10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC):	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC):	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC):
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(TD _____ - WL _____) x (D _____/2)^2 x 0.00314] + [0.2 x (0.00314 x borehole radius _____^{2} x TD-WL _____) – 0.2 x (0.00314 x well radius _____^{2} x TD-WL _____)] = 1 BV (L) _____

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
		FOOTVALVE TUBING DOWN WELL = 20-30cm OF NAPL ON BASE OF WELL = DON'T SAMPLE UNTIL APPROPRIATE METHOD TO DO SO.							
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): _____

Observations during sampling (turbidity, colour, odour, sheen): _____

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☐ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^2+	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID	**Sampling notes:** well condition, weather, change in pump depth, equipment difficulties
			Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

Site Contamination Analysis – Water Quality Sampling Form

AECOM

Project Name: BARANGAROO	Project Number: S4150014	Well No: MW209
Recorded By: YP	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 16-03-10	Well Material: ☒PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☑50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 8.876	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 2.437	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 6.000
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top : Bottom:

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(_____ - _____) x (_____/2)^2 x 0.00314] + [0.2 x (0.00314 x _____^{2} x _____) – 0.2 x (0.00314 x _____^{2} x _____)] = _____

TD WL D borehole radius TD-WL well radius TD-WL 1 BV (L)

Start Time: 1422	Stop Time: 1440	Elapsed Time:	Initial depth to water: (with pump in well)	Final depth to water: (after sampling, with pump in well)

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
1426		0.5	0.48	41200	6.91	-227	26.1°	2.546	30psi
1429		1.0	0.18	42700	6.94	-260	24.9°	2.713	
1431		1.5	0.16	43000	6.93	-261	24.8°	2.846	Bailing
1433		2.0	0.17	43100	6.94	-267	24.4°	2.927	d. orange/brown
1435		2.5	0.17	43000	6.94	-269	24.3°	3.007	bailer
1437		3.0	0.17	43000	6.94	-267	24.3°	3.156	moderately
1440		3.5	0.15	43100	6.94	-268	24.4°	3.329	turbid w
									thick
									flec. pptate
									@ IL
									slight blue/
									green tinge
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): clear slight grey/brown tinge, slight-

Observations during sampling (turbidity, colour, odour, sheen): moderate cheesy/fair odour, slight sheen

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☑ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^2+	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis – Water Quality Sampling Form

Project Name: BARANGAROO DG1	Project Number: S4150014	Well No: MW210 (Rem)
Recorded By: KOB	Well Type: ☒ Monitor ☐ Extractor ☐ Other	
Date: 16-3-10	Well Material: ☒ PVC ☐ SS ☐ Other	

Well Purging

Well Details	Purge Method
Well Diameter (D in mm): ☐50 ☐100 ☐Other:	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other:
Total Depth of Well (TD in m BTOC): 17.500	☒ Pump – Type: ☐ Submersible ☒ Bladder ☒ Other: Micropurge
Water Level Depth (WL in m BTOC): 1.810	**Pump Intake Setting**
Number of bore volumes (BV) to be purged (# VOLS)	Depth pump set (m BTOC): 16.5
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☒ Other Low Flow	Screen Interval (m BTOC) Top: 14.8 Bottom: 17.75

Purge Volume Calculation: (accounting for porosity of packing material surrounding well in bore hole)

[(____ (TD) - ____ (WL)) x (____ (D)/2)^2 x 0.00314] + [0.2 x (0.00314 x ____ (borehole radius)^2 x ____ (TD-WL)) – 0.2 x (0.00314 x ____ (well radius)^2 x ____ (TD-WL))] = ____ (1 BV (L))

Start Time:	Stop Time:	Elapsed Time:	Initial depth to water: (with pump in well) 1.480	Final depth to water: (after sampling, with pump in well) 2.170

Field Parameter Measurements

Actual Time	Elapsed minutes	Purge Vol (L)	DO (mg/L)	EC. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (m BTOC)	Pump setting (rate)
13:24:06									
13:26:17		0.5	1.85	13450	6.28	-100	28.8	1.930	CHANGE.
13:29:21		1.0	0.34	33300	6.19	-87	26.7	2.140	"
13:32:34		1.5	0.10	37000	6.22	-88	26.7	2.240	"
13:35:20		2.0	0.12	38300	6.23	-87	26.7	2.310	"
change	depth to	16.89	→ do pump	change depth		back to	16.5		
13:54:57		2.5	0.75	40800	6.26	-88	26.0	2.220	"
13:56:56		3.0	0.18	34900	6.27	-88	24.9	2.400380	"
13:58:23		3.5	0.13	34600	6.28	-92	24.9	2.380	"
14:00:10		4.0	0.13	34300	6.33	-98	24.9	2.460	"
14:01:50		4.5	0.12	38800	6.37	-104	24.9	2.510	"
14:03:29		5.0	0.10	38600	6.40	-108	24.8	2.540	"
Groundwater equilibrium reached at			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	(3 consecutive measurements)	

Observations in first 1L purged (turbidity, colour, odour, sheen): very turbid, brown, no odour, no sheen.

Observations during sampling (turbidity, colour, odour, sheen): no odour, moderate turbidity, pale grey brown, no sheen

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☐ Same as purge method ☐ Other:.....

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW210	5 x 40 ml Vials	vTPH,BTEX/TOC/CH_4	HCl/H_2SO_4/	ALS	
	1x 0.5 L Amber	TPH/PAH	-	ALS	
	1x 1 L Plastic	Major Anions/Cations	-	ALS	
	1x 0.25 L Plastic	Free and Total Cyanide	NaOH, $Cd(NO_3)_2$	ALS	
	1x 0.25 L Plastic	Nutrients (N)	H_2SO_4	ALS	
	2 x 125 ml	Ultra Trace Metals/Fe^2+	Nitric Acid	ALS	Field Filtered 0.45 µm Millipore Stericup

QA/QC Sample ID	Sample Type (duplicate, etc)	Parent Sample ID

Sampling notes: well condition, weather, change in pump depth, equipment difficulties
Bottom of well soft.
Well cap & gatic cover were on.

Do ECs need review? ☐ Yes ☐ No Are salinity corrections warranted?: ☐ Yes ☐ No

AECOM

Site Contamination Analysis - Ground Water Sampling Form

Project Name: Barangaroo	Well No: IT1 - Shallow
Project Number: S4150014	Well Type: ☑ Monitor ☐ Extractor ☐ Other
Recorded By: LK	Well Material: ☑ PVC ☐ SS ☐ Other
Date: 24-3-10	Sample by: LK

Well Purging

Purge Volume	Purge Method
Well Diameter (D in mm): ☐ 50 ☐ 100 ☑ Other 25	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Total Depth of Well (TD in m BTOC): 2.850	☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other
Water Level Depth WL in m BTOC): 2.625	**Pump Intake Setting**
Number of well volumes to be purged (# VOLS) ☑ 3 ☐ 4 ☐ 5 ☐ 10 ☐ Other	Depth (m BTOC)
	Screen Interval (m BTOC) – Top : Bottom:

Purge Volume Calculation 0.225

(2.850 - 2.625) x (25 /2)² x 3 x 0.00314 = 0.5

TD (m) WL (m) D/2 (mm) #VOLS Calculated Purge Volume (L)

PURGE TIME PURGE RATE ACTUAL PURGE VOLUME

Start: 8:01 Stop: 8:03 Elapsed: Initial: Final:

Field Parameter Measurements

Min since purge began	Volume Purged (L)	DO (mg/L)	Cond. (µS/cm) mS	pH	Redox (mV)	Temp (°C)	SWL (mBTOC)	Other	
	1	8.14	44.9	6.78	227	23.0			

Observations during purging (well condition, tubidty, colour, odour, sheen): - ~~cloudy~~ clear, no odour, well sampled on 25-3-10 7:30am

Discharge water disposal: ☑ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☐ Same as purge method

☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
IT1-S					

Quality Control Samples

Duplicate Samples		Blank Samples		Other Samples	
Original No	Duplicate No	Type	Sample No	Type	Sample No

Site Contamination Analysis - Ground Water Sampling Form

Project Name: Barangaroo	Well No: IT1 - Mid
Project Number: S4150014	Well Type: ☑ Monitor ☐ Extractor ☐ Other
Recorded By: LK	Well Material: ☑ PVC ☐ SS ☐ Other
Date: 24-3-10	Sample by: LK

Well Purging

Purge Volume	Purge Method
Well Diameter (D in mm): ☐ 50 ☐ 100 ☑ Other 25	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Total Depth of Well (TD in m BTOC): 8-944	☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other
Water Level Depth WL in m BTOC): 2-583	**Pump Intake Setting**
Number of well volumes to be purged (# VOLS)	Depth (m BTOC)
☑ 3 ☐ 4 ☐ 5 ☐ 10 ☐ Other	Screen Interval (m BTOC) – Top : Bottom:

Purge Volume Calculation 6-361

(8-944 TD (m) - 2-583 WL (m)) x (25 /2)² D/2 (mm) x 3 #VOLS x 0.00314 = 9 Calculated Purge Volume (L)

PURGE TIME_____ PURGE RATE_____ ACTUAL PURGE VOLUME_____

Start: 8:10 Stop: 8:20 Elapsed: Initial: Final:

Field Parameter Measurements

Min since purge began	Volume Purged (L)	DO (mg/L)	Cond. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (mBTOC)	Other	
		~~DOM~~	~~MS~~						
	1	2·33	40·6	7·56	-125	22·6			
	3	1·49	47·4	7·83	-163	22·4			
	6	1·13	48·5	7·95	-166	22·3			
	9	1·12	48·4	7·93	-162	22·4			

Observations during purging (well condition, tubidty, colour, odour, sheen): - brown, H_2SO_4 odour Sample 10:05

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☐ Same as purge method

☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ PVC ☐ SS ☑ Teflon ☐ Other

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
IT1-M					

Quality Control Samples

Duplicate Samples		Blank Samples		Other Samples	
Original No	Duplicate No	Type	Sample No	Type	Sample No
	QC331				
	QC332				

AECOM

Site Contamination Analysis - Ground Water Sampling Form

Project Name: Barangaroo	Well No: IT1-Deep
Project Number: 54150014	Well Type: ☑ Monitor ☐ Extractor ☐ Other
Recorded By: LK	Well Material: ☑ PVC ☐ SS ☐ Other
Date: 24-3-10	Sample by: LK

Well Purging

Purge Volume	Purge Method
Well Diameter (D in mm): ☐ 50 ☐ 100 ☑ Other 25	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Total Depth of Well (TD in m BTOC): 17-720	☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other
Water Level Depth WL in m BTOC): 2-413	**Pump Intake Setting**
Number of well volumes to be purged (# VOLS)	Depth (m BTOC)
☑ 3 ☐ 4 ☐ 5 ☐ 10 ☐ Other	Screen Interval (m BTOC) – Top : Bottom:

Purge Volume Calculation 15.307

(17.720 - 2.413) x (25 /2)² x 3 x 0.00314 = 22.5

TD (m) WL (m) D/2 (mm) #VOLS Calculated Purge Volume (L)

PURGE TIME _____ PURGE RATE _____ ACTUAL PURGE VOLUME _____

Start: 8:27 Stop: 8:58 Elapsed: Initial: Final:

Field Parameter Measurements

Min since purge began	Volume Purged (L)	DO (mg/L) ppm	Cond. (µS/cm) mS	pH	Redox (mV)	Temp (°C)	SWL (mBTOC)	Other	
	1	4.18	20.0	7.41	-102	22.5			
	5	0.59	40.8	6.72	-117	21.6			
	10	0.95	33.2	6.64	-81	21.5			
	15	5.74	36.5	6.47	-67	20.9			
	20	4.52	38.6	6.53	-54	20.9			
	23	4.20	31.3	6.71	-33	20.9			

Observations during purging (well condition, tubidty, colour, odour, sheen): - 9.50 - Sample well. brown, slight odour, turbid.

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☐ Same as purge method

☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ PVC ☐ SS ☑ Teflon ☐ Other

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
IT1-D					

Quality Control Samples

Duplicate Samples		Blank Samples		Other Samples	
Original No	Duplicate No	Type	Sample No	Type	Sample No

AECOM

Site Contamination Analysis - Ground Water Sampling Form

Project Name: Barangaroo	Well No: IT2-S
Project Number: S4150014	Well Type: ☐ Monitor ☐ Extractor ☐ Other
Recorded By: LK	Well Material: ☐PVC ☐ SS ☐ Other
Date: 24-2-10	Sample by:

Well Purging

Purge Volume	Purge Method
Well Diameter (D in mm): ☐50 ☐100 ☐Other 25	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Total Depth of Well (TD in m BTOC): 3.370	☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other
Water Level Depth WL in m BTOC): 2.975	**Pump Intake Setting**
Number of well volumes to be purged (# VOLS)	Depth (m BTOC)
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☐ Other	Screen Interval (m BTOC) – Top : Bottom:

Purge Volume Calculation 0.395

(3.370 (TD (m)) - 2.975 (WL (m))) x (25 /2)² (D/2 (mm)) x 3 (#VOLS) x 0.00314 = 0.5 (Calculated Purge Volume (L))

PURGE TIME_____ PURGE RATE_____ ACTUAL PURGE VOLUME_____

Start: 11.21 Stop: 11.23 Elapsed: Initial: Final:

Field Parameter Measurements

Min since purge began	Volume Purged (L)	DO (~~mg~~/L) ppm	Cond. (~~µS~~/cm) mS	pH	Redox (mV)	Temp (°C)	SWL (mBTOC)	Other	
	1	1.01	41.0	6.~~44~~	-37	26.8			

Observations during purging (well condition, tubidty, colour, odour, sheen): - brown, no sheen, tar odour Sample 11:25

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☐ Same as purge method

☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
IT2-S					

Quality Control Samples

Duplicate Samples		Blank Samples		Other Samples	
Original No	Duplicate No	Type	Sample No	Type	Sample No

AECOM

Site Contamination Analysis - Ground Water Sampling Form

Project Name: Barangaroo	Well No: IT2-M
Project Number: 54150014	Well Type: ☐ Monitor ☐ Extractor ☐ Other
Recorded By: LK	Well Material: ☐PVC ☐ SS ☐ Other
Date: 24-3-10	Sample by:

Well Purging

Purge Volume	Purge Method
Well Diameter (D in mm): ☐50 ☐100 ☑Other 25	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Total Depth of Well (TD in m BTOC): 8-80	☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other
Water Level Depth WL in m BTOC): 2-840	**Pump Intake Setting**
Number of well volumes to be purged (# VOLS)	Depth (m BTOC)
☑3 ☐4 ☐5 ☐10 ☐ Other	Screen Interval (m BTOC) – Top : Bottom:

Purge Volume Calculation 5-96

(8-80 (TD (m)) - 2-840 (WL (m))) x (25 /2)² (D/2 (mm)) x 3 (#VOLS) x 0.00314 = 8.8 (Calculated Purge Volume (L))

PURGE TIME _____ PURGE RATE _____ ACTUAL PURGE VOLUME _____

Start: 11:37 Stop: 11:45 Elapsed: Initial: Final:

Field Parameter Measurements

Min since purge began	Volume Purged (L)	DO (mg/L) ppm	Cond. (µS/cm) mS	pH	Redox (mV)	Temp (°C)	SWL (mBTOC)	Other	
	1	1.0	19.35	7.26	-46	26.6			
	3	0.34	40.3	7.54	-173	23.9			
	6	0.43	40.6	8.04	-222	22.7			
	9	0.51	41.1	8.20	-200	22.6			

Observations during purging (well condition, tubidty, colour, odour, sheen): - 11:45 sample. brown, tar odour, no sheen

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☐ Same as purge method

☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
IT2-M					

Quality Control Samples

Duplicate Samples		Blank Samples		Other Samples	
Original No	Duplicate No	Type	Sample No	Type	Sample No

Site Contamination Analysis - Ground Water Sampling Form

Project Name: Barangaroo	Well No: IT2 – D
Project Number: SA15001 4	Well Type: ☐ Monitor ☐ Extractor ☐ Other
Recorded By: LK	Well Material: ☐PVC ☐ SS ☐ Other
Date: 24-3-10	Sample by:

Well Purging

Purge Volume	Purge Method
Well Diameter (D in mm): ☐50 ☐100 ☑Other 25	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Total Depth of Well (TD in m BTOC): 17.625	☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other
Water Level Depth WL in m BTOC): 2.570	**Pump Intake Setting**
Number of well volumes to be purged (# VOLS)	Depth (m BTOC)
☑3 ☐4 ☐5 ☐10 ☐ Other	Screen Interval (m BTOC) – Top : Bottom:

Purge Volume Calculation 15.055

(17.625 (TD (m)) - 2.570 (WL (m))) x (25 /2)² (D/2 (mm)) x 3 (#VOLS) x 0.00314 = 22 (Calculated Purge Volume (L))

PURGE TIME_____ PURGE RATE_____ ACTUAL PURGE VOLUME_____

Start: Stop: Elapsed: Initial: Final:

Field Parameter Measurements

Min since purge began	Volume Purged (L)	DO (mg/L) ppm	Cond. (µS/cm) mS	pH	Redox (mV)	Temp (°C)	SWL (mBTOC)	Other	
	1	1.86	3.72	7.78	-46	25.7			
	5	0.74	28.4	6.27	-61	22.6			
	10	1.93	24.8	6.34	-42	23.7			
	15	6.64	25.0	6.26	~~-~~ -40	23.4			
	20	5.95	23.9	6.25	-4	23.5			
	22	6.36	25.2	6.19	-6	23.7			

Observations during purging (well condition, tubidty, colour, odour, sheen): - brown, tar odour, very slight sheen. Sample 1:15

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☐ Same as purge method

☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ PVC ☐ SS ☑ Teflon ☐ Other

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
IT2-D					

Quality Control Samples

Duplicate Samples		Blank Samples		Other Samples	
Original No	Duplicate No	Type	Sample No	Type	Sample No

AECOM

Site Contamination Analysis - Ground Water Sampling Form

Project Name: Barangaroo	Well No: Stirling Well
Project Number: S4150014	Well Type: ☐ Monitor ☐ Extractor ☐ Other
Recorded By: LK	Well Material: ☐PVC ☐ SS ☐ Other
Date: 24-3-10	Sample by:

Well Purging

Purge Volume	Purge Method
Well Diameter (D in mm): ☐50 ☐100 ☐Other	☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Total Depth of Well (TD in m BTOC):	☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other
Water Level Depth WL in m BTOC):	**Pump Intake Setting**
Number of well volumes to be purged (# VOLS)	Depth (m BTOC)
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☐ Other	Screen Interval (m BTOC) – Top : Bottom:

Purge Volume Calculation

(_____ - _____) x (_____/2)^2 x _____ x 0.00314 = _____

TD (m) WL (m) D/2 (mm) #VOLS Calculated Purge Volume (L)

PURGE TIME_____ PURGE RATE_____ ACTUAL PURGE VOLUME_____

Start: 13:50 Stop: Elapsed: Initial: Final:

Field Parameter Measurements

Min since purge began	Volume Purged (L)	DO (mg/L) ppm	Cond. (µS/cm) mS	pH	Redox (mV)	Temp (°C)	SWL (mBTOC)	Other	
		8-70	51-1	8-05	44	23-7			

Observations during purging (well condition, tubidty, colour, odour, sheen): - Sample 13:55

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☐ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method ☐ Same as purge method

☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
SW					

Quality Control Samples

Duplicate Samples		Blank Samples		Other Samples	
Original No	Duplicate No	Type	Sample No	Type	Sample No

Worldwide Locations

Australia	+61-2-8484-8999
Azerbaijan	+994 12 4975881
Belgium	+32-3-540-95-86
Bolivia	+591-3-354-8564
Brazil	+55-21-3526-8160
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