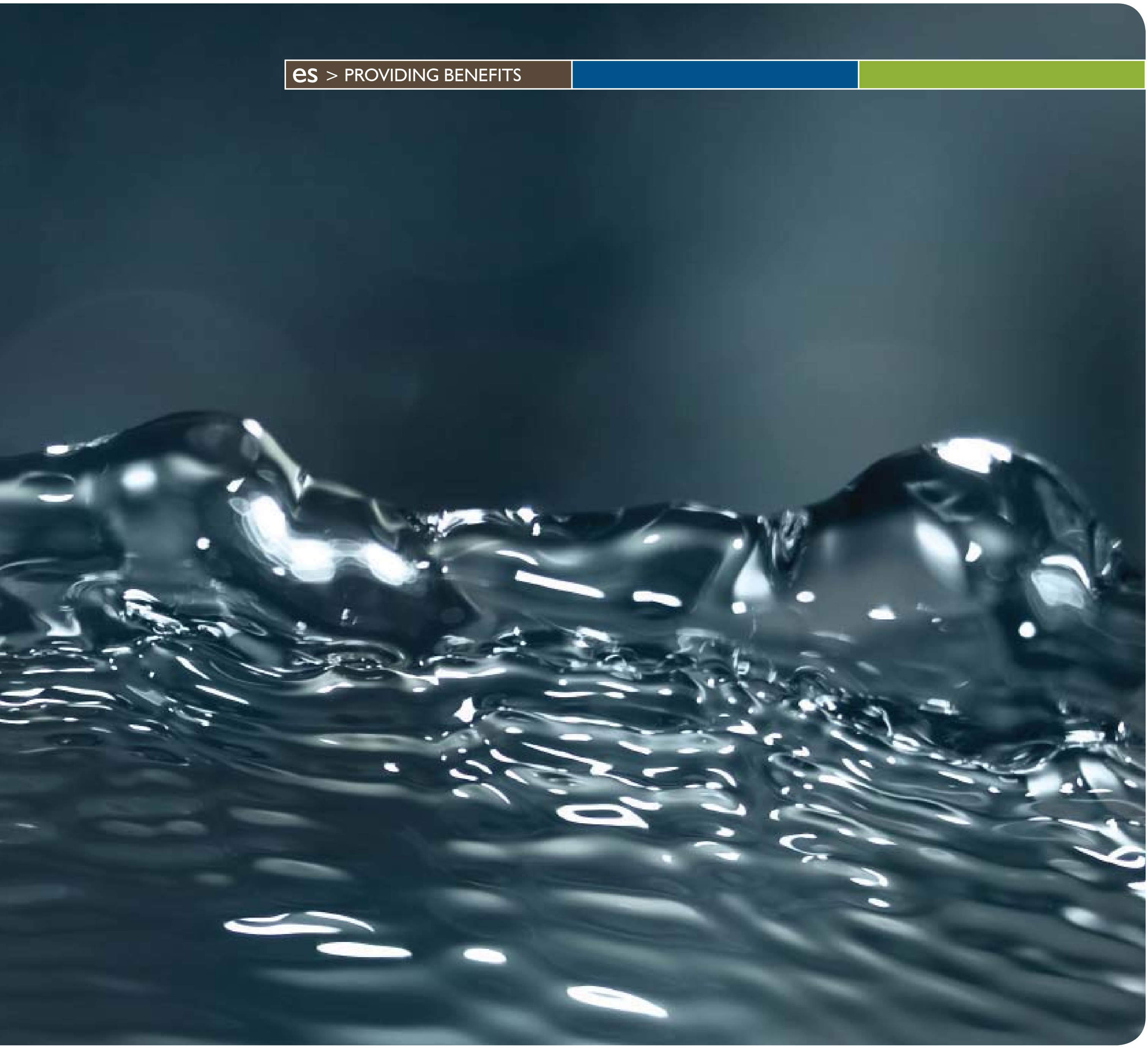
Volume 4 of 7: Lake Liddell, NSW

Additional Pre-Existing Contamination Study

Volume 4 of 7 15106RP01 LL APECS FINAL

Prepared for AGL Macquarie | February 2018



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Document Information

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Executive Summary

For the Executive Summary drawn from the AGL Macquarie Additional Pre-existing Contamination Study (AGLM APECS) report, completed by ES for Lake Liddell (LL): **15106 LL APECS - Volume 4 of 7**, refer to **15092 AGLM APECS – Volume 1 of 7: Section 8; LL APECS Executive Summary**.

Limitations

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From a technical perspective, there is a high degree of uncertainty associated with the assessment of subsurface, aquatic and atmospheric environments. They are prone to be heterogeneous, complex environments, in which small subsurface features or changes in geologic conditions or other environmental anomalies can have substantial impact on water, air and chemical movement.

Major uncertainties can also occur with source characterisation, assessment of chemical fate and transport in the environment, assessment of exposure risks and health effects, and remedial action performance. These factors make uncertainty an inherent feature of potentially impacted sites. Technical uncertainties are characteristically several orders of magnitude greater at impacted sites than for other kinds of projects.

In relation the conduct of Asbestos inspections or the preparation of hazardous materials reports ES has conducted inspections and the identification of hazardous material within the constraints presented by the property. Whist efforts are made to access areas not normally accessed during normal use of the site to identify the presence of asbestos or other hazardous material, unless explicitly tested no guarantee can be provided that such material is or is not present.

ES' professional opinions are based upon its professional judgment, experience, and training. These opinions are also based upon data derived from the limited testing and analysis described in this report or reports reviewed. It is possible that additional testing and analysis might produce different results and/or different opinions or other opinions. ES has limited its investigation(s) to the scope agreed upon with its client. ES believes that its opinions are reasonably supported by the testing and analysis that has been undertaken (if any), and that those opinions have been developed according to the professional standard of care for the environmental consulting profession in this area at this time. Other opinions and interpretations may be possible. That standard of care may change and new methods and practices of exploration, testing and analysis may develop in the future, which might produce different results.

Glossary

Abbreviation	Description
ABC	Ambient Background Concentration (NEPM 2013 Sch. B1)
ACL	Added Contaminant Limit (NEPM 2013 Sch. B1)
ACM	Asbestos Containing Material
ADWG	Australian Drinking Water Guidelines
AFFF	Aqueous Film Forming Foams
AGLM	AGL Macquarie Pty Limited
AHD	Australian Height Datum
AIC	Areas of Identified Contamination
AMG	Australian Map Grid
ANZECC	Australian and New Zealand Environment Conservation Council
APECS	Additional Pre-Existing Contamination Study
APHA	American Public Health Association
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
As	Arsenic
AS	Australian Standard
ASLP	Australian Standard Leaching Procedure
ASS	Acid Sulfate Soils
AST	Aboveground Storage Tank
B(a)P	Benzo(a)pyrene
B(a)P TEQ	B(a)P Toxic Equivalence Quotient (NEPM 2013 Sch. B1)
bgl	Below ground level
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
BTEXN	Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalene
btoc	Below top of casing
Cd	Cadmium
CEC	Cation Exchange Capacity
COC	Chain of Custody
COPC	Contaminant of Potential Concern
Cr	Chromium
Csat	Soil saturation concentration (NEPM 2013 Sch. B1)
CSM	Conceptual Site Model
Cu	Copper
CVAAS	Cold Vapour Atomic AbsoReportion Spectrometry
DEC	Dept. of Environment & Conservation (now EPA)
DECC	Dept. of Environment & Climate Changed (now EPA)

Abbreviation	Description
DECCW	Dept. of Environment, Climate Change and Water (now EPA)
Decon 90	Cleaning agent used to decontaminate equipment during sampling
Depths (m)	Depths have been reported as metres below the ground surface unless noted otherwise.
DO	Dissolved Oxygen
DP	Deposited Plan
DQA	Data Quality Assessment
DQI	Data Quality Indicator(s)
DQO	Data Quality Objective(s)
DSI	Detailed Site Investigation
EC	Electrical Conductivity
Eh	Redox Potential
EIL	Environmental Investigation Level
EMP	Environmental Management Plan
ENM	Excavated Natural Material
EPA	Environmental Protection Authority
ES	Environmental Strategies Pty Ltd
ES LPS APECS Screening Criteria	ES derived LPS APECS Screening Criteria for Salinity in groundwater
ESA	Environmental Site Assessment
ESL	Ecological Screening Level
ESMW	Monitoring Well installed by Environmental Strategies
FA	Fibrous Asbestos
FB	Field Blank (quality control sample)
F1	TRH fraction C6-C10 less BTEX for HSLs
F2	TRH fraction >C10-C16 less Naphthalene for HSLs
F3	TRH fraction >C16-C34
F4	TRH fraction >C34-C40
GAC	Groundwater Assessment Criteria
GCFID	Gas chromatography with flame ionization detector
GCMS	Gas Chromatograph Mass Spectrometer
GIL	Groundwater Investigation Level(s)
GME	Groundwater Monitoring Event
GPR	Ground Penetrating Radar
GSW	General Solid Waste
GSW (Special Waste)	Asbestos Waste
ha	Hectare (10 000 square metres in area)
Hg	Mercury
HIL	Health Investigation Level

Abbreviation	Description
HRA	Health Risk Assessment
HSE	Health Safety and Environment
HSL	Health Screening Level
HW	Hazardous Waste
ICPMS	Inductively coupled plasma mass spectrometry
ID	Identification or inner diameter where referenced to well casing
IL	Investigation Level(s)
IP	Interface Probe (measure in ground oil & water depth
ISQG	Interim Sediment Quality Guidelines
JSA	Job Safety Analysis
km	Kilometre
LCS	Laboratory Control Sample
LL	Lake Liddell
LNAPL	Light Non Aqueous Phase Liquid
LOR	Limit of Reporting
LPS	Liddell Power Station
LRBSL	Low Reliability Background Screening Level
m	Metre
mbgs	Metres below ground surface
mAHD	Metres Australian Height Datum
MAH	Monocyclic Aromatic Hydrocarbons
mbgl	Metres below ground level
mBTOC	Metres below top of casing (of monitoring well)
MGA	Map Grid of Australia 1994 - Coordinates
mg/kg	Milligrams per kilogram
mg/l	Milligrams per litre
ML	Management Limit for TPH fractions F1-F4 in soil (NEPM 2013)
ml	Millilitres
mm	Millimetres
Ms	MilliSiemens
MS	Matrix Spike or Mass Spectrometry or Mass Spectra
MSD	Matrix Spike Duplicate
MTBE	Methyl-tert Butyl Ether
mV	Milli-Volts
MW	Monitoring Well
N	Nitrogen
NAPL	Non-Aqueous Phase Liquid(s)
NATA	National Association of Testing Laboratories
NEPC	National Environment Protection Council

Abbreviation	Description
NEPM 1999	National Environment Protection (Assessment of Site Contamination) Measure (as made on 10 December 1999)
NEPM 2013	NEPM 1999 incorporating amendment taking effect on 16 May 2013
NHMRC	National Health and Medical Research Council
Ni	Nickel
NL	Non Limiting
NSW	New South Wales
NSW EPA	NSW Environment Protection Authority
NSW OEH	NSW Office of Environment and Heritage
N/A	Not Applicable
OCPs	Organochlorine Pesticides
OPPs	Organophosphorus Pesticides
PAH	Polycyclic Aromatic Hydrocarbon
PARCCS	Precision, Accuracy, Representativeness, Comparability, Completeness, Sensitivity
Pb	Lead
PFAS	Per and Polyfluorinated alkyl substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PID	Photo-Ionisation Detector
ppm	Parts per million
PQL	Practical Quantitation Limit
PSI	Preliminary Site Investigation
P&T	Purge and Trap
QA	Quality Assurance
QC	Quality Control
RB	Rinsate Blank (quality control sample)
RPD	Relative Percentage Difference
SAC	Soil Assessment Criteria
SAQP	Sampling and Analysis Quality Plan
SB	Soil Bore
SDAC	Sediment Assessment Criteria
SGS	SGS Australia Pty Ltd
SSC	Soil Screening Criteria
SWAC	Surface Water Assessment Criteria
SWL	Standing Water Level
TB	Trip Blank
TBA	To be advised
TCLP	Toxicity Characteristic Leaching Procedure

Abbreviation	Description
TDS	Tomago Development Site
Tier 1 Soil Vapour Criteria	Generic soil vapour assessment criteria referenced for selected analytes in NEPM 1999 (amendment 2013) Sch. B1
TOC	Total Organic Carbon
Total DS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
UCL	Upper Confidence Level
USCS	Unified Soil Classification System
UST	Underground Storage Tank
UCL	Upper Confidence Limit
uPVC	Unplasticised polyvinyl chloride
USEPA	United States Environmental Protection Agency
USCS	Unified Soil Classification System
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WHS	Work Health and Safety
Xylenes	The sum of ortho- (o-), meta- (m-), and para- (p-) xylenes
Zn	Zinc
µS	Micro Siemens
oC	Degrees Celsius
µg/L	Micrograms per litre

1 Introduction

1.1 Background

Lake Liddell (LL) lies adjacent to the Liddell Power Station (LPS) off the New England Highway, Muswellbrook NSW. LL has been used for cooling water and water storage since the LPS was commissioned in 1971. A location map and layout plan for LL is provided in **Appendix C.**

In 2013-2014, ERM was engaged by the State of New South Wales to investigate and report on the environmental condition of sediments and waters in LL. ERM identified certain contamination of sediments and water in LL.

AGLM acquired the Bayswater Power Stations (BPS) and the LPS, including LL, on 2 September 2014 (Completion). Following Completion, AGLM engaged ES to complete an LL APECS.

The overall objective of the investigation carried out as part of the LL APECS as provided in the AGLM Specification: *Additional Pre-Existing Contamination Study, Bayswater and Liddell Power Stations, April 2015*, (**Ref.1**) is:

- to define, to the extent practicable, the nature and extent of contamination of sediments, water and edible aquatic species in LL; and
- to make determination whether the contamination identified was present as at Completion (Pre-Existing Contamination).

1.2 Definition of Pre-Existing Contamination

For the purpose of the LL APECS 'Pre-Existing Contamination' has been defined to mean:

(a) the presence of any contamination (as defined in the *Contaminated Land Management Act 1997 (NSW)*) in, on, under or emanating from or migrating onto or through the Site/s (including any soil, groundwater or surface water on or under the Site/s) or migrating from the Sites onto any land or water body contiguous with the Site/s, to the extent to which it occurred on or before 2 September 2014; and

(b) any pollution (as defined in the *Protection of the Environment Operations Act 1997 (NSW))* of, or emanating from, the Sites (including any soil, groundwater or surface water on or under the Sites) or harm to the environment resulting from an activity undertaken on the Sites prior to 2 September 2014.

The significance of 2 September 2014 is that this is the date of completion for the sale and purchase agreement (SPA) under which AGLM acquired the Sites. This date is referred to in the LL APECS report as 'Completion'.

For the purpose of the definition of Pre-Existing Contamination:

- 'Contamination' means as defined in the Contaminated Land Management Act 1997 (NSW) (CLM Act). The CLM Act defines 'contamination' broadly to mean 'the presence in, on or under the land of a substance at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment'.
- 'Pollution' means as defined in the *Protection of the Environment Operations Act 1997 (NSW)* (POEO Act). The POEO Act defines 'pollution' to mean each of 'water pollution', 'air pollution', 'noise pollution' or 'land pollution'. Each of these concepts are defined broadly. By way of example:

- ‘water pollution’ includes ‘placing in or on, or otherwise introducing into or onto, waters (whether through an act or omission) any matter, whether solid, liquid or gaseous, so that the physical, chemical or biological condition of the waters is changed’; and
    - ‘waters’ is defined very broadly so as to include all surface or ground waters.
- In the LL APECS, LL is ‘the Site’.

Given the breadth of the definitions of ‘contamination’ and ‘pollution’, any analysis results showing the presence of any substance above naturally occurring background levels is considered to be ‘contamination’ or ‘pollution’ for the purpose of the LL APECS. Accordingly, the LL APECS does not exclude “Pollution” below prescribed screening criteria from being "Pre-Existing Contamination".

1.3 Lake Liddell

LL is located approximately 15 kilometres (km) south of Muswellbrook and on the north-eastern side of the New England Highway. LL covers 1133 hectares and has a storage capacity of 152 000 megalitres. (**Ref.1**).

LPS was commissioned in 1971, and for many years was the backbone of the NSW electricity system. LPS was the first major power station to be located inland away from abundant salt water supplies traditionally used for cooling purposes. LL was constructed for cooling and water storage, and has been used for this purpose since LPS was commissioned. LL also services the BPS which was commissioned in 1985.

The northern part of LL previously served as a water recreation source, but following the detection of Naegleria fowleri (a naturally occurring amoeba) in 2016, LL was indefinitely closed for all recreational uses. The lake provides a habitat for a variety of wildlife (**Ref.2**).

Prior to 2016, recreational activities on the lake are generally restricted to the northern and eastern parts, with restricted areas on the western side close to the LPS inlet pumps and outlet channel as delineated by permanent lines of linked buoys. Figure 2a showing the areas of LL which were previously able to be accessed by the public, is provided in **Appendix C**.

As LL has been continuously used to supply cooling water to LPS since 1971 and the BPS since 1985, the LL APECS is required to evaluate the likelihood of additional Pre-Existing Contamination to that reported by ERM.

1.4 Objectives of the Investigation

The objective of the LL APECS as provided in the *AGLM Specification: Additional Pre-Existing Contamination Study, Bayswater and LPSs, April 2015*, (**Ref.3**) was;

- to define to the extent practicable, the nature and extent of contamination of sediments and water;
- to identify whether the flesh of edible aquatic species is contaminated; and
- to make a determination whether the contamination identified is Pre-Existing Contamination.

In order to achieve the specific objectives of the LL APECS, the scope of work developed within the *Environmental Strategies - BPS, LPS, LL and Tomago Sampling, Analysis and Quality Plan to Identify Pre-Existing Contamination Prepared for AGL Macquarie; 15092RP01_SAQP, June 2015* (**Ref.3**) was designed to:

- better define the nature and the lateral and vertical extent of the contamination identified in the ERM reports;

- identify any further contamination which may be present on the sites; and
- provide an opinion as to whether contamination identified at LL is 'Pre-Existing Contamination' as per the definition provided in **Section 1.2** of this report.

To address the above, the purpose of the LL APECS was to define the nature, concentration and extent of Contamination and Pollution existing in LL, either at or prior to Completion.

1.5 Scope of Works

1.5.1 General Scope of Works

The general scope of work carried out in the preparation of this LL APECS included the following:

1 Review of reports and relevant documents provided by AGLM. The following reports have been reviewed:

- ERM (October 2013) BPS, Preliminary Environmental Site Assessment. Macquarie Generation – Project Symphony. Ref 0213879RP01_DRAFT Rev02 (**Ref.4**).
- ERM (October 2013) LPS, Preliminary Environmental Site Assessment. Macquarie Generation – Project Symphony. Ref 0213879RP02_DRAFT Rev02 (**Ref.5**).
- ERM (January 2014) BPS, Stage 2 Environmental Site Assessment. Macquarie Generation – Project Symphony. Ref 0224193RP01 (**Ref.6**).
- ERM (January 2014) LPS, Stage 2 Environmental Site Assessment. Macquarie Generation – Project Symphony. Ref 0224198RP02 (**Ref.7**).

2 Assessment of data gaps and identification of uncertainties and issues that require further investigation to define, to the extent practicable, the nature and extent of contamination on LL and to make determinations whether the contamination is 'Pre-Existing Contamination';

3 Assessment of the contaminants of potential concern (CoPC) at LL, including a review of their physical and chemical properties; and

4 Development of a sampling, analysis and quality plan (SAQP) *Environmental Strategies - BPS, LPS, LL and Tomago Sampling, Analysis and Quality Plan to Identify Pre-Existing Contamination Prepared for AGL Macquarie; 15092RP01_SAQP, June 2015* (**Ref.8**), to inform the works, fill identified data gaps and meet the site specific objectives of the *AGLM Specification: Additional Pre-Existing Contamination LL APECS, Bayswater and LPSs, April 2015*, (**Ref.3**).

A copy of the ES SAQP (**Ref.8**) is provided in **AGLM APECS Volume 7 of 7**.

In addition to surface water and sediment, the SAQP required edible aquatic species to be collected from a number of locations and their flesh analysed for CoPC to assess whether consumption of the flesh posed an unacceptable risk to human health or the environment.

1.5.2 Site-Specific Scope of Works

The site-specific scope of work carried out in the preparation of the LL APECS was in general accordance with the ES SAQP Specific Requirements for LL (Ref.8) and included the following:

1.5.2.1 Sediment

Sediment samples were collected using several surface (not diver-assisted) collection techniques including:

- a manually-driven piston corer used in water depths less than about 20 m;
- a grab sampler; and

- a small gravity/piston corer in water depths greater than about 20 m.

1.5.2.2 Surface Water

Water samples were collected from LL using a Wildco^{TM} Beta Horizontal water sampler deployed from the vessel. This method allowed the collection of discrete water samples from target depths.

Physico-chemical variables (dissolved oxygen, pH, electrical conductivity, and temperature) were measured at each of the survey locations, and the location of sampling determined using GPS.

1.5.2.3 Edible Aquatic Species

Since recreational fishing was previously permitted in LL, edible aquatic fauna (Edible Aquatic Species) was targeted for collection from four locations at LL using a range of survey techniques, including fyke netting and angling by Eco Logical Australia (ELA).

Fish were humanely euthanized and prepared in the field for dispatch to the laboratory following the methods specified in *Metal contamination of major NSW fish species available for human consumption; NSW Health 2001* (**Ref.12**). Fillets were couriered in either a chilled or frozen state. Fish carcasses were disposed of responsibly in the field so that they did not attract scavengers.

The Australian and New Zealand Food Standards Code-Standard 1.4.1- Contaminants and Natural Toxicants (**Ref.13**) and Standard 1.4.2- Maximum Residue Limits (**Ref.14**) requires analysis to be done of the edible portion of the fish. The liver and gullet can be the main areas of contaminant accumulation in fish, but it was not proposed to analyse these organs during the LL APECS as they are not normally consumed. ES notes that the above standard is relevant only to human health assessments and the data must be qualified if used in an ecological risk assessment.

2 Site Information

2.1 Site Identification

The location of the LL is shown on **Figure 1, Appendix C**. Figure 1 also includes the position of LL to LPS and BPS. Title details pertaining to LL are provided in **Table 2-1 b**elow and described in detail in the following sections.

Table 2-1: LL Summary Site Details

Site Characteristic	Detail
Street Address	New England Highway, NSW
Lot / DP	**Lot** — **Deposited Plan** 162 — DP752486 25 — DP752486 45 — DP241179 157 — DP752486 3 — DP1105210 160 — DP752486 1 — DP247944 28 — DP752486 2 — DP1022827 19 — DP752486
Local Government Area	Shire of Muswellbrook
Land Zoning	RE1 – Primary Production (Muswellbrook LEP 2009)
Site Area	Approximately 1133 ha
Geographic Coordinates (to approximate centre of Lake) Projection: GDA94 – NSW Lambert	Easting: 9675105.13 Northing: 4590018.046

2.2 Site Description

The current LL layout is presented in **Figure 2a, Appendix C**. LL is a man-made lake located predominantly adjacent the eastern side of LPS. At the extremities, LL is approximately 5.5 km long, running roughly north – south and 4 km wide running roughly east – west. LL covers a nominal area 1133 ha and has a storage capacity of 152 000 ML, with a maximum depth of approximately 35 m.

LL discharges into the Hunter River, approximately 11 km to the south, via Bayswater Creek, in accordance with environment protection licence no. 779 (EPL 779). An overview of EPL 779 is contained below.

2.3 Environmental Protection Licences

2.3.1 General

Discharges into LL from BPS are regulated under EPL 779. LL itself forms part of the premises the subject of EPL 779. Discharges into LL from LPS are controlled under EPL 2122.

ES notes the EPLs for BPS and LPS were updated in 2017 as listed below:

- EPL 779 (BPS): updated 7th September 2017; and
- EPL 2122 (LPS): updated 23rd January 2017.

The key updates to comply with NSW EPA's direction on the EPL's in relation to LL are the addition of water monitoring points as listed in Table 2-3 and Table 2-4.

Details of these EPLs are provided in the following section.

2.3.2 BPS EPL 779

The following is a summary of the key conditions of EPL 779

2.3.2.1 Licensed Activities

Scheduled Activity

- Chemical Storage
- Coal Works
- Electricity Generation

Fee Based Activity	Scale
▪ Chemical storage waste generation	> 100 T generated or stored
▪ Coal works	> 5 000 000 T annual handling capacity
▪ Generation of electrical power from coal	> 4 000 Gwh annual generating capacity

2.3.2.2 Discharge Concentration Limits and Volumes

Table 2-2 provides details of the discharge concentration limits for the licensed water discharge points at BPS.

Table 2-2: Water Discharge Concentration Limits

Point No	Point Location	Type of Discharge Point	Pollutant	Units	100 percentile concentration limit
1	Discharge from main station oil separator holding basin to Tinkers Creek	Discharge to waters	Oil and Grease Total suspended solids	mg/L mg/L	10 20
7	Discharge from cooling towers to Tinkers Creek	Discharge to waters	Conductivity pH	mS/cm pH	4 500 6.5-8.5
8	Discharge pipe from LL dam wall	Discharge and monitoring point under Hunter River Salinity Trading Scheme	pH Total suspended solids	pH mg/L	6.5-8.5 30

Point No	Point Location	Type of Discharge Point	Pollutant	Units	100 percentile concentration limit
17	Inlet point located on the Void 4 pontoon pump system	Discharge and monitoring point under Hunter River Salinity Trading Scheme	Boron Cadmium Copper Iron Molybdenum Nickel pH Silver (total) Total suspended solids	mg/L mg/L mg/L mg/L mg/L mg/L pH mg/L mg/L	0.81 0.0003 0.001 0.27 0.29 0.019 6.5-9.5 0.0005 30
18	Discharge from Bayswater Ash Dam unlined flood spillway located near left abutment	Discharge to waters effluent quality	Boron Cadmium Copper Electrical conductivity Iron Molybdenum Nickel pH Silver (total) Total suspended solids	mg/L mg/L mg/L µS/cm mg/L mg/L mg/L pH mg/L mg/L	Not reported Not reported Not reported Not reported Not reported Not reported Not reported Not reported Not reported Not reported

ES notes that the EPL 779 does not provide 100 percentile concentration limits for Point 18. It is understood that Point 18 was appended to the revision of EPL 779 on the 7th September 2017.

Table 2-3 provides the discharge volumes allowed from each licensed discharge point.

Table 2-3: Licenced Discharge Volume Limits

Point	Unit of Measure	Volume Limit
1	kL/week	36 400
7	ML/month	840
8	ML/day	700
17	ML/day	20
18	Not indicated	Not indicated

ES notes that the EPL 779 does not provide Licenced Discharge Volume Limits for Point 18. It is understood that Point 18 was appended to the revision of EPL 779 on the 7th September 2017.

2.3.2.3 BPS EPL 779 Pollution Reduction Programs and Environmental Improvement Programs

Full details of the Pollution Studies and Reduction Programs (PRP) and the Environmental Improvement Programs (EIP) are detailed in the BPS and LPS EPL's within Vol 2. BPS APECS and Vol 3 LPS APECS respectively.

A review of the BPS EPL (EPL 779, as updated 7th September 2017) indicates the following PRP and EIP's within this document are associated with LL.

U1 EIP – Coal Handling Plant (CHP – Assessment of water quality and management

"*The licensee must provide a report to the EPA that assesses the water quality discharge from the Bayswater Power Station Coal Handling Plant (CHP). This report must include, but need not be limited to the following*" (EPL 779):

1. "Water sampling and testing from the natural catchment upstream, flow inputs, sediment basin located along the north west boundary of the CHP and the confluence of the overflow from the CHP sediment dam, Tinkers Creek and Lake Liddell where Tinkers Creek enters the lake;
2. Water balance, catchment study and assessment of sizing of settling basins;
3. A full assessment of all potential pollutants from the CHP, including metals, cations, anions, total suspended solids, hydrocarbons, surfactants, anti-scalants and any other chemicals used in the CHP operations;
4. Identify details of all predicted annual discharge rates, frequency and total discharge volumes from discharges associated with the CHP into Tinkers Creek;
5. A full analysis of all existing pollutants in Tinkers Creek such metals, cations, anions, total suspended solids, hydrocarbons, surfactants, anti-scalants and potential residues;
6. A review of the potential environmental impact on Tinkers Creek and Lake Liddell from discharges from the CHP. This should include impacts on water quality, potential impacts from pollutant loads and the receiving stream and lake ecology; and
7. An assessment of options to manage the CHP sedimentation system to improve water quality and minimise discharges" (EPL 779).

ES considers U1 to be relevant to LL as it is designed to assess the water quality discharging into LL.

No details have been provided to ES on the progress of the U1 PRP.

U3 Stormwater Pipeline Program:

"*The purpose of this condition is to require the licensee to investigate and determine the feasibility of upgrades to relevant areas of the Bayswater power Station stormwater management system*" (EPL 779). ES considers U3 to be relevant to LL as some stormwater pipelines from BPS are understood to allow water to flow into LL.

No details have been provided to ES on the progress of the U3 PRP.

U4 EIP - Lake Liddell Seepage Water Improvement Works:

"*By 31 DECEMBER 2019, the licensee must complete all Lake Liddell Seepage Return Works as detailed in AGL Macquarie correspondence titled "Bayswater Power Station Environment Protection Licence 779 Variation Application" dated 31 July 2017*" (EPL 779).

ES considers U4 to be relevant to LL as it is directly related to an assessment of water seepage from LL.

No details have been provided to ES on the progress of the U4 PRP.

It should be noted that the work completed as part of the LL APECS were not designed to achieve objectives of the PRP or EIP listed in EPL 779. The information in connection with the EPLs was issued to ES after the completion of the LL APECS field program.

EPL 779 also specifies that the site must participate in the Hunter River Salinity Trading Scheme and salinity discharges from LL are managed in accordance with this scheme.

2.3.3 LPS EPL 2122

The following is a summary of the key conditions of EPL 2122 for the LPS.

2.3.3.1 Licensed Activities

Scheduled Activity

- Coal Works
- Electricity Generation

Fee Based Activity	Scale
▪ Coal works	> 5 000 000 T handled
▪ Generation of electrical power from coal	> 4 000 Gwh generated

2.3.3.2 Discharge Concentration Limits and Volumes

Table 2-4 provides details of the discharge concentration limits for the licensed water discharge points at LPS.

Table 2-4: Water Discharge Concentration Limits

Point No	Point Location	Type of Discharge Point	Pollutant	Units	100 percentile concentration limit
12	Water sampling platform located on the Outlet Canal of Liddell Power Station	Discharge and Monitoring Point	Ammonia	mg/L	Not reported
			Antimony	mg/L	Not reported
			Arsenic	mg/L	Not reported
			Barium	mg/L	Not reported
			Beryllium	mg/L	Not reported
			Cadmium	mg/L	Not reported
			Chlorine	mg/L	Not reported
			Chromium	mg/L	Not reported
			Chromium (total)	mg/L	Not reported
			Cobalt	mg/L	Not reported
			Conductivity	µS/cm	Not reported
			Copper	mg/L	Not reported
			Fluoride	mg/L	Not reported
			Lead	mg/L	Not reported
			Manganese	mg/L	Not reported
			Mercury	mg/L	Not reported
			Methylene Blue Active Substances	mg/L	Not reported
			Molybdenum	mg/L	Not reported
			Nickel	mg/L	Not reported
			Nitrogen (total)	mg/L	Not reported
			Oil and Grease	mg/L	10
			pH	pH	6.5-9.0
			Phosphorus	mg/L	Not reported
			Selenium	mg/L	Not reported
			Sulfur	mg/L	Not reported
			Temperature	degrees Celsius	Not reported
			Tin	mg/L	Not reported
			Total dissolved solids	mg/L	Not reported
			Total organic carbon	mg/L	Not reported
			TSS	mg/L	Not reported
			Vanadium	mg/L	Not reported
			Zinc	mg/L	Not reported

Point No	Point Location	Type of Discharge Point	Pollutant	Units	100 percentile concentration limit
13	The water quality sampling platform located at the Oil and Grit Trap weir overflow.	Discharge and Monitoring Point	Ammonia	mg/L	Not reported
			Antimony	mg/L	Not reported
			Arsenic	mg/L	Not reported
			Barium	mg/L	Not reported
			Beryllium	mg/L	Not reported
			Cadmium	mg/L	Not reported
			Chlorine	mg/L	Not reported
			Chromium	mg/L	Not reported
			Chromium (total)	mg/L	Not reported
			Cobalt	mg/L	Not reported
			Conductivity	µS/cm	Not reported
			Copper	mg/L	Not reported
			Fluoride	mg/L	Not reported
			Lead	mg/L	Not reported
			Manganese	mg/L	Not reported
			Mercury	mg/L	Not reported
			Methylene Blue Active Substances	mg/L	Not reported
			Molybdenum	mg/L	Not reported
			Nickel	mg/L	Not reported
			Nitrogen (total)	mg/L	Not reported
			Oil and Grease	mg/L	10
			pH	pH	6.5-9.0
			Phosphorus	mg/L	Not reported
			Selenium	mg/L	Not reported
			Sulfur	mg/L	Not reported
			Temperature	degrees Celsius	Not reported
			Tin	mg/L	Not reported
			Total dissolved solids	mg/L	Not reported
			Total organic carbon	mg/L	Not reported
			TSS	mg/L	Not reported
			Vanadium	mg/L	Not reported
			Zinc	mg/L	Not reported

Table 2-5 provides the discharge volumes allowed from each licensed discharge point.

Table 2-5: Licenced Discharge Volume Limits

Point	Unit of Measure	Volume Limit
12	Not indicated	Not indicated
13	Not indicated	Not indicated

2.3.3.3 LPS EPL 2122 Pollution Studies and Reduction Programs

Full details of the Pollution Studies and Reduction Programs (PRP) and the Environmental Improvement Programs (EIP) are detailed in the BPS and LPS EPL's within Vol 2. BPS APECS and Vol 3 LPS APECS respectively.

A review of the LPS EPL (EPL 2122, as updated 23rd January 2017) indicates that no PRP or EIP's within this document are associated with LL.

2.4 Site Activities

LL is primarily used for the following:

- Provision of cooling water to BPS and LPS;
- Receipt of waters from the LPS and, the northern portion and main operations of BPS; and
- Reservoir for runoff from the surrounding environs, including the New England Highway.

As outlined above, LL is now closed to recreational uses.

2.5 Surrounding Land-uses

Description of the surrounding land uses were as follows:

- North – LL Recreational Area (on north east shoreline, including a caravan park) and Pacific National Antiene Rail Coal Unloader (1 km);
- East – Liddell Colliery (0.2 km);
- South – New England Highway (0.45 km), Cumnock (2 km) and Ravensworth Collieries (3.4 km), and BPS (1.2 km); and
- West – LPS (adjacent to the shoreline), New England Highway (0.15 km) and Drayton Colliery (1.3 km).

2.6 Topography

LL sits within a small valley, within the larger Hunter Valley. The surrounding topography is characterised as a series of alternating valleys and ridges radiating out from LL. The exception to this is an area of significant elevation approximately 2 km to the north of the LL, which is largely undeveloped, heavily timbered and comprises the southern extremity of hills forming the northern boundary of the Hunter Valley. On the other three sides of LL, the elevated areas are largely occupied by the various collieries and power stations named above, with the lower areas between containing creeks, reservoirs or water ways, which generally flow into LL from the northern, western and southern sides and discharge from LL on the south-eastern side, toward the Hunter River.

2.7 Hydrology

As outlined above, LL is a manmade lake which provides cooling water for both LPS and BPS.

A number of creeks and drains discharge runoff and production water into LL. These feed into LL predominantly from the western side, from the south-western end to the north end. These waterways include Tinkers Creek, which receives runoff from both LPS and BPS and discharges into LL on the western side, between the New England Highway and LPS.

LL is also fed by water directly from the Hunter River via a series of pump houses, the first of which is located on the river adjacent to the outflow of Saltwater Creek, approximately 12 km south-south-west of LL and approximately 2 km south of Plashett Reservoir.

The nearest surface water receptor to LL is Bayswater Creek, which accepts discharge water directly from LL via a spillway (discharge point 8 on EPL 779), and flows to the Hunter River which is located 11 km to the south of LL.

The major surface water features are provided on Figure 2a in **Appendix C**.

2.8 Geology

The Jerrys Plains 1:25 000 Geological Sheet 9033-11-S (Ref.15) indicates that LL is surrounded by the geology of two distinct rock types. On the eastern side the surrounding geology consists of the Whittingham Coal Measures of the Saltwater Creek Formation, which consists of later

Permian sandstone and siltstone with thin lenticular coaly bands and marine siltstone intercalated towards the base. This formation is typical of a transitional delta front environment.

The western side of LL is comprised of Mulbring Siltstone, and forms part of the Maitland Group. This formation consists of middle-Permian aged dark grey shale and siltstone, which are micaceous, bioturbated and fossiliferous. This formation is typical of a marine shelf to pro-delta environment.

The northern section of LL is not shown on the Jerrys Plains sheet and is located on the Camberwell 1:100 000 Geological Sheet 9133 (**Ref.16**), which shows similar lithologies adjacent to LL as are shown on the Jerrys Plain sheet.

2.9 Hydrogeology

As LL is situated within the Hunter River Valley, the direction of regional groundwater flow near LL is likely to be south to south-east towards the Hunter River.

A groundwater bore search was conducted by ES as part of the LL APECS using the NSW Office of Water Groundwater Map (**Ref.17**). A total of eight registered bores were located within approximately 5 km from the centre of LL. Summarised details of the registered bores are provided below in **Table 2-4.**

Table 2-6: Summary Details of Registered Groundwater Bores within 5km of LL

Bore Identification	Distance from LL (km)	Direction from LL	Water Bearing Zone (m)	Registered Use
GW024022	0.45	West	3.0-3.05	Industrial (abandoned)
GW201061	1.33	South	12.0-15.1	Monitoring bore
GW20162	1.17	South	14.5-17.4	Monitoring bore
GW080212	1.00	East	Not recorded	Monitoring bore
GW201845	3.60	East, north-east	3.0-6.5	Test bore
GW201846	3.53	East, north-east	3.53	Test bore
GW201847	4.03	East, north-east	4.03	Test bore
GW201848	2.87	East	3.5-6.5	Test bore

The registered groundwater wells listed above all intercept the shallow local aquifer/s. Given the setting of LL, it is likely that the shallow aquifer/s flow is towards and discharges into LL, rather than receiving significant recharge from the lake. The above bores are not provided on a figure but can be viewed using the NSW Office of Water Groundwater Map (**Ref.17**)

2.10 Sensitive Environments

The relevant sensitive receiving environments and/or environmental receptors are:

- the Hunter River (approximately 11 km south of LL) and tributaries including;
    - Bayswater Creek on the south-eastern side of LL, immediately downstream of the LL spillway;
- users of the LL Recreational Area including visitors and permanent residents of the caravan park (as outlined above, LL is now indefinitely closed to recreational use and so no water sports or fishing on LL is currently authorised);

- workers engaged in maintenance in and around LL;
- residents and tenants on rural properties along the Hunter River, east of Bayswater Creek who may;
    - use and/or come into contact with water in the Hunter River; and/or
    - consume edible aquatic species from the Hunter River; and
- residents of the townships of Maison Dieu and Singleton adjacent to the Hunter River, (approximately 13 and 15 km east respectively from the junction of the Hunter River and Bayswater Creek) who may;
    - use and/or come into contact with water in the Hunter River; and/or
    - consume edible aquatic species from the Hunter River.

2.11 Current and Proposed Landuse

It is understood that the current uses of LL are expected to continue until the closure of LPS and the BPS. As outlined above, LL is currently closed indefinitely for recreational use. However, it is possible that recreational use of LL will resume at some point in the future.

Final use of LL post-closure of the power stations is yet to be determined.

3 Sampling, Quality and Analysis Plan and Investigation Methodology

This section outlines the methodology adopted by ES during the works conducted as part of the LL APECS. Specifically, this section summarises the relevant sections of the ES SAQP (**Ref.8**) which was prepared to inform the works required to meet the project objectives as stated in **Section 1.2** of this report.

3.1 Data Quality Objectives (DQO)

The DQO process is a systematic planning tool based on the scientific method for establishing criteria for data quality and for developing data collection designs. The DQO defines the experimental process required to test a hypothesis. The DQO process has been developed to ensure that efforts relating to data collection are cost effective, by eliminating unnecessary, duplicative or overly precise data whilst at the same time, ensuring the data collected is of sufficient quality and quantity to support defensible decision making.

It is recognised that the most efficient way to accomplish these goals is to establish criteria for defensible decision-making before data collection begins and develop a data collection design based on these criteria. By using the DQO process to plan the investigation effort, the relevant parties can improve the effectiveness, efficiency and defensibility of a decision in a resource and cost effective manner.

The DQO process consists of seven steps, which are designed to clarify the LL APECS objectives, define the appropriate type of data and specify tolerable levels of potential decision errors. The seven-step DQO process adopted for the ESA can be summarised as:

- **Step 1:** State the Problem – concisely describe the problem to be studied. Review prior studies and existing information to gain a sufficient understanding to define the problem.
- **Step 2:** Identify the Decision – identify what questions the LL APECS will attempt to resolve, and what actions may result.
- **Step 3:** Identify the Inputs to the Decision – identify the information that needs to be obtained and the measurements that need to be taken to resolve the decision statement.
- **Step 4:** Define the LL APECS Boundaries – specify the time periods and spatial area to which decisions will apply. Determine when and where data should be collected.
- **Step 5:** Develop a Decision Rule – define the statistical parameter of interest, specify the action level, and integrate the previous DQO outputs into a single statement that describes the logical basis for choosing among alternative actions.
- **Step 6:** Specify Tolerable Limits on Decision Errors – define the decision maker's tolerable decision error rates1 based on a consideration of the consequences of making an incorrect decision.
- **Step 7:** Optimise the Design –evaluate information from the previous steps and generate alternative data collection designs. Choose the most resource-effective design that meets all DQOs.

DQOs have been developed to detail the type of data that is needed to meet the overall objectives of this project. The DQOs presented in this LL APECS have been developed consistent with the following published guidance:

- National Environment Protection Council (1999) National Environmental Protection Measure 1999 as amended 2013 – Assessment of Site Contamination. Schedule B(2) Guideline on Site Characterisation (NEPC 2013) (**Ref.19**);
- NSW DECC (2006) Guidelines for the NSW Site Auditor Scheme (2nd Edition) (**Ref.20**);
- NSW EPA (1995) Sampling Design Guidelines (**Ref.21**);

- NSW EPA (2000) Guidelines for Consultants Reporting on Contaminated Sites (**Ref.22**); and
- Australian/New Zealand Standard, AN/NZS 4360:2004, *Risk Management – Principles and guidelines (***Ref.23***)*.

Full details of the DQOs developed for the LL APECS are provided in (Ref.8) **Volume 7 of 7**.

3.2 Quality Assurance and Quality Control

To assess the achievement of the project DQO, data quality indicators (DQIs), precision, accuracy, representativeness, comparability and completeness, are employed. The DQIs are defined as follows:

- Precision is a measure of the agreement between duplicate or replicate samples.
- Accuracy is a measure of the agreement between an experimental determination and the true values of the parameter being measured.
- Representativeness is a measure of how closely the measured results reflect the actual concentration or distribution of the chemical constituent in the sample of each environmental medium.
- Comparability is a qualitative assessment made to express the confidence with which one data set may be compared with another.
- Completeness is a quantitative measure defined as the percentage of total measurements made that are judged to be valid compared to the total number of measurements that were proposed to be made.
- Sensitivity refers to the capability of a method or instrument to detect a given analyte at a given concentration and reliably quantify the analyte at that concentration.

DQIs are used to assess the achievement of both field and laboratory procedures, in accordance with the requirements of NSW DECC (2006) and NEPC (2013).

The field QA/QC programme set out in the SAQP (**Ref.8**) required the fieldwork carried out in support of the LL APECS to be conducted in accordance with the requirements of NEPC (2013), Australian Standard AS4482.1-2005 to measure the precision of the field and laboratory analyses and to determine the accuracy of the analytical results. All samples were analysed by NATA accredited laboratories SGS Australia Pty Ltd (SGS) and Envirolab Services Pty Ltd (Envirolab). Field QA complies with appropriate standard operating procedures. Results of the field QA/QA programme are provided in **Section 8.1** of this report.

The laboratory QA/QC programme set out in this SAQP requires chemical analyses to be conducted by laboratories in accordance with the registration of analytical methods provided by the National Association of Testing Authorities Australia (NATA). Results of the laboratory QA/QA programme are provided in **Section 8.3** of this report.

Full details of the DQIs adopted for the LL APECS are provided in the SAQP – Section 3 (**Ref.8**).

3.3 Contaminants of Potential Concern

Based on results set out in the ERM Report and known historical site operations, the potential contaminants of potential concern (CoPCs), and indicators of environmental impact within LL and the AECs discharging into LL, set out below, were identified:

- Trace metals and metalloids:
  - Arsenic (As);
  - Boron (B);
  - Lead (Pb);
  - Mercury (Hg);
  - Nickel (Ni);
  - Selenium (Se); and

- Cadmium (Cd);
- Chromium III + IV (Cr Total);
- Copper (Cu);
- Zinc (Zn).

- Total Recoverable Hydrocarbons (TRH);
- Benzene, Toluene, Ethylbenzene and Xylene (BTEX);
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Volatile Organic Compounds (VOCs);
- Salinity;
- pH; and
- Nutrients (specifically nitrate, nitrite, ammonia and phosphorus).

ES completed further investigation into six potential discharge locations from the LPS to LL in January 2016. These discharge locations were analysed for the following CoPC, which were identified by AGLM staff:

- Trace metals and metalloids;
- TRH;
- BTEX;
- PAHs;
- VOCs;
- Salinity;
- pH;
- Nutrients (specifically nitrate, nitrite, ammonia and phosphorus);
- Per and poly-fluoroalkyl substances (PFAS);
- Polychlorinated biphenyls (PCBs);
- Ferric Chloride; and
- Sodium Hydroxide.

Further targeted investigation was carried out at Liddell power station in September/October 2016. The areas targeted were based on the results from the previous two rounds of investigation. As part of the targeted investigation an additional near shore sediment sample was collected from LL, north of LPS and adjacent an area identified to have historically been used for fire-fighting training using Aqueous Film Forming Foam (AFFF) known to contain PFAS. The sample was analysed for the following CoPC:

- Trace metals and metalloids;
- TRH;
- BTEX;
- PAHs;
- VOCs;
- PCBs;
- Monocyclic Aromatic Hydrocarbons (MAHs);
- Phenols;
- Chlorinated Hydrocarbons
- Halogenated Hydrocarbons; and
- PFAS, as:
    - Perfluorooctane sulfonate (PFOS);
    - Perfluorooctanoic acid (PFOA); and

- Perfluorohexane sulfonic acid (PFHxS)

4 Assessment Criteria

4.1 Sediment

The sediment analytical results obtained during the LL APECS have been assessed against criteria from the following guidelines:

- Australian and New Zealand Environment and Conservation Council (2000) *National Water Quality Management Strategy* (ANZECC/ARMCANZ, 2000) Interim Sediment Quality Guideline High (ISQG-high) and Low (ISQG-low) Trigger Values (**Ref.26**);
- PFAS:
  - Commonwealth Department of Environment and Energy (DoEE): Commonwealth Environmental Management Guidance on Perfluorooctane Sulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA); October 2016, (**Ref.30**);
  - Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC Care): Technical Report No.38 – Assessment, management and remediation for PFOS and PFOA; January 2017, (**Ref.31**);
- NSW Office of Environment and Heritage (NSW OEH) Science: Draft PFAS Screening Criteria; May 2017, (**Ref.32**).

Sediment analytical results compared to guideline criteria are presented in **Appendix D.**

4.2 Surface Water

The surface water analytical results obtained during the LL APECS have been assessed against criteria from the following guidelines:

- Australian and New Zealand Environment and Conservation Council (ANZECC, 2000) Australian New Zealand Australian and New Zealand Guidelines for Fresh and Marine Water Quality 95% Level of Protection Trigger Values for Fresh Water (Reference Table 3.4.1, ANZECC 2000 Trigger Values for toxicants at alternative levels of protection which are applicable to slightly–moderately disturbed systems.), (herein after defined as ANZECC (2000) FW) (**Ref.25**). ES notes that Selenium and Mercury have been compared to the 99% level of protection.
- National Health and Medical Research Council (NHMRC, 2008) Guidelines for Managing Risks in Recreational Water (**Ref.34**) NHMRC (2008) Recreational).
- PFAS
  - Commonwealth Department of Environment and Energy (DoEE): Commonwealth Environmental Management Guidance on Perfluorooctane Sulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA); October 2016, (**Ref.30**); and
  - Australian Government Department of Health (DoH): Health Based Guidance Values for PFAS For Use in Site Investigations in Australia; April 2017, (**Ref.33**).

Surface water analytical results compared to guidelines are presented in **Appendix D**.

4.3 Edible Aquatic Species

The edible aquatic species analytical results obtained during the LL APECS have been assessed against criteria from the following guidelines:

- Australian and New Zealand Food Standards Code – Standard 1.4.1 – Contaminants (**Ref.13**); and
- Natural Toxicants and Standard 1.4.2 – Maximum Residue Limits (**Ref.14**).

Edible aquatic species analytical results compared to adopted assessment criteria are presented in **Appendix L**.

4.4 Aesthetics

In addition to reporting laboratory results obtained during the LL APECS against the above assessment criteria, aesthetic considerations were reported on sampling logs.

The assessment of aesthetic considerations relates to the generation of odours, discolouration as a result of potential contamination and the presence of anthropogenic materials, such as gross pollutants. Refer to NEPM (2013) Schedule B1 Section 3.6.2 (**Ref.19**).

4.5 Rationale for and Appropriateness of the Selection of Criteria

4.5.1 Sediment

The sediment criteria adopted are based on the latest regulatory guidelines. Sediments have unique physio-chemical properties and need to be assessed to assess potential impact to aquatic ecosystems, but are also compared to Health-based Investigation Levels (HILs) for soils to assess impact to human health when people are able to be exposed to the sediments.

At the time of the sampling carried out for the LL APECS, the waters of LL were used for swimming and boating and so the adopted HILs criteria are considered appropriate for the purpose of the LL APECS.

4.5.2 Surface Water

The surface water criteria adopted are based on the latest regulatory guidelines. Surface waters which are commonly the receiving bodies for contamination are assessed on criteria based on the level of protection for aquatic fauna, rather than health considerations.

At the time of the sampling carried out for the LL APECS, the waters of LL were used for swimming and boating and so the criteria for primary and secondary contact set out in ANZECC (2000) are considered appropriate for the purpose of the LL APECS.

4.5.3 Edible Aquatic Species

At the time of the sampling carried out for the LL APECS, recreational fishing was permitted in LL, so that edible aquatic species criteria were adopted based on the latest regulatory guidelines. The edible aquatic species criteria were selected by Eco Logical Australia (ELA) and were considered appropriate based on the potential consumption of aquatic species collected from LL.

ES notes that PFAS was not analysed as part of the Edible Aquatic Species assessment as PFAS was not incorporated into the LL APECS at the time the Edible Aquatic Species assessment occurred.

5 Sampling Programme

This section summarises the strategy for the sampling and analysis programme adopted for the LL APECS as developed within the ES SAQP (**Ref.8**) **Appendix L**. The programme was developed in accordance with:

- National Environment Protection (Assessment of Site Contamination) Measure 1999 as amended in 2013 (NEPC, 2013) **(Ref.19)**;
- NSW EPA Sampling Design Guidelines (NSW EPA, 1995) **(Ref.21)**; and
- Guidelines for Consultants Reporting on Contaminated Sites (OEH, 2011) (**Ref.22**).

5.1 Sediment and Surface Water Sampling Programme

Following review of the ERM reports, ES developed a programme of sampling for sediments and water in LL, which is summarised in **Table 5-1.** The sampling programme was carried out in accordance with technical procedures outlined in this section. To the extent practicable, all fieldwork was performed in accordance with the ES SAQP (**Ref.8**) and the various guidance documents on which was based. Departures from the ES SAQP where they occurred were minor and are not expected to impact the reliability of the results.

Table 5-1: Sampling Programme - LL

AEC	Location	Surface Water Sample Locations	Sediment Sample Locations
LL	Selected areas across most parts of LL.	26 (1 m below surface and 0.3 m above sediment surface)	28 (0-0.1 m, 0.15-0.25 m, 0.4-0.5 m at each location or to refusal)

The sampling locations of the sediment and surface water samples collected from LL are shown on **Figures 3-4** in **Appendix C.**

The description used in this report to refer to the results of sediment and surface water samples collected from LL, as part of the LL APECS was either:

- LL Sediment samples; and
- LL Surface water samples.

5.2 Near-shore AEC Sediment and Surface Water Sampling Programme

As a component of the associated AEC investigations at the LPS, surface water and sediment samples were collected from LL near-shore AECs. These samples have been included as part of the LL APECS as they were either sampled from LL or from locations likely to discharge directly into LL. The sampling programme is summarised in

Table 5-2. The sampling programme was carried out in accordance with technical procedures outlined in the SAQP, as summarised in this section.

Table 5-2: Sampling Programme – Near-shore AEC sediment and surface water sampling programme

Area of Concern	Location	Surface Water Sample Locations	Sediment Sample Locations
LL	Near shore AEC	38	33

The AEC LL locations are shown on **Figure 5** in **Appendix C.**

The description used in this report to refer to the results of sediment and surface water samples collected from AECs around LL, as part of the BPS and LPS APECS will be:

- AEC LL Sediment samples; and
- AEC LL Surface water samples.

5.3 Near-Shore LPS Discharge Locations

Six additional locations were investigated by ES in January 2016. ES notes that the samples from these locations were collected following the completion of the main works at LL and the LPS. Therefore, to distinguish these samples from others, the following nomenclature was used:

- LAW_LL – Liddell Additional Works Lake Liddell

The six discharge locations are listed below:

Table 5-3: Discharge Locations

Number	Discharge Location	ES Corresponding Sediment and Surface water sampling locations
1	Stormwater Drain 1	LAW_LL_ESSW05 LAW_LL_ESSD05
2	Stormwater Drain 2	LAW_LL_ESSW06 LAW_LL_ESSD06
3	Oil and Grit Trap discharge point	LAW_LL_ESSW01 LAW_LL_ESSD01
4	Chemical Drain	LAW_LL_ESSW03 LAW_LL_ESSD03
5	Solar Plant Drain	LAW_LL_ESSW04 LAW_LL_ESSD04
6	Sediment and Interceptor Pit Overflow	LAW_LL_ESSW02 LAW_LL_ESSD02

The sampling programme is summarised in **Table** 5-4 and was carried out in accordance with technical procedures outlined in the SAQP, as summarised in this section.

Table 5-4: Sampling Programme – Near shore LPS Discharge Point Sediment and Surface Water Sampling Programme

Area of Concern	Location	Surface Water Sample Locations	Sediment Sample Locations
LL	Near shore discharge locations	6	6

The sampling locations are shown on **Figure 6** in **Appendix C.**

The nomenclature used in this report to refer to the results of sediment and surface water samples collected from LL adjacent to discharge points are:

- LPS discharge point sediment samples; and
- LPS discharge point surface water samples.

5.4 Edible Aquatic Species Sampling Programme

In addition to surface water and sediment samples there was a requirement to collect representative samples of edible aquatic species (e.g. fish, eels and yabbies, as available) from within LL. Sampling for the edible aquatic species was carried out by Eco Logical Australia Pty Ltd (ELA).

Details of the sampling, analysis and assessment of the edible aquatic species as carried out by ELA is provided within the report *Eco Logical Australia 2015. Toxicity assessment of edible fish collected from LL. Prepared for Environmental Strategies, 15ARM-1640* (*November 2015*), (**Ref.24**), which is provided in **Appendix L**.

The ELA edible species sampling programme comprised a single sampling period of three days to collect fish from four locations at LL, which were selected in areas of LL that appeared likely to have suitable fish habitat. Sampling, by experienced ELA aquatic ecologists, occurred between 8 and 10 July 2015. A total of eight fish comprising three species were collected using a range of potential survey techniques, including fyke netting and angling during sampling at LL. *Anguilla reinhardtii* (long-finned eel) were the most abundant species with five specimens collected from two sampling locations (Sites A2 and A4). Both other species, two *Anguilla australis* (short-finned eel) and a single *Cyprinus carpio* (European carp) were collected from one sampling location (Site A1), (**Ref.24**).

ES notes that the edible species sampling programme completed, as required by the AGLM Specification 2015, (**Ref.3**), was limited spatially and temporally and was never intended to be an ecotoxicity study, but was undertaken purely an indication as to whether there may be reason to consider that fish should not be consumed and whether additional investigation was required. Due to these limitations, the sampling programme should only be considered a screening assessment for the purposes of gaining a basic indication of potential human health risk, due to consumption of edible aquatic species from LL, rather than a comprehensive scientific study. As such, caution should be applied if seeking to draw more comprehensive conclusions from the data collected.

ES notes that PFAS was not analysed as part of the Edible Aquatic Species assessment as PFAS was not incorporated into the LL APECS at the time the Edible Aquatic Species assessment occurred.

6 Sampling Methodology

6.1 Sediment

Sediment sampling methods were in general accordance with relevant Australian Standards and guidance documents including ANZECC/AMCANZ (2000) and the Handbook for Sediment Quality Assessment (Simpson et al., 2005).

Sediment samples were collected using several surface (not diver-assisted) collection techniques.

A manually-driven piston corer was used in water depths less than about 20 m and a small gravity/piston corer in waters greater than about 20 m. A grab sampler was used where a low volume of sediment was present or where shallow refusal of the manually-driven piston corer was encountered.

To operate the piston corer, a core barrel (stainless steel, 50.8 or 76.2 mm OD) was manually pushed into the sediment with the piston remaining at bed level to create a partial vacuum and draw sediment into the barrel. The core barrel was then lifted onto the vessel (a 5 m aluminium self-bailing purpose-built boat) and separated from the coring device.

The gravity/piston corer is an effective device that uses its own mass to penetrate into the sediment and collect a sample. The use of a piston and refined sampling techniques means that samples are collected and retained without loss of easily re-suspended surficial layers of sediment. This method is very commonly used in sediment sampling.

At locations where sediment was not present in sufficient thickness to collect an adequate volume of sample for analysis more than one core was collected and composited to provide a representative sample of sediment at each location. Where sediment was not present in sufficient thickness to be able to be collected with the piston or gravity corer (locations SD15, SD19, SD20, SD21, SD22, SD23, SD24; SD26, SD27, and SD28), sediment samples were collected with a stainless-steel grab sampler.

Single-use, disposable nitrile gloves were used by ES personnel during sampling, and were replaced between each sampling location. Samples were subdivided with one part being put into snap-lock plastic bags for screening with the PID and the other being placed into a laboratory prepared 250 mL glass jar with Teflon® lined lids. Jars were completely filled to minimise headspace and potential loss of volatiles. Each jar was labelled with a unique identifier using a permanent marker in accordance with the nomenclature in Vol. 7 SAQP.

Excess sediment was collected, stored and disposed in a dedicated waste skip located within the BPS.

ES notes that PFAS was not originally specified as a CoPC for the purposes of the LL APECS at the start of the assessment. Analysis of PFAS was only completed after further information was provided by AGLM regarding the use and storage of AFFF at LPS and BPS.

Analysis of PFAS in sediment and surface water samples from within LL was completed from near shore sampling locations only. Refer to Section 11.5.9 for discussion of PFAS detections above the LOR within near shore sampling locations, which were collected after the Western Australia Department of Environment Regulation (WA DER, February 2016) *Interim guideline on the assessment and management of perfluoroalkyl and polyfluroalkyl substances* (**Ref.35**) was issued.

All samples in which PFAS was detected above the LOR were collected in accordance with the AGLM APECS SAQP Vol. 7 and therefore also in accordance with the WA DER guidance, including the use of containers without Teflon lined lids.

The use of Teflon lined lids, and other sampling procedures for the CoPC listed in Section 3.3 was considered by ES to be appropriate for the analysis of other CoPC from within LL.

6.2 Surface Water

LL water samples were collected using Wildco^{TM} Beta horizontal water sampler deployed from the vessel. This method allows for the collection of discrete samples from target depths. The sampler was lowered to the required depths, within 0.3 m above the lake bed, and triggered by a weight that slid down the retrieval line.

Collection of re-suspended sediment was mitigated by waiting for sediment to settle before triggering the sampler and closing the tube.

Single-use, disposable nitrile gloves were used by ES personnel during sampling, and were replaced between, each sampling location. Samples were placed into laboratory prepared bottles, preserved as required. Bottles were completely filled to minimise headspace and potential loss of volatiles. Each bottle was labelled with a unique identifier using a permanent marker in accordance with the nomenclature in Vol. 7 SAQP.

6.3 Edible Aquatic Species

NSW Fisheries were notified of the intention to sample the aquatic species, as required by ELA's Scientific Collection Permit.

Edible aquatic species were targeted for collection from four locations at LL using a range of survey techniques, including fyke netting and angling. All samples collected were caught using fyke netting.

Physico-chemical variables (dissolved oxygen, pH, electrical conductivity, and temperature) were measured at each of the edible aquatic species survey locations, and the location of sampling areas determined using GPS.

Samples were chilled or frozen prior to freighting by courier to the NATA accredited laboratory Advanced Analytical Australia for analysis.

Animals collected were humanely euthanized and prepared on in the field for dispatch following the methods specified in *Metal contamination of major NSW fish species available for human consumption* (NSW Health 2001). Fillets weighing a minimum of 100 g were couriered in either a chilled or frozen state. Fish carcasses were disposed of responsibly in the field so that they did not attract scavengers.

6.4 Preservation of Custody and Samples

All sample containers were completely filled to eliminate headspace and minimise the loss of volatile compounds.

Appropriately preserved laboratory prepared sample containers were used for all sediment and water analysis.

Sample preservation was undertaken in accordance with NEPM (2013) with samples immediately stored in an ice-filled cooler box, prior to being couriered to the laboratory with the signed chain of custody form filled out with the required analysis.

6.5 Decontamination Procedures Carried out Between Sampling Events

Between sampling locations, the reusable sediment sampling equipment was dismantled, brushed clean and rinsed thoroughly with lake water and inspected prior to reuse to ensure no visible sediment was apparent. Considering the sampling methodology adopted and the setting of LL, ES consider this to be a suitable method of decontamination.

6.6 Chain of Custody Details

Samples were transported to the laboratory under a chain of custody (CoC). Information on the CoC included the sampler, sample identifier, sample matrix, collection date, analyses to be performed, sample preservation method, sample release date and sample received date. COCs are provided in **Appendix I** with the respective laboratory certificates.

7 Laboratory Analysis of Chemicals of Potential Concern (CoPC)

The following CoPC shown in **Table 7-1** were analysed as part of the sediment assessment for LL:

Table 7-1: CoPC – LL

Site	Media	Location	Sample Type and Number	No. of Primary Samples	Analysis
LL	Sediment	LL	31 locations	49	Trace Metals and metalloids; TRH; BTEX; PAHs; VOCs; and TOC
	Surface water	LL	26 locations	50	Trace Metals and metalloids; TRH; BTEX; PAHs; VOCs; Salinity; and Nutrients
	Edible aquatic species	LL	4 locations	8	Trace Metals and metalloids; TRH; BTEX; PAHs; and VOCs
Near Shore AEC	Sediment	Refer to Section 11.1 for list of AECs	32 locations	37 1	Trace Metals and metalloids; TRH; BTEX; PAHs; VOCs; and TOC As above plus: MAHs; Phenols; Chlorinated Hydrocarbons; Halogenated Hydrocarbons; Polychlorinated Biphenyls (PCBs); and Solvents.
Near Shore AEC	Surface Water	Refer to Section 11.1 for list of AECs	36 locations	36	Trace Metals and metalloids; TRH; BTEX; PAHs; VOCs – selected samples only Salinity; PFAS; and Nutrients
Near shore discharge Locations	Sediment	Eastern and northern shore of the LPS	6 Locations	6	Trace metals and metalloids; TRH; BTEX; PAHs; VOCs; Salinity; pH; Nutrients; PFAS;

Site	Media	Location	Sample Type and Number	No. of Primary Samples	Analysis
					Ferric Chloride; Sodium Hydroxide; and TOC
Near shore discharge Locations	Surface Water	Eastern and northern shore of the LPS	6 Locations LL; plus 2 locations proximal AEC 95;	8	Trace metals and metalloids; TRH; BTEX; PAHs; VOCs; Salinity; pH; Nutrients; PFAS; Ferric Chloride; and Sodium Hydroxide
			plus 2 locations north of LPS, adjacent firefighting area	2	As above plus Ammonia; MAHs; Phenols; Chlorinated Hydrocarbons; Halogenated Hydrocarbons; Halogenated Benzenes; and Solvents.

8 Quality Assurance and Quality Control (QA/QC)

DQI outcomes expressed in terms of Precision, Accuracy, Representativeness; Comparability, Completeness and Sensitivity (PARCCS) for the LL APECS have been reviewed in detail taking into account application, frequency, acceptance criteria, and assessment. The full review of the PARCCS outcomes achieved for the LL APECS in terms of these review parameters is provided in **Appendix J**.

For the purposes of clarity, the statements of PARCCS outcomes within the limitations discussed in **Appendix J**, have also been provided below.

8.1 Summary of Field PARCCS Outcomes

The following section summaries the assessment of the field QA/QC for the LL APECS.

Records of QA/QC samples collected are provided in **Appendix D, G and H**.

Refer to Appendix J for further details on the following items:

- Relative Percent Difference (RPD) Calculations;
- Field Blanks results;
- Trip Blank results; and
- Trip Spike results.

8.1.1 Statement of Field Data Precision

ES have reviewed the precision of the field investigation to determine its reliability for the purposes of the investigation in terms of:

- Appropriate SOPs being used and complied with;

- Experienced samplers being used;
- All critical samples being collected;
- Field documentation was used and was reviewed as being reliable;
- Climatic conditions were suitable for collection of reliable samples;
- Appropriate environmental media were sampled;
- Field instrumentation, PID, interface probe, and water quality meter, were calibrated and were in good operating condition.

Full details of the assessment of the precision of the field operations is presented in **Appendix J**.

ES have relied on the precision of the field investigation when making conclusions pertaining to the objectives of the LL APECS.

8.1.2 Statement of Field Data Accuracy

ES have reviewed the accuracy of the field investigation to determine its reliability for the purposes of the investigation in terms of:

- Standard Operating Procedures (SOPs) being appropriate and complied with.

Full details of the assessment of the accuracy of the field operations is presented in **Appendix J**.

ES have relied on the accuracy of the field investigation when making conclusions pertaining to the objectives of the LL APECS.

8.1.3 Statement of Field Data Representativeness

ES have reviewed the representativeness of the field investigation to determine its reliability for the purposes of the investigation in terms of:

- Appropriate media sampled according to SAQP; and
- All media identified in SAQP sampled.

Full details of the assessment of the representativeness of the field operations is presented in **Appendix J**.

ES have relied on the representativeness of the field investigation when making conclusions pertaining to the objectives of the LL APECS.

8.1.4 Statement of Field Data Comparability

ES have reviewed the comparability of the field investigation to determine its reliability for the purposes of the investigation in terms of:

- Same SOPs used on each occasion;
- Experienced samplers used;
- Climatic conditions were suitable for collection of reliable samples; and
- Appropriate environmental media were sampled.

Full details of the assessment of the comparability of the field operations is presented in **Appendix J**.

ES have relied on the comparability of the field investigation when making conclusions pertaining to the objectives of the LL APECS.

8.1.5 Statement of Field Data Completeness

ES have reviewed the completeness of the field investigation to determine its reliability for the purposes of the investigation in terms of:

- All critical locations sampled;
- All samples collected;
- SOPs were appropriate and complied with;
- Experienced samplers used; and
- Correct documentation

Full details of the assessment of the completeness of the field operations is presented in **Appendix J**.

ES have relied on the completeness of the field investigation when making conclusions pertaining to the objectives of the LL APECS.

8.1.6 Statement of Field Data Sensitivity

ES considers the sensitivity of the field investigation to be reliable for the purposes of the investigation, and have relied on the sensitivity of the field investigation when making conclusions pertaining to the objectives of the LL APECS.

8.2 Field PARCCS Compliance

Based on the discussion provided above ES considers the QA/QC of the field investigation, as assessed against the PARCCS parameters, to be reliable and without bias, and have relied on the QA/QC of the field investigation when making conclusions pertaining to the objectives of the LL APECS.

8.3 Summary of Laboratory PARCCS Outcomes

The following section provides an overall comment of each item of the PARCCS review. Refer to **Appendix J** for tabulated PARCCS review and discussion of the implications of non-compliances with the DQI.

8.3.1 Statement of Laboratory Precision

ES have reviewed the precision of the laboratory investigation to determine its reliability for the purposes of the investigation in terms of analysis of:

- Intra laboratory duplicates;
- Inter-laboratory duplicates; and
- Laboratory prepared volatile trip spikes.

Full details of the assessment of the precision of the laboratory investigation is presented in **Appendix J**.

ES considers the precision of the laboratory analyses to be reliable and without bias. Based on the discussion provided in **Appendix J**, exceptions reported to the laboratory precision DQIs are not considered likely to have had a systemic impact on the overall precision of laboratory results.
As a result, ES have relied on the precision of the laboratory data when making conclusions pertaining to the objectives of the LL APECS.

8.3.2 Statement of Laboratory Accuracy

ES have reviewed the accuracy of the laboratory investigation to determine its reliability for the purposes of the investigation in terms of analysis of:

- field blanks;
- rinsate blanks;
- reagent blanks;
- method blanks;
- matrix spikes;
- matrix spikes;
- surrogate spikes;
- reference materials;
- laboratory control samples; and
- laboratory-prepared spikes.

Full details of the assessment of the accuracy of the laboratory investigation is presented in **Appendix J**.

ES considers the accuracy of the laboratory analyses to be reliable and without bias. Based on the discussion provided in **Appendix J**, exceptions reported to the laboratory accuracy DQIs are not considered likely to have had a systemic impact on the overall accuracy of laboratory results.
As a result, ES have relied on the accuracy of the laboratory data when making conclusions pertaining to the objectives of the LL APECS.

8.3.3 Statement of Laboratory Representativeness

ES have reviewed the representativeness of the laboratory investigation to determine its reliability for the purposes of the investigation in terms of:

- All samples analysed in accordance with the SAQP (**Volume 7** of **7**).

Full details of the assessment of the representativeness of the laboratory investigation is presented in **Appendix J**.

ES considers the representativeness of the laboratory analyses to be reliable and without bias. Based on the discussion provided in **Appendix J**, exceptions reported to the laboratory representativeness DQIs are not considered likely to have had a systemic impact on the overall representativeness of laboratory results.
As a result, ES have relied on the representativeness of the laboratory data when making conclusions pertaining to the objectives of the LL APECS.

8.3.4 Statement of Laboratory Comparability

ES have reviewed the comparability of the laboratory investigation to determine its reliability for the purposes of the investigation in terms of:

- Sample analytical methods used;
- Sample Limit of reporting (LOR);
- Consistent laboratories; and
- Consistent units.

Full details of the assessment of the comparability of the laboratory investigation is presented in **Appendix J**.

ES considers the comparability of the laboratory analyses to be reliable and without bias. Based on the discussion provided in **Appendix J**, exceptions reported to the laboratory comparability DQIs are not considered likely to have had a systemic impact on the overall comparability of laboratory results.

As a result, ES have relied on the comparability of the laboratory data when making conclusions pertaining to the objectives of the LL APECS.

8.3.5 Statement of Laboratory Completeness

ES have reviewed the completeness of the laboratory investigation to determine its reliability for the purposes of the investigation in terms of analysis of:

- All critical samples analysed according to SAQP;
- All analytes analysed according to SAQP;
- Appropriate methods and LORs;
- Sample documentation complete; and
- Sample holding times complied with.

Full details of the assessment of the completeness of the laboratory investigation are presented in **Appendix J**.

ES considers the completeness of the laboratory analyses to be reliable and without bias. Based on the discussion provided in **Appendix J**, exceptions reported to the laboratory completeness DQIs are not considered likely to have had a systemic impact on the overall completeness of laboratory results.

As a result, ES have relied on the completeness of the laboratory data when making conclusions pertaining to the objectives of the LL APECS.

8.3.6 Statement of Laboratory Sensitivity

ES considers the precision of the laboratory analyses to be reliable and without bias and have relied on the sensitivity of the laboratory data when making conclusions pertaining to the objectives of the LL APECS.

8.4 Laboratory PARCCS Compliance

Based on the discussion provided above ES considers the QA/QC of the laboratory investigation as assessed against the PARCCS parameters, to be reliable and without bias, and have relied on the QA/QC of the laboratory investigation when making conclusions pertaining to the objectives of the LL APECS.

8.5 ERM PARCCS Compliance

The ERM LL sampling results were assessed by ERM in terms of PARCCS. ES notes that ERM included the PARCCS assessment of the LL investigation within their BPS report. As a result, ES' PARCCS review of the ERM LL works is provided in Vol. 2 BPS APECS.

9 Field Observations

The following section documents field observations for sediment, surface water and edible aquatic species encountered during the fieldwork for the LL APECS. Sediment logs are included in **Appendix E.**

9.1 Field Observations - Sediment

Manually recorded sediment field observations are included in **Appendix G.**

ES notes that hydrocarbon odours were observed in the following locations:

- SD3 - 0.25-0.32 m Hydrocarbon odour; and
- SD7 - 0.07 to 1.05m Hydrocarbon odour. Sheen on core at 1.0m.

SD3 and SD7 reported concentrations of TRH (C_6-C_{40}) of 1810 and 2610 mg/kg respectively, which are consistent with field observations.

ES notes that coal was observed in the following locations:

- SD4 - 0.47 to 0.57 m coal pieces;
- SD12 - 0.0 to 0.5 m coal fragments; and
- SD21 - 0.0 to 0.03 m coal fragments.

SD4 and SD12 were located proximal to the LPS Coal Stockpile Area (AEC 138) and the Outfall Canal (AEC 90), respectively. Given the location of SD4 and SD12, it is likely that the coal identified in these locations is related to the operations on the LPS and is considered to be a form of pollution, in accordance with the definitions provided in **Section 1**.

SD21 was located approximately 500 m off the south-eastern shore of the LPS in an area not known to discharge from the LPS into LL. ES cannot comment if this coal was sourced from the LPS.

Twenty-three sediment sampling locations reported a “Soil Odour” on the borelogs. This was described by the field staff responsible for logging sediment cores as consisting “of a low intensity odour of natural origin with no identifiable foreign odours or detectable biological processes occurring”.

9.2 Field Observations – Surface Water

Manually-recorded field records of surface water sampling are included in **Appendix G.**

9.2.1 Field Observations – Edible Aquatic Species

Full details of observations made during the edible aquatic species sampling event are provided in the ELA assessment report (**Ref.24**), **Appendix L**.

10 Analytical Results

This section summarises the reported analytical results for samples collected within LL. Discussion of near shore AEC LL, and LPS discharge point results are presented in **Section 11.1**.

10.1 Sediment Analytical Results

Results of sediment analyses are summarised in the following Sections.

Copies of laboratory certificates of analyses are included in **Appendix I**.

Results tables for all sediment analyses with comparison to the SDAC are provided in **Appendix D**.

10.1.1 Trace Metals and Metalloids

A summary of the reported trace metal analytical results are outlined below:

- As: concentrations ranged between 2 and 24 mg/kg;
- B: concentrations ranged between <5 and 38 mg/kg;
- Cd: concentrations ranged between <0.3 and 0.4 mg/kg;
- Cr Total: concentrations ranged between 1.4 and 26 mg/kg;
- Cu: concentrations ranged between 2.5 and 350 mg/kg;
- Pb: concentrations ranged between 4 and 20 mg/kg;
- Hg: concentrations ranged between <0.01 and <0.05 mg/kg;
- Ni: concentrations ranged between 2.5 and 41 mg/kg;
- Se: concentrations ranged between<3 and 20 mg/kg; and
- Zn: concentrations ranged between 5.8 and 130 mg/kg.

Further comparison of trace metals concentrations to the SDAC is provided in **Section 11.2.1.**

With the exception of B, Cd, Hg, and Se, all trace metals sediment samples were reported in concentrations above the LOR in all sediment samples collected from LL. See below for a brief summary of the lateral and vertical distribution of the trace metals within LL sediments.

Table 10-1: Summary of lateral and vertical distribution of the trace metals within LL sediments

Analyte	Lateral Distribution	Vertical Distribution
As	Reported in concentration >LOR in all samples collected from LL. Highest concentrations (between 20 and 24 mg/kg) were reported in samples collected across LL. Lowest concentrations of As, were generally reported in samples collected within 300 m of the LPS eastern shore.	The highest concentrations of As (ranging from20 to 24 mg/kg) are located within sediment described as 'MUD' or 'muddy SAND', and are located within the surficial sediment layer encountered (between 0-0.26 m). Concentrations of As ranging from 2 to 18 mg/kg were reported from depths >0.15m.
B	26/49 sediment samples reported concentrations of Boron <LOR. Boron (B) was detected in sediment samples collected from samples collected across LL. The highest concentration reported was at SD7 (38 mg/kg). SD7 is located along the eastern shore of LPS near a discharge point. Concentrations generally decrease with distance from LPS.	The highest concentrations of Boron (ranging from 12 to 38 mg/kg) are located within sediment described as 'MUD'. The highest concentration SD7 (0.15-0.25) was collected from material described as 'MUD' and was located in sediment underlying the surficial sediment layer. The sample collected from SD7 (0-0.06) reported concentrations of B <LOR. The remaining concentrations >LOR were reported within the surficial sediment layer.

Analyte	Lateral Distribution	Vertical Distribution
Cd	Cd was reported in concentrations >LOR in six samples collected from LL. These detections of Cd were located within the southern, and western areas of LL, with the highest concentration reported at SD3, SD23, and SD24 of 0.4 mg/kg.	The highest concentrations of Cd >LOR are generally located within sediment described as 'MUD' or 'muddy SAND', and were located within the surficial sediment layer encountered (with the exception of SD3 which was collected from the layer of material underlying the surficial sediment. The surficial sediment layer at SD3 reported concentrations of Cd <LOR
Cr Total	Cr Total was reported in concentration >LOR in all samples collected from LL. The highest concentrations of Cr Total (between 20 and 26 mg/kg) were located within the southern, and western areas of LL, with the highest concentrations of SD23 (26 mg/kg) and SD24 / SD11 (24 mg /kg).	The highest concentrations of Cr Total (between 20 and 26 mg/kg) were collected in material described as 'MUD', and were located within the surficial sediment layer.
Cu	Cu was reported in concentration >LOR in all samples collected from LL. The highest concentrations of Cu were located on the western portion of LL, on either the eastern side (SD10) or the north-western side (SD17) of the LPS.	The samples with the highest concentrations of Cu (between 350 and 120 mg/kg) were collected in material described as 'MUD', and were located within the surficial sediment layer.
Pb	Pb was reported in concentration >LOR in all samples collected from LL. Concentrations ranged between 4 to 20 mg/kg.	The samples with the highest concentrations of Pb (between 20 and 15mg/kg) were collected in material described as 'MUD', and were generally located within the surficial sediment layer.
Hg	Hg was reported in concentrations >LOR in 45/49 sediment samples. Additional near shore sediment sample collected in October 2016, was analysed with a higher LOR than the previous LL sediment samples (<0.05 mg/kg compared to <0.01 mg/kg). The highest concentrations of Hg were generally collected in samples along the eastern, western and southern shores of the LPS.	The samples with the highest concentrations of Hg (between 1.4 and 0.15 mg/kg) were collected in material generally described as 'MUD', and generally from within the surficial sediment layer.
Ni	Ni was reported in concentration >LOR in all samples collected from LL. Concentrations ranged between 2.5 mg/kg to 41 mg/kg. The highest concentrations of Ni (between and 31 mg/kg) were located >700 m from the LPS	The samples with the highest concentrations of Ni (between 41 and 31 mg/kg) were collected in material generally described as 'MUD', from within the surficial sediment layer.
Se	Se was reported in concentrations >LOR in 23/49 of the sediment samples collected from LL. These detections of Se were generally located around the northern, western and southern shore of the LPS. Locations along	Se was found to be vertically distributed within sediments described as 'MUD', 'muddy SAND', or 'SAND'. With the exception of SD3 and SD7, all other samples, which reported

Analyte	Lateral Distribution	Vertical Distribution
	northern and the eastern portions of LL also reported concentrations of Se >LOR.	concentrations of Se >LOR, were collected from surficial sediment.
Zn	Zn was reported in concentration >LOR in all samples collected from LL. Concentrations ranged between 5.8 to 130 mg/kg.	The samples with the highest concentrations of Zn (between 130 and 96 mg/kg) were collected in material generally described as 'MUD', from within the surficial sediment layer.

Summary results of metals in sediments are presented in Table 1, **Appendix D**.

10.1.2 TRH

Concentrations of TRH C_6-C_{40} (not normalised to 1% TOC) in LL sediment samples submitted for analysis exceeded the LOR (230 mg/kg) in 20 of 47 of the samples analysed. Further discussion of the TOC normalised results is presented in **Section 11.2.4**. See below a summary of the hydrocarbon chain ranges reported by the primary laboratory:

- TRH C_6-C_9- maximum concentration <LOR (20 mg/kg);
- TRH >C_{10}-C_{14}- concentrations ranged from 21 to 320 mg/kg;
- TRH >C_{15}-C_{28}- concentrations ranged from 51 to 1800 mg/kg;
- TRH >C_{29}-C_{36}- concentrations ranged from 54 to 510 mg/kg; and
- TRH >C_{37}-C_{40}- maximum concentration <LOR (100 mg/kg).

The distribution of the TRH within LL sediments is described in the following table:

Table 10-2: Distribution of TRH within LL sediments

Analytes (not normalised)	Lateral Distribution	Vertical Distribution
TRH	20 samples analysed for TRH reported Total Petroleum Hydrocarbons (C_6-C_{40}) at concentrations above the LOR. The highest concentrations of TRH (C_6-C_{40}) (between 2610 to 1110 mg/kg) were located within 300 m of the LPS shoreline.	The highest concentrations of TRH (C_6-C_{40}) (between 1110 to 2610 mg/kg) were found to be vertically distributed within sediments described as 'MUD', 'muddy SAND', or 'SAND', between 0-0.32m below the lake bed.

Summary results of TRH in sediments are presented in Table 1, **Appendix D**.

TOC normalised TRH results are presented in Table 2, Appendix D and discussed in **Section 11.2.4**.

Refer to **Figure 7**, **Appendix C**, for distribution of TRH C_6-C_{40}.

10.1.3 BTEX

Concentrations of BTEX in all LL sediment samples submitted for analysis were reported below the LOR (0.1 mg/kg).

Summary results of BTEX in sediments are presented in Table 1, **Appendix D**.

10.1.4 VOCs

Concentrations of VOCs in all LL sediment samples submitted for analysis were reported below the LOR (0.1 mg/kg).

Summary results of VOCs in sediments are presented in Table 1, **Appendix D**.

10.1.5 PFAS

Concentrations of PFAS in LL sediment samples submitted for analysis were reported below the LOR, with the exception of one location sampled adjacent the Northern Peninsula (0.0012 mg/kg; L_P_ESSD01).

10.1.6 PAHs

See below a summary of the total PAHs reported by the primary laboratory:

- Low molecular weight PAHs –
  - Naphthalene
  - Acenaphthylene
  - Acenaphthene
  - Fluorene
  - Phenanthrene
  - Anthracene
  - Fluoranthene
    - concentrations ranged from 0.7 to 8.2 mg/kg;
- High molecular weight PAHs –
  - Pyrene
  - Benz[*a*]anthracene
  - Chrysene
  - Benzo[*b*]fluoranthene
  - Benzo[*k*]fluoranthene
  - Benzo[*a*]pyrene
  - Dibenz[*a,h*]anthracene
  - Benzo[*ghi*]perylene
  - Indeno[*1,2,3-cd*]pyrene
    - concentrations ranged from 0.6 to 6 mg/kg; and
- Total PAHs - concentrations ranged from <0.8 to 14 mg/kg.

The distributions of Total PAHs within LL sediments is described in the following table:

Table 10-3: Distributions of Total PAHS within sediments

Analytes (not normalised)	Lateral Distribution	Vertical Distribution
Total PAHs	18 samples analysed for Total PAHs reported concentrations >LOR. The 18 samples were collected from sediment within the western and southern portions of LL. The sediment samples with the highest concentrations (between 7 and 8.5 mg/kg) Total PAHs were located off the southern shore of LL.	Concentrations of Total PAHs >LOR were found to be vertically distributed within sediments described as 'MUD', 'muddy SAND', or 'SAND'. With the exception of SD3 and SD7, all sediments samples with reported total PAHs concentrations >LOR, were collected from surficial sediment or from material underlying the surficial sediment, where the surficial sediment was also >LOR,

TOC normalised PAH results are presented in Table 2, **Appendix D** and discussed in **Section 11.2.3**.

Refer to **Figures 8** to **Figure 10, Appendix C**, for distributions of Low and High Molecular weight PAHs and total PAHs.

10.1.7 Other CoPC

Concentrations of other CoPC in the LL sediment samples, submitted for analysis were reported below the respective LOR:

- MAH;
- Phenols;
- PCBs;
- Chlorinated Hydrocarbons;
- Halogenated Hydrocarbons; and
- Solvents.

10.2 Surface Water Analytical Results

The following discussion summarises analytical results for surface water samples collected from LL.

Copies of laboratory certificates of analyses are included in **Appendix I**.

Results tables for all sediment analyses with comparison to the SWAC are provided in **Appendix D**.

10.2.1 Trace Metals

A summary of the reported trace metal analytical results in surface water samples are outlined below:

- As: concentrations ranged between 3-4 µg/L (not filtered) and 1-4 µg/L (filtered);
- B: concentrations ranged between 870-980µg/L (not filtered) and 360-920µg/L (filtered);
- Cd: concentrations ranged between <0.1-0.2 µg/L (not filtered) and <0.1-0.1 µg/L (filtered);
- Cr Total: non-filtered and filtered concentrations were reported below the LOR of 1 µg/L;
- Cu: concentrations ranged between 4-11 µg/L (not filtered) and 2-36 µg/L (filtered);
- Pb: non-filtered and filtered concentrations were reported below the LOR of 1 µg/L;
- Hg: concentrations ranged between <0.05 µg/L (not filtered) and <0.05-0.1 µg/L (filtered);
- Ni: concentrations ranged between 4-6 µg/L (not filtered) and 2-5 µg/L (filtered);
- Se: concentrations ranged between 2-3 µg/L (not filtered) and 1-3 µg/L (filtered); and
- Zn: concentrations ranged between <5 -50 µg/L (not filtered) and <5-560 µg/L (filtered).

Further comparison of trace metals concentrations to the SWAC is provided in Section **12.3.1**

10.2.2 TRH

Concentrations of TRH in all LL surface water samples submitted for analysis were reported below the LOR (0.04-0.65 mg/L).

10.2.3 BTEX

Concentrations of BTEX in all LL surface water samples submitted for analysis were reported below the LOR (0.5-3 µg/L).

10.2.4 VOCs

Concentrations of VOCs in all LL surface water samples submitted for analysis were reported below the LOR (0.5-100 µg/L).

10.2.5 PAHs

Concentrations of PAHs in all LL surface water samples submitted for analysis were reported below the LOR (0.01-0.02 µg/L).

10.2.6 PFAS

PFOS was detected above the LOR in one of the two surface water samples collected from LL in October 2016 (L_P_ESSW01, 0.13 µg/L). Concentrations of all other PFAS were reported below the LOR. PFOS was detected in a concentration equal to the SWAC for Ecological Protection (95% Species - Moderately Disturbed); WA Interim PFAS Guidelines 2016: 0.13 µg/L (L_P_ESSW01).

10.2.7 Salinity

Concentrations of salinity varied between 780 (SW07 - 1.0) and 1600 mg/L (SW08- 5.6).

Further comparison of Salinity to the SWAC is provided in **Section 11.3.6.**

10.2.8 Ammonia

Concentrations of Ammonia (NH_4) ranged from 10 and 100 µg/L.

Further comparison of NH_4 concentrations to the SWAC is provided in Section **11.3.7**.

10.2.9 Other CoPC

Concentrations of other CoPC in the surface water samples collected between LL and LPS in October 2016 were reported below the LOR:

- MAH;
- Phenols;
- PCBs;
- Chlorinated Hydrocarbons;
- Halogenated Hydrocarbons;
- Halogentated Benzenes; and
- Solvents.

10.3 Edible Aquatic Species

Full details of observations made during the edible aquatic species sampling programme are provided in the ELA report (**Ref.24**), **Appendix L**. Conclusions of the ELA Edible Aquatic Species report are summarised below:

> *'Sampling at LL collected eight fish from three different species. All fish were greater than 10 months old and would have been alive on 2 September 2014, when the Liddell and BPSs were purchased by AGL Macquarie. All fish had concentrations of selenium that exceeded the maximum recommended concentration set by Food Standards Australia and New Zealand. All other contaminants that were tested were below maximum recommended concentrations, or did not had a maximum recommended concentration listed by Food Standards Australia and New Zealand.*
>
> *The species collected were good indicators of toxin accumulation in fish, as they ate a wide range of food and would have absorbed toxins via several vectors, including through gill membranes and ingestion. Longfinned eels are slow growing, and likely to have been absorbing toxins from LL for up to 20 years*

prior to purchase. The fish collected are likely to be good representatives of the LL fish community.'

ES consider that the findings of the edible aquatic species sampling programme remain pertinent to the overall LL APECS as, while recreational use of Lake Liddell is currently not permitted, it may potentially be re-opened for recreational use at sometime in the future.

ES notes that PFAS was not analysed as part of the Edible Aquatic Species assessment as PFAS was not incorporated into the LL APECS at the time the Edible Aquatic Species assessment occurred.

11 Discussion of Results

11.1 Near-Shore AEC LL Sampling Locations

As a component of the AEC investigations at the LPS or BPS, a total of 32 sediment and 36 surface water samples were collected (from either LL or from tributaries near to discharge points into LL). Analysis of these samples is discussed in **Section 11.4.**

11.1.1 Near-shore AEC LL sampling locations

ES completed surface water and sediment sampling in the following locations which are considered likely to be transporting sediments and/or surface water into LL:

- Tinkers Creek (AEC 143);
- Dump Valve Dam (AEC 109);
- Seepage from Ash Dam (AEC 111);
- Creek from Skimmer Dam (AEC 112);
- Skimmer Dam (AEC 113);
- Antiene - Basin 3 (AEC 67);
- Antiene Rail Loop (AEC 74);
- Cullen Gully (AEC 77);
- Drainage from Stockpile (AEC 140);
- Drainage line Chilcotts Creek (AEC 78);
- Old Coal Stockpile Area (AEC 79);
- Western Holding Pond (AEC 137);
- LPS Coal Stockpile Area (AEC 138);
- Outfall Canal (AEC 90);
- Solar Plant Discharge (AEC 129);
- Chemical Drain Outfall (AEC 94);
- Interceptor Pits (AEC 95); and
- Oil and Grit Trap (AEC 99).

Surface water concentrations of CoPC reported in the above AECs are considered by ES to be indicators of concentrations entering LL. Discharges from LPS and BPS, rainfall, flow rates, and other variables are likely to affect the concentrations of CoPC entering LL at any given time.

ES has not discussed the potential migration of reported sediment concentrations into LL from the above AECs, as no assessment has been made to define the sediment transport from these AECs to LL.

Refer to **Section 11.4** for discussion of the concentrations of surface water within these AEC with a comparison to the LL results.

Sediment and surface water results, collected from the near shore AEC LL locations, are provided in **Appendix D**.

11.1.2 Near-shore LL discharge point sampling locations

Six additional surface water and sediment samples were collected in January 2016 from LL Discharge Point locations within LL. Two additional samples were collected between discharge points 2 (Sediment and Interceptor Pit Overflow) and Discharge Point 3 (Chemical Drain) within LL.

The six (6) surface water locations within LL were collected from discharge locations reported to ES by AGLM in November 2015. These discharge locations were located on the eastern and northern shore of the LPS, and discharge directly into LL. The remaining two locations were collected from the shore of LL proximal to identified fire-fighting training locations on LPS (AEC 95).

The CoPC for these samples were extended to include the following analytes based on information provided by AGLM in November 2015:

- PFAS sourced from AFFF;
- Ferric Chloride – LL only;
- Ammonia – LL only; and
- Caustic acid – LL only.

Two further surface water and sediment samples were collected from two locations in October 2016. The locations were both near shore LL samples and were collected from the eastern side of the peninsula directly north of LPS (Northern Peninsula). This area was targeted for further investigation when it was made known to ES by AGLM operation staff that the area had historically been used for firefighting training. The CoPC investigated during this sampling are listed in Section 3.3. Most critically. the samples were analysed for an expanded PFAS suite specifically to investigate the impacts of the historical use of AFFF on the Northern Peninsula.

Refer to **Section 11.5** for discussion of the sediment and surface water results (respectively) for the near-shore LL discharge sampling locations.

Sediment and surface water sample results, collected from the near shore LPS discharge points, are provided in **Appendix D**.

Refer to **Figure 6** for the near shore LL discharge sampling locations.

The following table describes the near shore AEC sampling locations from which ES collected sediment and surface water samples:

Table 11-1: Descriptions of near shore AEC sampling locations

Discharge Point	Description
Creek from Skimmer Dam (AEC 112)	"LIDDELL ASH DAM SKIMMER DAM OVERFLOW"
Seepage from Ash Dam (AEC 111)	"LIDDELL ASH DAM SEEPAGE OUTFLOW"
Tinkers Creek (AEC 143)	"LIDDELL TINKERS CREEK".
Outfall Canal (AEC 90)	"LIDDELL COOLING WATER OUTFALL CANAL"
LPS Coal Stockpile Area (AEC 138)	"LIDDELL MAIN STOCKPILE DRAIN WESTERN (STACKER) END"
Western Holding Pond (AEC 137)	"LIDDELL MAIN STOCKPILE DRAIN WESTERN POND".
Northern Peninsula	Firefighting training area immediately north of AEC 105.

Refer to **Sections 11.5.1** to **11.5.10** for discussion of the sediment and surface water from LL near shore AEC locations.

11.1.3 LPS Discharge Locations

The following six discharge points were sampled by ES in January 2016:

Table 11-2: Discharge Points Sampled by ES

Discharge Point	Description	Use
1. Stormwater Drain 1	Liddell Overflow From North End of Site DP 1022827	Stormwater overflow collecting surface runoff from northern end of Station including Flammable Goods Store, Electrical Workshop and associated adjoin areas. Main flow is directed to the Silt and Grit Trap
2. Stormwater Drain 2	Liddell Overflow From North End of Site DP 1022827	As above.
3. Oil and Grit Trap discharge point	Liddell Silt and Grit Trap Outlet DP 1022827	Discharges water from the AEC 99 (Oil and Grit Trap) after it passes through skimmer systems and an under over weir system.

Discharge Point	Description	Use
4. Chemical Drain	Liddell Demin Plant Outlet to LL DP 1022827	Outlet for the demineralisation plant. Acidic and alkaline water flows from the water softening back flush into LL.
5. Solar Plant Drain	-	AGLM informed ES that discharge point 5 (Solar Plant Drain) did not discharge chemicals to LL
6. Sediment and Interceptor Pit Overflow	Liddell Intermediate Drain Pit and Pond DP 1022827	Designed as a stormwater overflow drain pond

Refer to **Sections 11.5.1** to **11.5.10** for discussion of the sediment and surface water analytical results reported from the six discharge points identified above.

11.2 LL Sediment Results

11.2.1 Trace Metals Results

Concentrations of Trace Metals and metalloids in all LL sediment samples submitted for analysis were reported below the SDAC, with the exception of the following analytes:

- As: concentrations ranged between 2 and 24 mg/kg (SDAC = 20 mg/kg ISQG-low);
- Nickel: concentrations varied between 2.5 and 41 mg/kg (SDAC 21 mg/kg ISQG-low)
- Cu: concentrations ranged between 2.5 and 350 mg/kg (SDAC 65 mg/kg ISQG-low and 270 mg/kg ISQG-high); and
- Hg: concentrations ranged between <0.01 and 1.4 mg/kg (SDAC 0.15 mg/kg ISQG-low and 1 mg/kg ISQG-high)

Laboratory reports results are presented in Table 1, Appendix D.

Refer to **Figures 6** to **Figure 9**, Appendix C, for distributions of Arsenic, Copper, Mercury and Nickel above either the ISQG-low or ISQG-high.

11.2.2 TOC Normalisation

In conformance with the ANZECC/ARMCANZ (2000) guidance, PAH and TRH results have been normalised to 1 % TOC for comparison to guideline values. Where PAH or TRH concentrations were reported to be below LOR and were required to be normalised, ES adopted half the LOR for these values. The reported VOC results were not normalised to TOC, as they were uniformly reported at concentrations below the LOR.

The purpose of normalising the organic results to TOC is to estimate the bio-availability of the reported organic (non-polar) compounds in the sediment. These normalised results are then compared to the ISQG-Low and ISQG-High SDAC.

Reported concentrations of TOC ranged from 0.13 (SD23) to 53 % (SD4). In order to normalise the organic compounds to TOC, a minimum TOC of 0.2 and maximum 10% were applied to TOC values outside this range. TOCs exceeding 10 % are likely due to the presence of materials described as “black carbon”, which is anthropogenic carbon commonly present in the form of coal and ash.

The minimum and maximum laboratory reported TOC value were calculated to be as follows:

- Minimum reported TOC Concentration of 0.13 % (SD23) was calculated to be 0.2 % for the purposes of TOC normalisation; and

- Maximum reported TOC Concentration of 53 % (SD4) was calculated to be 10% for the purposes of TOC normalisation.

Refer to Table 2, **Appendix D**, for a comparison between the laboratory reported TOC values and the calculated values to which the organic material was normalised.

ES notes that the lower the TOC value used, the higher the reported concentration of the organic analyte. Conversely, calculated TOC concentrations of less 1 %, indicating the presence of low concentrations or organic carbon, that is known to bind contaminants, will increase the reported laboratory concentration of organic material, whilst a calculated TOC concentration greater than 1 % will decrease the laboratory reported concentration reported by the laboratory.

The highest total concentration of total PAHs (14 mg/kg) was reported within SD07 (0.15-0.25m), which reported a TOC concentration of 24 %. The TOC normalised total PAH concentration in SD07 (0.15-0.25m) was 1.4 mg/kg/TOC which is below the ISQG-Low criteria.

Refer to Table 2, **Appendix D**, for the normalised PAH and TRH results. Note that normalised results have been compared to guidelines (where available) and units reported as mg/kg/TOC. Refer to the Sections below for a discussion of the normalised PAH and TRH results.

ES notes that normalising organic compounds to TOC, whilst providing an indicator of the availability of organic contaminants to the aquatic ecosystem, does not decrease the total concentrations within the sediment. Total concentrations within sediments are required to be assessed against specific criteria to determine the impact on human health via ingestion and dermal contact. Organic compounds in LL sediments were compared to Health Investigation Level C (Recreational) and Management Limits to determine the human exposure risk.

11.2.3 TOC Normalised PAH Results

Table 11-3 below summarises the TOC normalised PAH results for LL Sediments. Note that a Standard Deviation (SD) and 95% Upper Confidence Limit (95% UCL) have been calculated for a combination of all results regardless of sediment strata.

Table 11-3: TOC Normalised PAH results summary

Analyte	SDAC (mg/kg/TOC)	No. Samples >SDAC	Min (mg/kg/TOC)	Max (mg/kg/TOC)	SD (mg/kg/TOC)	95% UCL (mg/kg/TOC)
Acenaphthene	0.016 | 0.5	24/46	0.005	0.32	0.0663	0.0825
Acenaphthylene	0.044 | 0.64	12/46	0.005	0.25	0.0522	0.0668
Anthracene	0.085 | 1.1	4/46	0.005	0.316	0.0662	0.0827
Benz(a)anthracene	0.261 | 1.6	2/46	0.005	2.0	0.35	0.339
Benzo(a) pyrene	0.43 | 1.6	1/46	0.005	0.5	0.0942	0.109
Chrysene	0.384 | 2.8	2/46	0.005	1.5	0.26	0.259
Dibenz(a,h)anthracene	0.063 | 0.26	6/46	0.005	0.25	0.0522	0.0668
Fluoranthene	0.6 | 5.1	2/46	0.005	4	0.69	0.655
Fluorene	0.019 | 0.54	24/46	0.005	0.633	0.102	0.115
Naphthalene	0.16 | 2.1	2/46	0.005	0.250	0.052	0.0501

Analyte	SDAC (mg/kg/ TOC)	No. Samples >SDAC	Min (mg/kg/T OC)	Max (mg/kg/T OC)	SD (mg/kg/T OC)	95% UCL (mg/kg/TOC)
Phenanthrene	0.24 | 1.5	3/46	0.005	2.5	0.429	0.419
Pyrene	0.665 | 2.6	2/46	0.005	3.0	0.52	0.495
Low molecular weight PAHs	0.55 | 3.16	-	0.035	4.250	0.853	0.975
High molecular weight PAHs	1.7 | 9.6	2/46	0.030	11.25	1.94	1.907
Total PAHs	4 | 45	2/46	0.040	18.0	3.262	3.195

Key
Yellow = Above SDAC ISQG-low
Red = Above SDAC ISQG-high

Further statistical analysis of the TOC normalised PAH results for cohesive (predominantly clays and muds) and non-cohesive sediments (predominantly sands and gravels) is provided in Table **11-14** and **Table 11-15** respectively. Refer to **Section 11.2.6** for further information on cohesive and non-cohesive sediments.

Table 11-4: Cohesive TOC normalised PAH results

Analyte	SDAC (mg/kg/TOC)	No. Samples >SDAC	Min (mg/kg/TOC)	Max (mg/kg/TOC)	SD (mg/kg/TOC)	95% UCL (mg/kg/TOC)
Acenaphthene	0.016 | 0.5	12/21	0.005	0.25	0.0531	0.0528
Acenaphthylene	0.044 | 0.64	5/21	0.005	0.250	0.0534	0.0525
Anthracene	0.085 | 1.1	1/21	0.005	0.250	0.0533	0.0524
Benz(a)anthracene	0.261 | 1.6	1/21	0.005	2.0	0.429	0.538
Benzo(a) pyrene	0.43 | 1.6	1/21	0.005	0.5	0.105	0.149
Chrysene	0.384 | 2.8	1/21	0.005	1.5	0.321	0.409
Dibenz(a,h)anthracene	0.063 | 0.26	2/21	0.005	0.25	0.0534	0.0525
Fluoranthene	0.6 | 5.1	1/21	0.005	4.0	0.862	1.072
Fluorene	0.019 | 0.54	10/21	0.005	0.250	0.053	0.0527
Naphthalene	0.16 | 2.1	1/21	0.005	0.250	0.0522	0.0562
Phenanthrene	0.24 | 1.5	1/21	0.005	2.5	0.537	0.675
Pyrene	0.665 | 2.6	1/21	0.005	3.0	0.646	0.803
Low molecular weight PAHs	0.55 | 3.16	1/21	0.035	4.250	0.896	1.24
High molecular weight PAHs	1.7 | 9.6	1/21	0.030	11.25	2.412	3.05
Total PAHs	4 | 45	1/21	0.040	18.0	3.864	4.875

Key
Yellow = Above SDAC ISQG-low
Red = Above SDAC ISQG-high

Table 11-5: Non-cohesive TOC normalised PAH results

Contaminant	SDAC (mg/kg/TOC)	No. Samples >SDAC	Min (mg/kg/TOC)	Max (mg/kg/TOC)	SD (mg/kg/TOC)	95% UCL (mg/kg/TOC)
Acenaphthene	0.016 | 0.5	12/25	0.005	0.316	0.0764	0.111
Acenaphthylene	0.044 | 0.64	7/25	0.005	0.25	0.0523	0.0787
Anthracene	0.085 | 1.1	3/25	0.005	0.316	0.076	0.112
Benz(a)anthracene	0.261 | 1.6	1/25	0.005	1.392	0.275	0.182
Benzo(a) pyrene	0.43 | 1.6	0/25	0.005	0.38	0.086	0.123
Chrysene	0.384 | 2.8	1/25	0.005	1.013	0.201	0.154
Dibenz(a,h)anthracene	0.063 | 0.26	4/25	0.005	0.25	0.0523	0.0787
Fluoranthene	0.6 | 5.1	1/25	0.005	2.658	0.521	0.313
Fluorene	0.019 | 0.54	14/25	0.005	0.633	0.129	0.102
Naphthalene	0.16 | 2.1	1/25	0.005	0.25	0.0529	0.0856
Phenanthrene	0.24 | 1.5	2/25	0.005	1.646	0.323	0.277
Pyrene	0.665 | 2.6	1/25	0.005	2.025	0.398	0.252
Low molecular weight PAHs	0.55 | 3.16	5/25	0.035	4.051	0.833	0.726
High molecular weight PAHs	1.7 | 9.6	1/25	0.030	7.532	1.482	0.987
Total PAHs	4 | 45	1/25	0.040	13.92	2.737	2.096

Key
Yellow = Above SDAC ISQG-low

Red = Above SDAC ISQG-high

Statistical analysis of the TOC normalised PAH data indicates that in general, cohesive sediments contain higher calculated concentrations compared to non-cohesive sediments, which reflect the greater sorption capacity of the finer-grained, cohesive sediments. The sample set is considered to be of a size where the effects of a single outlying result would have minor impact the outcomes of the analysis.

Refer to **Appendix C**, **Figures 15 to 29** for distributions of all TOC normalised PAHs results.

Refer to **Appendix M** for the results of the statistical analysis of TOC normalised PAH data.

11.2.4 TOC Normalised TRH Results

Twelve concentrations of total TRH were reported by the laboratory to be above the SDAC; however, due to the TOC of these samples being >1% for all but two samples (SD23 0-0.1 and SD26 0-0.05), the TOC normalised results for nine of these samples were reduced below the SDAC. See below.

Table 11-6: Not normalised and TOC normalised results comparison

Sampling Location	Laboratory reported TRH concentration (mg/kg)	TOC (%)	TOC normalised TRH (mg/kg/TOC)
SD7 0.15-0.25	2610	24	261
SD3 0.25-0.32	1810	17	181
SD2 0.15-0.24	1710	15	171
SD2 0-0.1	1210	28	121
SD26 0-0.05	1110	0.79	1405
SD4 0-0.08	1110	53	111
SD4 0.15-0.25	860	40	86
SD10 0.14-0.26	830	11	83
SD13 0-0.02	680	19	68
SD6 0.15-0.25	640	9.2	69
SD24 0-0.04	620	8.6	72

Sampling Location	Laboratory reported TRH concentration (mg/kg)	TOC (%)	TOC normalised TRH (mg/kg/TOC)
SD23 0-0.1	590	0.13	2950

Key
Yellow = Above SDAC (NAGD 2009)

Of the above twelve samples:

- Seven were collected in sediment described as 'MUD';
- Three were collected in sediment described as 'muddy SAND'; and
- Two were collected in sediment described as 'SAND'.

Therefore prior to TOC normalisation, the TRH results collected from cohesive sediments were generally higher than those collected from non-cohesive sediments. Further discussion of cohesive and non-cohesive sediments is provided in **Section 11.2.6.**

Table 11-7 below summarises that the TOC normalised TRH results for LL Sediments.

Note that a SD and 95% UCL have been calculated for the following:

- All sediment samples;
- Cohesive sediment samples only; and
- Non-cohesive sediment samples only.

Table 11-7: TOC Normalised TPH Results summary

Contaminant	SDAC (mg/kg)	No. Samples >SDAC	Min (mg/kg/TOC)	Max (mg/kg/TOC)	SD (mg/kg/TOC)	95% UCL(mg/kg/TOC)
Total Petroleum Hydrocarbons (all samples)	550	3/46	11.5	2950	510	539
Total Petroleum Hydrocarbons (cohesive samples)	550	1/21	11.5	1600	339	472
Total Petroleum Hydrocarbons (non-cohesive samples)	550	2/25	11.5	2950	621	804

Key
Yellow = Above SDAC (NAGD 2009)

In general, non-cohesive sediments contained a higher 95% UCL of mean normalised TPH concentrations compared to cohesive sediments, because they contained only low concentrations of TOC.

Further interrogation of the results shows that the three TOC normalised TPH results that exceed the SDAC, also contained TOC of <1 %. Therefore, the laboratory reported concentration was divided by a TOC of <1%, increasing the reported concentration (by up to a factor of five). The increased concentration was a result of a higher bio-availability of TRH in these sediments due to the low reported TOC concentrations (<1 %).

ES notes that one of these samples (SD22 0-0.05) contained laboratory reported concentration of TPH below the SDAC. The TOC concentration within this sample was 0.18 %, and therefore by normalising the sample to TOC, the calculated concentrations were raised from 330 to 1650mg/kg/TOC (which is above the SDAC of 550 mg/kg). See the table below for a summary:

Sampling Location	Laboratory reported concentration (mg/kg)	TOC (%w/w)	TOC normalised TRH (mg/kg/TOC)

SD22 0-0.05	330	0.18	1650.
SD23 0-0.1	590	0.13	2950.
SD26 0-0.05	1110	0.79	1405.

Key
Yellow = Above SDAC (NAGD 2009)
TOC normalised results have been rounded

Refer to **Appendix O** for an assessment of TOC normalised TRH data.

Refer to **Appendix C**, **Figure 30** for distributions of TOC normalised TRH results.

11.2.5 Grainsize and Sediment Contaminant Concentrations

Grainsize analyses were completed on five samples collected from the western portion of LL. This was outside the original scope of work requested by AGLM and was completed by ES to gain a greater understanding of the effect of grainsize on contaminant concentration. Not all samples were analysed for grain size analysis due to budget constraints, and therefore field descriptions have been used to determine the most likely grain sizes in the remaining 41 samples.

In general, sediment described primarily as 'MUD', being cohesive sediments that comprise high proportions of clay-sized fractions, reported the highest concentrations of Trace Metals, TRH (not TOC normalised) and PAHs (not TOC normalised), which is consistent with the ANZECC& ARMCANZ (2000) guidelines that states that:

> *"The clay/silt fraction has a high surface area and because of its surface chemistry is more likely to adsorb organic and heavy metal contaminants."*

Table 11-8 below presents the six sediment samples with the highest concentrations of TOC normalised Low molecular weight PAHs) in comparison with field descriptions and depth below sediment surface.

Table 11-8: Low molecular weight PAHs (TOC normalised) above SDAC compared to sampling location

Sediment Sample	Sediment level	Sediment Description	Low molecular weight PAH (mg/kg/TOC)
SD22 0-0.05	Surficial sediment layer	MUD - grey brown, occasional gastropod shells, soil odour.	4.25
SD26 0-0.05	Surficial sediment layer	Muddy SAND - grey, fine grained, well sorted, soil odour.	4.051
SD23 0-0.1	Surficial sediment layer	MUD - grey brown, anoxic odour.	1.75
SD7 0.15-0.25	Second sediment layer, overlain by a SAND (0-0.07 m)	MUD - dark grey / black, slight hydrocarbon odour.	0.76
SD16 0.15-0.25	Surficial sediment layer	Muddy SAND - dark brown, lighter colour with depth, minor rootlets, soil odour.	0.7
SD27 0-0.04	Surficial sediment layer	Muddy SAND - grey, fine grained, abundant gastropod shells, soil odour.	0.607

Five of the six of the above samples were collected from the surficial sediment layer, with all samples reporting 'MUD' or 'muddy SAND' sediments '.

Additionally, the three sampling locations which reported concentrations of Trace Metals concentrations (either Hg or Cu) above the ISQG-high SDAC (SD7 0.15-0.25, SD10 0.14-0.26, and SD17 0-0.1) were described as being comprised of 'MUD' or 'muddy SAND'.

Refer to Appendix I for the Grain Size Analysis Laboratory Certificates.

11.2.6 Cohesive and Non-cohesive sediment distribution

Non-cohesive Sediments

Field observations of sediment type indicate that the non-cohesive sediments (gravels and sands) are primarily located along the northern, eastern and southern shores of the LPS (within 300 m of the shore). One sample location (SD14) located in the 'Antiene Arm' of LL also reported non-cohesive sediments. Non-cohesive sediments are generally located in areas of higher ambient water flow velocities.

The non-cohesive sediments observed around the LPS generally reported lower concentration of CoPC (not normalised).

The additional investigation of the six LPS discharge locations identified all near shore sediments to be composed of non-cohesive sediments (clayey sands to gravels).

In general, the concentrations of CoPC reported in non-cohesive sediments at the LPS discharge locations, were less than those reported in cohesive sediments within LL. Refer to **Section 11.5** for further discussion.

Cohesive Sediments

Cohesive sediments (silts and clays) were observed beyond 300 m of the LPS shoreline, with the exception of one sampling location SD17, which was within 300 m of the north-western shoreline of the LPS. Cohesive/fine-grained sediments are generally located in low energy areas of sediment deposition within LL.

As previously described, the highest concentrations of contaminants within the sediments of LL, are present in cohesive/fine grained sediments that have accumulated in low energy environments.

11.2.7 TOC in Sediment

Reported concentrations of TOC ranged between 0.13 and 53 %. The ERM (2014) *Project Symphony, BPS. Stage 2 Environmental Site Assessment* (**Ref.6**) reported TOC contents ranging from 1.1 to 64.2 %.

Table 11-9 below provides the field descriptions of the sampling locations where the ERM report identified TOC >10 %.

Table 11-9: Reported TOC and Field Descriptions (ERM Report)

Sampling Location	Sample Field Description	TOC (%w/w)
SD4 0-0.08	SAND, black, fine grained, well sorted	53
SD12 0-0.5	Coal Fragments, black, minor gravel, trace fine grained sand.	46
SD4 0.15-0.25	MUD, black, soil odour	40
SD23 0.15-0.21	Muddy SAND - light brown, fine grained, well sorted, rootlets, soil odour, (potentially pre lake).	30
SD2 0-0.1	SAND - dark grey, coarse grained, gastropod shells to 1mmØ	28
SD7 0.15-0.25	MUD - dark grey / black, slight hydrocarbon odour.	24
SD13 0-0.02	MUD - dark grey, rootlets	19
SD3 0.25-0.32	Muddy SAND - grey, firm, fine grained, well sorted, organic matter, rootlets, hydrocarbon odour	17
SD2 0.15-0.24	Muddy SAND - grey, firm, fine grained, very well sorted, rootlet	15
SD9 0-0.1	SAND - grey, fine grained, gravel, soil odour.	12
SD1 0.15-0.25	Muddy SAND - grey, firm, fine grained, well sorted	11
SD9 0.15-0.25	SAND - grey, fine grained, gravel, soil odour.	11
SD10 0.14-0.26	MUD - dark grey, soil odour	11

With the exception of sediment at locations SD10, SD13 and SD23, the highest concentrations of TOC are present in sediment within 300 m of the LPS northern, eastern and southern shores in predominantly coarser grained sediments.

The field observations in five of the 10 above sampling locations, noted either organic matter, hydrocarbon odours, or coal fines within the sampling cores which are consistent with higher TOC contents.

The two locations (SD4 and SD12), containing sediment with the highest TOC content, are located east of the LPS coal stockpile areas. These sampling locations noted coal within the sampling location, consistent with TOC content >40 %.

Sediment at location SD4 contained the highest concentration of total PAHs (8.5 mg/kg), whilst sediment at location SD12 contained the fourth highest total PAH concentration (7 mg/kg). Due to high TOC contents in these locations, PAHs concentrations normalised to 1 % TOC reduced to 0.85 mg/kg/TOC and 0.7 mg/kg/TOC, respectively and were below the SDAC of 4 mg/kg (ISQG-low).

Refer to Appendix C, **Figure 31** for a quantified distribution map of laboratory reported TOC throughout the LL sediments.

11.2.8 Pre-existing Soils

During the investigation, ES observed materials underlying unconsolidated sediments thought to represent the original/ natural soils, prior to the development of LL in the 1970s. This material, present in 14 of 28 sampling locations, was generally described as 'sandy/ silty Clay' in **Table 11-10.**

Table 11-10: Description and location of 'natural soils'

Sample Location	Top Depth (m)	Bottom Depth (m)	Underlying Natural material - Original Surface	Refusal noted
SD03	0.25	0.32	Not reported.	Refusal at 0.32 m
SD23	0.15	0.21	Muddy SAND - light brown, fine grained, well sorted, rootlets, soil odour, (potentially pre lake).	Refusal at 0.21 m
SD07		1.05	Not reported.	-
SD08		0.43	Not reported.	-
SD09		1.03	Not reported.	-
SD11		1.12	Not Reported.	-
SD12		0.5	Not Reported.	-
SD18		0.35	Not Reported.	Refusal at 0.35 m
SD20		0.02	Not Reported.	Refusal at 0.02 m
SD22		0.05	Not Reported.	Refusal at 0.05 m
SD24		0.22	Not Reported.	Refusal at 0.22 m
SD26		0.05	Not Reported.	-
SD27		0.04	Not Reported.	-
SD25	0.4	0.53	Sandy CLAY - grey with grey brown mottling, soil odour.	-
SD14	0.41	0.46	Sandy CLAY - light brown, medium plasticity, soil odour.	-

Sample Location	Top Depth (m)	Bottom Depth (m)	Underlying Natural material - Original Surface	Refusal noted
SD06	0.42	0.55	Sandy CLAY - light grey, coarse grained, organic matter, rootlets, soil odour.	-
SD01	0.35	0.43	Sandy CLAY - yellow brown with grey, gravel to 5mmØ, soil odour.	Refusal at 0.43 m
SD15	0.04	0.07	Silty CLAY - brown with black mottling, medium plasticity, soil odour.	Refusal at 0.07 m
SD21	0.03	0.11	Silty CLAY - brown, medium plasticity, soil odour.	Refusal at 0.11 m
SD28	0.02	0.09	Silty CLAY - brown, stiff, medium plasticity, soil odour.	-
SD10	0.27	0.43	Silty CLAY - brown, stiff, organic matter, soil odour.	Refusal at 0.43 m
SD17	0.5	0.55	Silty CLAY - brown, stiff, soil odour.	-
SD04	0.75	0.87	Silty CLAY - brown, trace sand, rootlets, soil odour.	-
SD05	0.05	0.1	Silty CLAY - green brown / olive, trace gravel, rootlets, soil odour.	Refusal at 0.10 m
SD13	0.02	0.1	Silty CLAY - green brown, stiff, rootlets, soil odour.	Refusal at 0.10 m
SD19	0.02	0.09	Silty CLAY - grey brown, stiff, medium plasticity, organic matter, rootlets, soil odour.	Refusal at 0.09 m
SD16	0.37	0.46	Silty CLAY - pale green, stiff, soil odour.	Refusal at 0.46 m
SD02	0.26	0.35	Silty CLAY / MUD - olive / green brown, medium plasticity, rootlets, soil odour	Refusal at 0.35 m

One location had material underlying sediments described as ‘muddy SAND’, which was thought to also be related to the original or pre-LL soils.

Twelve locations did not encounter material thought to be representative of the original pre-LL soils; however, five of these locations encountered refusal between 0.02 m and 0.35m below the lake bed.

Three primary samples were analysed from material considered to be pre-existing prior to the construction of LL. These samples were:

- SD19 (0.02-0.09);
- SD23 (0.15-0.21); and
- SD25 (0.4-0.5).

A summary of the pre-existing soil analytical results> LOR is provided below in **Table 11-11** below.

Table 11-11: Analytical results of pre-existing soils

Analyte	SDAC (mg/kg) (ISQG-Low | ISQG-High)	Minimum concentration (mg/kg)	Maximum Concentration (mg/kg)
As	20 | 70	2	12
Cr Total	80 | 370	7.2	8.7
Cu	65 | 270	4.2	13
Pb	50 | 220	7	11
Hg	0.15 | 1	<0.01	0.03
Ni	21 | 52	4.4	10
Zn	20 | 410	8.9	27
TOC	n/a	1.7 %	30 %

The concentrations of analysed pre-LL samples reported concentrations of CoPC less than surficial sediments. Furthermore, the pre-LL samples did not report concentrations of PAHs, TRH, BTEX or VOCs above the LOR.

11.3 LL Surface Water Results

11.3.1 Trace Metals

Concentrations of Trace Metals in surface water samples submitted for analysis by ES were reported above the adopted surface water assessment criteria (SWAC) for:

- B: 50 non-filtered and 49 filtered samples reported concentrations of B above the SWAC (370 µg/L);
- Cd: 4 non-filtered samples reported concentrations equal to the SWAC (0.2 µg/L).
- Cu: All 50 non-filtered and filtered samples reported concentrations of Cu above the SWAC (1.4 µg/L);
- Hg: 2 filtered samples reported concentrations of Hg above the SWAC (0.06 µg/L); and
- Zn: 3 non-filtered and 1 filtered sample reported concentrations above the SWAC (8 µg/L).

ES notes that the following samples reported higher concentrations of filtered samples when compared to non-filtered samples

- SW19 - 15.8 reported filtered concentrations of Cu, Hg, and Zn > non-filtered concentrations; and
- SW24- 19.6 reported filtered concentrations of Hg > non-filtered concentrations.
- ES cannot explain this variation but notes that non-filtered samples would be likely to contain a higher percentage of suspended solids, onto which heavy metals are known to be adsorbed. This is relevant, as the suspended solids would allow a greater concentration of adsorbed CoPC to be ingested by aquatic animals.

11.3.2 TRH

Concentrations of TRH in all LL surface water samples submitted for analysis were reported below the LOR (0.04-0.65 µg/L) and the SWAC.

11.3.3 BTEX

Concentrations of BTEX in all LL surface water samples submitted for analysis were reported below the LOR (0.5-3 µg/L) and the SWAC.

11.3.4 VOCs

Concentrations of VOCs in all LL surface water samples submitted for analysis were reported below the LOR (0.5-4 µg/L) and the SWAC.

11.3.5 PAHs

Concentrations of PAHs in all LL surface water samples submitted for analysis were reported below the LOR (0.01-0.02 µg/L) and the SWAC.

11.3.6 Salinity

Concentrations of salinity in shallow (1.0 m surface water samples) and deep (>1 m surface water samples) is described below:

- Shallow surface water: Salinity concentrations ranged between 780 and 1 500 mg/L indicating a brackish environment.
- Deep surface water: Salinity concentrations ranged between 880 and 1 600 mg/L indicating a brackish environment.

ES note that BPS EPL 779 imposes a maximum discharge limit for saline water into LL via Tinkers Creek (being discharge point 7 under EPL 779) of 4 500 µS/cm. The other licenced discharge points under the BPS EPL 779 are not reported to be subject to salinity discharge limits.

ES reported a maximum salinity concentration within LL of 30 000 mg/L in sample LAW_LL_ESSW03 collected from the chemical drain (designated as discharge point 4 as shown in Section 5.3). The sample was collected directly from the outlet of the chemical drain within LL. The Chemical Drain (Discharge Point 4) is not a licenced discharge point currently covered under the BPS EPL 779 or the LPS EPL 2122.

11.3.7 Ammonia

Concentrations of Ammonia in shallow (1.0 m surface water samples) and deep (>1 m surface water samples) are described below:

- Shallow surface water: Ammonia concentrations ranged between 10 and 60 µg/L;
- Deep surface water: Ammonia concentrations ranged between 10 and 100 µg/L;
- A total of two samples (SW04 1.0, and SW21 15.8) exceeded the SWAC recreational criteria of 50 µg/L; and
- Five (5) additional samples reported concentrations of Ammonia equal to the SWAC (recreational) of 50 µg/L.

11.4 AEC LL Results

Sections 11.4.1 to **11.4.7** summarise the concentrations of CoPC reported in surface water samples collected from near-shore AEC LL locations. As stated previously, as a component of the AEC investigations at the LPS or BPS, a total of 32 sediment and 36 surface water samples were collected (from either LL or the tributaries near to discharge points into LL).

11.4.1 Trace Metals Surface Water

As stated in Section 12.1, 18 AECs around LL were sampled to determine the concentrations of CoPC discharging into LL from the BPS and LPS assets. Below is a summary of the Trace Metal concentrations from these locations:

- As: concentrations ranged between <1-130 µg/L (not filtered) and <1-51 µg/L (filtered). These values exceed the SWAC of 13 µg/L (ANZECC 2000 FW) and 50 µg/L (NHMRC (2008) Recreational).
- B: concentrations ranged between 49-2000 µg/L (not filtered) and 46-2000 µg/L (filtered). These values exceed the SWAC of 370 µg/L (ANZECC 2000 FW 95%)..
- Cd: concentrations ranged between <0.1-1.6 µg/L (not filtered) and <0.1-0.8 µg/L (filtered). These values exceed the SWAC of 0.2 µg/L (ANZECC 2000 FW 95%).
- Cu: concentrations ranged between <1-600 (not filtered) and <1-89 µg/L (filtered) These values exceed the SWAC of 1.4 µg/L (ANZECC 2000 FW 95%).
- Pb: concentrations ranged between <1-25 µg/L (not filtered) and <1-89 µg/L (filtered). These values exceed the SWAC of 3.4 µg/L (ANZECC 2000 FW 95%).
- Hg: concentrations ranged between <0.05-0.23 µg/L (not filtered). These values exceed the SWAC of 0.06 µg/L (ANZECC 2000 FW 99%). ES notes that the LOR for two samples (N_P_ESSW01 and N_P_ESSW02) was above the SWAC.
- Ni: concentrations varied between <1-230 µg/L (not filtered) and <1-210 µg/L (filtered). These values exceed the SWAC of 11 µg/L (ANZECC 2000 FW 95%) and 30 µg/L (NHMRC (2008) Recreational).

- Se: concentrations ranged between <1-120 µg/L (not filtered) and <1-42 µg/L (filtered). These values exceed the SWAC of 5 µg/L (ANZECC 2000 FW 99%) and 10 µg/L (NHMRC (2008) Recreational).
- Zn: concentrations ranged between <5-410 µg/L (not filtered) and <5-350 µg/L (filtered). These values exceed the SWAC of 8 µg/L (ANZECC 2000 FW 95%).

In general, the Trace Metal concentrations at the AECs around LL reported higher concentrations then those reported in the LL samples.

11.4.2 TRH Surface Water

TRH was reported in the following near-shore AEC sampling locations:

- L_94_ESSW01 – TRH C_{10}-C_{40} 790 µg/L;
- L_109_ESSW01 – TRH C_{10}-C_{40} 2100 µg/L;
- L_109_ESSW02 – TRH C_{10}-C_{40} 690 µg/L;
- L_111_ESSW01 – TRH C_{10}-C_{14} 58 µg/L and TRH C_{15}-C_{28} 390 µg/L; and
- L_137_ESSW02 – TRH C_{10}-C_{40} 2700 µg/L.

The TRH concentrations at the AEC locations were reported to be higher than concentrations reported in the LL samples.

11.4.3 BTEX Surface Water

Concentrations of BTEX within surface water samples collected at the AEC locations near LL were reported to be below the LOR (0.5-3 µg/L) and the SWAC.

11.4.4 VOC Surface Water

Concentrations of VOCs within surface water samples collected at the AEC locations near LL were reported to be below the LOR (0.5-3 µg/L) and the SWAC. ES notes that not all samples, collected from the AEC LL locations, were analysed for VOCs.

11.4.5 PAHs Surface Water

Concentrations of PAHs within surface water samples collected at the AEC locations near LL were reported to be below the LOR (0.01-0.02 µg/L) or the SWAC for all samples.

ES notes that the LOR for two samples (N_P_ESSW01 and N_P_ESSW02) were above the SWAC.

11.4.6 Salinity - Surface Water

As stated in **Section 11.1**, the AEC locations near LL were sampled to determine the concentrations of CoPC (including salinity) discharging into LL from the BPS and LPS assets. Reported salinity results in these locations ranged from 270 mg/L (AEC 95) to 5400 mg/L (AEC 94). The mean concentration of 1535 mg/L is greater than the average concentration of salinity in LL and is above the 1000 mg/L value stated in the ANZECC/ ARMCANZ (2000) guidance (**Ref.25**).

The five highest reported salinity concentrations potentially discharging into LL from the AEC locations near LL are listed in **Table 11-12** below.

Table 11-12: Salinity surface water results in AEC LL Locations

Sample ID	Salinity (mg/L)	LPS or BPS asset
L_94_ESSW02-2	5400	LPS
L_78_ESSW01	4200	LPS
L_139_ESSW01	3200	LPS
L_138_ESSW02	2400	LPS

L_130_ESSW01	2400	LPS

11.4.7 Ammonia Surface Water

As stated in **Section 11.1**, the AEC locations near LL were sampled to determine the concentrations of CoPC (including ammonia) discharging into LL from the BPS and LPS assets. Reported ammonia results in these locations ranged from 10 µg/L (AEC 139) to 650 µg/L (AEC 113). A total of two samples reported concentrations of ammonia above the NHMRC (2008) recreational) criteria of 500 µg/L.

The five highest reported ammonia concentrations potentially discharging into LL are listed in **Table 11-13** below:

Table 11-13: Ammonia surface water results in AEC LL Locations

Sample ID	AEC	Ammonia (µg/L)	LPS or BPS asset
L_113_ESSW01	AEC 113 - Skimmer Dam	650	LPS
L_63_ESSW01	AEC 63 - Lake Liddell Dam Wall	610	LPS
L_138_ESSW02	AEC 138 – LPS Coal Stockpile Area	260	LPS
L_94_ESSW02-2	AEC 94 - Chemical Drain Outlet	190	LPS
L_130_ESSW01	AEC 130 – Old Coal Stockpile Area	160	LPS
L_111_ESSW01	AEC 111 – Seepage from Ash Dam	120	LPS

11.5 LPS discharge point Results

11.5.1 Trace Metals

11.5.1.1 Sediment

The following Trace Metals concentrations in sediments collected from near-shore LPS discharge points, were reported above the SDAC (**Table 11-14).**

Table 11-14: Trace Metal concentrations collected in sediment from LPS discharge points

Analyte	SDAC (mg/kg) (ISQG-Low | ISQG-High)	No. Samples >SDAC	Min (mg/kg)	Max (mg/kg)
Pb	50 | 220	2	10	82
Zn	200 | 410	1	12	970

Yellow = Above SDAC ISQG-low
Red = Above SDAC ISQG-high

The Pb and Zn concentrations within sediments at LPS discharge points are the highest concentrations encountered within LL sediments during the LL APECS.

11.5.1.2 Surface water

The following Trace Metals concentrations collected from surface water in the near shore LPS discharge points were reported above the SDAC (**Table 11-15).**

Table 11-15: Trace Metal concentrations collected in surface water from LPS discharge points

Analyte	SWAC (µg/L) (ANZECC |NHMRC)	No. Samples >SWAC	Min (µg/L)	Max (µg/L)
B	370 | 4000	8	890	1100
Cu	1.4 | 1000	8	3	13
Cr	1 | 50	1	<1	4
Hg	0.06 | 1	1	<0.05	1.2
Zn	8 | 5000	3	<5	64

Key
Yellow = Above SWAC ANZECC (2000) FW
Purple = Above SWAC NHMRC (2008) Recreational Guidelines

The B, Cu and Zn concentrations reported are consistent with surface water samples collected in LL. The Hg sample, reported at LAW_LL_ESSW03, was the highest concentration of Hg reported in LL during the LL APECS by an order of magnitude. The Cr concentration was also reported from LAW_LL_ESSW03. Sampling location LAW_LL_ESSW03 was collected from discharge point 4 (Chemical Drain).

One sample, LAW_LL_ESSW03, reported a concentration of Cd of <1 µg/L. The limit of reporting in this sample was raised above the SWAC as a result of high conductivity in the sample requiring dilution.

11.5.2 TRH

11.5.2.1 Sediment

All sediment samples from the LPS discharge points reported concentrations of TRH below the LOR (230 mg/kg TRH C_6-C_{10}). As a result, the TRH results were not TOC normalised.

11.5.2.2 Surface water

All surface water samples from the LPS discharge points reported concentrations of TRH below the LOR.

11.5.3 BTEX

11.5.3.1 Sediment

All sediment samples from the LPS discharge points reported concentrations of BTEX below the LOR (0.1-0.3 mg/kg). As a result, the BTEX results were not TOC normalised.

11.5.3.2 Surface water

All surface water samples from the LPS discharge points reported concentrations of BTEX below the LOR.

11.5.4 VOCs

11.5.4.1 Sediment

All reported concentrations of VOC were reported to be below the LOR from the LPS discharge points. As a result, the VOC results were not TOC normalised.

11.5.4.2 Surface water

All surface water samples reported concentrations of VOCs either below the LOR or the SWAC from the LPS discharge points.

11.5.5 PAHs

11.5.5.1 Sediment

With the exception of one sample (LAW_LL_ESD05), all laboratory reported PAH results in sediments were below the LOR from the LPS discharge points.

The PAH results were then TOC normalised, in line with all other LL samples (see **Section 11.2**). The following PAHs were subsequently reported above the SDAC **(Table 11-16).**

Table 11-16: PAHs Reported Above the SDAC (after TOC Normalisation)

Analyte	SDAC (mg/kg/TOC) (ISQG-Low | ISQG-High)	No. Samples >SDAC	Min (mg/kg/TOC)	Max (mg/kg/TOC)
Acenaphthene	0.016 | 0.5	6/6	0.031	0.5
Acenaphthylene	0.044 | 0.64	4/6	0.031	0.250
Anthracene	0.085 | 1.1	2/6	0.031	0.250
Dibenz(a,h)anthracene	0.063 | 0.26	2/6	0.031	0.250
Fluorene	0.019 | 0.54	6/6	0.031	0.250
Naphthalene	0.16 | 2.1	2/6	0.031	0.250
Phenanthrene	0.24 | 1.5	2/6	0.031	0.5
Low molecular weight PAHs	0.55 | 3.16	3/6	0.219	1.75

Key
Yellow = Above SDAC ISQG-low
Red = Above SDAC ISQG-high

The concentrations of TOC normalised PAHs within near-shore LPS discharge points sediments are consistent with the reported concentrations within other sediments of similar composition within LL.

11.5.5.2 Surface water

With the exception of one sample (LAW_LL_ESSW03), all PAH results within surface water were reported at concentrations below the LOR from the LPS discharge points.

1-Methylnaphthalene (0.3 µg/L), 2-methylnaphthalene (0.2 µg/L) and Phenanthrene (0.02 µg/L) were all reported marginally above the LOR (0.01 µg/L). These analytes were reported below the adopted SWAC. These were the only surface water samples from within LL, or the surrounding tributaries, to report concentrations of PAHs above the LOR in surface water.

CSIRO (2005) (**Ref. 11**) states that PAHs are hydrophobic organic contaminants. Therefore, it is likely that the reported PAH concentrations above the LOR, are associated with PAHs adsorbed to suspended particles within the water column.

11.5.6 PCBs

11.5.6.1 Sediment

All reported concentrations of PCBs in sediments were reported to be below the LOR from the LPS discharge points.

PCBs were not TOC normalised as all results were reported below the LOR.

PCBs are hydrophobic and bioaccumulators, and generally bind to organic carbon. PCB impacts, if present, would be anticipated to be detected within the sediments sampled.

ES notes that the Total PCB LOR of 1 mg/kg is greater than the SDAC (ISQG-low) (**Ref.25**).

11.5.6.2 Surface water

All reported concentrations of PCBs in surface waters from the LPS discharge points were reported to be below the LOR. The LOR for Arochlor 1254 (0.1 µg/L) was greater than the SWAC of 0.03 µg/L. ES considers that the risk of Arochlor 1254 being above the adopted SWAC is low considering the hydrophobic nature of PCBs.

11.5.7 Salinity

11.5.7.1 Surface water

The reported salinity results from the LPS discharge points for five of six samples from the LPS discharge points ranged in concentration between 1500 to 1700 mg/L. This is consistent with the previously reported concentrations (ERM report, **Ref. 4**) within LL (see **Section 11.3.6**).

One sample, LAW_LL_ESSW03, collected from discharge point 4 (Chemical Drain), reported a salinity concentration of 30,000 mg/L, which is 18 times greater than the maximum concentration reported in water within LL (see **Section 11.3.6**).

The Commonwealth of Australia (2011) *Australian Drinking Water Guidelines 6* (**Ref. 27**) indicates that salinity in the surface water is within the range considered unacceptable for drinking (TDS >1200 mg/L).

Table 1-1 of the National Water (2011) *Brackish groundwater: a viable community water supply option?* (**Ref. 28**) considers that surface salinity value reported at sample LAW_LL_ESSW03 to be 'Saline' and limited to industrial uses only.

The salinity concentrations discharging into LL at LAW_LL_ESSW03 are an order of magnitude above the ANZECC/ARMCANZ (2000) guidelines (**Ref. 25**) that states "…adverse biological effects would be expected in Australian aquatic ecosystems if salinity was allowed to increase to around 1000 mg/L".

11.5.8 Ammonia

11.5.8.1 Surface water

Concentration of ammonia in four samples collected from the near shore LPS discharge points were greater than the SWAC (recreational), with one of these samples reported to be above the SWAC (health) of 900 µg/L.

The highest ammonia concentration of 1,000 µg/L was reported at LAW_LL_ESSW03, which was collected from discharge point 4 (Chemical Drain).

11.5.9 PFAS

11.5.9.1 Sediment

Sediment samples collected from LL and the LPS discharge points all reported PFAS concentrations <LOR with the exception of one location sampled adjacent the Northern Peninsula (0.0012 mg/kg; L_P_ESSD01). It should be noted that an intra-laboratory duplicate sample was collected at this location and that the detection of PFOS was made in the duplicate sample only. PFOS was not detected in the primary sample collected from this location.

ES considers the detection of PFOS, within the duplicate sample only, to be an indication of the heterogenous nature of the sediment sampling location. This sample was collected after the WA DER (February 2016) guidance was issued and sampling was carried out in accordance withthe AGLM APECS SAQP Vol. 7 and the WA DER (February 2016) guidance, refer to Section

6.1 for discussion. ES has adopted the approach that the highest concentration of either the duplicate, triplicate, or primary sample would be considered representative of the sampling location. Therefore, for the purposes of the LL APECS, the reported concentration of 0.0012 mg/kg of PFOS in the duplicate sample is reported to be representative of sampling location L_P_ESSD01.

11.5.9.2 Surface water

PFOS was detected above the LOR and equal to the SWAC for Ecological Protection (95% Species - Moderately Disturbed; WA DER, February 2016), in one of the two surface water samples collected from LL in October 2016 (L_P_ESSW01, 0.13 µg/L). This sample was collected in accordance with the AGLM APECS SAQP Vol. 7 and the WA DER (February 2016) guidance. Refer to Section 6.1 for discussion. Concentrations of all other PFAS were reported below the LOR.

11.5.10 Inorganics

11.5.10.1 Surface water

Reported concentrations of chloride, pH, sodium and sulphate from the LPS discharge points were reported in concentrations exceeding the SWAC as outlined below (**Table 11-17**):

Table 11-17: Inorganic concentrations reported above the SWAC

Analyte	SWAC (mg/L)	No. Samples >SWAC	Min (mg/L)	Max (mg/L)
Chloride	400	1/6	310	46 000
pH	6.5 – 8.5	2/6	8.8	12.2
Sodium	300	2/6	240	8900
Sulphate	400	6/6	500	35 000

Key
Yellow = Above SWAC ANZECC (2000) FW
Purple = Above SWAC NHMRC (2008) Recreational Guidelines

Concentrations of chloride, pH, sodium and sulphate, collected from sampling location LAW_LL_ESSW03, were an order of magnitude, or more, greater than the SWAC. This sampling location was collected from discharge location 4 (the Chemical Drain), which is understood to discharge water from the Demin Plant.

Chloride, sodium and sulphate were only analysed from the 6 discharge locations, and not as part of the wider LL surface water investigation. These additional analytes were analysed by ES after information provided by AGLM indicated that these were likely to be contaminants of potential concern (CoPC) at the discharge locations. These CoPC were identified based on the chemicals used at the source of the discharge drains (i.e. the chemicals used at the Demin Plant, which is the source of liquid discharging through the Chemical Drain).

The LL surface results show pH ranged between 7.7 and 8.8. Reported pH results, from all but one sampling location collected from the LPS discharge locations, ranged from 8 to 8.8 which is consistent with the wider LL sampling results. However, sampling location LAW_LL_ESSW03 reported a pH value of 12.2, which is considerably more alkaline than all other samples collected by ES from LL. This sampling location was collected from point 4 (Chemical Drain).

11.6 ES and ERM LL Results Comparison

The following section provides a brief summary of the key findings of the ERM (October 2013) report (**Ref. 4**) in relation to sediment and surface water concentrations. These key findings have been compared to data collected by ES from LL.

11.6.1 Sediments

The following table briefly compares the reported ERM LL sediment data to the ES collected data below (**Table 11-18)**:

Table 11-18: General comparison between ERM and ES sediment results

ERM	Comparison to ES data
ERM reported concentrations of Phenols, BTEX and PCBs < LOR	This is consistent with the ES sediment results
Concentrations of As, Hg, and Ni were reported above the ISQG-low.	This is consistent with the ES sediment results
One sampling location (BW_SS27) reported concentrations of Cu and Hg >ISQG-high.	The BW_SS27 sediment sample was collected from within 80 m of discharge point 4 (Chemical Drain). ES sampling location SD7 was collected from the same location. SD7 reported a concentration of Hg > ISQG-high and a Cu concentration >ISQG-low, and therefore is consistent with the ERM results reported from this area.
ERM reported Se concentrations between 1 to 45.2 mg/kg	ES reported concentrations of Se between <3 and 20 mg /kg. The highest concentration of Se reported by ERM (BW_SS40) was located approximately 400 m west of ES sampling location SD17, which reported a maximum concentration of 11 mg/kg. Two AECs (111 and 112) that are understood to discharge in LL are located approximately 300 m north and south west of BW_SS40. Concentrations of Se in sediment from these two AECs ranged between <3 and 12 mg/kg.
ERM reported concentrations of PAH in mg/kg and did not specify if the reported concentrations were TOC normalised.	ES understands that the PAH concentrations reported by ERM were not TOC normalised. A comparison of the PAH concentrations (not normalised to TOC) indicated that the ERM data set reported higher concentrations of PAHs in comparison to ES. ERM maximum total PAH concentration was 39.1 mg/kg (BW_SS45) with ES' 14 mg/kg (SD07). It is noted that TOC normalisation was not carried out as part of the ERM assessment and therefore the ERM PAH dataset could not be compared to the ANZECC (2000) guidelines (Ref.26).
ERM reported concentrations of TRH ranged from 22 to 3790 mg/kg.	ES understands that ERM did not normalise their reported TRH concentrations to TOC. The maximum reported concentration of TRH (2610 mg/kg TRH C6-C40) was collected from sampling location SD07. In general, the majority of the ES and ERM TRH concentration >LOR were reported in the same area east of the LPS. It is noted that TOC normalisation was not carried out as part of the ERM assessment and therefore the ERM TRH dataset could not be compared to the ANZECC (2000) guidelines (Ref.26).
ERM sampling locations were collected primarily off the north-eastern, eastern and southern shores of the LPS, with one sampling location collected towards the 'Antiene Arm' of LL.	ES collected samples from similar locations to ERM, with the addition of location towards the northern shore of the LPS, and the northern and western portions of LL.

11.6.2 Surface Water

The following table briefly compares the reported ERM LL surface water data to the ES collected data **(Table 11-19):**

Table 11-19: General comparison between ERM and ES surface water results

ERM	Comparison to ES data
ERM did not report concentrations in LL surface water above the ANZECC (2000) Recreational criteria.	ES surface water results reported concentrations of Ammonia within LL above the ANZECC (2000) Recreational criteria. ES also reported concentrations of As, B, Ni, Se, Hg, Chloride, Sodium, Ammonia, and sulphate above the ANZECC (2000) Recreational criteria from either AECs that discharge into LL or the six discharge locations from the LPS.
ERM reported B and Cu above the ANZECC (2000) FW criteria for the majority of samples.	This is consistent with ES results. ES also reported zinc in the majority of samples above the ANZECC (2000) FW guidelines.
ERM reported Ni and Se in a number of surface water samples from LL.	ES results indicate that the LL surface water samples reported concentrations of Ni and Se below the ANZECC (2000) FW criteria. Se and Ni were reported in a number of AEC discharge locations in concentrations above the ANZECC (2000) FW criteria. ES notes that ERM's reported LOR for Se was higher than the ANZECC (2000) FW criteria. Furthermore, ES adopted the ANZECC (2000) 99% protection for Hg Se and B, which are more stringent criteria than adopted by ERM.
ERM did not report analytical Salinity concentrations within LL	ES reported a maximum salinity concentration within LL of 30 000 mg/L in sample LAW_LL_ESSW03 collected from discharge point 4 (chemical drain). Concentrations within deep and shallow surface water samples collected from within LL ranged from 780 to 1600 mg/L..
ERM sampling locations were collected primarily off the north-eastern, eastern and southern shores of the LPS, with one sampling location collected towards the 'Antiene Arm' of LL.	ES collected samples from similar locations to ERM, with the addition of location towards the northern shore of the LPS, and the northern and western portions of LL.

11.7 Edible Fish Species and Sediment Selenium Concentrations

The ELA report (**Ref.24**), **Appendix L** identified Selenium above the maximum recommended concentration of 1mg/kg in the flesh of eels caught during the assessment. ELA noted that

> *'it is likely that the concentration* [of selenium] *is increased by proximity and relationship with the two power stations. A (1996) survey that analysed metal concentrations in 1164 fish from Lake Macquarie found that 59% of samples exceeded the standard for selenium (Wlodarczsky and Beath 1997). Selenium was attributed to pollutants released from two nearby coal burning power stations, and anglers were warned that high consumption of locally caught fish may result in adverse impacts to health (NSW Health 2001)'.*

Concentrations of Selenium in LL sediments ranged from <3 to 20 mg/kg, with concentrations in sediments that discharge into LL ranged from <3 to 59 mg/kg. The ERM (January 2014) report (**Ref.6**), identified Selenium in sediments ranged from 1 to 45.2mg/kg, with the highest concentrations reported proximal to the discharge location of Tinkers Creek (AEC 143).

The ES sediment samples collected from within LL which reported concentrations of Selenium of ≥5 mg/kg were generally described as 'MUD'. This is consistent with ANZECC (2000) (**Ref.26**), which reports that silt/clay fractions typically adsorb higher contaminant concentrations (see **Section 11.2.5** for further discussion).

As discussed in **Section 11.2.5**, the grain size analysis of samples reported to be comprised of 'MUD', contain 76 to 93 % Silt and/ or Clay with a particle size of <0.63 µm. This particle size, according to ANZECC (2000) is capable of ingestion by biota:

> *'Particles <63 µm are more common in the gut of sediment-ingesting biota (Tessier et al. 1984). It is not unusual to normalise contaminant analyses on the basis of the clay/silt fraction'*

Therefore, it is likely that the selenium reported in sediments describe as 'MUD', is capable of being ingested, forming a possible exposure pathway to the aquatic biota within LL.

11.8 Summary of Results

This section provides a brief summary of the results provided in **Sections 11.2** to **11.5**.

11.8.1 LL Sediment

- Sediment results reported by ERM (**Ref. 6**) from LL were similar in concentration to those reported by ES' primary laboratory.
- LL sediments reported concentrations of Trace Metals, TOC normalised PAHs and TRH above the SDAC.
- The ES sampling locations were generally consistent with ERM's (**Ref. 6**); however, ES collected a higher density of samples towards the northern shore of the LPS, and the northern and western portions of LL.
- The ERM report (**Ref. 6**) does not state if organic results were TOC normalised.
- Highest concentrations of CoPC were reported in LL sediments defined as cohesive.

11.8.2 LL Surface Water

- Surface water results reported by ERM (**Ref. 6**) from LL reported generally lower concentration to those reported by the primary laboratory engaged by ES.
- Surface water samples collected from LL reported concentrations of Trace Metals above the ANZECC (2000) FW criteria, and Ammonia above the NHRMC (2008) Recreational criteria.
- One surface water sample collected from LL, adjacent the northern peninsula reported PFOS equal to the SWAC for Ecological Protection (0.013 µg/L).
- The ES sampling locations were generally consistent with that of ERM's; however, ES collected a higher density of samples towards the northern shore of the LPS, and the northern and western portions of LL.

11.8.3 Salinity

- Salinity concentrations within LL ranged from 780 to 1600 mg/L, which exceed the ANZECC/ARMCANZ (2000) guidelines which states that "…adverse biological effects would be expected in Australian aquatic ecosystems if salinity was allowed to increase to around 1000 mg/L".
- The maximum reported salinity concentration of 30 000 mg/L discharging into LL from the LPS was collected from discharge point 4.

11.8.4 Inorganics

- Discharge locations into LL reported concentrations of surface water above the ANZECC (2000) FW and Recreational criteria for Trace Metals, Ammonia (recreational and health), Chloride, pH, Sodium and Sulphate.

12 Method for Determining Pre-Existing Contamination

The overall objective of the LL APECS is to define, to the extent practicable, the nature and extent of contamination on LL and to make a determination as to whether the contamination was Pre-Existing Contamination. Given this, the specific objectives were to:

- better define the nature and the lateral and vertical extent of the contamination identified in the ERM Reports on LL;
- identify further contamination which may be present at LL; and
- provide an opinion as to whether contamination identified at LL is 'Pre-Existing Contamination' as per the definition provided in **Section 1** of this report.

12.1 Pre-Existing Contamination Decision Process

In order to make a determination of whether contamination the contamination identified is Pre-Existing Contamination, ES have adopted a lines of evidence decision process, which examines the information available at each step to allow a determination to be made as to whether contamination is actually, or is likely to be Pre-Existing Contamination.

The decision process is as follows:

1. A determination was made as to whether the levels detected were above naturally occurring background levels. If not, then Pollution or Contamination was considered to not exist. If so, then the steps below were completed in order to determine whether the Pollution or Contamination identified was Pre-Existing Contamination.
2. An assessment was made as to the most likely source/s of the identified Pollution or Contamination. Once this was done, an assessment was undertaken to confirm whether the most likely source/s of the Pollution or Contamination were present at Completion. This involved a review of the reports prepared by ERM and obtaining information from AGLM regarding any incidents or changes to activities or structures which occurred post-Completion.
3. If based on this information the most likely source of the Pollution or Contamination identified:
    a. arose post-Completion then it was considered to be unlikely to be Pre-Existing Contamination; or
    b. was present as at Completion, then it was considered likely that the Pollution or Contamination was wholly or partially Pre-Existing Contamination.
4. Where it was considered likely that the Pollution or Contamination was wholly or partially Pre-Existing Contamination, the proportion which was Pre-Existing Contamination was estimated based on the best information available (including ERM's reports, the length of time which the most likely source/s of the Pollution or Contamination were present at the sites both before and after Completion and information from AGLM regarding any incidents or changes to activities or structures which occurred post-Completion).

The decision process is provided in full as a flow chart in **Appendix B**.

12.2 Post-Completion Contamination

Where contamination is thought to be a combination of Pre-Existing Contamination and contamination arising post Completion, that is 'Post-Completion Contamination', then an assessment has been made as to the extent to which the contamination is thought to be Pre-Existing Contamination' based on the decision process outlined above. Where the precise allocation as to 'Pre-Existing Contamination' and otherwise is not known, an estimate has been made based on the best information available, including records and information provided by AGLM regarding activities (including remediation or spills) which have occurred post Completion.

For contamination which is considered to be the result of sources which existed prior to Completion and which remain in place, an estimate has been made as to the extent to which the contamination is Pre-Existing Contamination based on:

- the period of time the source of the contamination has been operating or has been in place on LL; and
- the period of time which has elapsed from Completion, until the date on which the relevant samples were taken.

The only exceptions to this process are if:

- AGLM is known to have remediated a source of contamination since Completion; or
- the contamination is known to have been caused by an incident or circumstances which occurred after Completion.

12.3 Post Completion Incidents

On the 6th November 2017, AGLM provided ES with information related to four incidents that had occurred at either the BPS or LPS Post Completion and had the potential to impact the sampling results collected during the APECS. These incidents were:

- An elevated pH recording of 9.32 within BPS EPL 779 Discharge Point 7 (Tinkers Creek) on the 9th of April 2017;
- A Ferric Chloride leak resulting in a pH reading of 5.7 on the 11th March 2015;
- An elevated pH reading at the Bayswater Demin Plant on the 14th May 2015; and
- A Spill of 20L of fuel on the 8th January 2016.

ES understands that the elevated pH reading reported at BPS EPL 779 Discharge Point 7 (Tinkers Creek) had the potential to impact the pH and Ammonia results reported in this LL APECS. Specifically, those pH and Ammonia results reported from the following AECs:

- AEC 25 (Coal Settling Basin);
- AEC 27 (over under weir to Tinkers Creek) Understood to be the location of the BPS EPL 779 Discharge Point 7 location;
- AEC 109 (Dump Valve Dam); and
- AEC 143 (Tinkers Creek).

See Table 12-1 below for a summary of the reported pH and Ammonia results collected from above AECs.

Table 12-1: Discharge Point 7 post Completion Incident – Relevant AEC surface water results

Sampling Location	Sampling Date	Reported pH	Reported Ammonia concentration (mg/L)
B_25_ESSW01	7/07/2015	6.7	0.04
B_25_ESSW02	7/07/2015	7.5	0.03
AEC 27	No surface water sampling occurred in this location		
L_109_ESSW01	9/07/2015	8.3	0.02
L_109_ESSW02	9/07/2015	8.5	0.02

Sampling Location	Sampling Date	Reported pH	Reported Ammonia concentration (mg/L)
L_143_ESSW01	15/07/2015	7.2	0.05

The AGLM report stated that on the 9th April 2015 stated that an estimated 50-100 litres of accumulated ammoniated water from an ammonia tank was discharged through the stormwater drain at 1100 hours, understood to be at BPS, proximal to AEC 3 (1/2 Forebay).

At 1144 hours to 1240 hours the pH limit of 8.5 at the BPS EPL 779 Discharge Point 7 was exceeded. At 1156 hours, the pH peaked at 9.32.

ES completed sampling approximately three months following the incident in AECs listed above. The pH recorded from these AECs were either equal to or below the BPS EPL 779 Discharge Point 7 limit. Therefore, ES considers that the conclusions drawn from the pH results collected from AEC 25, AEC 109, and AEC 143 are reliable for the purposes of the LL APECS.

The BPS EPL 779 Discharge Point 7 does not provide an ammonia discharge limit, and at the time of the incident AGLM did not report recording ammonia concentrations from this location. Therefore, due to the lack of information, ES considers the Ammonia concentrations reported from AEC 25, 109, and 143 to be estimates only of actual ammonia in surface water.

13 Conclusions

The following section provides discussion as to whether evidence exists to support a determination of Pre-Existing Contamination based on the assessment of the results reported for scope of work completed for the LL APECS.

13.1 General

Based on the limitations of the LL APECS, to the extent that any CoPCs detected below the adopted assessment criteria in the LL APECS are above naturally occurring background levels, then they are considered to be Pollution (given the definitions adopted for this LL APECS). All reported results should be re-considered in the event of a change in the current landuse or relevant assessment criteria, to determine the risks to human health and the environment.

13.2 Sediment

The report by ERM relating to the environmental condition of sediment and waters in LL reported that concentrations of some CoPC in sediments exceeded the criteria adopted for the assessment. Specifically, concentrations of the arsenic, copper, mercury and nickel were reported above adopted sediment acceptance criteria.

ES notes that some of the Sediment Assessment Criteria (SDAC) reported above by ERM differ from that reported by ES. ES have checked the accuracy of the SDAC used in the LL APECS and are satisfied that the criteria used by ES for LL APECS are reliable.

The results reported by ERM provide evidence that Pre-existing Contamination was present in sediment in LL at Completion.

Sediment thickness measured across LL by ES, indicated that sediment build up in LL occurs at a very low rate, with sediments in many locations sampled being less than 0.1 m thick and pre-lake materials being encountered in a number of locations. This supports the determination that most of the sediment collected as part of the LL APECS was in situ at the time of Completion and, accordingly, the Contamination and Pollution detected in sediments constitutes Pre-existing Contamination.

13.2.1 LL Sediment

Results of the present LL APECS indicate that concentrations of arsenic, copper, mercury and nickel as well as the organic compounds, Total Organic Carbon (TOC) normalised Polycyclic Aromatic Hydrocarbons (PAHs) and Total Petroleum Hydrocarbons (TPH) exceeded the SDAC as follows:

- Metals and Metalloids
    - Arsenic: 12 out of 46 samples >ISQG-low – 20 mg/kg (maximum 24 mg/kg);
    - Copper: 15 out of 46 samples >ISQG-low – 65 mg/kg, 2 samples >ISQG-high – 270 mg/kg (maximum 350 mg/kg);
    - Mercury 10 out of 46 samples >ISQG-low – 0.15 mg/kg, 2 samples >ISQG-high – 1 mg/kg (maximum 1.4 mg/kg); and
    - Nickel: 11 out of 46 samples >ISQG-low – 21 mg/kg (maximum 41 mg/kg).
- Organic Compounds
    - PAHs (all results TOC normalised)
        - Acenaphthene:
            - 24 out of 46 samples >ISQG-low – 0.016 mg/kg, (maximum 0.316 mg/kg);
        - Acenaphthylene:

        - 12 out of 46 samples >ISQG-low – 0.044 mg/kg, (maximum 0.25 mg/kg);
    - Anthracene:
        - 4 out of 46 samples >ISQG-low – 0.085 mg/kg, (maximum 0.316 mg/kg);
    - Benz(a)anthracene:
        - 2 out of 46 samples >ISQG-low – 0.261 mg/kg,1 sample >ISQG-high – 1.6 mg/kg (maximum 2.0 mg/kg);
    - Benzo(a)pyrene:
        - 1 out of 46 samples >ISQG-low – 0.43 mg/kg, (maximum 0.5 mg/kg);
    - Chrysene:
        - 2 out of 46 samples >ISQG-low – 0.384 mg/kg, (maximum 1.5 mg/kg);
    - Dibenz(a,h)anthracene:
        - 6 out of 46 samples >ISQG-low – 0.063 mg/kg, (maximum 0.25 mg/kg);
    - Fluoranthene:
        - 2 out of 46 samples >ISQG-low – 0.6 mg/kg, (maximum 4.0 mg/kg);
    - Fluorene:
        - 24 out of 46 samples >ISQG-low – 0.019 mg/kg, 1 sample >ISQG-high – 0.54 mg/kg (maximum 0.633 mg/kg);
    - Naphthalene:
        - 2 out of 46 samples >ISQG-low – 0.16 mg/kg, (maximum 0.25 mg/kg);
    - Phenanthrene:
        - 3 out of 46 samples >ISQG-low – 0.24 mg/kg, 2 sample >ISQG-high – 1.5 mg/kg (maximum 2.5 mg/kg);
    - Pyrene:
        - 2 out of 46 samples >ISQG-low – 0.24 mg/kg, 2 sample >ISQG-high – 2.6 mg/kg (maximum 3.0 mg/kg);
    - Low molecular weight PAHs:
        - 6 out of 46 samples >ISQG-low – 0.552 mg/kg, 2 sample >ISQG-high – 3.16 mg/kg (maximum 4.25 mg/kg);
    - High molecular weight PAHs:
        - 2 out of 46 samples >ISQG-low – 1.7 mg/kg, 1 sample >ISQG-high – 9.6 mg/kg (maximum 11.25 mg/kg); and
    - PAHs (Sum of total):
        - 2 out of 48 samples >ISQG-low – 4 mg/kg, (maximum 18 mg/kg).
- TPH (results TOC normalised)
    - C6-C40: 3 out of 46 samples >NADG 2009 – 550 mg/kg (maximum 2950 mg/kg).

It is noted that TOC normalisation was not carried out as part of the ERM assessment and therefore the ERM dataset could not be compared to the ANZECC (2000) guidelines (Ref.26).

13.2.2 Sediment from Discharge Points from LPS - Locations

The LL APECS reported concentrations of lead, zinc, PAHs and TPH in sediment collected from six specific points on the shore of the eastern shore of the LPS that discharge directly into LL. These exceeded the SDAC as follows:

- Metals
  - Lead: 2 out of 6 samples >ISQG-low – 50 mg/kg (maximum 82 mg/kg); and
  - Zinc: 1 out of 6 samples >ISQG-low – 200 mg/kg, 1 sample >ISQG-high – 410 mg/kg (maximum 970 mg/kg).
- Organic Compounds
  - PAHs (all results TOC normalised)
    - Acenaphthene:
      - 6 out of 6 samples >ISQG-low – 0.016mg/kg, (maximum 0.0556 mg/kg).
    - Acenaphthylene:
      - 4 out of 6 samples >ISQG-low – 0.044 mg/kg, (maximum 0.25 mg/kg);
    - Anthracene:
      - 4 out of 6 samples >ISQG-low – 0.085 mg/kg, (maximum 0.25 mg/kg);
    - Dibenz(a,h)anthracene:
      - 3 out of 6 samples >ISQG-low – 0.063 mg/kg, (maximum 0.25 mg/kg);
    - Fluorene:
      - 6 out of 6 samples >ISQG-low – 0.019 mg/kg, (maximum 0.1667 mg/kg);
    - Naphthalene:
      - 2 out of 6 samples >ISQG-low – 0.16 mg/kg, (maximum 0.25 mg/kg);
    - Phenanthrene:
      - 2 out of 6 samples >ISQG-low – 0.24 mg/kg, (maximum 2.5 mg/kg);
    - Low molecular weight PAHs:
      - 3 out of 6 samples >ISQG-low – 0.552 mg/kg, (maximum 1.75 mg/kg);
  - TPH (results TOC normalised)
    - TPH C_6-C_{40}: 1 out of 6 samples >NADG 2009 – 550 mg/kg (maximum 575 mg/kg). All of the infrastructure or activities in and around LL were present or occurring at, or prior to, Completion. Accordingly, ES considers that all of the sediment contamination identified in LL constitutes Pre-existing Contamination.

13.2.3 Sediment from LL adjacent the Northern Peninsula

ES reported PFAS in LL a near-shore sediment sample collected from one of the two sampling locations the north-eastern side of the Northern Peninsula firefighting area, immediately northwest of AEC 105. PFAS was detected in the form of PFOS in a concentration greater than the Limit of Reporting (LOR) - 0.0012 mg/kg (L_P_ESSD01). ES have been informed by AGLM that "*to the best of AGLM's knowledge and belief, no PFOS has been used anywhere on BPS or LPS post-Completion*". Based on this information ES consider the detected PFOS concentration at L_P_ESSD01 to be Pre-Existing Contamination.

13.3 Surface Water

The report by ERM relating to the environmental condition of sediment identified elevated concentrations of boron, chromium and copper for the majority of samples of surface water collected.

All of the infrastructure and activities in and around LL were present and occurring at, or prior to, Completion. Accordingly, ES considers that the surface water contamination identified in LL predominantly constitutes Pre-existing Contamination.

13.3.1 Surface Water from LL

The LL APECS reported concentrations of ammonia, boron, copper, mercury and zinc within LL above the Surface Water Assessment Criteria (SWAC) as follows:

- Ammonia: 2 out of 44 samples > NHRMC (2008) guideline of 50 µg/L (maximum 100 µg/L);
- Metals and Metalloids;
  - Boron (B): 50 out of 50 samples >ANZECC 2000 FW 95% - 0.09 mg/L (maximum 0.98 mg/L);
  - Copper (Cu): 50 out of 50 samples >ANZECC 2000 FW 95% - 0.0014 mg/L (maximum 0.011 mg/L);
  - Mercury (Hg): 2 out of 50 samples >ANZECC 2000 FW 95% - 0.06 mg/L (maximum 0.1 mg/L); and
  - Zinc (Zn): 3 out of 50 samples >ANZECC 2000 FW 95% - 0.008 mg/L (maximum 0.05 mg/L).

Surface Water from AECs which discharge into LL

ES completed surface water sampling in the following locations which are considered likely to be discharging LL:

- Tinkers Creek (AEC 143);
- Dump Valve Dam (AEC 109);
- Seepage from Ash Dam (AEC 111);
- Creek from Skimmer Dam (AEC 112);
- Skimmer Dam (AEC 113);
- Antiene - Basin 3 (AEC 67);
- Antiene Rail Loop (AEC 74);
- Cullen Gully (AEC 77);
- Drainage from Stockpile (AEC 140);
- Drainage line Chilcotts Creek (AEC 78);
- Old Coal Stockpile Area (AEC 79);
- Western Holding Pond (AEC 137);
- LPS Coal Stockpile Area (AEC 138);
- Outfall Canal (AEC 90);
- Solar Plant Discharge (AEC 129);
- Chemical Drain Outfall (AEC 94);
- Interceptor Pits (AEC 95); and
- Oil and Grit Trap (AEC 99).

The LL APECS reported concentrations of the following metals and metalloids and inorganics above the SWAC in surface water from Areas of Environmental Concern (AECs) on the BPS and LPS that discharge into LL as follows:

- Metals and Metalloids
  - Arsenic: 3 out of 36 samples > Recreational Water & Aesthetics – 50 µg/L (maximum 130 µg/L);
  - Boron: 32 out of 36 samples > ANZECC 2000 FW 95% - 90 µg/L, 7 of 36 samples >Recreational Water & Aesthetics – 1000 µg/L (maximum 2000 µg/L);
  - Cadmium: 10 out of 36 samples > ANZECC 2000 FW 95% - 0.2 µg/L, (maximum 1.6 µg/L);
  - Copper: 33 out of 36 samples > ANZECC 2000 FW 95% - 1.4 µg/L, (maximum 600 µg/L);
  - Lead: 4 out of 36 samples > ANZECC 2000 FW 95% - 3.4 µg/L, (maximum 25 µg/L);

- Mercury: 5 out of 36 samples > ANZECC 2000 FW 95% - 0.06 µg/L, (maximum 0.25 µg/L);
- Nickel: 6 out of 36 samples > ANZECC 2000 FW 95% - 11 µg/L, 2 of 36 samples >Recreational Water & Aesthetics – 100 µg/L (maximum 230 µg/L);
- Selenium: 9 out of 36 samples > ANZECC 2000 FW 95% - 5 µg/L, 7 of 36 samples >Recreational Water & Aesthetics – 10 µg/L (maximum 120 µg/L);
- Zinc: 23 out of 36 samples > ANZECC 2000 FW 95% - 8 µg/L, (maximum 410 µg/L);

- Ammonia: 13 out of 38 samples > NHRMC (2008) Recreational guideline of 50 µg/L (maximum 650 µg/L).

13.3.2 Surface Water from LPS Discharge Points into LL

ES reported concentrations of the following metals and inorganics above the SWAC from water collected from specific points that discharge into LL.

- Metals and metalloids;
  - Boron: 8 out of 8 samples > ANZECC 2000 FW 95% - 90 µg/L, 2 of 8 samples >Recreational Water & Aesthetics – 1000 µg/L (maximum 1100 µg/L);
  - Copper: 8 out of 8 samples > ANZECC 2000 FW 95% - 1.4 µg/L, (maximum 13 µg/L);
  - Mercury: 1 out of 8 samples > ANZECC 2000 FW 95% - 0.06 µg/L, (maximum 1.2 µg/L);
  - Zinc: 3 out of 8 samples > ANZECC 2000 FW 95% - 8 µg/L, (maximum 64 µg/L);
- Inorganics
  - Ammonia: 4 out of 6 samples >NHMRC (2008) 50 µg/L. One sample (LAW_LL_ESSW03) reported a concentration of 1,000 µg/L which is above the ANZECC (2000) FW 95% (900 µg/L);
  - Chloride: 1 out of 6 samples >Recreational Water & Aesthetics – 400 mg/L (maximum 46 000 mg/L);
  - Sodium: 2 out of 6 samples >Recreational Water & Aesthetics – 300 mg/L (maximum 8900 mg/L);
  - Sulphate: 6 out of 6 samples >Recreational Water & Aesthetics – 400 mg/L (maximum 35 000 mg/L).

13.3.3 Surface Water from LL adjacent the Northern Peninsula

ES reported PFAS in one of the two LL surface water samples collected from the north-eastern side of the Northern Peninsula firefighting area, immediately northwest of AEC 105. PFAS was detected in the form of PFOS in a concentration equal to the SWAC for Ecological Protection (95% Species - Moderately Disturbed); WA Interim PFAS Guidelines 2016: 0.13 µg/L (L_P_ESSW01). As outlined above, ES have been informed by AGLM that "*to the best of AGLM's knowledge and belief, no PFOS has been used anywhere on BPS or LPS post-Completion*". Based on this information ES consider the detected PFOS concentration at L_P_ESSD01 to be Pre-Existing Contamination.

13.3.4 Salinity

ERM did not report analytical salinity concentrations within LL as part of the previous assessment (**Ref.6**). Concentrations within both deep and shallow surface water samples collected from within LL during the LL APECS ranged from 780 to 1600 mg/L. The mean concentration of 1153 mg/L exceeds the adopted acceptance criteria.

ES also reported a maximum salinity concentration within LL of 30 000 mg/L, collected from the outlet of Discharge Point 4 (Chemical drain) which emanates from the LPS (refer to Section 5.3). The Chemical Drain discharge point is not licenced under the BPS EPL 779 or the LPS EPL 2122.

All of the infrastructure and activities in and around LL were present and occurring at, or prior to, Completion. Accordingly, ES considers that the salinity in surface water in LL predominantly constitutes Pre-existing Contamination.

13.3.5 Ammonia

As summarised in Section 13.3.1, Ammonia was reported in concentrations above the SWAC from samples collected during the LL APECS. All of the infrastructure and activities in and around LL were present and occurring at, or prior to, Completion. Accordingly, ES considers that the ammonia in surface water in LL predominantly constitutes Pre-existing Contamination.

13.3.6 Edible Aquatic Species

The Edible Aquatic Species Assessment completed as part of the LL APECS concluded that:

> "*Sampling at LL collected eight fish from three different species. All fish were greater than 10 months old and would have been alive on 2 September 2014* (Completion)*, when the Liddell and BPSs were purchased by AGL Macquarie. All fish had concentrations of selenium that exceeded the maximum recommended concentration set by Food Standards Australia and New Zealand."*

All of the infrastructure and activities in and around LL were present and occurring at, or prior to, Completion. Accordingly, ES considers that all of the selenium detected in fish in LL constitutes Pre-existing Contamination.

14 References

The following references were used in the preparation of this report:

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2. https://www.agl.com.au/about-agl/how-we-source-energy/thermal-energy/agl-macquariehttps://www.agl.com.au/about-agl/how-we-source-energy/thermal-energy/agl-macquarie (Accessed 2015).
3. AGLM *Specification: Additional Pre-Existing Contamination Study, Bayswater and LPSs, April 2015.*
4. ERM (October 2013) *BPS, Preliminary Environmental Site Assessment. Macquarie Generation – Project Symphony. Ref 0213879RP01_DRAFT Rev02.*
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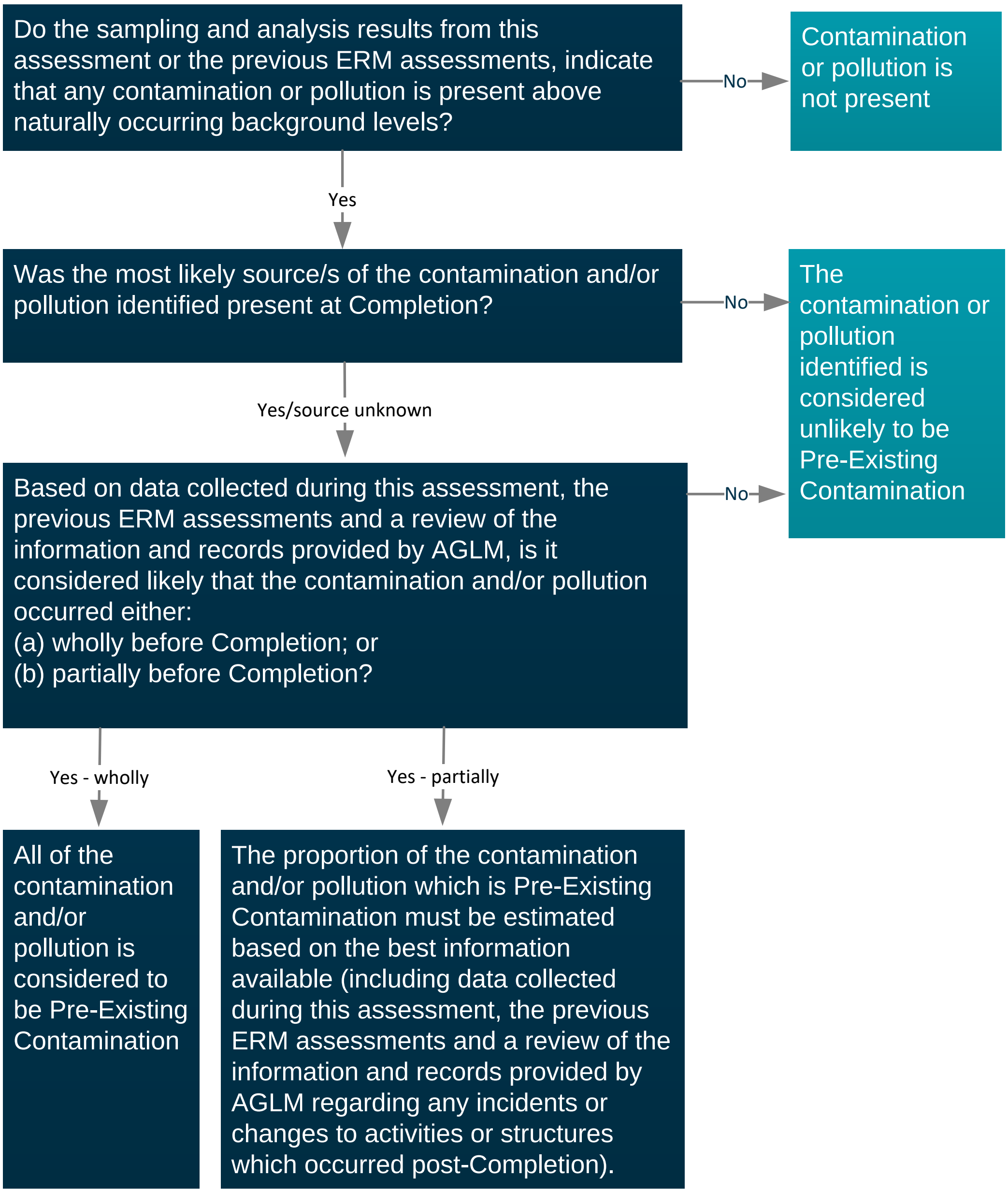
APPENDIX A – AIC Summaries (Not Applicable)

APPENDIX B – Pre-Existing Contamination Decision Process

Pre-Existing Contamination Decision Process



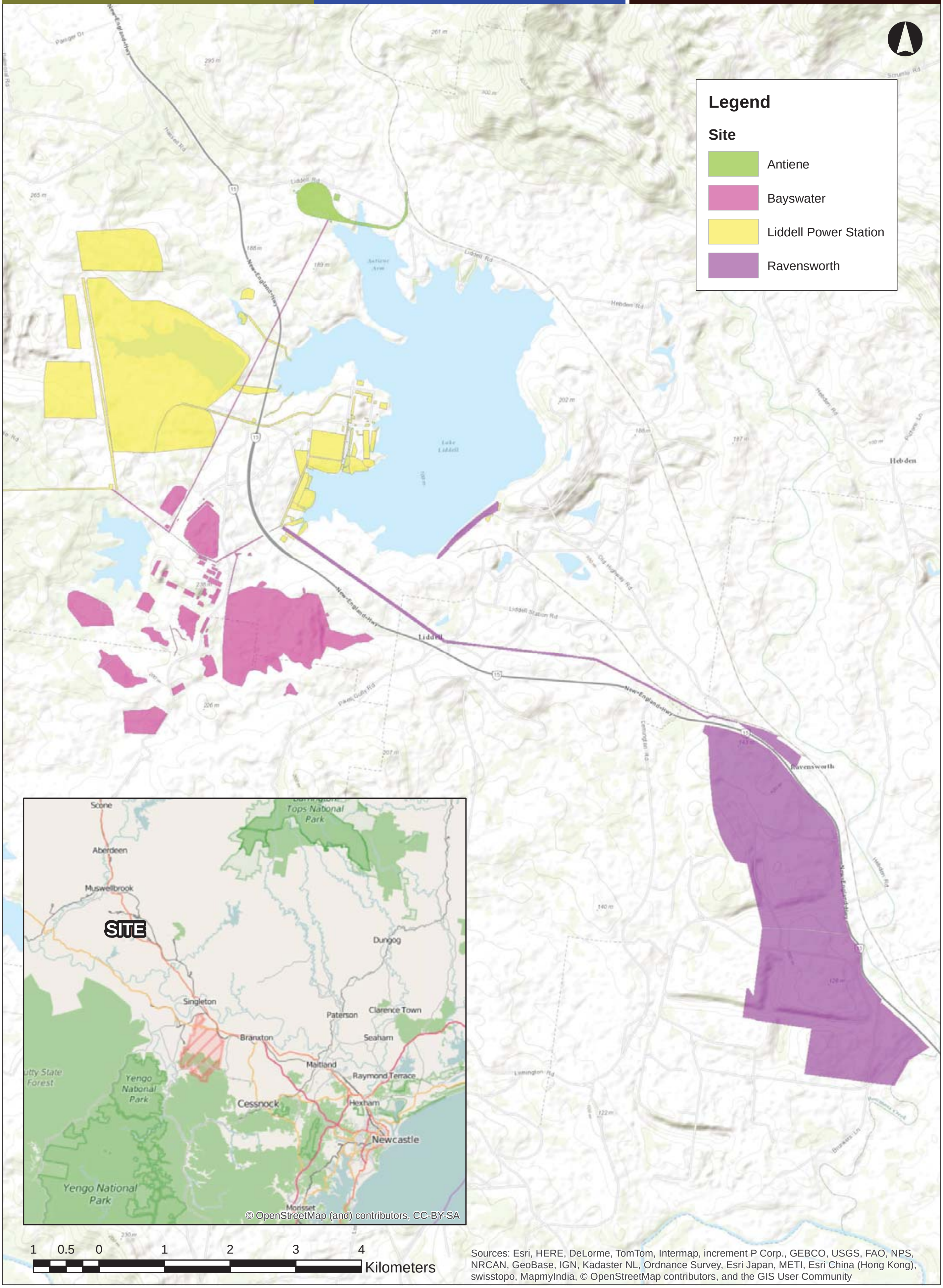
APPENDIX C – Figures

Figure 1

Site Location

Pre-Existing Contamination Study
Lake Liddell NSW

15106 LL APECS



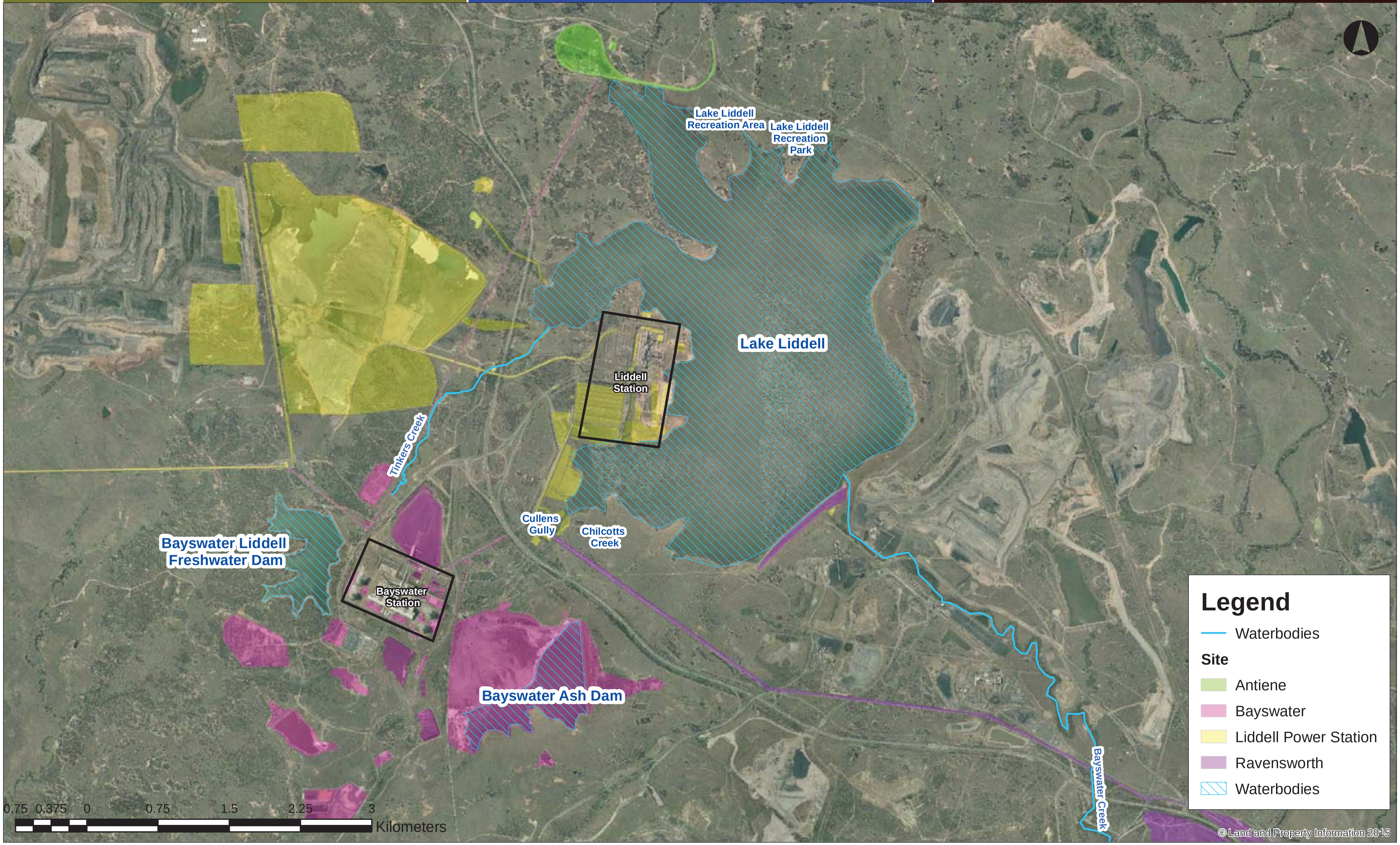
[Job number], 3/03/2016 version [1]

Figure 2

Site Layout

Pre-Existing Contamination Study
Lake Liddell NSW

15106 LL APECS



[Job number], 3/03/2016 version [1]

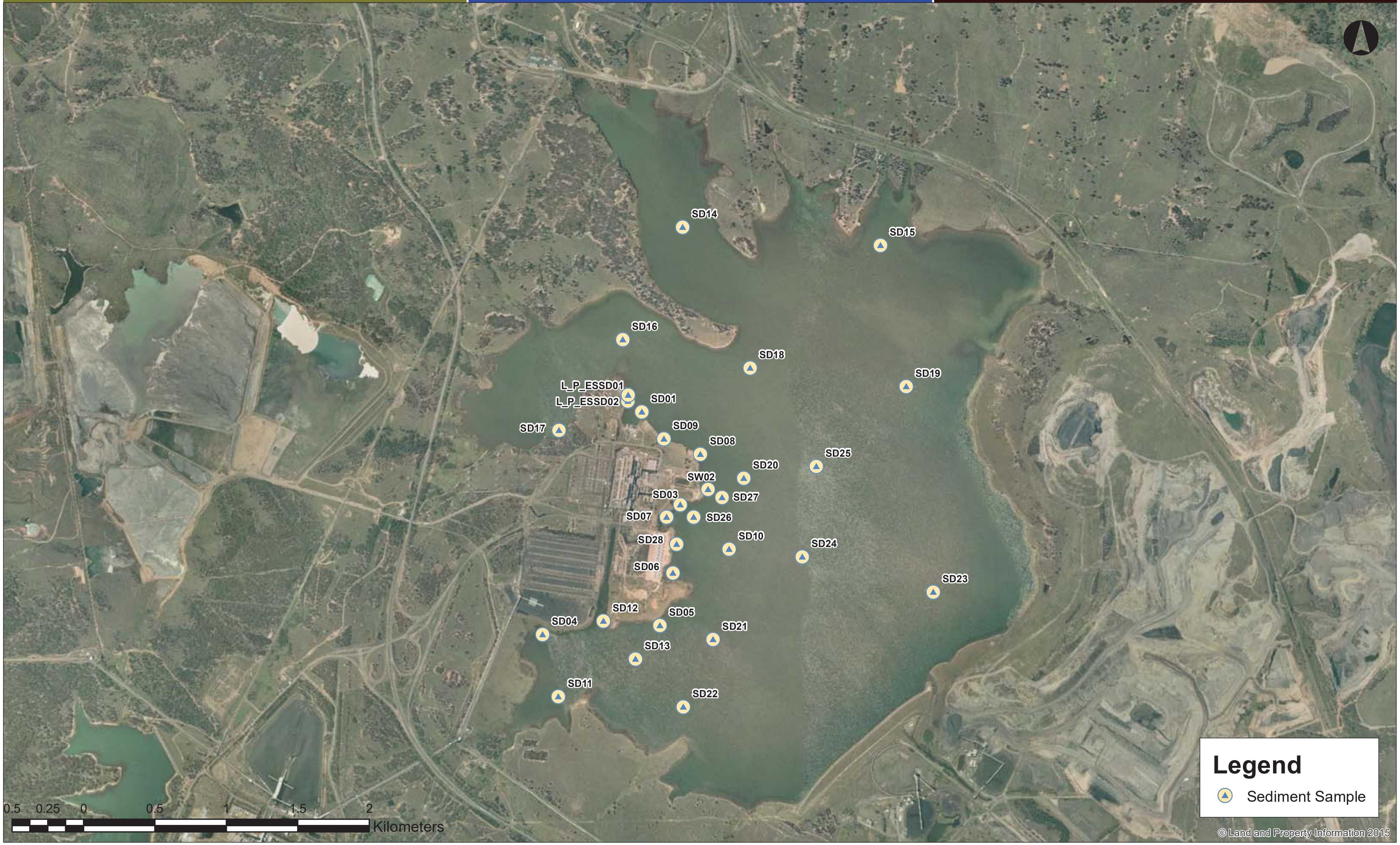
Figure

3

LL ES Sediment Sampling Locations

Pre-Existing Contamination Study
Lake Liddell NSW

15106 LL APECS



[Job number], 15-Nov-16 version [1]

Figure 4

LL ES Surface Water Sampling Locations

Pre-Existing Contamination Study
Lake Liddell NSW

15106 LL APECS

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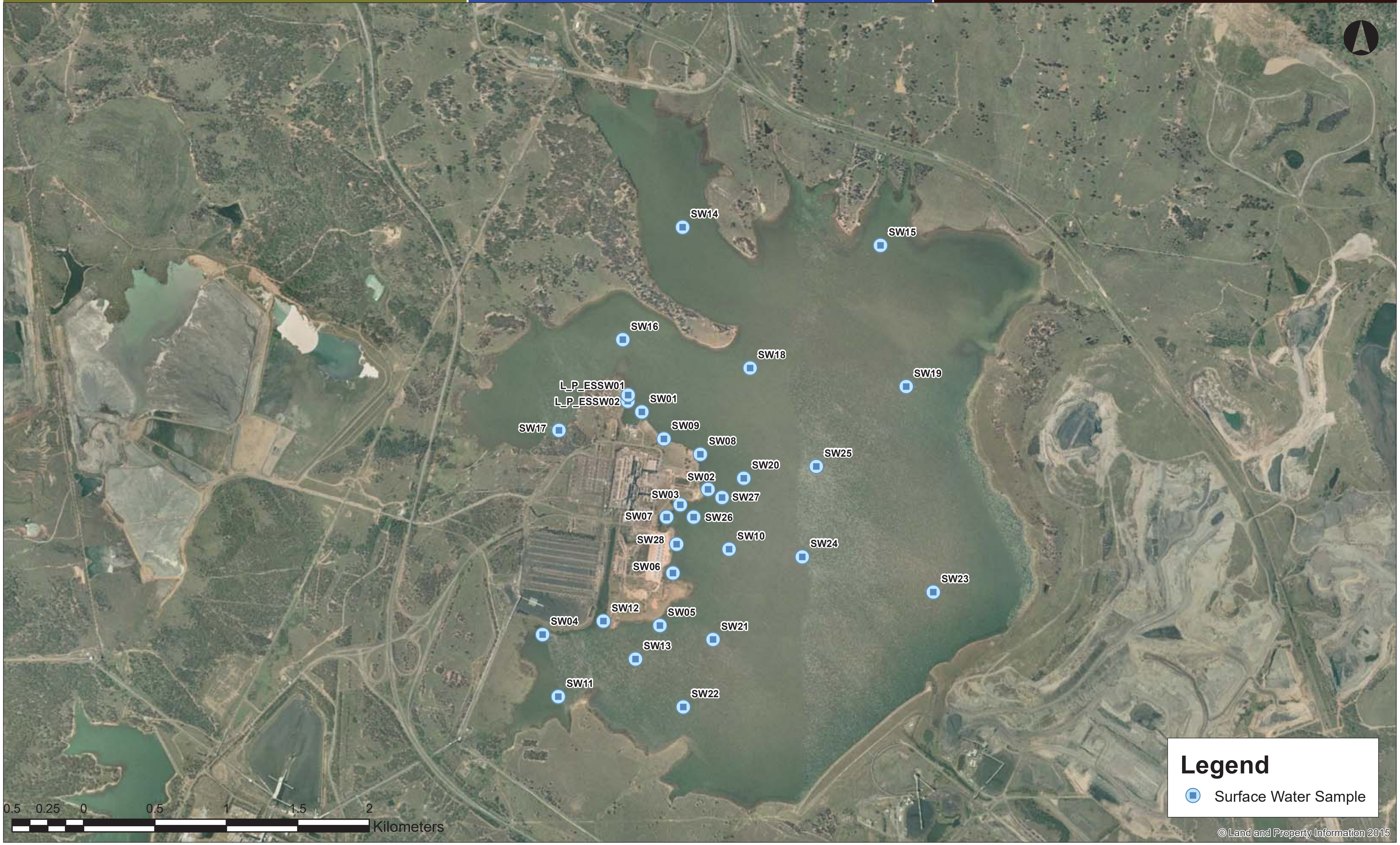

[Job number], 15-Nov-16 version [1]

Figure 5

AEC LL Locations

Pre-Existing Contamination Study
Lake Liddell NSW

15106 LL APECS

[15106], 3/03/2016 version [1]

Figure

6

LPS Discharge Points

Pre--Existing Contamination Study
Lake Liddell NSW

15106 LL APECS

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[Job number], 8/03/2016 version [1]

Figure 7

TPH C6-C10 Distribution Map

Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

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[Job number], 2/02/2016 version [1]

Figure 8

Low Molecular Weight PAH Distribution Map

Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

[Job number], 2/02/2016 version [1]

Figure 9

High Molecular Weight PAH Distribution Map

Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

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[Job number], 2/02/2016 version [1]

Figure 10

Total PAH Distribution Map

Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

[Job number], 1/02/2016 version [1]

Figure 11

Arsenic Distribution Map

Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

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[Job number], 1/02/2016 version [1]

Figure

12

Copper Distribtion Map

Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

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Figure 13

Mercury Distribution Map

Pre-Existing Contamination Study
Lake Liddell NSW
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Figure 14

Nickel Distribution Map

Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

[Job number], 1/02/2016 version [1]

Figure

15

Acenaphthene Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
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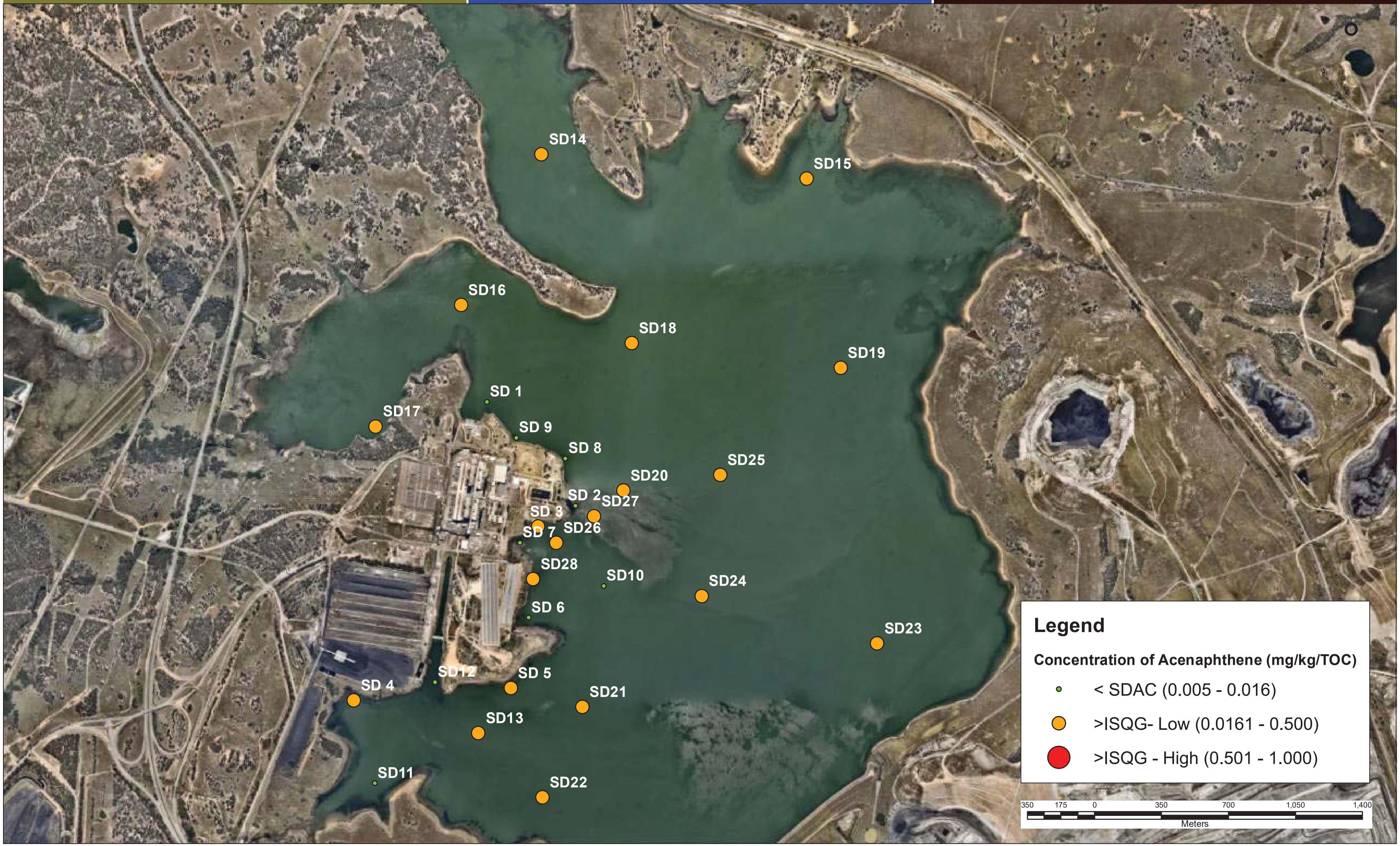

[Job number], 2/02/2016 version [1]

Figure 16

Acenaphthylene Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

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[Job number], 2/02/2016 version [1]

Figure

17

Anthracene Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

[Job number], 2/02/2016 version [1]

Figure 18

Benz(a)anthracene Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

[Job number], 2/02/2016 version [1]

Figure 19

Benzo(a)pyrene Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

[Job number], 2/02/2016 version [1]

Figure 20

Chrysene Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

[Job number], 2/02/2016 version [1]

Figure

21

Dibenz(a,h)anthracene Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

[Job number], 2/02/2016 version [1]

Figure 22

Fluorathene Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

[Job number], 2/02/2016 version [1]

Figure

23

Fluorene Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
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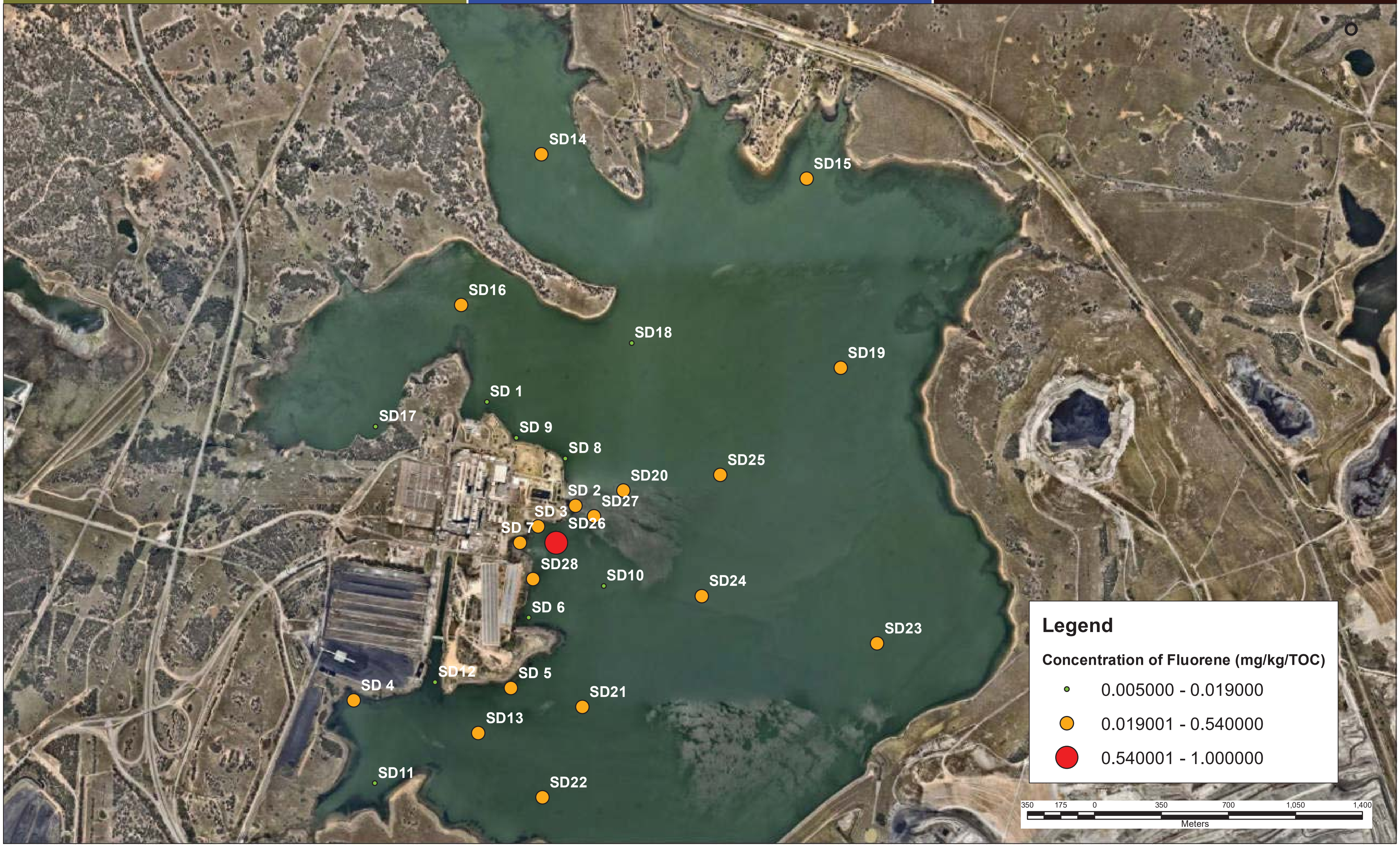

[Job number], 2/02/2016 version [1]

Figure

24

Napthalene Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

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[Job number], 2/02/2016 version [1]

Figure 25

Pyrene Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

[Job number], 2/02/2016 version [1]

Figure 26

Phenanthrene Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

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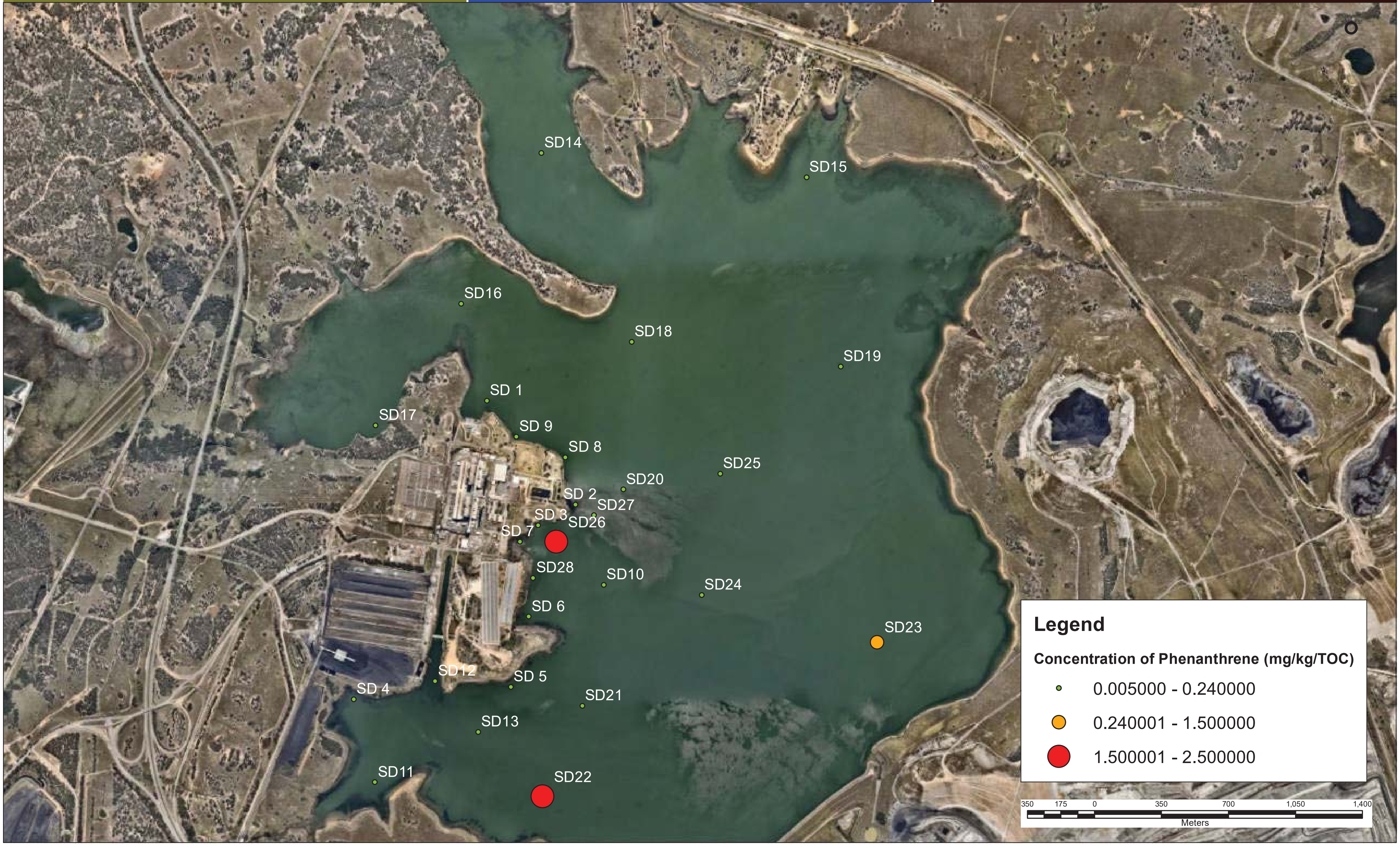

[Job number], 2/02/2016 version [1]

Figure 27

Low Molecular Weight PAHs Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

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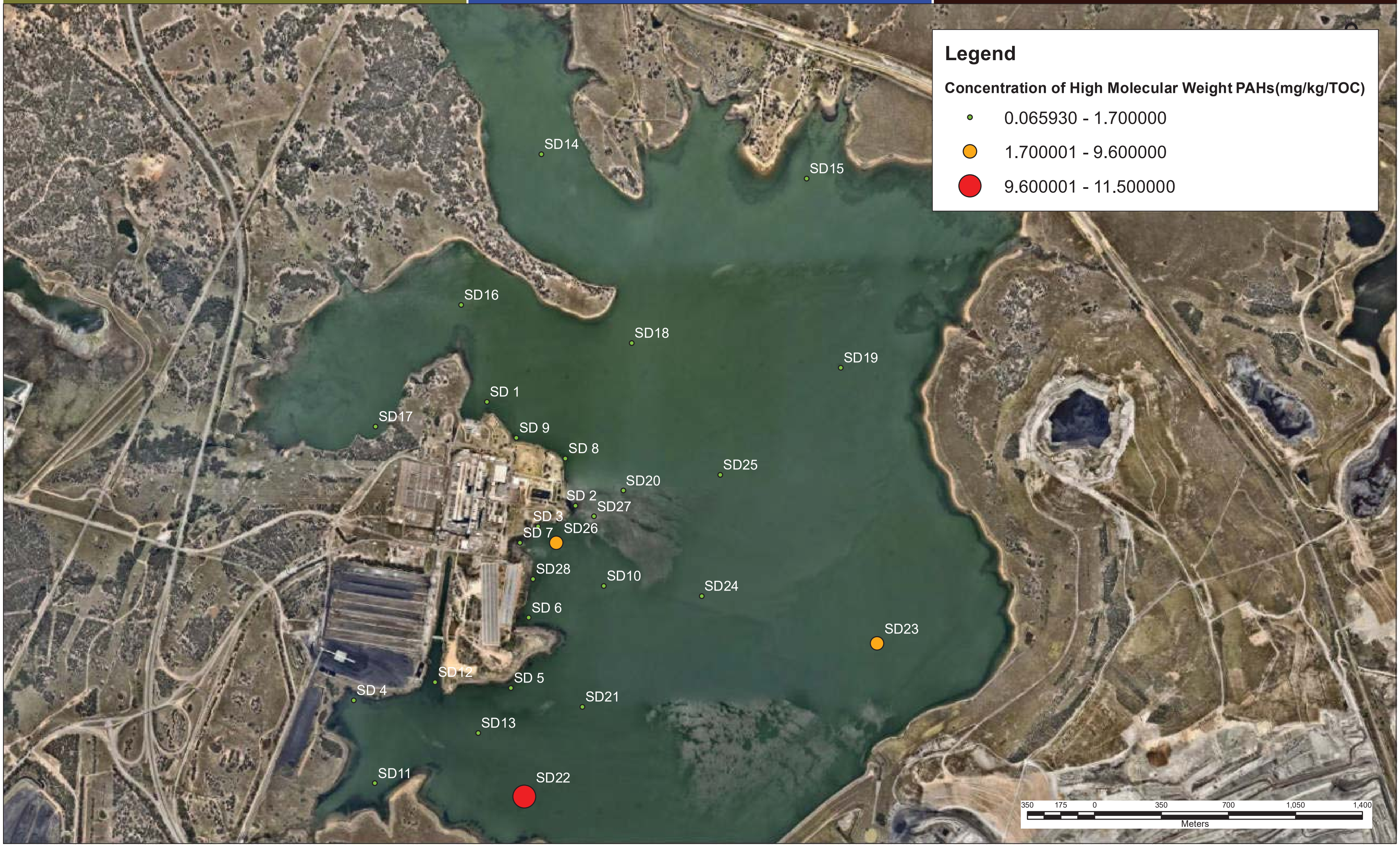
[Job number], 2/02/2016 version [1]

Figure 28

High Molecular Weight PAH Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS



[Job number], 2/02/2016 version [1]

Figure 29

Total PAHs Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

[Job number], 1/02/2016 version [1]

Figure

30

Total Recoverable Hydrocarbons Distribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

[Job number], 1/02/2016 version [1]

Figure
31

Total Recoverable HydrocarbonsDistribution Map
TOC Normalised
Pre-Existing Contamination Study
Lake Liddell NSW
15106 LL APECS

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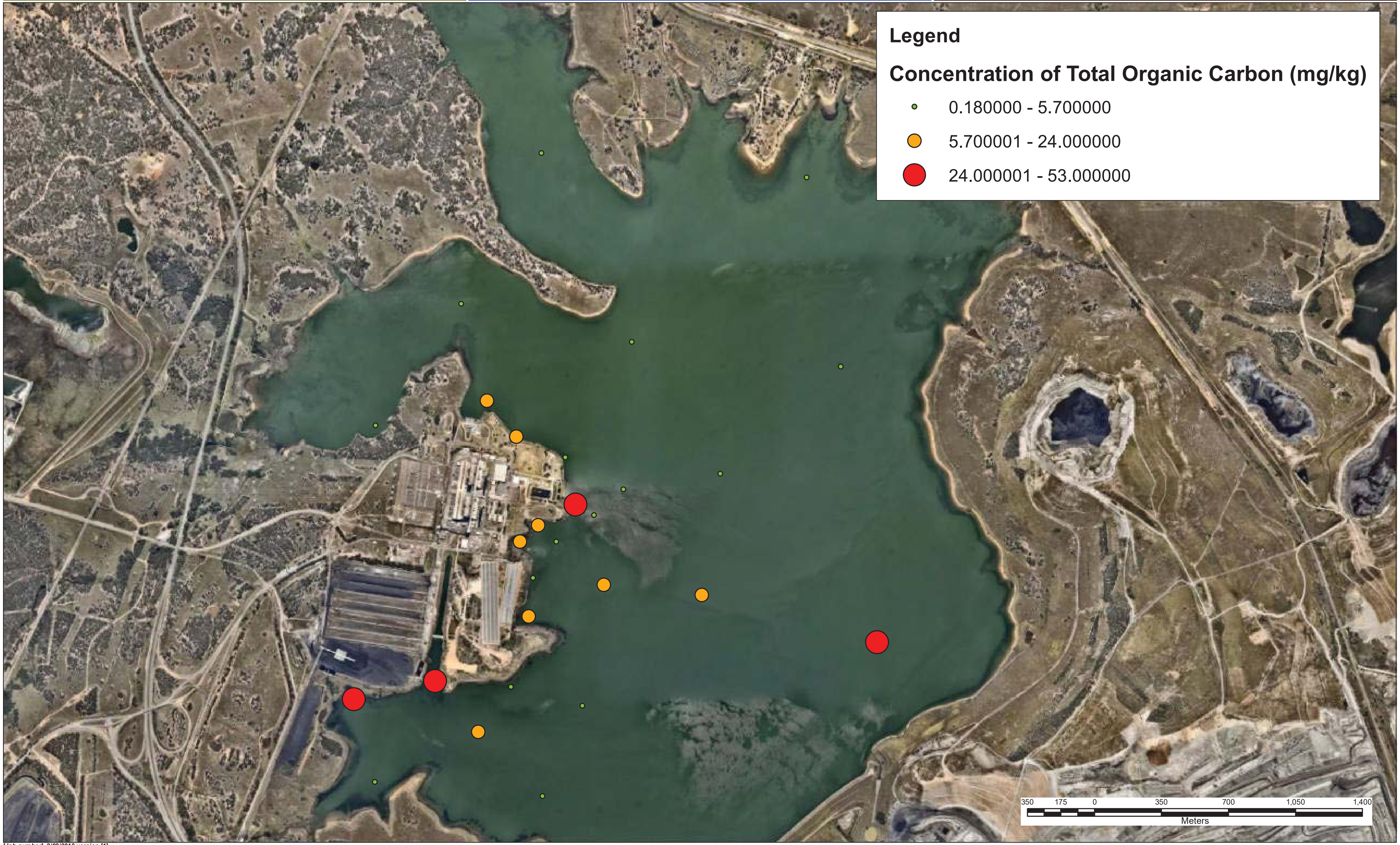

[Job number], 2/02/2016 version [1]

APPENDIX D – Summary Results Tables

Table 1 LL Sediment Analytical Results

Metals and Metalloids

Site_ID	Field_ID	Location	Date	Sediment Description	Arsenic	Boron	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Selenium	Zinc
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					1	5	0.3	0.3	0.5	1	0.01	0.5	3	0.5
NEPM 2013 Table B(7) Management Limits														
NEPM 2013 Table 1A(1) HIL-C					300	20000	90	300	17000	600	80	1200	700	30000
NAGD 2009														
ISQG-High					70		10	370	270	220	1	52		410
ISQG-Low					20		1.5	80	65	50	0.15	21		200
Lake Liddell	SD1 0.15-0.25	SD01	11/08/2015	Muddy SAND - grey, firm, fine grained, well sorted	3	<5	<0.3	4.7	25	7	0.1	3.7	<3	23
Lake Liddell	SD1 0-0.1	SD01	11/08/2015	Muddy SAND - grey, firm, fine grained, well sorted	3	<5	<0.3	5	21	6	0.07	4.2	<3	21
Lake Liddell	SD2 0-0.1	SD02	11/08/2015	SAND - dark grey, coarse grained, gastropod shells to 1mmØ	13	6	<0.3	6.3	37	10	0.13	12	<3	70
Lake Liddell	SD2 0.15-0.24	SD02	11/08/2015	Muddy SAND - grey, firm, fine grained, very well sorted, rootlet	5	5	<0.3	5.2	34	11	0.13	4.7	<3	40
Lake Liddell	SD3 0.25-0.32	SD03	11/08/2015	Muddy SAND - grey, firm, fine grained, well sorted, organic matter, rootlets, hydrocarbon odour	8	<5	0.4	7.9	33	13	0.11	9.8	3	49
Lake Liddell	SD3 0-0.1	SD03	11/08/2015	SAND - dark grey, coarse grained, gravel to 5mmØ, fibrous organic material	11	<5	<0.3	5.2	12	17	0.05	10	<3	30
Lake Liddell	SD4 0.15-0.25	SD04	12/08/2015	MUD, black, soil odour	6	6	<0.3	5.4	47	14	0.06	8.6	<3	49
Lake Liddell	SD4 0-0.08	SD04	12/08/2015	SAND, black, fine grained, well sorted, soil odour	12	11	<0.3	4.8	38	8	0.05	14	4	44
Lake Liddell	SD5 0-0.05	SD05	12/08/2015	Muddy SAND - grey, fine grained, fibres, gastropod shells, soil odour.	10	<5	<0.3	9.6	27	6	0.02	11	<3	26
Lake Liddell	SD6 0.15-0.25	SD06	12/08/2015	Muddy SAND / Sandy MUD - brown grey, fine grained, organic matter, gastropod shells, soil odour.	13	<5	<0.3	11	110	11	0.18	13	8	74
Lake Liddell	SD6 0-0.1	SD06	12/08/2015	Muddy SAND / Sandy MUD - brown grey, fine grained, organic matter, gastropod shells, soil odour.	13	<5	<0.3	8.4	47	8	0.06	14	4	46
Lake Liddell	SD7 0-0.06	SD07	12/08/2015	SAND - light brown with black, fine grained, organic odour.	9	<5	<0.3	8.4	12	9	0.34	8.5	<3	24
Lake Liddell	SD7 0.15-0.25	SD07	12/08/2015	MUD - dark grey / black, slight hydrocarbon odour.	18	38	<0.3	13	71	19	1.4	12	4	67
Lake Liddell	SD8 0-0.1	SD08	12/08/2015	Muddy SAND - grey, medium grained, abundant gastropod shells, gravels, soil odour.	23	<5	<0.3	13	50	11	0.05	20	<3	75
Lake Liddell	SD8 0.15-0.25	SD08	12/08/2015	Muddy SAND - grey, medium grained, abundant gastropod shells, gravels, soil odour.	16	<5	<0.3	9.3	47	9	0.08	15	4	64
Lake Liddell	SD9 0-0.1	SD09	12/08/2015	SAND - grey, fine grained, gravel, soil odour.	10	6	<0.3	5.1	29	9	0.06	8.5	4	32
Lake Liddell	SD9 0.15-0.25	SD09	12/08/2015	SAND - grey, fine grained, gravel, soil odour.	3	5	<0.3	3.8	8.1	9	0.09	2.7	<3	15
Lake Liddell	SD10 0-0.12	SD10	12/08/2015	MUD - dark grey, soil odour	24	7	<0.3	17	120	15	0.24	21	9	68
Lake Liddell	SD10 0.14-0.26	SD10	12/08/2015	MUD - dark grey, soil odour	23	7	<0.3	20	290	20	0.47	26	20	130
Lake Liddell	SD11 0.15-0.25	SD11	12/08/2015	MUD - grey, soil odour.	14	9	<0.3	24	71	10	0.08	31	5	51
Lake Liddell	SD11 0-0.10	SD11	12/08/2015	MUD - grey, soil odour.	13	9	<0.3	21	67	9	0.07	29	3	49
Lake Liddell	SD12 0-0.5	SD12	13/08/2015	Coal Fragments, black, minor gravel, trace fine grained sand.	9	<5	<0.3	1.4	12	10	0.01	8.8	<3	41
Lake Liddell	SD13 0-0.02	SD13	15/08/2015	MUD - dark grey, rootlets, soil odour.	24	9	0.3	19	190	14	0.22	29	11	96
Lake Liddell	SD14 0.15-0.25	SD14	13/08/2015	SAND - light brown, fine to medium grained, gastropod shells, gravels, soil odour.	5	<5	<0.3	7.3	3.4	7	<0.01	4	<3	9.6
Lake Liddell	SD14 0-0.1	SD14	13/08/2015	SAND - light brown, fine to medium grained, gastropod shells, gravels, soil odour.	6	<5	<0.3	6.8	9.3	6	0.01	5.1	<3	12
Lake Liddell	SD15 0-0.04	SD15	13/08/2015	MUD - dark grey, abundant gastropod shells, organic matter, soil odour.	21	7	<0.3	9.3	42	8	0.03	14	4	27
Lake Liddell	SD16 0.15-0.25	SD16	13/08/2015	Muddy SAND - dark brown, lighter colour with depth, minor rootlets, soil odour.	2	<5	<0.3	6.5	2.5	5	<0.01	2.5	<3	5.8
Lake Liddell	SD16 0-0.1	SD16	13/08/2015	Muddy SAND - dark brown, lighter colour with depth, minor rootlets, soil odour.	5	<5	<0.3	8.7	9.5	6	0.01	5	<3	11
Lake Liddell	SD17 0.15-0.25	SD17	13/08/2015	MUD - grey, soil odour.	12	5	<0.3	17	140	10	0.27	18	11	72
Lake Liddell	SD17 0-0.1	SD17	13/08/2015	MUD - grey, soil odour.	21	7	0.3	22	350	8	0.15	26	10	110
Lake Liddell	SD18 0-0.18	SD18	14/08/2015	MUD - brown and yellow layer, a gastropod shell, soil odour.	6	<5	<0.3	5.9	12	7	0.01	7	<3	13
Lake Liddell	SD19 0-0.01	SD19	14/08/2015	MUD - brown, anhydrous layer, gastropod shells, soil odour.	21	10	<0.3	16	100	12	0.06	32	5	66
Lake Liddell	SD19 0.02-0.09	SD19	14/08/2015	Silty CLAY - grey brown, stiff, medium plasticity, organic matter, rootlets, soil odour.	12	<5	<0.3	8.1	13	11	0.03	10	<3	27
Lake Liddell	SD20 0-0.02	SD20	14/08/2015	MUD - grey and brown, minor gastropod shells, organic odour	13	<5	<0.3	10	67	9	0.09	14	<3	40
Lake Liddell	SD21 0-0.03	SD21	14/08/2015	MUD, grey brown, coal fragments, occasional gastropod shells, soil odour.	17	8	<0.3	23	100	13	0.09	25	5	52
Lake Liddell	SD22 0-0.05	SD22	14/08/2015	MUD - grey brown, occasional gastropod shells, soil odour.	20	8	<0.3	20	81	14	0.12	23	4	59
Lake Liddell	SD23 0-0.1	SD23	14/08/2015	MUD - grey brown, anoxic odour.	22	16	0.4	26	190	18	0.1	41	17	78
Lake Liddell	SD23 0.15-0.21	SD23	14/08/2015	Muddy SAND - light brown, fine grained, well sorted, rootlets, soil odour, (potentially pre lake).	2	<5	<0.3	7.2	4.2	7	0.01	4.4	<3	8.9
Lake Liddell	SD24 0-0.04	SD24	14/08/2015	MUD - grey brown, soil odour.	20	12	0.4	24	170	17	0.15	33	14	77
Lake Liddell	SD24 0.1-0.2	SD24	14/08/2015	Muddy SAND - grey brown, stiff, medium plasticity, rootlets, soil odour.	5	<5	<0.3	15	16	12	0.01	8	<3	11
Lake Liddell	SD25 0.15-0.25	SD25	15/08/2015	Sandy MUD - light brown, soil odour.	3	<5	<0.3	6.3	3.6	6	0.02	5.1	<3	11
Lake Liddell	SD25 0.4-0.5	SD25	15/08/2015	Sandy CLAY - grey with grey brown mottling, soil odour.	4	<5	<0.3	8.7	5.9	9	<0.01	4.5	<3	12
Lake Liddell	SD25 0-0.1	SD25	15/08/2015	MUD - dark grey, hydrous, minor organic matter, soil odour. And Sandy MUD - light brown, soil odour.	3	<5	<0.3	6.5	8.4	7	0.02	7.5	<3	22
Lake Liddell	SD26 0-0.05	SD26	15/08/2015	Muddy SAND - grey, fine grained, well sorted, soil odour.	22	8	<0.3	11	110	13	0.57	16	7	72
Lake Liddell	SD27 0-0.04	SD27	15/08/2015	Muddy SAND - grey, fine grained, abundant gastropod shells, soil odour.	22	5	<0.3	12	76	13	0.09	18	3	65
Lake Liddell	SD28 0-0.02	SD28	15/08/2015	Muddy SAND - brown grey, fine grained, organic matter, roots, soil odour.	12	10	<0.3	6.4	26	4	0.02	9.6	4	26

PAHs - Not Normalised (all mg/kg)

Field_ID	Benzo(b+j)fluoranthene - Not Normalised	1-Methylnaphthalene - Not Normalised	2-methylnaphthalene - Not Normalised	Acenaphthene - Not Normalised	Acenaphthylene - Not Normalised	Anthracene - Not Normalised	Benz(a)anthracene	Benzo(a) pyrene - Not Normalised	Benzo(g,h,i)perylene - Not Normalised	Benzo(k)fluoranthene - Not Normalised	Chrysene - Not Normalised	Dibenz(a,h)anthracene - Not Normalised	Carcinogenic PAHs (as B(a)P TPE) - Not Normalised	Carcinogenic PAHs (as B(a)P TPE, PEFx3) - Not Normalised	Fluoranthene - Not Normalised	Fluorene - Not Normalised	Indeno(1,2,3-c,d)pyrene - Not Normalised	Naphthalene - Not Normalised	PAHs (Sum of total) - Not Normalised	Phenanthrene - Not Normalised	Low molecular weight PAHs - Not Normalised	High molecular weight PAHs - Not Normalised	Pyrene - Not Normalised
EQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			0.1	0.1	0.1	0.1	0.8	0.1			0.1
NEPM 2013 Table B(7) Management Limits																							
NEPM 2013 Table 1A(1) HIL-C													3	3					300				
NAGD 2009																							
ISQG-High				0.5	0.64	1.1	1.6	1.6			2.8	0.26			5.1	0.54		2.1	45	1.5	3.16	9.6	2.6
ISQG-Low				0.016	0.044	0.085	0.261	0.43			0.384	0.063			0.6	0.019		0.16	4	0.24	0.552	1.7	0.665
SD1 0.15-0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD1 0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD2 0-0.1	<0.4	0.4	0.6	<0.1	<0.1	<0.1	<0.5	<0.2	<0.2	<0.2	<0.5	<0.1	<1	<1.5	1	<0.5	<0.1	<0.1	<4	0.7	1.75	2.25	0.6
SD2 0.15-0.24	<0.2	0.4	0.5	<0.1	<0.1	<0.1	<0.2	<0.2	<0.1	<0.2	<0.2	<0.1	<0.4	<0.6	0.2	<0.2	<0.1	<0.1 - 0.2	<1.6	<0.2	1.05	0.65	<0.2
SD3 0.25-0.32	<0.3	1.1	2.1	<0.5	<0.1	<0.5	<0.4	<0.1	<0.2	<0.2	<0.3	<0.1	<0.4	<0.6	0.8	<0.5	<0.1	<0.1	5.1	0.6	3.55	1.75	0.5
SD3 0-0.1	<0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.35	<0.1
SD4 0.15-0.25	<0.5	0.4	0.6	<0.1	<0.1	<0.1	0.8	0.2	0.2	0.3	0.7	<0.1	0.5	0.5	1.9	<0.1	0.2	<0.1 - 0.3	8.5	1	2.20	5.75	1.2
SD4 0-0.08	<0.6	<0.5	<0.5	<0.5	<0.1	<0.5	0.9	0.3	0.2	0.2	0.9	<0.1	0.5	0.6	2.2	<0.5	0.1	<0.1	7.9	1.1	2.10	4.85	1.4
SD5 0-0.05	<0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD6 0.15-0.25	<0.8	0.1	0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.4	<0.6	0.3	<0.1	<0.1	<0.1	<1.6	0.2	0.65	0.8	0.2
SD6 0-0.1	<0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	0.2	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.45	<0.1
SD7 0-0.06	<0.13	0.3	0.4	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	0.1	0.3	<0.1	<0.2	<0.3	0.7	<0.1	<0.1	<0.1 - 0.2	3.9	0.5	1.30	1.9	0.4
SD7 0.15-0.25	<0.11	2.5	4.4	<0.1	<0.1	0.2	0.4	0.2	0.2	0.2	0.5	<0.1	0.4	0.4	1.1	<1	0.1	<0.1 - 0.9	14	1.5	7.60	3.05	0.8
SD8 0-0.1	<0.15	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	0.2	<0.1	<0.1	<0.1	1	<0.1	0.35	0.5	0.1
SD8 0.15-0.25	<0.14	0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	0.2	<0.1	<0.1	<0.1	1.3	0.1	0.45	0.55	0.1
SD9 0-0.1	<0.18	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	0.2	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.5	0.1
SD9 0.15-0.25	<0.16	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD10 0-0.12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	0.2	<0.1	<0.1	<0.1	<0.8	0.1	0.40	0.5	0.1
SD10 0.14-0.26	0.2	0.2	0.2	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.2	<0.1	<0.2	<0.3	0.5	0.1	<0.1	<0.1 - 0.1	2.4	0.3	0.85	1.3	0.3
SD11 0.15-0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	0.3	<0.1	<0.1	<0.1	1.3	0.2	0.50	0.8	0.2
SD11 0-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	0.1	<0.1	0.4	0.4	0.2	<0.1	<0.1	<0.1	1.3	0.2	0.50	0.8	0.1
SD12 0-0.5	0.3	0.5	0.6	<0.1	<0.1	0.1	0.6	0.1	0.1	0.2	0.6	<0.1	0.3	0.4	1.5	<0.1	<0.1	<0.1 - 0.3	7	1	2.15	3.75	0.9
SD13 0-0.02	0.5	0.3	0.4	0.2	<0.1	0.1	0.7	0.2	0.2	0.2	0.6	<0.1	0.4	0.5	1.5	0.2	0.1	<0.1 - 0.2	7.4	0.9	2.05	4.15	1.1
SD14 0.15-0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD14 0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD15 0-0.04	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD16 0.15-0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD16 0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD17 0.15-0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.35	<0.1
SD17 0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	0.1	<0.1	<0.1	<0.1	0.8	0.1	0.40	0.45	0.1
SD18 0-0.18	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD19 0-0.01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD19 0.02-0.09	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD20 0-0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD21 0-0.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	0.3	<0.1	<0.1	<0.1	1.4	0.2	0.50	0.8	0.2
SD22 0-0.05	0.3	<0.1	0.1	<0.1	<0.1	<0.1	0.4	0.1	<0.1	0.1	0.3	<0.1	0.2	<0.3	0.8	<0.1	<0.1	<0.1	3.6	0.5	0.85	2.25	0.6
SD23 0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD23 0.15-0.21	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD24 0-0.04	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.1	0.2	<0.1	<0.2	<0.3	0.4	0.1	<0.1	<0.1	2.2	0.3	0.35	0.3	0.3
SD24 0.1-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.70	1.2	<0.1
SD25 0.15-0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD25 0.4-0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD25 0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD26 0-0.05	<1	<0.5	0.8	<0.5	<0.1	<0.5	1.1	0.3	0.2	<0.5	0.8	<0.1	<1	<1.5	2.1	0.5	<0.2	<0.1	11	1.3	3.20	5.95	1.6
SD27 0-0.04	<0.1	0.1	0.2	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	0.3	0.1	<0.1	<0.1 - 0.1	2.2	0.3	0.85	1	0.3
SD28 0-0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1

Statistical Summary

Statistic	Arsenic	Boron	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Selenium	Zinc
Number of Results	46	46	46	46	46	46	46	46	46	46
Number of Detects	46	23	5	46	46	46	43	46	23	46
Minimum Concentration	2	<5	<0.3	1.4	2.5	4	<0.01	2.5	<3	5.8
Minimum Detect	2	5	0.3	1.4	2.5	4	0.01	2.5	3	5.8
Maximum Concentration	24	38	0.4	26	350	20	1.4	41	20	130
Maximum Detect	24	38	0.4	26	350	20	1.4	41	20	130
Average Concentration	12	5.9	0.17	11	64	10	0.13	14	4.3	45
Median Concentration	12	3.75	0.15	8.7	37.5	9.5	0.07	11.5	2.25	42.5
Standard Deviation	7.2	5.9	0.068	6.5	75	3.8	0.22	9.6	4.4	29
Number of Guideline Exceedances	12	0	0	0	17	0	10	11	0	0
Number of Guideline Exceedances(Detects Only)	12	0	0	0	17	0	10	11	0	0

Statistic	Benzo(b+j)fluoranthene	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Carcinogenic PAHs (as B(a)P TPE)	Carcinogenic PAHs (as B(a)P TPE, PEFx3)	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Low molecular weight PAHs	High molecular weight PAHs	Pyrene
Number of Results	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Number of Detects	5	12	15	1	0	3	15	8	6	8	14	0	7	6	26	5	4	8	18	20	46	46	22
Minimum Concentration	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
Minimum Detect	0.1	0.1	0.1	0.2	ND	0.1	0.1	0.1	0.1	0.1	0.1	ND	0.2	0.4	0.1	0.1	0.1	ND	0.8	0.1	0.35	0.3	0.1
Maximum Concentration	<1	2.5	4.4	<0.5	<0.1	<0.5	1.1	0.3	0.2	<0.5	0.9	<0.1	<1	<1.5	2.2	<1	0.2	0.9	14	1.5	7.6	5.95	1.6
Maximum Detect	0.5	2.5	4.4	0.2	ND	0.2	1.1	0.3	0.2	0.3	0.9	ND	0.5	0.6	2.2	0.5	0.2	0.9	14	1.5	7.6	5.95	1.6
Average Concentration	0.12	0.18	0.28	0.066	0.05	0.068	0.18	0.08	0.07	0.079	0.16	0.05	0.17	0.23	0.4	0.09	0.058	0.071	2.1	0.27	0.92	1.1	0.27
Median Concentration	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.15	0.15	0.05	0.05	0.05	0.4	0.05	0.35	0.45	0.075
Standard Deviation	0.12	0.4	0.71	0.054	0	0.054	0.25	0.07	0.048	0.061	0.22	0	0.13	0.16	0.58	0.1	0.026	0.068	3.1	0.38	1.3	1.5	0.39
Number of Guideline Exceedances	0	0	0	46	46	46	10	0	0	0	7	46	0	0	10	46	0	6	7	13	15	10	6
Number of Guideline Exceedances(Detects Only)	0	0	0	1	0	3	8	0	0	0	6	0	0	0	10	5	0	6	7	13	15	10	6

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR for those analytes reported to be <LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated by using have the LOR for C6-C9 fractions which were reported below the LOR

Where a range of Naphthalene values are reported, ES have adopted the highest of these when calculating low molecular weight PAHs

Environmental Strategies
PROVIDING BENEFITS

				Inorganics	BTEX - Not Normalised								TPH - Not Normalised												
				TOC	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 less BTEX (F1)	TRH C37-C40 - Not Normalised	>C10-C16 - Not Normalised	F2-NAPHTHALENE - Not Normalised	>C16-C34 - Not Normalised	>C34-C40 - Not Normalised	C6 - C9 - Not Normalised	C10 - C14 - Not Normalised	C15 - C28 - Not Normalised	C29-C36 - Not Normalised	+C10 - C36 (Sum of total) - Not Normalised	C10 - C40 (Sum of total) - Not Normalised	Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) - Not Normalised	C6-C10 - Not Normalised
				%w/w	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/kg	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				0.02	0.1	0.1	0.1	0.2	0.1	0.3	0.6	25	100000	25	25	90	120	20	20	45	45	110	210		25
NEPM 2013 Table B(7) Management Limits														1000		2500	10000								700
NEPM 2013 Table 1A(1) HIL-C																									
NAGD 2009																								550	
ISQG-High																									
ISQG-Low																									
Site_ID	Field_ID	Location	Date																						
Lake Liddell	SD1 0.15-0.25	SD01	11/08/2015	11	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	100	<120	<20	<20	96	<45	<110	<210	<230	<25
Lake Liddell	SD1 0-0.1	SD01	11/08/2015	9.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	65	<45	<110	<210	<230	<25
Lake Liddell	SD2 0-0.1	SD02	11/08/2015	28	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	120	120	1100	<120	<20	73	900	280	1200	1200	1210	<25
Lake Liddell	SD2 0.15-0.24	SD02	11/08/2015	15	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	160	160	1500	<120	<20	97	1200	430	1700	1700	1710	<25
Lake Liddell	SD3 0.25-0.32	SD03	11/08/2015	17	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	360	360	1500	<120	<20	220	1300	320	1800	1800	1810	<25
Lake Liddell	SD3 0-0.1	SD03	11/08/2015	1.4	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	140	<120	<20	<20	100	<45	<110	<210	<230	<25
Lake Liddell	SD4 0.15-0.25	SD04	12/08/2015	40	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	130	130	710	<120	<20	86	600	160	850	850	860	<25
Lake Liddell	SD4 0-0.08	SD04	12/08/2015	53	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	160	160	920	<120	<20	110	770	220	1100	1100	1110	<25
Lake Liddell	SD5 0-0.05	SD05	12/08/2015	1.4	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD6 0.15-0.25	SD06	12/08/2015	9.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	69	69	550	<120	<20	44	440	150	630	630	640	<25
Lake Liddell	SD6 0-0.1	SD06	12/08/2015	6.8	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	160	<120	<20	<20	130	<45	130	<210	<230	<25
Lake Liddell	SD7 0-0.06	SD07	12/08/2015	9.7	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	51	51	200	<120	<20	34	190	<45	230	230	250	<25
Lake Liddell	SD7 0.15-0.25	SD07	12/08/2015	24	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	480	480	2000	<120	<20	320	1800	510	2600	2600	2610	<25
Lake Liddell	SD8 0-0.1	SD08	12/08/2015	5.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	31	31	260	<120	<20	21	210	65	300	300	320	<25
Lake Liddell	SD8 0.15-0.25	SD08	12/08/2015	4.4	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	46	46	380	<120	<20	28	310	92	430	430	450	<25
Lake Liddell	SD9 0-0.1	SD09	12/08/2015	12	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	180	<120	<20	<20	150	<45	190	<210	<230	<25
Lake Liddell	SD9 0.15-0.25	SD09	12/08/2015	11	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD10 0-0.12	SD10	12/08/2015	6.8	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	34	34	320	<120	<20	24	240	93	350	350	370	<25
Lake Liddell	SD10 0.14-0.26	SD10	12/08/2015	11	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	66	66	740	<120	<20	41	550	230	820	820	830	<25
Lake Liddell	SD11 0.15-0.25	SD11	12/08/2015	5.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	270	<120	<20	<20	160	120	280	280	300	<25
Lake Liddell	SD11 0-0.10	SD11	12/08/2015	4.9	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD12 0-0.5	SD12	13/08/2015	46	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	47	47	240	<120	<20	28	230	<45	280	280	300	<25
Lake Liddell	SD13 0-0.02	SD13	15/08/2015	19	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	41	41	620	<120	<20	<20	450	200	670	670	680	<25
Lake Liddell	SD14 0.15-0.25	SD14	13/08/2015	0.71	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD14 0-0.1	SD14	13/08/2015	1.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD15 0-0.04	SD15	13/08/2015	2.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD16 0.15-0.25	SD16	13/08/2015	0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD16 0-0.1	SD16	13/08/2015	0.95	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD17 0.15-0.25	SD17	13/08/2015	3.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	140	<120	<20	<20	85	57	140	<210	<230	<25
Lake Liddell	SD17 0-0.1	SD17	13/08/2015	3.9	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	160	<120	<20	<20	98	65	160	<210	<230	<25
Lake Liddell	SD18 0-0.18	SD18	14/08/2015	2.7	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD19 0-0.01	SD19	14/08/2015	0.87	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	190	<120	<20	<20	100	100	200	<210	<230	<25
Lake Liddell	SD19 0.02-0.09	SD19	14/08/2015	5.7	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD20 0-0.02	SD20	14/08/2015	0.86	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	140	<120	<20	<20	91	54	150	<210	<230	<25
Lake Liddell	SD21 0-0.03	SD21	14/08/2015	0.94	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	300	<120	<20	<20	170	130	310	310	330	<25
Lake Liddell	SD22 0-0.05	SD22	14/08/2015	0.18	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	300	<120	<20	<20	200	110	310	310	330	<25
Lake Liddell	SD23 0-0.1	SD23	14/08/2015	0.13	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	570	<120	<20	<20	330	250	580	580	590	<25
Lake Liddell	SD23 0.15-0.21	SD23	14/08/2015	30	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD24 0-0.04	SD24	14/08/2015	8.6	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	590	<120	<20	<20	360	250	610	610	620	<25
Lake Liddell	SD24 0.1-0.2	SD24	14/08/2015	2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD25 0.15-0.25	SD25	15/08/2015	0.77	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD25 0.4-0.5	SD25	15/08/2015	1.7	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD25 0-0.1	SD25	15/08/2015	1.6	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD26 0-0.05	SD26	15/08/2015	0.79	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	150	150	970	<120	<20	88	770	290	1100	1100	1110	<25
Lake Liddell	SD27 0-0.04	SD27	15/08/2015	1.4	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Lake Liddell	SD28 0-0.02	SD28	15/08/2015	1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100,000	<25	<25	<90	<120	<20	<20	51	<45	<110	<210	<230	<25

Statistical Summary

Number of Results	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Number of Detects	46	0	0	0	0	0	0	0	0	0	15	15	28	0	0	14	30	22	26	20	20	0
Minimum Concentration	0.13	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Minimum Detect	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	31	31	100	ND	ND	21	51	54	130	230	250	ND
Maximum Concentration	53	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<100000	480	480	2000	<120	<20	320	1800	510	2600	2600	2610	<25
Maximum Detect	53	ND	ND	ND	ND	ND	ND	ND	ND	ND	480	480	2000	ND	ND	320	1800	510	2600	2600	2610	ND
Average Concentration	9.2	0.05	0.05	0.05	0.1	0.05	0.15	0.3	13	50000	51	51	349	60	10	33	272	103	396	410	422	13
Median Concentration	4.65	0.05	0.05	0.05	0.1	0.05	0.15	0.3	12.5	50000	12.5	12.5	160	60	10	10	100	22.5	155	105	115	12.5
Standard Deviation	12	0	0	0	0	0	0	0	0	0	91	91	452	0	0	58	387	119	548	538	538	0
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying l

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been

Where a range of Naphthalene values are reported, ES have adopted the l

VOCs - Not Normalised

				2-Nitropropane	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	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	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	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	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	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	Acetone	Acrylonitrile	Allyl chloride	Carbon disulfide	MTBE	Vinyl acetate
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				10	1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	0.1	1	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	1	5	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	10	5	1	10	0.1	0.1	0.5	0.1	10
NEPM 2013 Table B(7) Management Limits																																																																					
NEPM 2013 Table 1A(1) HIL-C																																																																					
NAGD 2009																																																																					
ISQG-High																																																																					
ISQG-Low																																																																					
Site_ID	Field_ID	Location	Date																																																																		
Lake Liddell	SD1 0.15-0.25	SD01	11/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD1 0-0.1	SD01	11/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD2 0-0.1	SD02	11/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD2 0.15-0.24	SD02	11/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD3 0.25-0.32	SD03	11/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD3 0-0.1	SD03	11/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD4 0.15-0.25	SD04	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD4 0-0.08	SD04	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD5 0-0.05	SD05	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD6 0.15-0.25	SD06	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD6 0-0.1	SD06	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD7 0-0.06	SD07	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD7 0.15-0.25	SD07	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD8 0-0.1	SD08	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD8 0.15-0.25	SD08	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD9 0-0.1	SD09	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD9 0.15-0.25	SD09	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD10 0-0.12	SD10	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD10 0.14-0.26	SD10	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD11 0.15-0.25	SD11	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD11 0-0.10	SD11	12/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD12 0-0.5	SD12	13/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD13 0-0.02	SD13	15/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD14 0.15-0.25	SD14	13/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD14 0-0.1	SD14	13/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD15 0-0.04	SD15	13/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD16 0.15-0.25	SD16	13/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD16 0-0.1	SD16	13/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD17 0.15-0.25	SD17	13/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD17 0-0.1	SD17	13/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD18 0-0.18	SD18	14/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD19 0-0.01	SD19	14/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD19 0.02-0.09	SD19	14/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD20 0-0.02	SD20	14/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD21 0-0.03	SD21	14/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD22 0-0.05	SD22	14/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD23 0-0.1	SD23	14/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD23 0.15-0.21	SD23	14/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD24 0-0.04	SD24	14/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD24 0.1-0.2	SD24	14/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD25 0.15-0.25	SD25	15/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD25 0.4-0.5	SD25	15/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD25 0-0.1	SD25	15/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD26 0-0.05	SD26	15/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD27 0-0.04	SD27	15/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD28 0-0.02	SD28	15/08/2015	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10

Statistical Summary

Number of Results	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.05	0.5	0.05	0.05	0.05	0.25	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.5	2.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	5	2.5	0.5	5	0.05	0.05	0.25	0.05	5
Median Concentration	5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.05	0.5	0.05	0.05	0.05	0.25	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.5	2.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	5	2.5	0.5	5	0.05	0.05	0.25	0.05	5
Standard Deviation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been

Where a range of Naphthalene values are reported, ES have adopted the l

Table 2 LL Sediment Results TOC Normalised

Site_ID	Field_ID	Location_Code	Sampled_Date_Time	PAHs - Normalised Results																					TPH Normalised Results	Inorganics	
				Benzo(b+j)fluoranthene	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Low molecular weight PAHs	High molecular weight PAHs	PAHs (Sum of total)	Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40)	TOC	Recalculated TOC (Value range 0.2 - 10% w/w only)
				mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	%w/w	%w/w
EQL				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			0.8		0.02	0.02
NAGD 2009																									550		
ISQG-High							0.5	0.64	1.1	1.6	1.6			2.8	0.26	5.1	0.54		2.1	1.5	2.6	3.16	9.6	45			
ISQG-Low							0.016	0.044	0.085	0.261	0.43			0.384	0.063	0.6	0.019		0.16	0.24	0.665	0.552	1.7	4			
Lake Liddell	SD1 0.15-0.25	SD01	11/08/2015	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	0.035	0.030	0.040	11.50	11	10.00
Lake Liddell	SD1 0-0.1	SD01	11/08/2015	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	0.038	0.033	0.044	12.64	9.1	9.1
Lake Liddell	SD2 0.15-0.24	SD02	11/08/2015	0.010	0.040	0.050	0.005	0.005	0.005	0.010	0.010	0.005	0.010	0.010	0.005	0.020	0.010	0.005	0.020	0.010	0.010	0.105	0.065	0.080	171.00	15	10.00
Lake Liddell	SD2 0-0.1	SD02	11/08/2015	0.020	0.040	0.060	0.005	0.005	0.005	0.025	0.010	0.010	0.010	0.025	0.005	0.100	0.025	0.005	0.005	0.070	0.060	0.175	0.225	0.200	121.00	28	10.00
Lake Liddell	SD3 0.25-0.32	SD03	11/08/2015	0.015	0.110	0.210	0.025	0.005	0.025	0.020	0.005	0.010	0.010	0.015	0.005	0.080	0.025	0.005	0.005	0.060	0.050	0.355	0.175	0.510	181.00	17	10.00
Lake Liddell	SD3 0-0.1	SD03	11/08/2015	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.071	0.036	0.036	0.036	0.036	0.036	0.250	0.250	0.286	82.14	1.4	1.4
Lake Liddell	SD4 0.15-0.25	SD04	12/08/2015	0.070	0.040	0.060	0.005	0.005	0.005	0.080	0.020	0.020	0.030	0.070	0.005	0.190	0.005	0.020	0.030	0.100	0.120	0.210	0.485	0.850	86.00	40	10.00
Lake Liddell	SD4 0-0.08	SD04	12/08/2015	0.070	0.025	0.025	0.025	0.005	0.025	0.090	0.030	0.020	0.020	0.090	0.005	0.220	0.025	0.010	0.005	0.110	0.140	0.220	0.575	0.790	111.00	53	10.00
Lake Liddell	SD5 0-0.05	SD05	12/08/2015	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.250	0.214	0.286	82.14	1.4	1.4
Lake Liddell	SD6 0.15-0.25	SD06	12/08/2015	0.011	0.011	0.022	0.005	0.005	0.005	0.011	0.005	0.005	0.005	0.011	0.005	0.033	0.005	0.005	0.005	0.022	0.022	0.071	0.087	0.087	69.57	9.2	9.2
Lake Liddell	SD6 0-0.1	SD06	12/08/2015	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.029	0.007	0.007	0.007	0.007	0.007	0.051	0.066	0.059	16.91	6.8	6.8
Lake Liddell	SD7 0.15-0.25	SD07	12/08/2015	0.060	0.250	0.440	0.005	0.005	0.020	0.040	0.020	0.020	0.020	0.050	0.005	0.110	0.050	0.010	0.090	0.150	0.080	0.760	0.305	1.400	261.00	24	10.00
Lake Liddell	SD7 0-0.06	SD07	12/08/2015	0.031	0.031	0.041	0.005	0.005	0.005	0.041	0.005	0.005	0.010	0.031	0.005	0.072	0.005	0.005	0.021	0.052	0.041	0.134	0.196	0.402	24.74	9.7	9.7
Lake Liddell	SD8 0.15-0.25	SD08	12/08/2015	0.011	0.023	0.023	0.011	0.011	0.011	0.023	0.011	0.011	0.011	0.011	0.011	0.045	0.011	0.011	0.011	0.023	0.023	0.102	0.125	0.295	100.00	4.4	4.4
Lake Liddell	SD8 0-0.1	SD08	12/08/2015	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.038	0.010	0.010	0.010	0.010	0.019	0.067	0.096	0.192	59.62	5.2	5.2
Lake Liddell	SD9 0.15-0.25	SD09	12/08/2015	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	0.035	0.030	0.040	11.50	11	10.00
Lake Liddell	SD9 0-0.1	SD09	12/08/2015	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.020	0.005	0.005	0.005	0.005	0.010	0.035	0.050	0.040	11.50	12	10.00
Lake Liddell	SD10 0.14-0.26	SD10	12/08/2015	0.020	0.020	0.020	0.005	0.005	0.005	0.020	0.005	0.005	0.005	0.020	0.005	0.050	0.010	0.005	0.010	0.030	0.030	0.085	0.130	0.240	83.00	11	10.00
Lake Liddell	SD10 0-0.12	SD10	12/08/2015	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.029	0.007	0.007	0.007	0.015	0.015	0.059	0.074	0.059	52.94	6.8	6.8
Lake Liddell	SD11 0.15-0.25	SD11	12/08/2015	0.009	0.009	0.009	0.009	0.009	0.009	0.018	0.009	0.009	0.009	0.018	0.009	0.055	0.009	0.009	0.009	0.036	0.036	0.091	0.145	0.236	52.73	5.5	5.5
Lake Liddell	SD11 0-0.10	SD11	12/08/2015	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.061	0.010	0.010	0.020	0.010	0.041	0.010	0.010	0.010	0.041	0.020	0.102	0.163	0.265	23.47	4.9	4.9
Lake Liddell	SD12 0-0.5	SD12	13/08/2015	0.030	0.050	0.060	0.005	0.005	0.010	0.060	0.010	0.010	0.020	0.060	0.005	0.150	0.005	0.005	0.030	0.100	0.090	0.215	0.375	0.700	29.00	46	10.00
Lake Liddell	SD13 0-0.02	SD13	15/08/2015	0.050	0.030	0.040	0.020	0.005	0.010	0.070	0.020	0.020	0.020	0.060	0.005	0.150	0.020	0.010	0.020	0.090	0.110	0.205	0.415	0.740	68.00	19	10.00
Lake Liddell	SD14 0.15-0.25	SD14	13/08/2015	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.493	0.423	0.563	161.97	0.71	0.71
Lake Liddell	SD14 0-0.1	SD14	13/08/2015	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.318	0.273	0.364	104.55	1.1	1.1
Lake Liddell	SD15 0-0.04	SD15	13/08/2015	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.167	0.143	0.190	54.76	2.1	2.1
Lake Liddell	SD16 0.15-0.25	SD16	13/08/2015	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.700	0.600	0.800	230.00	0.5	0.5
Lake Liddell	SD16 0-0.1	SD16	13/08/2015	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.368	0.316	0.421	121.05	0.95	0.95
Lake Liddell	SD17 0.15-0.25	SD17	13/08/2015	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.032	0.016	0.016	0.016	0.016	0.016	0.113	0.113	0.129	37.10	3.1	3.1
Lake Liddell	SD17 0-0.1	SD17	13/08/2015	0.013	0.013	0.013	0.013	0.013	0.013	0.026	0.013	0.013	0.013	0.013	0.013	0.026	0.013	0.013	0.013	0.026	0.026	0.103	0.115	0.205	29.49	3.9	3.9
Lake Liddell	SD18 0-0.18	SD18	14/08/2015	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.130	0.111	0.148	42.59	2.7	2.7
Lake Liddell	SD19 0.02-0.09	SD19	14/08/2015	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.061	0.053	0.070	20.18	5.7	5.7
Lake Liddell	SD19 0-0.01	SD19	14/08/2015	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.402	0.345	0.460	132.18	0.87	0.87
Lake Liddell	SD20 0-0.02	SD20	14/08/2015	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.407	0.349	0.465	133.72	0.86	0.86
Lake Liddell	SD21 0-0.03	SD21	14/08/2015	0.053	0.053	0.053	0.053	0.053	0.053	0.106	0.053	0.053	0.053	0.106	0.053	0.319	0.053	0.053	0.053	0.213	0.213	0.532	0.851	1.489	340.43	0.94	0.94
Lake Liddell	SD22 0-0.05	SD22	14/08/2015	1.500	0.250	0.500	0.250	0.250	0.250	2.000	0.500	0.250	0.500	1.500	0.250	4.000	0.250	0.250	0.250	2.500	3.000	4.250	11.250	18.000	1600.00	0.18	0.20
Lake Liddell	SD23 0.15-0.21	SD23	14/08/2015	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	0.035	0.030	0.040	11.50	30	10.00
Lake Liddell	SD23 0-0.1	SD23	14/08/2015	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	1.750	1.500	2.000	2950.00	0.13	0.20
Lake Liddell	SD24 0.1-0.2	SD24	14/08/2015	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.175	0.150	0.200	57.50	2	2
Lake Liddell	SD24 0-0.04	SD24	14/08/2015	0.012	0.006	0.012	0.006	0.006	0.006	0.023	0.006	0.006	0.012	0.023	0.006	0.047	0.012	0.006	0.006	0.035	0.035	0.081	0.140	0.256	72.09	8.6	8.6
Lake Liddell	SD25 0.15-0.25	SD25	15/08/2015	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.455	0.390	0.519	149.35	0.77	0.77
Lake Liddell	SD25 0.4-0.5	SD25	15/08/2015	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.206	0.176	0.235	67.65	1.7	1.7
Lake Liddell	SD25 0-0.1	SD25	15/08/2015	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.219	0.188	0.250	71.88	1.6	1.6
Lake Liddell	SD26 0-0.05	SD26	15/08/2015	0.633	0.316	1.013	0.316	0.063	0.316	1.392	0.380	0.253	0.316	1.013	0.063	2.658	0.633	0.127	0.063	1.646	2.025	4.051	7.532	13.924	1405.06	0.79	0.79
Lake Liddell	SD27 0-0.04	SD27	15/08/2015	0.036	0.071	0.143	0.036	0.036	0.036	0.143	0.036	0.036	0.036	0.071	0.036	0.214	0.071	0.036	0.071	0.214	0.214	0.607	0.714	1.571	82.14	1.4	1.4
Lake Liddell	SD28 0-0.02	SD28	15/08/2015	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.350	0.300	0.400	115.00	1	1

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR for those analytes reported to be <LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated by using have the LOR for C6-C9 fractions which were reported below the LOR

Where a range of Naphthalene values are reported, ES have adopted the highest of these when calculating low molecular weight PAHs

Table 2 LL Sediment Results TOC Normalised

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate the Normalised results

Site_ID	Field_ID	Location_Code	Sample_Depth_Avg	Arsenic	Boron	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Phosphorus	Selenium	Zinc	Ammonia as N	Electrical conductivity *(lab)	Nitrate (as N)	pH (Lab)	Salinity	TOC	ORTHOPHOSPHATE (PO4-P)
				Metals											Inorganics						
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	uS/cm	mg/kg	pH_Units	mg/kg	%w/w	mg/kg
EQL				1	5	0.3	0.3	0.5	1	0.01	0.5	40	3	0.5	0.15	1	0.025	0	10	0.02	0.25
ISQG-High				70		10	370	270	220	1	52			410							
ISQG-Low				20		1.5	80	65	50	0.15	21			200							
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil				300	20000	90		17000	600	80	1200		700	30000							
15092_Bayswater	B_67_ESSD01 0.0-0.2	B_67_ESSD01	0.1	<1	<5	<0.3	2.2	7	12	0.03	5.1	220	<3	42	3.9	640	0.3	6.4	2100	-	<0.25
15092_Bayswater	B_67_ESSD02 0-0.16	B_67_ESSD02	0.08	<1	5	<0.3	3	7.8	9	0.02	6.3	200	<3	52	2.7	440	<0.025	6.9	1400	-	<0.25
15092_Bayswater	B_74_ESSD01 0-0.1	B_74_ESSD01	0.05	6	<5	<0.3	11	8.6	16	0.02	10	300	<3	56	4.2	1500	<0.025	7.5	4800	-	<0.25
15092_Liddell	L_109_ESSD01	L_109_ESSD01		3	8	<0.3	7.3	5.4	4	0.08	4.6	150	<3	15	<0.15	420	<0.025	9.6	1400	2.8	2.9
15092_Liddell	L_109_ESSD02	L_109_ESSD02		5	10	<0.3	6.3	9.2	5	0.09	5.5	420	<3	21	0.74	510	0.07	9.2	1700	2	4
15092_Liddell	L_111_ESSD01 0-0.5	L_111_ESSD01	0.25	5	75	<0.3	4.2	140	6	0.13	25	550	8	120	11	5900	0.081	6.9	19,000	41	<0.25
15092_Liddell	L_111_ESSD02 0.0-0.2	L_111_ESSD02	0.1	19	<5	0.6	33	16	30	0.05	26	660	<3	93	5.8	7100	<0.025	7.4	23,000	21	<0.25
15092_Liddell	L_111_ESSD02 0.2-0.3	L_111_ESSD02	0.25	7	<5	<0.3	12	5.6	12	<0.01	14	290	<3	35	0.85	2700	<0.025	7.4	8900	1.7	<0.25
15092_Liddell	L_112_ESSD01 0-0.17	L_112_ESSD01	0.085	14	<5	<0.3	15	4.7	6	<0.01	7.3	240	12	16	0.95	380	<0.025	7.5	1200	1.8	<0.25
15092_Liddell	L_113_ESSD01	L_113_ESSD01		6	10	<0.3	34	6.8	3	0.03	14	510	59	23	0.97	700	0.079	7.3	2300	-	<0.25
15092_Liddell	L_113_ESSD02	L_113_ESSD02		23	14	<0.3	39	15	11	0.03	17	1100	50	42	0.44	1600	<0.025	7.9	5100	4.4	0.43
15092_Liddell	L_120_ESSD01 0-0.05	L_120_ESSD01	0.025	8	12	<0.3	7.6	76	11	0.06	16	490	12	66	6.4	830	0.2	7.9	2700	-	<0.25
15092_Liddell	L_129_ESSD01	L_129_ESSD01		29	8	0.4	20	34	25	<0.01	43	660	11	100	2.1	2400	<0.025	7.4	7600	9.1	<0.25
15092_Liddell	SE141515.008 L_130_ESSD01 0.0-0.05	L_130_ESSD01	0.025	4	<5	<0.3	7.3	16	13	0.03	9.1	360	<3	47	<0.15	970	<0.025	8	3200	40	<0.25
15092_Liddell	L_137_ESSD01	L_137_ESSD01		3	7	<0.3	3.8	24	12	0.03	11	420	<3	78	2.2	580	<0.025	7.4	1900	48	0.4
15092_Liddell	L_137_ESSD02	L_137_ESSD02		4	9	<0.3	3.9	13	12	0.02	5.7	77	<3	49	0.36	340	0.1	7.5	1100	47	<0.25
15092_Liddell	L_138_ESSD02	L_138_ESSD02		1	<5	<0.3	1.5	5.9	6	0.03	3.8	180	<3	12	<0.15	1200	0.045	8.2	4000	77	<0.25
15092_Liddell	L_140_ESSD01	L_140_ESSD01		5	<5	<0.3	1.3	6.9	4	<0.01	3.4	140	<3	15	0.43	54	<0.025	6.7	170	82	<0.25
15092_Liddell	L_140_ESSD02	L_140_ESSD02		2	5	<0.3	2.4	9.6	6	<0.01	4.4	<40	<3	22	0.84	160	<0.025	6.7	530	79	<0.25
15092_Liddell	L_143_ESSD01	L_143_ESSD01		5	<5	<0.3	18	12	12	<0.01	9	140	<3	17	0.41	1600	<0.025	6.8	5100	0.7	<0.25
15092_Liddell	L_77_ESSD01	L_77_ESSD01		7	<5	<0.3	20	39	14	0.03	22	410	<3	54	0.8	850	0.084	8.2	2800	2.3	<0.25
15092_Liddell	L_77_ESSD02	L_77_ESSD02		5	<5	<0.3	11	8	10	<0.01	5.2	160	<3	14	0.33	660	<0.025	5.3	2200	0.77	<0.25
15092_Liddell	L_78_ESSD01	L_78_ESSD01		2	12	<0.3	2	13	9	0.03	7	830	<3	58	0.17	900	<0.025	7.3	2900	69	<0.25
15092_Liddell	L_78_ESSD02	L_78_ESSD02		14	6	<0.3	28	26	22	0.01	15	240	<3	32	0.51	710	<0.025	5.7	2300	1.9	<0.25
15092_Liddell	L_79_ESSD01	L_79_ESSD01		9	<5	0.3	24	15	19	0.02	19	300	<3	52	0.24	1200	0.29	5.5	3900	18	<0.25
15092_Liddell	L_90_ESSD01 0-.0-0.02	L_90_ESSD01	0.01	3	<5	0.5	2.9	16	16	0.07	8.2	220	<3	160	0.36	180	0.091	7.4	580	51	<0.25
15092_Liddell	L_90_ESSD02	L_90_ESSD02		18	<5	0.3	22	30	20	0.02	18	660	<3	73	0.98	210	0.12	5.6	690	1.2	<0.25
15092_Liddell	L_94_ESSD01	L_94_ESSD01		14	<5	<0.3	22	19	9	0.96	19	280	<3	43	23	1300	0.033	8	4200	2.3	0.34
15092_Liddell	L_94_ESSD02	L_94_ESSD02		5	<5	<0.3	7.2	14	6	0.19	4.3	100	<3	10	11	1500	<0.025	6	4800	6	<0.25
15092_Liddell	L_95_ESSD01 0-0.1	L_95_ESSD01	0.05	2	<5	<0.3	13	10	9	0.04	14	380	<3	41	1.8	33	0.57	6.4	110	-	0.73
15092_Liddell	L_99_ESSD01 0.0-0.02	L_99_ESSD01	0.01	18	7	1.4	45	580	100	0.04	47	620	3	460	10	550	<0.025	8.3	1800	9	<0.25
15092_Liddell	L_99_ESSD02	L_99_ESSD02		11	8	<0.3	8.2	81	13	0.05	11	320	<3	100	3.5	410	<0.025	8.7	1300	4.1	<0.25

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR for those analytes reported to be <LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated by using have the LOR for C6-C9 fractions which were reported below the LOR

Where a range of Naphthalene values are reported, ES have adopted the highest of these when calculating low molecular weight PAHs

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate the Normalised results

Table 3 AEC LL Sediment Analytical Results

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				PAHs not TOC Normalised																				
				Benzo(b+j)fluoranthene	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Carcinogenic PAHs (as B(a)P TPE, PEFx3)	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Dibenz(a,h)anthracene	Carcinogenic PAHs (as B(a)P TPE)	PAHs (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
EQL				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.1	0.1		0.8
ISQG-High							0.5	0.64	1.1	1.6	1.6			2.8		5.1	0.54		2.1	1.5	2.6	0.26		45
ISQG-Low							0.016	0.044	0.085	0.261	0.43			0.384		0.6	0.019		0.16	0.24	0.665	0.063		4
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil																							3	300
Site_ID	**Field_ID**	**Location_Code**	**Sample_Depth_Avg**																					
15092_Bayswater	B_67_ESSD01 0.0-0.2	B_67_ESSD01	0.1	2.1	0.8	0.9	<1	<0.2	0.6	3.1	1.2	0.5	0.7	2.2	2	6	<2	0.3	<0.1	4.6	<0.1	<0.2	2	23
15092_Bayswater	B_67_ESSD02 0-0.16	B_67_ESSD02	0.08	1.9	0.7	0.9	<1	<0.2	0.7	3.4	1.2	0.5	0.8	2.3	2	6.6	<2	0.3	<0.1	4.2	3.8	<0.1	1.9	27
15092_Bayswater	B_74_ESSD01 0-0.1	B_74_ESSD01	0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_109_ESSD01	L_109_ESSD01		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_109_ESSD02	L_109_ESSD02		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_111_ESSD01 0-0.5	L_111_ESSD01	0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_111_ESSD02 0.0-0.2	L_111_ESSD02	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_111_ESSD02 0.2-0.3	L_111_ESSD02	0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_112_ESSD01 0-0.17	L_112_ESSD01	0.085	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_113_ESSD01	L_113_ESSD01		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_113_ESSD02	L_113_ESSD02		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_120_ESSD01 0-0.05	L_120_ESSD01	0.025	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_129_ESSD01	L_129_ESSD01		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.3	0.2	<0.1	<0.1	1.9	0.2	0.1	<0.1	<0.2	<0.8
15092_Liddell	SE141515.008 L_130_ESSD01 0.0-0.05	L_130_ESSD01	0.025	0.2	0.3	0.3	0.2	<0.1	<0.1	0.5	0.1	0.1	0.1	0.4	0.3	1.6	0.2	0.1	0.1	0.9	0.7	<0.1	0.3	5.7
15092_Liddell	L_137_ESSD01	L_137_ESSD01		0.2	0.2	0.2	<0.1	<0.1	0.1	0.3	<0.1	<0.1	<0.1	0.2	<0.3	0.5	<0.1	<0.1	0.3	0.4	0.4	<0.1	<0.2	2.4
15092_Liddell	L_137_ESSD02	L_137_ESSD02		0.4	0.3	0.3	<0.1	<0.1	0.2	0.7	0.2	<0.1	<0.1	0.5	0.4	1	0.2	<0.1	0.1	1.1	0.8	<0.1	0.4	5.8
15092_Liddell	L_138_ESSD02	L_138_ESSD02		1.2	1	1	0.6	0.1	0.6	2.2	0.8	0.6	0.7	1.8	1.6	6.2	1	0.9	0.3	4.1	2.8	0.3	1.6	26
15092_Liddell	L_140_ESSD01	L_140_ESSD01		0.3	0.2	0.3	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	0.4	<0.3	1.3	<0.1	<0.1	0.2	0.6	0.6	<0.1	<0.2	4.4
15092_Liddell	L_140_ESSD02	L_140_ESSD02		0.2	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.2	<0.3	0.5	<0.1	<0.1	<0.1	0.3	0.3	<0.1	<0.2	1.8
15092_Liddell	L_143_ESSD01	L_143_ESSD01		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_77_ESSD01	L_77_ESSD01		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_77_ESSD02	L_77_ESSD02		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_78_ESSD01	L_78_ESSD01		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_78_ESSD02	L_78_ESSD02		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_79_ESSD01	L_79_ESSD01		0.3	0.1	0.2	<0.1	<0.1	0.1	0.6	0.3	<0.1	0.2	0.5	0.5	1	<0.1	<0.1	0.1	0.7	0.6	<0.1	0.5	4.7
15092_Liddell	L_90_ESSD01 0-.0-0.02	L_90_ESSD01	0.01	1.2	0.8	0.8	0.5	0.1	0.4	1.9	0.6	0.5	0.6	1.6	1.3	5.8	0.6	0.6	0.3	3.2	2.6	0.3	1.3	22
15092_Liddell	L_90_ESSD02	L_90_ESSD02		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_94_ESSD01	L_94_ESSD01		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	0.9	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_94_ESSD02	L_94_ESSD02		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.2	<0.8
15092_Liddell	L_95_ESSD01 0-0.1	L_95_ESSD01	0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.3	0.2	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.2	<0.8
15092_Liddell	L_99_ESSD01 0.0-0.02	L_99_ESSD01	0.01	3.4	0.3	0.5	0.1	<0.1	0.2	1.7	0.9	0.8	0.4	1.8	1.7	2.5	0.6	0.8	1	1.1	3	0.2	1.7	19
15092_Liddell	L_99_ESSD02	L_99_ESSD02		0.3	0.2	0.4	<0.1	<0.1	0.1	0.4	0.1	<0.1	<0.1	0.3	0.3	0.7	0.1	<0.1	0.2	0.6	0.5	<0.1	0.3	3.9

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR for those analytes reported to be <LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated by using have the LOR for C6-C9 fractions which were reported below the LOR

Where a range of Naphthalene values are reported, ES have adopted the highest of these when calculating low molecular weight PAHs

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate the Normalised results

Table 3 AEC LL Sediment Analytical Results

				BTEX not TOC Normalised							TRH not TOC Normalised														MAH								
				Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10	C6-C10 less BTEX (F1)	C10-C16	F2-NAPHTHALENE	C16-C34	C34-C40	TRH C37-C40	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)	Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) - Not Normalised	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				0.1	0.1	0.1	0.2	0.1	0.3	0.6	25	25	25	25	90	120	100	20	20	45	45	110	210	mg/kg	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ISQG-High																																	
ISQG-Low																								550									
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil																																	
Site_ID	Field_ID	Location_Code	Sample_Depth_Avg																														
15092_Bayswater	B_67_ESSD01 0.0-0.2	B_67_ESSD01	0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	240	240	1600	300	120	<20	160	1200	720	2100	2200	2210	-	-	-	-	-	-	-	-	-
15092_Bayswater	B_67_ESSD02 0-0.16	B_67_ESSD02	0.08	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	390	390	2100	170	<100	<20	230	1600	750	2600	2600	2610	-	-	-	-	-	-	-	-	-
15092_Bayswater	B_74_ESSD01 0-0.1	B_74_ESSD01	0.05	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	360	160	<100	<20	<20	140	350	480	480	490	-	-	-	-	-	-	-	-	-
15092_Liddell	L_109_ESSD01	L_109_ESSD01		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	-	-	-	-	-	-	-	-	-
15092_Liddell	L_109_ESSD02	L_109_ESSD02		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	-	-	-	-	-	-	-	-	-
15092_Liddell	L_111_ESSD01 0-0.5	L_111_ESSD01	0.25	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	190	<120	<100	<20	<20	98	150	250	250	260	-	-	-	-	-	-	-	-	-
15092_Liddell	L_111_ESSD02 0.0-0.2	L_111_ESSD02	0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	-	-	-	-	-	-	-	-	-
15092_Liddell	L_111_ESSD02 0.2-0.3	L_111_ESSD02	0.25	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_112_ESSD01 0-0.17	L_112_ESSD01	0.085	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_113_ESSD01	L_113_ESSD01		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	-	-	-	-	-	-	-	-	-
15092_Liddell	L_113_ESSD02	L_113_ESSD02		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_120_ESSD01 0-0.05	L_120_ESSD01	0.025	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	-	-	-	-	-	-	-	-	-
15092_Liddell	L_129_ESSD01	L_129_ESSD01		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	230	<120	<100	<20	<20	150	87	240	240	250	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	SE141515.008 L_130_ESSD01 0.0-0.05	L_130_ESSD01	0.025	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	91	91	330	<120	<100	<20	56	320	<45	370	370	380	-	-	-	-	-	-	-	-	-
15092_Liddell	L_137_ESSD01	L_137_ESSD01		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	30	30	110	<120	<100	<20	<20	110	<45	110	<210	<230	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_137_ESSD02	L_137_ESSD02		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	61	61	220	<120	<100	<20	41	190	<45	240	240	250	-	-	-	-	-	-	-	-	-
15092_Liddell	L_138_ESSD02	L_138_ESSD02		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	250	250	960	<120	<100	<20	160	850	220	1200	1200	1210	-	-	-	-	-	-	-	-	-
15092_Liddell	L_140_ESSD01	L_140_ESSD01		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	62	62	220	<120	<100	<20	45	190	52	280	280	290	-	-	-	-	-	-	-	-	-
15092_Liddell	L_140_ESSD02	L_140_ESSD02		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	40	40	110	<120	<100	<20	30	100	<45	130	<210	<230	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_143_ESSD01	L_143_ESSD01		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	-	-	-	-	-	-	-	-	-
15092_Liddell	L_77_ESSD01	L_77_ESSD01		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	-	-	-	-	-	-	-	-	-
15092_Liddell	L_77_ESSD02	L_77_ESSD02		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_78_ESSD01	L_78_ESSD01		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_78_ESSD02	L_78_ESSD02		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	-	-	-	-	-	-	-	-	-
15092_Liddell	L_79_ESSD01	L_79_ESSD01		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	52	52	220	<120	<100	<20	34	190	45	270	270	280	-	-	-	-	-	-	-	-	-
15092_Liddell	L_90_ESSD01 0-.0-0.02	L_90_ESSD01	0.01	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	220	220	1000	<120	<100	<20	190	840	280	1300	1300	1310	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_90_ESSD02	L_90_ESSD02		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	-	-	-	-	-	-	-	-	-
15092_Liddell	L_94_ESSD01	L_94_ESSD01		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	62	<45	<110	<210	<230	-	-	-	-	-	-	-	-	-
15092_Liddell	L_94_ESSD02	L_94_ESSD02		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_95_ESSD01 0-0.1	L_95_ESSD01	0.05	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<230	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_99_ESSD01 0.0-0.02	L_99_ESSD01	0.01	<0.1	0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	840	840	10,000	<120	<100	<20	250	10,000	790	11,000	11,000	11,010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_99_ESSD02	L_99_ESSD02		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	76	76	2400	<120	<100	<20	37	1600	880	2600	2600	2610	-	-	-	-	-	-	-	-	-

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR for those analytes reported to be <LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated by using have the LOR for C6-C9 fractions which were reported below the LOR

Where a range of Naphthalene values are reported, ES have adopted the highest of these when calculating low molecular weight PAHs

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate the Normalised results

Table 3 AEC LL Sediment Analytical Results

				VOCs			Chlorinated Hydrocarbons																													
Site_ID	Field_ID	Location_Code	Sample_Depth_Avg	2-Nitropropane	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	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	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				10	1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	0.1	1	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.1
ISQG-High																																				
ISQG-Low																																				
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil																																				
15092_Bayswater	B_67_ESSD01 0.0-0.2	B_67_ESSD01	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Bayswater	B_67_ESSD02 0-0.16	B_67_ESSD02	0.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Bayswater	B_74_ESSD01 0-0.1	B_74_ESSD01	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_109_ESSD01	L_109_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_109_ESSD02	L_109_ESSD02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_111_ESSD01 0-0.5	L_111_ESSD01	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_111_ESSD02 0.0-0.2	L_111_ESSD02	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_111_ESSD02 0.2-0.3	L_111_ESSD02	0.25	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_112_ESSD01 0-0.17	L_112_ESSD01	0.085	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_113_ESSD01	L_113_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_113_ESSD02	L_113_ESSD02		<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_120_ESSD01 0-0.05	L_120_ESSD01	0.025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_129_ESSD01	L_129_ESSD01		<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	SE141515.008 L_130_ESSD01 0.0-0.05	L_130_ESSD01	0.025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_137_ESSD01	L_137_ESSD01		<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_137_ESSD02	L_137_ESSD02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_138_ESSD02	L_138_ESSD02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_140_ESSD01	L_140_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_140_ESSD02	L_140_ESSD02		<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_143_ESSD01	L_143_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_77_ESSD01	L_77_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_77_ESSD02	L_77_ESSD02		<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_78_ESSD01	L_78_ESSD01		<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_78_ESSD02	L_78_ESSD02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_79_ESSD01	L_79_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_90_ESSD01 0-.0-0.02	L_90_ESSD01	0.01	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_90_ESSD02	L_90_ESSD02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_94_ESSD01	L_94_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_94_ESSD02	L_94_ESSD02		<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_95_ESSD01 0-0.1	L_95_ESSD01	0.05	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_99_ESSD01 0.0-0.02	L_99_ESSD01	0.01	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	L_99_ESSD02	L_99_ESSD02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR for those analytes reported to be <LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated by using have the LOR for C6-C9 fractions which were reported below the LOR

Where a range of Naphthalene values are reported, ES have adopted the highest of these when calculating low molecular weight PAHs

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate the Normalised results

					Halogenated Hydrocarbons					Halogenated Benzenes									Solvents								
				Vinyl chloride	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Acetone	Acrylonitrile	Allyl chloride	Carbon disulfide	MTBE	Vinyl acetate
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				0.1	0.1	1	1	5	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	10	5	1	10	0.1	0.1	0.5	0.1	10
ISQG-High																											
ISQG-Low																											
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil																											
Site_ID	Field_ID	Location_Code	Sample_Depth_Avg																								
15092_Bayswater	B_67_ESSD01 0.0-0.2	B_67_ESSD01	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Bayswater	B_67_ESSD02 0-0.16	B_67_ESSD02	0.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Bayswater	B_74_ESSD01 0-0.1	B_74_ESSD01	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_109_ESSD01	L_109_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_109_ESSD02	L_109_ESSD02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_111_ESSD01 0-0.5	L_111_ESSD01	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_111_ESSD02 0.0-0.2	L_111_ESSD02	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_111_ESSD02 0.2-0.3	L_111_ESSD02	0.25	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	L_112_ESSD01 0-0.17	L_112_ESSD01	0.085	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	L_113_ESSD01	L_113_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_113_ESSD02	L_113_ESSD02		<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	L_120_ESSD01 0-0.05	L_120_ESSD01	0.025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_129_ESSD01	L_129_ESSD01		<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	SE141515.008 L_130_ESSD01 0.0-0.05	L_130_ESSD01	0.025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_137_ESSD01	L_137_ESSD01		<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	L_137_ESSD02	L_137_ESSD02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_138_ESSD02	L_138_ESSD02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_140_ESSD01	L_140_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_140_ESSD02	L_140_ESSD02		<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	L_143_ESSD01	L_143_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_77_ESSD01	L_77_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_77_ESSD02	L_77_ESSD02		<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	L_78_ESSD01	L_78_ESSD01		<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	L_78_ESSD02	L_78_ESSD02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_79_ESSD01	L_79_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_90_ESSD01 0-.0-0.02	L_90_ESSD01	0.01	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	L_90_ESSD02	L_90_ESSD02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_94_ESSD01	L_94_ESSD01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_94_ESSD02	L_94_ESSD02		<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	L_95_ESSD01 0-0.1	L_95_ESSD01	0.05	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	L_99_ESSD01 0.0-0.02	L_99_ESSD01	0.01	<0.1	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	L_99_ESSD02	L_99_ESSD02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR for those analytes reported to be <LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated by using have the LOR for C6-C9 fractions which were reported below the LOR

Where a range of Naphthalene values are reported, ES have adopted the highest of these when calculating low molecular weight PAHs

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate the Normalised results

Table 4 AEC LL Sediment Results TOC Normalised

			PAHs Normalised																					TRH TOC Normalised	Inorganics	
			Benzo(b+j)fluoranthene - TOC Normalised	1-Methylnaphthalene - TOC Normalised	2-methylnaphthalene - TOC Normalised	Acenaphthene - TOC Normalised	Acenaphthylene - TOC Normalised	Anthracene - TOC Normalised	Benz(a)anthracene - TOC Normalised	Benzo(a) pyrene - TOC Normalised	Benzo(g,h,i)perylene - TOC Normalised	Benzo(k)fluoranthene - TOC Normalised	Chrysene - TOC Normalised	Carcinogenic PAHs (as B(a)P TPE, PEFx3) - TOC Normalised	Fluoranthene - TOC Normalised	Fluorene - TOC Normalised	Indeno(1,2,3-c,d)pyrene - TOC Normalised	Naphthalene - TOC Normalised	Phenanthrene - TOC Normalised	Pyrene - TOC Normalised	Dibenz(a,h)anthracene - TOC Normalised	Carcinogenic PAHs (as B(a)P TPE) - TOC Normalised	PAHs (Sum of total) - TOC Normalised	Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) - TOC Normalised	TOC	Recalculated TOC (Value range 0.2 - 10% w/w only)
			mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	mg/kg/TOC	%w/w	%w/w
EQL			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.1	0.1		0.8		0.02	0.02
ISQG-High						0.5	0.64	1.1	1.6	1.6			2.8		5.1	0.54		2.1	1.5	2.6	0.26		45			
ISQG-Low						0.016	0.044	0.085	0.261	0.43			0.384		0.6	0.019		0.16	0.24	0.665	0.063		4	550		
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil																						3	300			
Site_ID	Field_ID	Location_Code																								
15092_Liddell	L_109_ESSD01	L_109_ESSD01	0.0179	0.0179	0.0179	0.01786	0.0179	0.01786	0.01786	0.01786	0.01786	0.01786	0.0179	0.05357	0.01786	0.0179	0.01786	0.01786	0.01786	0.01786	0.0179	0.03571	0.1429	41.07	2.8	2.8
15092_Liddell	L_109_ESSD02	L_109_ESSD02	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.075	0.025	0.025	0.025	0.25	0.025	0.025	0.025	0.05	0.2	57.50	2	2
15092_Liddell	L_111_ESSD01 0-0.5	L_111_ESSD01	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.015	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.01	0.04	26.00	41	10
15092_Liddell	L_111_ESSD02 0.0-0.2	L_111_ESSD02	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.015	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.01	0.04	11.50	21	10
15092_Liddell	L_111_ESSD02 0.2-0.3	L_111_ESSD02	0.0294	0.0294	0.0294	0.02941	0.0294	0.02941	0.02941	0.02941	0.02941	0.02941	0.0294	0.08824	0.02941	0.0294	0.02941	0.02941	0.02941	0.02941	0.0294	0.05882	0.2353	67.65	1.7	1.7
15092_Liddell	L_112_ESSD01 0-0.17	L_112_ESSD01	0.0278	0.0278	0.0278	0.02778	0.0278	0.02778	0.02778	0.02778	0.02778	0.02778	0.0278	0.08333	0.02778	0.0278	0.02778	0.02778	0.02778	0.02778	0.0278	0.05556	0.2222	63.89	1.8	1.8
15092_Liddell	L_113_ESSD02	L_113_ESSD02	0.0114	0.0114	0.0114	0.01136	0.0114	0.01136	0.01136	0.01136	0.01136	0.01136	0.0114	0.03409	0.01136	0.0114	0.01136	0.01136	0.01136	0.01136	0.0114	0.02273	0.0909	26.14	4.4	4.4
15092_Liddell	L_129_ESSD01	L_129_ESSD01	0.0055	0.0055	0.0055	0.00549	0.0055	0.00549	0.01099	0.00549	0.00549	0.00549	0.0055	0.01648	0.02198	0.0055	0.00549	0.20879	0.02198	0.01099	0.0055	0.01099	0.044	27.47	9.1	9.1
15092_Liddell	L_137_ESSD01	L_137_ESSD01	0.02	0.02	0.02	0.005	0.005	0.01	0.03	0.005	0.005	0.005	0.02	0.015	0.05	0.005	0.005	0.03	0.04	0.04	0.005	0.01	0.24	11.50	48	10
15092_Liddell	L_137_ESSD02	L_137_ESSD02	0.04	0.03	0.03	0.005	0.005	0.02	0.07	0.02	0.005	0.005	0.05	0.04	0.1	0.02	0.005	0.01	0.11	0.08	0.005	0.04	0.58	25.00	47	10
15092_Liddell	L_138_ESSD02	L_138_ESSD02	0.12	0.1	0.1	0.06	0.01	0.06	0.22	0.08	0.06	0.07	0.18	0.16	0.62	0.1	0.09	0.03	0.41	0.28	0.03	0.16	2.6	121.00	77	10
15092_Liddell	L_140_ESSD01	L_140_ESSD01	0.03	0.02	0.03	0.005	0.005	0.005	0.05	0.005	0.005	0.005	0.04	0.015	0.13	0.005	0.005	0.02	0.06	0.06	0.005	0.01	0.44	29.00	82	10
15092_Liddell	L_140_ESSD02	L_140_ESSD02	0.02	0.005	0.01	0.005	0.005	0.005	0.02	0.005	0.005	0.005	0.02	0.015	0.05	0.005	0.005	0.005	0.03	0.03	0.005	0.01	0.18	11.50	79	10
15092_Liddell	L_143_ESSD01	L_143_ESSD01	0.0714	0.0714	0.0714	0.07143	0.0714	0.07143	0.07143	0.07143	0.07143	0.07143	0.0714	0.21429	0.07143	0.0714	0.07143	0.07143	0.07143	0.07143	0.0714	0.14286	0.5714	164.29	0.7	0.7
15092_Liddell	L_77_ESSD01	L_77_ESSD01	0.0217	0.0217	0.0217	0.02174	0.0217	0.02174	0.02174	0.02174	0.02174	0.02174	0.0217	0.06522	0.02174	0.0217	0.02174	0.02174	0.02174	0.02174	0.0217	0.04348	0.1739	50.00	2.3	2.3
15092_Liddell	L_77_ESSD02	L_77_ESSD02	0.0649	0.0649	0.0649	0.06494	0.0649	0.06494	0.06494	0.06494	0.06494	0.06494	0.0649	0.19481	0.06494	0.0649	0.06494	0.06494	0.06494	0.06494	0.0649	0.12987	0.5195	149.35	0.77	0.77
15092_Liddell	L_78_ESSD01	L_78_ESSD01	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.015	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.01	0.04	11.50	69	10
15092_Liddell	L_78_ESSD02	L_78_ESSD02	0.0263	0.0263	0.0263	0.02632	0.0263	0.02632	0.02632	0.02632	0.02632	0.02632	0.0263	0.07895	0.02632	0.0263	0.02632	0.02632	0.02632	0.02632	0.0263	0.05263	0.2105	60.53	1.9	1.9
15092_Liddell	L_79_ESSD01	L_79_ESSD01	0.03	0.01	0.02	0.005	0.005	0.01	0.06	0.03	0.005	0.02	0.05	0.05	0.1	0.005	0.005	0.01	0.07	0.06	0.005	0.05	0.47	28.00	18	10
15092_Liddell	L_90_ESSD01 0-.0-0.02	L_90_ESSD01	0.12	0.08	0.08	0.05	0.01	0.04	0.19	0.06	0.05	0.06	0.16	0.13	0.58	0.06	0.06	0.03	0.32	0.26	0.03	0.13	2.2	131.00	51	10
15092_Liddell	L_90_ESSD02	L_90_ESSD02	0.0417	0.0417	0.0417	0.04167	0.0417	0.04167	0.04167	0.04167	0.04167	0.04167	0.0417	0.125	0.04167	0.0417	0.04167	0.41667	0.04167	0.04167	0.0417	0.08333	0.3333	95.83	1.2	1.2
15092_Liddell	L_94_ESSD01	L_94_ESSD01	0.0217	0.0217	0.0217	0.02174	0.0217	0.02174	0.02174	0.02174	0.02174	0.02174	0.0217	0.06522	0.02174	0.0217	0.02174	0.3913	0.02174	0.02174	0.0217	0.04348	0.1739	50.00	2.3	2.3
15092_Liddell	L_94_ESSD02	L_94_ESSD02	0.0083	0.0083	0.0083	0.00833	0.0083	0.00833	0.00833	0.00833	0.00833	0.00833	0.0083	0.025	0.00833	0.0083	0.00833	0.03333	0.00833	0.00833	0.0083	0.01667	0.0667	19.17	6	6
15092_Liddell	L_99_ESSD01 0.0-0.02	L_99_ESSD01	0.3778	0.0333	0.0556	0.01111	0.0056	0.02222	0.18889	0.1	0.08889	0.04444	0.2	0.18889	0.27778	0.0667	0.08889	0.11111	0.12222	0.33333	0.0222	0.18889	2.1111	1223.00	9	9
15092_Liddell	L_99_ESSD02	L_99_ESSD02	0.0732	0.0488	0.0976	0.0122	0.0122	0.02439	0.09756	0.02439	0.0122	0.0122	0.0732	0.07317	0.17073	0.0244	0.0122	0.04878	0.14634	0.12195	0.0122	0.07317	0.9512	636.59	4.1	4.1

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR for those analytes reported to be <LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated by using have the LOR for C6-C9 fractions which were reported below the LOR

Where a range of Naphthalene values are reported, ES have adopted the highest of these when calculating low molecular weight PAHs

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate the Normalised results

Table 5 LL Surface Water Analytical Results

			TPH											BTEX						
			C6-C10 less BTEX (F1)	C6-C10	C10-C16	C16-C34	C34-C40	C10 - C40 (Sum of total)	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX
			mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
EQL			0.05	0.05	0.06	0.5	0.5	650	40	50	200	200	450	0.5	0.5	0.5	1	0.5	1.5	0.003
ANZECC 2000 FW 95%														950				350		
Recreational water quality and aesthetics														10						
Field_ID	Location_Code	Sampled_Date_Time																		
SW1 1	SW01	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW1 7.1	SW01	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW2 2.4	SW02	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW2 1	SW02	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW3 1	SW03	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW4 2.5	SW04	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW4 1	SW04	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW5 3.1	SW05	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW5 1	SW05	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW6 1	SW06	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW6 3.2	SW06	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW7 1	SW07	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW8 5.6	SW08	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW8 1	SW08	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW9 3.1	SW09	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW9 1	SW09	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW10 1	SW10	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW10 11.8	SW10	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW11 1	SW11	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW11 5.1	SW11	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW12 1	SW12	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW12 2.6	SW12	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW13 1	SW13	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW13 11	SW13	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW14 1	SW14	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW14 8.2	SW14	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW15 4.9	SW15	13/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW15 1	SW15	13/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW16 10	SW16	13/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW16 1	SW16	13/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW17 1	SW17	13/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW17 6.3	SW17	13/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW18 15.6	SW18	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW18 1	SW18	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW19 1	SW19	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW19 15.8	SW19	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW20 1	SW20	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW20 11.4	SW20	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW21 1	SW21	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW21 15.8	SW21	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW22 9.3	SW22	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW22 1	SW22	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW23 1	SW23	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW23 24.4	SW23	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW24 19.6	SW24	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW24 1	SW24	14/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW25 21.2	SW25	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW25 1	SW25	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW26 1	SW26	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003
SW26 7.9	SW26	15/08/2015	<0.05	<0.05	<0.06	<0.5	<0.5	<650	<40	<50	<200	<200	<450	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<0.003

Table 5 LL Surface Water Analytical Results

			Metals																				
			Arsenic	Arsenic (Filtered)	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Chromium (III+VI)	Chromium (III+VI) (Filtered)	Copper	Copper (Filtered)	Lead	Lead (Filtered)	Mercury	Mercury (Filtered)	Nickel	Nickel (Filtered)	Phosphorus	Selenium	Selenium (Filtered)	Zinc	Zinc (Filtered)
			ug/L	ug/L	mg/L	mg/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg/L	mg/L	mg/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			1	1	0.005	0.005	0.1	0.1	1	1	0.001	0.001	0.001	0.001	0.05	0.05	1	1	0.05	0.001	0.001	0.005	0.005
ANZECC 2000 FW 95%			24	24	0.09	0.09	0.2	0.2	1	1	0.0014	0.0014	0.0034	0.0034	0.06	0.06	11	11		0.005	0.005	0.008	0.008
Recreational water quality and aesthetics			50	50	1	1	5	5	50	50	1	1	0.05	0.05	1	1	100	100		0.01	0.01	5	5
Field_ID	Location_Code	Sampled_Date_Time																					
SW1 1	SW01	15/08/2015	3	2	0.87	0.52	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.16	0.002	0.002	<0.005	<0.005
SW1 7.1	SW01	15/08/2015	3	2	0.92	0.42	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	5	2	0.11	0.002	0.002	<0.005	<0.005
SW2 2.4	SW02	15/08/2015	3	2	0.9	0.47	0.2	<0.1	<1	<1	0.005	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.13	0.002	0.002	0.018	<0.005
SW2 1	SW02	15/08/2015	3	2	0.95	0.54	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	5	3	0.17	0.002	0.002	0.05	<0.005
SW3 1	SW03	15/08/2015	3	2	0.94	0.49	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	2	0.24	0.002	0.002	<0.005	<0.005
SW4 2.5	SW04	15/08/2015	3	2	0.93	0.63	0.1	<0.1	<1	<1	0.005	0.003	<0.001	<0.001	<0.05	<0.05	4	3	0.14	0.002	0.002	<0.005	<0.005
SW4 1	SW04	15/08/2015	3	2	0.9	0.56	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.27	0.002	0.002	0.022	<0.005
SW5 3.1	SW05	15/08/2015	3	2	0.97	0.64	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.19	0.002	0.002	<0.005	<0.005
SW5 1	SW05	15/08/2015	3	2	0.9	0.59	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.18	0.002	0.002	<0.005	<0.005
SW6 1	SW06	15/08/2015	3	2	0.92	0.45	0.2	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	2	0.27	0.003	0.001	<0.005	<0.005
SW6 3.2	SW06	15/08/2015	3	2	0.91	0.58	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.35	0.002	0.002	<0.005	<0.005
SW7 1	SW07	15/08/2015	3	1	0.92	0.36	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	2	0.14	0.002	0.001	<0.005	<0.005
SW8 5.6	SW08	15/08/2015	3	3	0.98	0.92	0.1	0.1	<1	<1	0.004	0.003	<0.001	<0.001	<0.05	<0.05	4	4	0.16	0.003	0.003	<0.005	<0.005
SW8 1	SW08	15/08/2015	3	2	0.91	0.52	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	2	0.15	0.002	0.002	<0.005	<0.005
SW9 3.1	SW09	15/08/2015	3	2	0.94	0.64	0.1	<0.1	<1	<1	0.005	0.002	<0.001	<0.001	<0.05	<0.05	5	3	0.11	0.002	0.002	<0.005	<0.005
SW9 1	SW09	15/08/2015	3	2	0.91	0.59	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.09	0.002	0.002	<0.005	<0.005
SW10 1	SW10	15/08/2015	3	2	0.93	0.61	0.2	<0.1	<1	<1	0.004	0.003	<0.001	<0.001	<0.05	<0.05	4	3	0.12	0.003	0.002	<0.005	<0.005
SW10 11.8	SW10	15/08/2015	3	2	0.94	0.68	<0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	<0.05	0.002	0.002	<0.005	<0.005
SW11 1	SW11	15/08/2015	3	2	0.93	0.66	0.1	<0.1	<1	<1	0.005	0.003	<0.001	<0.001	<0.05	<0.05	4	3	0.32	0.002	0.002	<0.005	<0.005
SW11 5.1	SW11	15/08/2015	3	2	0.93	0.71	0.2	0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	5	3	0.15	0.002	0.002	<0.005	<0.005
SW12 1	SW12	15/08/2015	3	2	0.94	0.56	0.1	<0.1	<1	<1	0.005	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.09	0.002	0.002	<0.005	<0.005
SW12 2.6	SW12	15/08/2015	3	2	0.95	0.5	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	2	0.35	0.002	0.001	<0.005	<0.005
SW13 1	SW13	15/08/2015	3	2	0.92	0.71	0.1	<0.1	<1	<1	0.004	0.003	<0.001	<0.001	<0.05	<0.05	4	3	0.3	0.002	0.002	<0.005	<0.005
SW13 11	SW13	15/08/2015	3	2	0.92	0.63	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.43	0.002	0.002	<0.005	<0.005
SW14 1	SW14	15/08/2015	3	3	0.91	0.78	0.1	<0.1	<1	<1	0.004	0.003	<0.001	<0.001	<0.05	<0.05	4	4	0.4	0.003	0.002	<0.005	<0.005
SW14 8.2	SW14	15/08/2015	3	2	0.93	0.54	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.47	0.002	0.002	<0.005	<0.005
SW15 4.9	SW15	13/08/2015	3	3	0.89	0.86	0.1	<0.1	<1	<1	0.004	0.003	<0.001	<0.001	<0.05	<0.05	4	4	-	0.002	0.003	<0.005	<0.005
SW15 1	SW15	13/08/2015	3	3	0.88	0.83	0.1	<0.1	<1	<1	0.004	0.003	<0.001	<0.001	<0.05	<0.05	4	4	-	0.002	0.002	<0.005	<0.005
SW16 10	SW16	13/08/2015	4	3	0.9	0.88	0.1	0.1	<1	<1	0.009	0.005	<0.001	<0.001	<0.05	<0.05	5	5	-	0.003	0.003	<0.005	<0.005
SW16 1	SW16	13/08/2015	3	3	0.88	0.86	0.1	<0.1	<1	<1	0.004	0.003	<0.001	<0.001	<0.05	<0.05	4	4	-	0.002	0.003	<0.005	<0.005
SW17 1	SW17	13/08/2015	4	4	0.93	0.9	0.1	0.1	<1	<1	0.011	0.007	<0.001	<0.001	<0.05	<0.05	6	5	-	0.003	0.003	<0.005	<0.005
SW17 6.3	SW17	13/08/2015	4	4	0.91	0.9	0.1	<0.1	<1	<1	0.011	0.007	<0.001	<0.001	<0.05	<0.05	6	5	-	0.003	0.003	<0.005	<0.005
SW18 15.6	SW18	14/08/2015	3	2	0.93	0.71	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.43	0.002	0.002	<0.005	<0.005
SW18 1	SW18	14/08/2015	3	2	0.93	0.6	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.83	0.002	0.002	<0.005	<0.005
SW19 1	SW19	14/08/2015	3	2	0.93	0.64	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.51	0.002	0.002	<0.005	<0.005
SW19 15.8	SW19	14/08/2015	3	2	0.92	0.71	<0.1	<0.1	<1	<1	0.004	0.036	<0.001	<0.001	<0.05	0.1	4	3	0.28	0.002	0.002	<0.005	0.56
SW20 1	SW20	14/08/2015	3	3	0.91	0.8	0.1	0.1	<1	<1	0.004	0.003	<0.001	<0.001	<0.05	<0.05	4	4	0.72	0.002	0.002	<0.005	<0.005
SW20 11.4	SW20	14/08/2015	3	2	0.9	0.63	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.46	0.002	0.002	<0.005	<0.005
SW21 1	SW21	14/08/2015	3	3	0.94	0.89	0.1	0.1	<1	<1	0.004	0.003	<0.001	<0.001	<0.05	<0.05	4	4	0.72	0.002	0.003	<0.005	<0.005
SW21 15.8	SW21	14/08/2015	3	3	0.96	0.83	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	4	0.5	0.003	0.002	<0.005	<0.005
SW22 9.3	SW22	14/08/2015	3	2	0.93	0.69	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.59	0.002	0.002	<0.005	<0.005
SW22 1	SW22	14/08/2015	3	2	0.93	0.5	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	2	0.51	0.002	0.001	<0.005	<0.005
SW23 1	SW23	14/08/2015	3	2	0.91	0.6	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.62	0.002	0.002	<0.005	<0.005
SW23 24.4	SW23	14/08/2015	3	2	0.95	0.47	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	2	0.52	0.002	0.001	<0.005	<0.005
SW24 19.6	SW24	14/08/2015	3	2	0.91	0.69	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	0.1	4	3	0.67	0.002	0.002	<0.005	<0.005
SW24 1	SW24	14/08/2015	3	2	0.92	0.52	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.58	0.002	0.002	<0.005	<0.005
SW25 21.2	SW25	15/08/2015	3	2	0.94	0.7	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	3	0.72	0.002	0.002	<0.005	<0.005
SW25 1	SW25	15/08/2015	3	2	0.92	0.54	0.1	<0.1	<1	<1	0.004	0.002	<0.001	<0.001	<0.05	<0.05	4	2	0.71	0.002	0.002	<0.005	<0.005
SW26 1	SW26	15/08/2015	3	2	0.93	0.64	0.1	<0.1	<1	<1	0.005	0.003	<0.001	<0.001	<0.05	<0.05	4	3	0.58	0.002	0.002	0.007	<0.005
SW26 7.9	SW26	15/08/2015	3	2	0.93	0.71	0.1	<0.1	<1	<1	0.004	0.003	<0.001	<0.001	<0.05	<0.05	4	3	0.57	0.003	0.002	<0.005	<0.005

Table 5 LL Surface Water Analytical Results

			PAH/Phenols																	
			1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Pyrene
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.1	0.01	0.01
ANZECC 2000 FW 95%																	16			
Recreational water quality and aesthetics									0.01											
Field_ID	Location_Code	Sampled_Date_Time																		
SW1 1	SW01	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW1 7.1	SW01	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW2 2.4	SW02	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW2 1	SW02	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW3 1	SW03	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW4 2.5	SW04	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW4 1	SW04	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW5 3.1	SW05	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW5 1	SW05	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW6 1	SW06	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW6 3.2	SW06	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW7 1	SW07	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW8 5.6	SW08	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW8 1	SW08	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW9 3.1	SW09	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW9 1	SW09	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW10 1	SW10	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW10 11.8	SW10	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW11 1	SW11	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW11 5.1	SW11	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW12 1	SW12	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW12 2.6	SW12	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW13 1	SW13	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW13 11	SW13	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW14 1	SW14	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW14 8.2	SW14	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW15 4.9	SW15	13/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW15 1	SW15	13/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW16 10	SW16	13/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW16 1	SW16	13/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW17 1	SW17	13/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW17 6.3	SW17	13/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW18 15.6	SW18	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW18 1	SW18	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW19 1	SW19	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW19 15.8	SW19	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW20 1	SW20	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW20 11.4	SW20	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW21 1	SW21	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW21 15.8	SW21	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW22 9.3	SW22	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW22 1	SW22	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW23 1	SW23	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW23 24.4	SW23	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW24 19.6	SW24	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW24 1	SW24	14/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW25 21.2	SW25	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW25 1	SW25	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW26 1	SW26	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01
SW26 7.9	SW26	15/08/2015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01

Table 5 LL Surface Water Analytical Results

Field_ID	Location_Code	Sampled_Date_Time	Methyl Ethyl Ketone	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	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	1,2,3-trichlorobenzene
			Solvents	Chlorinated Hydrocarbons																															
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			10	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	5	0.5	0.5	0.5	4	0.5	0.5	0.5	0.5	0.5	0.3	0.5
ANZECC 2000 FW 95%							6500																												10
Recreational water quality and aesthetics									0.3				10							3										30	10				
SW1 1	SW01	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW1 7.1	SW01	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW2 2.4	SW02	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW2 1	SW02	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW3 1	SW03	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW4 2.5	SW04	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW4 1	SW04	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW5 3.1	SW05	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW5 1	SW05	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW6 1	SW06	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW6 3.2	SW06	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW7 1	SW07	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW8 5.6	SW08	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW8 1	SW08	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW9 3.1	SW09	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW9 1	SW09	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW10 1	SW10	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW10 11.8	SW10	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW11 1	SW11	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW11 5.1	SW11	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW12 1	SW12	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW12 2.6	SW12	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW13 1	SW13	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW13 11	SW13	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW14 1	SW14	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW14 8.2	SW14	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW15 4.9	SW15	13/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW15 1	SW15	13/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW16 10	SW16	13/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW16 1	SW16	13/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW17 1	SW17	13/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW17 6.3	SW17	13/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW18 15.6	SW18	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW18 1	SW18	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW19 1	SW19	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW19 15.8	SW19	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW20 1	SW20	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW20 11.4	SW20	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW21 1	SW21	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW21 15.8	SW21	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW22 9.3	SW22	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW22 1	SW22	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW23 1	SW23	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW23 24.4	SW23	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW24 19.6	SW24	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW24 1	SW24	14/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW25 21.2	SW25	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW25 1	SW25	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW26 1	SW26	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5
SW26 7.9	SW26	15/08/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5

			Halogenated Benzenes								Halogenated Hydrocarbons					Inorganics					
			1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	Ammonia as N (Filtered)	Electrical conductivity *(lab)	Nitrate (as N) (Filtered)	pH (Lab)	Salinity	TOC
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	uS/cm	mg/L	pH_Units	mg/L	mg/L
EQL			0.5	0.5	0.5	0.3	0.5	0.5	0.5	0.5	0.5	10	5	5	1	10	2	0.005	0	2	0.2
ANZECC 2000 FW 95%			170	160	260	60										0.9		0.7			
Recreational water quality and aesthetics																10		10			
Field_ID	Location_Code	Sampled_Date_Time																			
SW1 1	SW01	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	10	1600	<0.005	8.5	1100	8.7
SW1 7.1	SW01	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	1400	0.007	8.7	880	7.4
SW2 2.4	SW02	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	1500	<0.005	8.8	970	8
SW2 1	SW02	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	30	1600	<0.005	8.5	1000	7.1
SW3 1	SW03	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	30	1600	0.006	8.7	1000	8
SW4 2.5	SW04	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	40	1800	<0.005	8.7	1200	12
SW4 1	SW04	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	60	1600	<0.005	8.6	1100	7.2
SW5 3.1	SW05	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	1700	<0.005	8.6	1100	9
SW5 1	SW05	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	1800	<0.005	8.7	1100	9.2
SW6 1	SW06	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	10	1400	<0.005	8.6	910	8.3
SW6 3.2	SW06	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	10	1700	<0.005	8.4	1100	7.6
SW7 1	SW07	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	10	1200	<0.005	8.6	780	7.4
SW8 5.6	SW08	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	2400	<0.01	8.5	1600	7.4
SW8 1	SW08	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	10	1600	<0.005	8.8	1000	8.1
SW9 3.1	SW09	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	1800	<0.01	8.6	1200	11
SW9 1	SW09	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	10	1700	<0.005	8.6	1100	8
SW10 1	SW10	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	10	1800	<0.01	8.6	1200	8.5
SW10 11.8	SW10	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	30	1900	0.013	8.6	1300	8.5
SW11 1	SW11	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	10	1800	<0.005	8.4	1200	8.6
SW11 5.1	SW11	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	40	2000	0.011	8.5	1300	8.6
SW12 1	SW12	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	10	1600	<0.005	8.5	1000	8
SW12 2.6	SW12	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	10	1500	<0.005	8.6	970	7
SW13 1	SW13	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	1900	<0.005	8.3	1200	8.1
SW13 11	SW13	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	50	1700	0.012	8.3	1100	7.9
SW14 1	SW14	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	50	2200	<0.005	8.5	1400	8.3
SW14 8.2	SW14	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	1600	0.005	8.5	1000	8.6
SW15 4.9	SW15	13/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	-	1900	-	-	1200	7.9
SW15 1	SW15	13/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	-	1900	-	-	1200	7.9
SW16 10	SW16	13/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	-	2000	-	-	1300	8.4
SW16 1	SW16	13/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	-	1900	-	-	1200	7.5
SW17 1	SW17	13/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	-	1900	-	-	1300	7.9
SW17 6.3	SW17	13/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	-	2000	-	-	1300	8.1
SW18 15.6	SW18	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	1900	<0.005	8.3	1300	8.2
SW18 1	SW18	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	1700	<0.005	8.5	1100	7.8
SW19 1	SW19	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	1700	<0.005	8.3	1100	7.4
SW19 15.8	SW19	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	10	2000	0.046	5.5	1300	7.7
SW20 1	SW20	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	50	2200	<0.005	8.4	1400	7.9
SW20 11.4	SW20	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	1700	0.01	8.5	1100	6.9
SW21 1	SW21	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	2400	0.014	8.5	1500	7.5
SW21 15.8	SW21	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	100	2200	0.017	8.4	1400	7.2
SW22 9.3	SW22	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	40	1900	0.01	8.6	1300	7.6
SW22 1	SW22	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	40	1400	<0.005	8.5	920	7.2
SW23 1	SW23	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	30	1700	<0.005	8.6	1100	7.7
SW23 24.4	SW23	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	50	1500	0.013	8.8	950	7.4
SW24 19.6	SW24	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	40	1900	0.013	8.5	1300	7.4
SW24 1	SW24	14/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	1600	0.005	8.8	1000	8.1
SW25 21.2	SW25	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	40	1900	0.008	8.5	1200	8.9
SW25 1	SW25	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	30	1600	<0.005	8.6	1000	7.6
SW26 1	SW26	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	20	1800	<0.005	8.5	1200	7.9
SW26 7.9	SW26	15/08/2015	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<1	50	2000	<0.01	7.7	1300	7.8

	MAH												VOCs									
	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	2-hexanone (MBK)	4-Methyl-2-pentanone	Acetone	Acrylonitrile	Allyl chloride	Carbon disulfide	MTBE	Vinyl acetate	Nitrite Nitrogen, NO2 as N (Filtered)	Phosphorous filterable reactive (P) (Filtered)	2-Nitropropane	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	mg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L
EQL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	5	0.01	0.5	0.002	2	0.002	10	0.005	0.005	0.1	1	1
ANZECC 2000 FW 95%																						
Recreational water quality and aesthetics																						
Field_ID																						
SW1 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW1 7.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW2 2.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW2 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW3 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW4 2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW4 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW5 3.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW5 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW6 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW6 3.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW7 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW8 5.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW8 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW9 3.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	0.008	<0.1	<1	<1
SW9 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW10 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	0.007	<0.1	<1	<1
SW10 11.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW11 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW11 5.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW12 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	0.006	<0.1	<1	<1
SW12 2.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW13 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW13 11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW14 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW14 8.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW15 4.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	-	-	<0.1	<1	<1
SW15 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	-	-	<0.1	<1	<1
SW16 10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	-	-	<0.1	<1	<1
SW16 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	-	-	<0.1	<1	<1
SW17 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	-	-	<0.1	<1	<1
SW17 6.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	-	-	<0.1	<1	<1
SW18 15.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW18 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW19 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW19 15.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW20 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	0.008	<0.1	<1	<1
SW20 11.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW21 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW21 15.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW22 9.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW22 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW23 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW23 24.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW24 19.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW24 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW25 21.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW25 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW26 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1
SW26 7.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10	<0.005	<0.005	<0.1	<1	<1

Table 6 AEC LL Surface Water Analytical Results

Site_ID	Field_ID	Location_Code	Sampled_Date_Time	Arsenic	Arsenic (Filtered)	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Chromium (III+VI)	Chromium (III+VI) (Filtered)	Copper	Copper (Filtered)	Lead	Lead (Filtered)	Mercury	Mercury (Filtered)	Nickel	Nickel (Filtered)	Phosphorus	Selenium	Selenium (Filtered)	Zinc	Zinc (Filtered)
				Metals																				
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	5	5	0.1	0.1	1	1	1	1	1	1	0.05	0.05	1	1	50	1	1	5	5
ANZECC 2000 FW 95%						90	90	0.2	0.2			1.4	1.4	3.4	3.4	0.06	0.06	11	11		5	5	8	8
Recreational water quality and aesthetics				50	50	1000	1000	5	5	50	50	1000	1000	50	50	1	1	100	100		10	10	5000	5000
UK Health Protection Agency UKHPA (2009																								
15092_Liddell	L_105_ESSW01	L_105_ESSW01	9/07/2015	3	3	740	740	0.1	0.1	<1	<1	4	3	<1	<1	<0.05	<0.05	4	3	<50	2	2	6	<5
15092_Liddell	L_105_ESSW02	L_105_ESSW02	10/07/2015	3	3	780	740	0.1	0.1	<1	<1	4	4	<1	<1	<0.05	<0.05	4	4	<50	2	2	5	<5
15092_Liddell	L_109_ESSW01	L_109_ESSW01	9/07/2015	74	50	1500	1400	0.8	0.4	22	5	24	3	25	<1	0.23	<0.05	19	6	1000	51	42	76	42
15092_Liddell	L_109_ESSW02	L_109_ESSW02	9/07/2015	51	51	1400	1400	0.4	0.4	6	6	3	3	<1	<1	<0.05	<0.05	5	6	410	40	41	14	16
15092_Liddell	L_111_ESSW01	L_111_ESSW01	14/07/2015	12	1	2000	1900	1.6	0.1	14	<1	600	<1	22	<1	0.25	<0.05	100	2	3200	11	<1	350	<5
15092_Liddell	L_111_ESSW02	L_111_ESSW02	15/07/2015	4	1	1900	2000	0.3	0.1	3	<1	21	<1	4	<1	<0.05	<0.05	7	1	11,000	3	<1	25	51
15092_Liddell	L_112_ESSW01	L_112_ESSW01	15/07/2015	35	36	1700	1700	0.3	0.3	4	4	1	1	<1	<1	<0.05	<0.05	4	4	220	29	32	<5	25
15092_Liddell	L_112_ESSW02	L_112_ESSW02	9/07/2015	39	38	1500	1500	0.4	0.4	4	4	2	2	<1	<1	<0.05	<0.05	4	4	190	31	32	7	7
15092_Liddell	L_113_ESSW01	L_113_ESSW01	15/10/2015	130	5	500	470	1	0.8	31	3	25	3	22	<1	0.18	<0.05	230	210	30,000	120	10	410	330
15092_Liddell	L_113_ESSW02	L_113_ESSW02	9/07/2015	43	36	1500	1400	0.4	0.4	7	3	3	<1	1	<1	<0.05	<0.05	6	4	340	33	30	10	<5
15092_Liddell	L_120_ESSW01	L_120_ESSW01	14/10/2015	6	3	990	940	<0.1	<0.1	2	<1	8	<1	2	<1	<0.05	<0.05	8	2	250	7	6	29	7
15092_Liddell	L_127_ESSW01	L_127_ESSW01	15/07/2015	3	3	850	870	<0.1	<0.1	<1	<1	6	4	<1	<1	0.16	<0.05	4	4	<50	2	2	45	<5
15092_Liddell	L_127_ESSW02	L_127_ESSW02	15/07/2015	3	3	830	870	<0.1	<0.1	<1	<1	6	4	<1	<1	0.14	<0.05	4	4	50	2	2	6	110
15092_Liddell	L_129_ESSW01	L_129_ESSW01	9/07/2015	5	3	770	760	<0.1	0.1	<1	<1	13	4	<1	<1	<0.05	<0.05	14	4	110	3	2	19	7
15092_Liddell	L_130_ESSW01	L_130_ESSW01	14/07/2015	<1	<1	120	120	<0.1	<0.1	<1	<1	<1	1	<1	<1	<0.05	<0.05	<1	1	<50	<1	<1	<5	8
15092_Liddell	L_137_ESSW01	L_137_ESSW01	10/07/2015	2	2	770	710	0.2	0.1	<1	<1	3	2	<1	<1	<0.05	<0.05	3	3	<50	2	2	50	37
15092_Liddell	L_137_ESSW02	L_137_ESSW02	10/07/2015	2	2	760	760	0.2	0.1	<1	<1	4	3	<1	<1	<0.05	<0.05	3	4	<50	2	2	58	42
15092_Liddell	L_138_ESSW02	L_138_ESSW02	14/07/2015	1	1	170	170	<0.1	<0.1	<1	<1	4	1	3	<1	<0.05	<0.05	6	4	<50	2	1	10	<5
15092_Liddell	L_139_ESSW01	L_139_ESSW01	10/07/2015	2	<1	86	92	<0.1	<0.1	3	<1	4	1	2	<1	<0.05	<0.05	7	5	60	<1	<1	10	<5
15092_Liddell	L_140_ESSW01	L_140_ESSW01	10/07/2015	3	3	770	760	0.1	0.1	<1	<1	6	3	<1	<1	<0.05	<0.05	4	4	<50	3	2	12	<5
15092_Liddell	L_140_ESSW02	L_140_ESSW02	10/07/2015	3	3	740	740	0.1	0.1	<1	<1	5	3	<1	<1	<0.05	<0.05	4	3	1600	2	2	<5	9
15092_Liddell	L_143_ESSW01	L_143_ESSW01	15/07/2015	2	2	310	310	<0.1	<0.1	<1	<1	120	48	<1	<1	<0.05	<0.05	22	19	<50	1	1	26	11
15092_Liddell	L_63_ESSW01	L_63_ESSW01	14/10/2015	4	3	950	920	<0.1	<0.1	<1	<1	5	4	<1	<1	<0.05	<0.05	4	3	<50	5	4	7	6
15092_Liddell	L_63_ESSW02	L_63_ESSW02	14/10/2015	6	3	990	930	<0.1	<0.1	2	<1	7	3	2	<1	<0.05	<0.05	6	3	190	4	5	25	<5
15092_Liddell	L_77_ESSW01	L_77_ESSW01	8/07/2015	<1	<1	49	46	<0.1	<0.1	<1	<1	2	<1	<1	<1	<0.05	<0.05	2	<1	<50	<1	<1	7	<5
15092_Liddell	L_77_ESSW02	L_77_ESSW02	8/07/2015	<1	<1	93	89	<0.1	<0.1	<1	<1	1	1	<1	<1	<0.05	<0.05	2	2	<50	<1	<1	6	6
15092_Liddell	L_78_ESSW01	L_78_ESSW01	8/07/2015	<1	<1	680	660	0.1	<0.1	1	<1	2	1	<1	<1	<0.05	<0.05	21	19	<50	1	1	60	120
15092_Liddell	L_78_ESSW02	L_78_ESSW02	8/07/2015	1	<1	130	130	<0.1	<0.1	<1	<1	2	1	<1	<1	<0.05	<0.05	2	1	<50	<1	<1	7	<5
15092_Liddell	L_90_ESSW01	L_90_ESSW01	15/07/2015	3	3	800	840	0.1	<0.1	<1	<1	5	4	<1	<1	<0.05	<0.05	4	4	<50	2	3	5	<5
15092_Liddell	L_90_ESSW02	L_90_ESSW02	9/07/2015	3	3	740	730	0.1	0.1	<1	<1	4	3	<1	<1	<0.05	<0.05	4	3	<50	2	2	8	<5
15092_Liddell	L_94_ESSW01	L_94_ESSW01	9/07/2015	3	3	700	710	0.1	<0.1	<1	<1	4	3	<1	<1	<0.05	<0.05	3	3	<50	2	2	<5	<5
15092_Liddell	L_94_ESSW02-2	L_94_ESSW02	9/07/2015	1	1	330	310	<0.1	<0.1	3	1	130	89	<1	<1	<0.05	<0.05	5	4	<50	<1	<1	110	8
15092_Liddell	L_95_ESSW02	L_95_ESSW02	14/07/2015	1	<1	60	56	<0.1	<0.1	1	<1	7	4	2	<1	<0.05	<0.05	5	3	310	<1	<1	28	100
15092_Liddell	L_95_ESSW03	L_95_ESSW03	14/07/2015	1	<1	72	66	<0.1	<0.1	1	<1	6	6	2	<1	<0.05	<0.05	3	2	960	<1	<1	11	<5
15092_Liddell	L_99_ESSW01	L_99_ESSW01	9/07/2015	3	3	740	720	0.1	0.1	<1	<1	4	4	<1	<1	<0.05	<0.05	4	4	<50	2	2	9	8
15092_Liddell	L_99_ESSW02	L_99_ESSW02	9/07/2015	3	3	700	690	0.1	0.1	<1	<1	5	4	2	<1	<0.05	<0.05	4	3	<50	2	2	50	23

Field_ID	Redox	Ammonia as N (Filtered)	Dissolved Oxygen	Electrical conductivity *(lab)	Electrical conductivity *(lab) (Filtered)	Nitrate (as N) (Filtered)	pH (Lab)	pH (Lab) (Filtered)	Salinity	Salinity (Filtered)
		Inorganics								
	mV	mg/L	mg/L	uS/cm	uS/cm	mg/L	pH_Units	pH_Units	mg/L	mg/L
EQL		0.01		2	2	0.005	0	0	2	2
ANZECC 2000 FW 95%										
Recreational water quality and aesthetics		0.01				10				
UK Health Protection Agency UKHPA (2009										
L_105_ESSW01	-	0.02	-	-	2200	0.016	-	8.5	-	1400
L_105_ESSW02	-	0.02	-	-	1800	0.021	-	8.5	-	1100
L_109_ESSW01	-	0.02	-	-	2600	<0.005	-	8.3	-	1700
L_109_ESSW02	-	0.02	-	-	2100	0.14	-	8.5	-	1400
L_111_ESSW01	-	0.12	-	-	2700	0.13	-	6.5	-	1700
L_111_ESSW02	-	0.08	-	-	2600	0.16	-	6.6	-	1700
L_112_ESSW01	-	0.02	-	-	2300	<0.01	-	7.8	-	1500
L_112_ESSW02	-	0.02	-	-	2000	0.11	-	8.5	-	1300
L_113_ESSW01	-	0.65	-	1800	-	0.052	3.2	-		1100
L_113_ESSW02	-	0.03	-	-	1900	0.007	-	8.2	-	1200
L_120_ESSW01	-	0.05	-	2400	-	0.026	7.5	-		1600
L_127_ESSW01	-	0.04	-	-	1900	0.025	-	8.1	-	1300
L_127_ESSW02	-	0.09	-	-	2000	0.019	-	8.1	-	1300
L_129_ESSW01	-	0.09	-	-	2300	0.059	-	8.3	-	1500
L_130_ESSW01	-	0.16	-	-	3800	<0.025	-	7.9	-	2400
L_137_ESSW01	-	0.02	-	-	1600	0.078	-	8.3	-	1000
L_137_ESSW02	-	0.03	-	-	2200	0.036	-	8.3	-	1400
L_138_ESSW02	-	0.26	-	-	3600	<0.025	-	7.8	-	2400
L_139_ESSW01	-	0.01	-	-	4900	0.26	-	7.9	-	3200
L_140_ESSW01	-	0.05	-	-	1600	0.018	-	8.6	-	1000
L_140_ESSW02	-	0.02	-	-	2100	0.044	-	8.6	-	1400
L_143_ESSW01	-	0.05	-	-	1900	0.21	-	7.2	-	1200
L_63_ESSW01	-	0.61	-	2300	-	0.035	8.5	-		1500
L_63_ESSW02	-	0.08	-	2400	-	0.019	8.5	-		1600
L_77_ESSW01	-	0.02	-	-	680	0.035	-	7.2	-	440
L_77_ESSW02	-	0.03	-	-	960	<0.005	-	7.8	-	620
L_78_ESSW01	-	0.05	-	-	6500	<0.025	-	6.9	-	4200
L_78_ESSW02	-	0.02	-	-	860	<0.005	-	7	-	560
L_90_ESSW01	-	0.04	-	-	2000	0.015	-	7.9	-	1300
L_90_ESSW02	-	0.04	-	-	2100	0.073	-	8.3	-	1400
L_94_ESSW01	-	0.09	-	-	1900	0.063	-	8.4	-	1200
L_94_ESSW02-2	-	0.19	-	-	8400	0.28	-	2.3	-	5400
L_95_ESSW02	-	0.07	-	-	420	<0.005	-	6.5	-	270
L_95_ESSW03	-	0.07	-	-	310	<0.005	-	6.9	-	200
L_99_ESSW01	-	0.04	-	-	2200	0.022	-	8.4	-	1400
L_99_ESSW02	-	0.05	-	-	2100	0.042	-	8.3	-	1400

Table 6 AEC LL Surface Water Analytical Results

				BTEX							TRH					TPH							MAH												
				Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10	C6-C10 less BTEX (F1)	C10-C16	C16-C34	C34-C40	TRH C37-C40	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.5	0.5	0.5	1	0.5	1.5	3	50	50	60	500	500	200	40	50	200	200	450	650	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.01	0.01	0.01	0.01
ANZECC 2000 FW 95%				950				350																											
Recreational water quality and aesthetics				10																															
UK Health Protection Agency UKHPA (2009																																			
Site_ID	Field_ID	Location_Code	Sampled_Date_Time																																
15092_Liddell	L_105_ESSW01	L_105_ESSW01	9/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_105_ESSW02	L_105_ESSW02	10/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_109_ESSW01	L_109_ESSW01	9/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	1700	<500	<200	<40	<50	870	1200	2100	2100	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_109_ESSW02	L_109_ESSW02	9/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	650	<500	<200	<40	<50	360	330	690	690	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_111_ESSW01	L_111_ESSW01	14/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	71	<500	<500	<200	<40	58	390	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	0.04	0.02
15092_Liddell	L_111_ESSW02	L_111_ESSW02	15/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_112_ESSW01	L_112_ESSW01	15/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_112_ESSW02	L_112_ESSW02	9/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_113_ESSW01	L_113_ESSW01	15/10/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	0.01	0.02	<0.01	0.02
15092_Liddell	L_113_ESSW02	L_113_ESSW02	9/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_120_ESSW01	L_120_ESSW01	14/10/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_127_ESSW01	L_127_ESSW01	15/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_127_ESSW02	L_127_ESSW02	15/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_129_ESSW01	L_129_ESSW01	9/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_130_ESSW01	L_130_ESSW01	14/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_137_ESSW01	L_137_ESSW01	10/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_137_ESSW02	L_137_ESSW02	10/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	330	2300	<500	<200	<40	210	1700	740	2700	2700	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.01	0.01	<0.01	<0.01
15092_Liddell	L_138_ESSW02	L_138_ESSW02	14/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_139_ESSW01	L_139_ESSW01	10/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_140_ESSW01	L_140_ESSW01	10/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_140_ESSW02	L_140_ESSW02	10/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_143_ESSW01	L_143_ESSW01	15/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_63_ESSW01	L_63_ESSW01	14/10/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_63_ESSW02	L_63_ESSW02	14/10/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_77_ESSW01	L_77_ESSW01	8/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_77_ESSW02	L_77_ESSW02	8/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_78_ESSW01	L_78_ESSW01	8/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_78_ESSW02	L_78_ESSW02	8/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_90_ESSW01	L_90_ESSW01	15/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_90_ESSW02	L_90_ESSW02	9/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_94_ESSW01	L_94_ESSW01	9/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	790	<500	<200	<40	<50	550	240	790	790	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_94_ESSW02-2	L_94_ESSW02	9/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_95_ESSW02	L_95_ESSW02	14/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_95_ESSW03	L_95_ESSW03	14/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_99_ESSW01	L_99_ESSW01	9/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.01	<0.01	<0.01
15092_Liddell	L_99_ESSW02	L_99_ESSW02	9/07/2015	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01

Table 6 AEC LL Surface Water Analytical Results

Site_ID	Field_ID	Location_Code	Sampled_Date_Time	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Pyrene	2-Nitropropane	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	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	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform
				PAH/Phenols														VOCs												Chlorinated Hydrocarbons										
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.1	0.01	0.01	100	1	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	5	0.5
ANZECC 2000 FW 95%														16										6500																
Recreational water quality and aesthetics						0.01																				0.3				10							3			
UK Health Protection Agency UKHPA (2009																																								
15092_Liddell	L_105_ESSW01	L_105_ESSW01	9/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_105_ESSW02	L_105_ESSW02	10/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_109_ESSW01	L_109_ESSW01	9/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_109_ESSW02	L_109_ESSW02	9/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_111_ESSW01	L_111_ESSW01	14/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.02	0.1	0.04	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_111_ESSW02	L_111_ESSW02	15/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_112_ESSW01	L_112_ESSW01	15/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_112_ESSW02	L_112_ESSW02	9/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_113_ESSW01	L_113_ESSW01	15/10/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_113_ESSW02	L_113_ESSW02	9/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_120_ESSW01	L_120_ESSW01	14/10/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_127_ESSW01	L_127_ESSW01	15/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_127_ESSW02	L_127_ESSW02	15/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_129_ESSW01	L_129_ESSW01	9/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_130_ESSW01	L_130_ESSW01	14/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.02	<0.1	0.01	0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_137_ESSW01	L_137_ESSW01	10/07/2015	<0.01	0.01	<0.01	<0.02	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.02	<0.1	0.02	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_137_ESSW02	L_137_ESSW02	10/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.02	<0.1	0.03	0.02	<100	<1	<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	<5	<0.5
15092_Liddell	L_138_ESSW02	L_138_ESSW02	14/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.02	<0.1	0.02	0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_139_ESSW01	L_139_ESSW01	10/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_140_ESSW01	L_140_ESSW01	10/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_140_ESSW02	L_140_ESSW02	10/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_143_ESSW01	L_143_ESSW01	15/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_63_ESSW01	L_63_ESSW01	14/10/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_63_ESSW02	L_63_ESSW02	14/10/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_77_ESSW01	L_77_ESSW01	8/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_77_ESSW02	L_77_ESSW02	8/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_78_ESSW01	L_78_ESSW01	8/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_78_ESSW02	L_78_ESSW02	8/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_90_ESSW01	L_90_ESSW01	15/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_90_ESSW02	L_90_ESSW02	9/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_94_ESSW01	L_94_ESSW01	9/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_94_ESSW02-2	L_94_ESSW02	9/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	0.01	<0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_95_ESSW02	L_95_ESSW02	14/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_95_ESSW03	L_95_ESSW03	14/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_99_ESSW01	L_99_ESSW01	9/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<100	<1	<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	<5	<0.5
15092_Liddell	L_99_ESSW02	L_99_ESSW02	9/07/2015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 6 AEC LL Surface Water Analytical Results

															Halogenated Hydrocarbons					Halogenated Benzenes									Field		Solvents								
				Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Conductivity (Field)	pH (Field)	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Acetone	Acrylonitrile	Allyl chloride	Carbon disulfide	MTBE	Vinyl acetate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	uS/cm	pH_Units	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	mg/L	µg/L
EQL				5	0.5	0.5	0.5	4	0.5	0.5	0.5	0.5	0.5	0.3	0.5	10	5	5	1	0.5	0.5	0.5	0.5	0.3	0.5	0.5	0.5	0.5			10	5	5	0.01	0.5	0.002	2	0.002	10
ANZECC 2000 FW 95%																				10	170	160	260	60															
Recreational water quality and aesthetics										30	10																												
UK Health Protection Agency UKHPA (2009																																							
Site_ID	Field_ID	Location_Code	Sampled_Date_Time																																				
15092_Liddell	L_105_ESSW01	L_105_ESSW01	9/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_105_ESSW02	L_105_ESSW02	10/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_109_ESSW01	L_109_ESSW01	9/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_109_ESSW02	L_109_ESSW02	9/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_111_ESSW01	L_111_ESSW01	14/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_111_ESSW02	L_111_ESSW02	15/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_112_ESSW01	L_112_ESSW01	15/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_112_ESSW02	L_112_ESSW02	9/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_113_ESSW01	L_113_ESSW01	15/10/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_113_ESSW02	L_113_ESSW02	9/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_120_ESSW01	L_120_ESSW01	14/10/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_127_ESSW01	L_127_ESSW01	15/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_127_ESSW02	L_127_ESSW02	15/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_129_ESSW01	L_129_ESSW01	9/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_130_ESSW01	L_130_ESSW01	14/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_137_ESSW01	L_137_ESSW01	10/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_137_ESSW02	L_137_ESSW02	10/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_138_ESSW02	L_138_ESSW02	14/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_139_ESSW01	L_139_ESSW01	10/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_140_ESSW01	L_140_ESSW01	10/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_140_ESSW02	L_140_ESSW02	10/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_143_ESSW01	L_143_ESSW01	15/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_63_ESSW01	L_63_ESSW01	14/10/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_63_ESSW02	L_63_ESSW02	14/10/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_77_ESSW01	L_77_ESSW01	8/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_77_ESSW02	L_77_ESSW02	8/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_78_ESSW01	L_78_ESSW01	8/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_78_ESSW02	L_78_ESSW02	8/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_90_ESSW01	L_90_ESSW01	15/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_90_ESSW02	L_90_ESSW02	9/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_94_ESSW01	L_94_ESSW01	9/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_94_ESSW02-2	L_94_ESSW02	9/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_95_ESSW02	L_95_ESSW02	14/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_95_ESSW03	L_95_ESSW03	14/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	L_99_ESSW01	L_99_ESSW01	9/07/2015	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<10	<5	<5	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
15092_Liddell	L_99_ESSW02	L_99_ESSW02	9/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 LPS Discharge Points Sediment Analytical Results

				Metals												
				Arsenic	Boron	Cadmium	Calcium	Chromium (III+VI)	Copper	Lead	Magnesium	Mercury	Nickel	Potassium	Selenium	Zinc
				mg/kg	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				3	5	0.3	5	0.3	0.5	1	10	0.01	0.5	10	3	0.5
ISQG-High				70		10		370	270	220		1	52			410
ISQG-Low				20		1.5		80	65	50		0.15	21			200
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil				300	20000	90			17000	600		80	1200		700	30000
Site_ID	SDG	Location_Code	Sampled_Date_Time													
15092_Liddell	SE148233-1	LAW_LL_ESSD01	19/01/2016	12	<5	<0.3	6000	10	12	15	1800	0.02	15	670	<3	58
15092_Liddell	SE148233-1	LAW_LL_ESSD02	19/01/2016	6	<5	<0.3	27,000	2.3	2.8	20	610	0.07	3.1	270	<3	12
15092_Liddell	SE148233-1	LAW_LL_ESSD03	18/01/2016	12	<5	<0.3	2300	4.8	8.8	63	900	0.02	10	380	<3	34
15092_Liddell	SE148233-1	LAW_LL_ESSD04	18/01/2016	12	<5	<0.3	4000	6.2	12	7	1000	0.01	11	420	<3	34
15092_Liddell	SE148233-1	LAW_LL_ESSD05	19/01/2016	11	<5	0.5	4300	20	59	82	2200	<0.01	15	810	<3	970
15092_Liddell	SE148233-1	LAW_LL_ESSD06	19/01/2016	7	<5	<0.3	5300	11	16	10	2800	<0.01	17	740	<3	37

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR for those analytes reported to be <LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated by using have the LOR for C6-C9 fractions which were reported below the LOR

Where a range of Naphthalene values are reported, ES have adopted the highest of these when calculating low molecular weight PAHs

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate the Normalised results

Table 7 LPS Discharge Points Sediment Analytical Results

Site_ID	SDG	Location_Code	Sampled_Date_Time	PAH Benzo(b+j)fluoranthene	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Carcinogenic PAHs (as B(a)P TPE)	Carcinogenic PAHs (as B(a)P TPE, PEFx3)	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			0.1	0.1	0.1	0.1	0.8	0.1
ISQG-High							0.5	0.64	1.1	1.6	1.6			2.8	0.26			5.1	0.54		2.1	45	1.5
ISQG-Low							0.016	0.044	0.085	0.261	0.43			0.384	0.063			0.6	0.019		0.16	4	0.24
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil																3						300	
15092_Liddell	SE148233-1	LAW_LL_ESSD01	19/01/2016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD02	19/01/2016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD03	18/01/2016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD04	18/01/2016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD05	19/01/2016	<0.1	0.1	0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	0.2	0.1	<0.1	<0.1	1.2	0.3
15092_Liddell	SE148233-1	LAW_LL_ESSD06	19/01/2016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR
Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated l
Where a range of Naphthalene values are reported, ES have adopted the highest of th
Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate

				Pyrene
				mg/kg
EQL				0.1
ISQG-High				2.6
ISQG-Low				0.665
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil				

Site_ID	SDG	Location_Code	Sampled_Date_Time	Pyrene
15092_Liddell	SE148233-1	LAW_LL_ESSD01	19/01/2016	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD02	19/01/2016	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD03	18/01/2016	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD04	18/01/2016	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD05	19/01/2016	0.2
15092_Liddell	SE148233-1	LAW_LL_ESSD06	19/01/2016	<0.1

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated l

Where a range of Naphthalene values are reported, ES have adopted the highest of th

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate

					PFC		BTEX							TRH						TPH							PCBs							
				TOC	Perfluorooctane sulfonate	Perfluorooctanoate	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10	C6-C10 less BTEX (F1)	C10-C16	F2-NAPHTHALENE	C16-C34	C34-C40	TRH C37-C40	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Arochlor 1268
				%w/w	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				0.1			0.1	0.1	0.1	0.2	0.1	0.3	0.6	25	25	25	25	90	120	100	20	20	45	45	110	210	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
ISQG-High																																		
ISQG-Low																																		
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil																																		
Site_ID	**SDG**	**Location_Code**	**Sampled_Date_Time**																															
15092_Liddell	SE148233-1	LAW_LL_ESSD01	19/01/2016	0.9	<0.05	<0.05	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
15092_Liddell	SE148233-1	LAW_LL_ESSD02	19/01/2016	1.2	<0.05	<0.05	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
15092_Liddell	SE148233-1	LAW_LL_ESSD03	18/01/2016	0.2	<0.05	<0.05	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
15092_Liddell	SE148233-1	LAW_LL_ESSD04	18/01/2016	1.6	<0.05	<0.05	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
15092_Liddell	SE148233-1	LAW_LL_ESSD05	19/01/2016	0.6	<0.05	<0.05	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
15092_Liddell	SE148233-1	LAW_LL_ESSD06	19/01/2016	0.3	<0.05	<0.05	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25	<25	<25	<25	<90	<120	<100	<20	<20	<45	<45	<110	<210	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated l

Where a range of Naphthalene values are reported, ES have adopted the highest of th

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate

Site_ID	SDG	Location_Code	Sampled_Date_Time	Aroclor 1262	PCBs (Sum of total)
				mg/kg	mg/kg
EQL				0.2	1
ISQG-High					
ISQG-Low					0.023
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil					1
15092_Liddell	SE148233-1	LAW_LL_ESSD01	19/01/2016	<0.2	<1
15092_Liddell	SE148233-1	LAW_LL_ESSD02	19/01/2016	<0.2	<1
15092_Liddell	SE148233-1	LAW_LL_ESSD03	18/01/2016	<0.2	<1
15092_Liddell	SE148233-1	LAW_LL_ESSD04	18/01/2016	<0.2	<1
15092_Liddell	SE148233-1	LAW_LL_ESSD05	19/01/2016	<0.2	<1
15092_Liddell	SE148233-1	LAW_LL_ESSD06	19/01/2016	<0.2	<1

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated l

Where a range of Naphthalene values are reported, ES have adopted the highest of th

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate

Table 7 LPS Discharge Points Sediment Analytical Results

Site_ID	SDG	Location_Code	Sampled_Date_Time	% Moisture	Alkalinity (Bicarbonate)	Alkalinity (Hydroxide)	Alkalinity (total) as CaCO3	Ammonia as N	Chloride	pH (Lab)	Sodium	Sulphate	TOC	Alkalinity (Carbonate)
				Inorganics										Organic
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH_Units	mg/kg	mg/kg	%w/w	mg/kg
EQL				5000	25	25	25	0.2	0.25	0	10	5	0.05	25
ISQG-High														
ISQG-Low														
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil														
15092_Liddell	SE148233-1	LAW_LL_ESSD01	19/01/2016	220,000	430	<25	350	1.3	130	8.6	240	340	0.54	<25
15092_Liddell	SE148233-1	LAW_LL_ESSD02	19/01/2016	260,000	200	<25	200	1	82	9.1	130	140	0.71	<25
15092_Liddell	SE148233-1	LAW_LL_ESSD03	18/01/2016	240,000	230	<25	190	26	260	7.8	560	950	0.13	<25
15092_Liddell	SE148233-1	LAW_LL_ESSD04	18/01/2016	310,000	450	<25	370	1.8	230	7.7	280	650	0.91	<25
15092_Liddell	SE148233-1	LAW_LL_ESSD05	19/01/2016	230,000	190	<25	150	1.5	84	8.3	300	140	0.37	<25
15092_Liddell	SE148233-1	LAW_LL_ESSD06	19/01/2016	210,000	380	<25	310	3.4	67	8.8	340	120	0.18	<25

Site_ID / Location_Code	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	2-Nitropropane	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	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
	MAH									VOCs											
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	10	1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ISQG-High																					
ISQG-Low																					
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil																					
15092_Liddell LAW_LL_ESSD01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell LAW_LL_ESSD02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell LAW_LL_ESSD03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell LAW_LL_ESSD04	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell LAW_LL_ESSD05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell LAW_LL_ESSD06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated l

Where a range of Naphthalene values are reported, ES have adopted the highest of th

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate

Table 7 LPS Discharge Points Sediment Analytical Results

				Chlorinated Hydrocarbons																					
				1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	0.1	1	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1
ISQG-High																									
ISQG-Low																									
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil																									
Site_ID	SDG	Location_Code	Sampled_Date_Time																						
15092_Liddell	SE148233-1	LAW_LL_ESSD01	19/01/2016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD02	19/01/2016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD03	18/01/2016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD04	18/01/2016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD05	19/01/2016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD06	19/01/2016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

				Halogenated Hydrocarbons					Halogenated Benzenes						
				1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene
				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				0.1	1	1	5	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ISQG-High															
ISQG-Low															
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil															
Site_ID	SDG	Location_Code	Sampled_Date_Time												
15092_Liddell	SE148233-1	LAW_LL_ESSD01	19/01/2016	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD02	19/01/2016	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD03	18/01/2016	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD04	18/01/2016	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD05	19/01/2016	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD06	19/01/2016	<0.1	<1	<1	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR
Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated l
Where a range of Naphthalene values are reported, ES have adopted the highest of th
Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate

				Bromobenzene	Chlorobenzene
				mg/kg	mg/kg
EQL				0.1	0.1
ISQG-High					
ISQG-Low					
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil					
Site_ID	**SDG**	**Location_Code**	**Sampled_Date_Time**		
15092_Liddell	SE148233-1	LAW_LL_ESSD01	19/01/2016	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD02	19/01/2016	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD03	18/01/2016	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD04	18/01/2016	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD05	19/01/2016	<0.1	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSD06	19/01/2016	<0.1	<0.1

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated l

Where a range of Naphthalene values are reported, ES have adopted the highest of th

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate

Table 7 LPS Discharge Points Sediment Analytical Results

				Solvents								
				Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Acetone	Acrylonitrile	Allyl chloride	Carbon disulfide	MTBE	Vinyl acetate
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				10	5	1	10	0.1	0.1	0.5	0.1	10
ISQG-High												
ISQG-Low												
NEPM 2013 B1 Table 1A(1) HIL Rec C Soil												
Site_ID	SDG	Location_Code	Sampled_Date_Time									
15092_Liddell	SE148233-1	LAW_LL_ESSD01	19/01/2016	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	SE148233-1	LAW_LL_ESSD02	19/01/2016	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	SE148233-1	LAW_LL_ESSD03	18/01/2016	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	SE148233-1	LAW_LL_ESSD04	18/01/2016	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	SE148233-1	LAW_LL_ESSD05	19/01/2016	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
15092_Liddell	SE148233-1	LAW_LL_ESSD06	19/01/2016	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR
Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated l
Where a range of Naphthalene values are reported, ES have adopted the highest of th
Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate

Table 8 LPS Discharge Points Sediment Results TOC Normalised

				PAH TOC Normalised																						Inorganics	
				Benzo(b+j)fluoranthene	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	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	Pyrene	Low molecular weight PAHs	High molecular weight PAHs	Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40)	TOC	Recalculated TOC (Value range 0.2 - 10% w/w only)
				mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	mg/kg/ TOC	%w/w	%w/w
EQL				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8	0.1	0.1				0.1	
ISQG-High							0.5	0.64	1.1	1.6	1.6			2.8	0.26	5.1	0.54		2.1	45	1.5	2.6	3.16	9.6			
ISQG-Low							0.016	0.044	0.085	0.261	0.43			0.384	0.063	0.6	0.019		0.16	4	0.24	0.665	0.552	1.7			
NAGD 2009																				300					550		
Site_ID	**SDG**	**Location_Code**	**Sampled_Date_Time**																								
15092_Liddell	SE148233-1	LAW_LL_ESSD01	19/01/2016	0.056	0.0556	0.056	0.0556	0.056	0.056	0.0556	0.056	0.056	0.056	0.0556	0.056	0.056	0.0556	0.056	0.056	0.444	0.056	0.056	0.389	0.333	127.8	0.9	0.9
15092_Liddell	SE148233-1	LAW_LL_ESSD02	19/01/2016	0.042	0.0417	0.042	0.0417	0.042	0.042	0.0417	0.042	0.042	0.042	0.0417	0.042	0.042	0.0417	0.042	0.042	0.333	0.042	0.042	0.292	0.25	95.83	1.2	1.2
15092_Liddell	SE148233-1	LAW_LL_ESSD03	18/01/2016	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	2	0.25	0.25	1.75	1.5	575	0.2	0.2
15092_Liddell	SE148233-1	LAW_LL_ESSD04	18/01/2016	0.031	0.0313	0.031	0.0313	0.031	0.031	0.0313	0.031	0.031	0.031	0.0313	0.031	0.031	0.0313	0.031	0.031	0.25	0.031	0.031	0.219	0.188	71.88	1.6	1.6
15092_Liddell	SE148233-1	LAW_LL_ESSD05	19/01/2016	0.083	0.1667	0.167	0.5	0.083	0.083	0.0833	0.083	0.083	0.083	0.0833	0.083	0.333	0.1667	0.083	0.083	2	0.5	0.333	1.583	1	191.7	0.6	0.6
15092_Liddell	SE148233-1	LAW_LL_ESSD06	19/01/2016	0.167	0.1667	0.167	0.1667	0.167	0.167	0.1667	0.167	0.167	0.167	0.1667	0.167	0.167	0.1667	0.167	0.167	1.333	0.167	0.167	1.167	1	383.3	0.3	0.3
Statistical Summary																											
Number of Results				11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Number of Detects				11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Minimum Concentration				0.005	0.02	0.031	0.005	0.005	0.005	0.02	0.005	0.005	0.005	0.02	0.005	0.03	0.02	0.005	0.01	0.21	0.03	0.03	0.115	0.11	71.88	0.2	0.2
Minimum Detect				0.005	0.02	0.031	0.005	0.005	0.005	0.02	0.005	0.005	0.005	0.02	0.005	0.03	0.02	0.005	0.01	0.21	0.03	0.03	0.115	0.11	71.88	0.2	0.2
Maximum Concentration				0.25	0.25	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.333	0.25	0.25	0.25	2	0.5	0.333	1.75	1.5	651	13	10
Maximum Detect				0.25	0.25	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.333	0.25	0.25	0.25	2	0.5	0.333	1.75	1.5	651	13	10
Average Concentration				0.077	0.088	0.092	0.11	0.077	0.077	0.08	0.077	0.077	0.077	0.08	0.077	0.1	0.087	0.077	0.079	0.77	0.12	0.1	0.65	0.52	290	3	2.5
Median Concentration				0.056	0.0556	0.056	0.0556	0.056	0.056	0.0556	0.056	0.056	0.056	0.0556	0.056	0.056	0.0556	0.056	0.056	0.444	0.056	0.056	0.389	0.333	191.7	0.9	0.9
Standard Deviation				0.073	0.075	0.072	0.15	0.073	0.073	0.071	0.073	0.073	0.073	0.071	0.073	0.1	0.075	0.073	0.072	0.69	0.14	0.1	0.59	0.45	224	5	3.7
Number of Guideline Exceedances				0	0	0	9	7	3	0	0	0	0	0	4	0	11	0	2	0	2	0	4	0	3	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	9	7	3	0	0	0	0	0	4	0	11	0	2	0	2	0	4	0	3	0	0

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR for those analytes reported to be <LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated by using have the LOR for C6-C9 fractions which were reported below the LOR

Where a range of Naphthalene values are reported, ES have adopted the highest of these when calculating low molecular weight PAHs

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate the Normalised results

Table 9 LPS Discharge Points Surface Water Analytical Results

Site_ID	SDG	Field_ID	Location_Code	Sampled_Date_Time	PFC		Metals								
					Perfluorooctanoate	Perflurooctane sulfonate	Arsenic	Arsenic (Filtered)	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium (Filtered)	Chromium (III+VI)	Chromium (III+VI) (Filtered)
					µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL							1	1	5	5	0.1	0.1	100	1	1
ANZECC 2000 FW 95%									90	370	0.2	0.2			
Recreational water quality and aesthetics							50	50	1000	1000	5	5		50	50
UK Health Protection Agency UKHPA (2009)					0.03	0.0003									
15092_Liddell	SE148233-1	LAW_95_ESSW04	LAW_95_ESSW04	18/01/2016	<0.05	<0.00005	4	-	1000	-	<0.1	-	-	<1	-
15092_Liddell	SE148233-1	LAW_95_ESSW05	LAW_95_ESSW05	18/01/2016	<0.05	<0.00005	4	-	1000	-	<0.1	-	-	<1	-
15092_Liddell	SE148233-1	LAW_LL_ESSW01	LAW_LL_ESSW01	19/01/2016	<0.05	<0.00005	3	-	900	-	<0.1	-	110,000	<1	-
15092_Liddell	SE148233-1	LAW_LL_ESSW02	LAW_LL_ESSW02	19/01/2016	<0.05	<0.00005	4	-	1000	-	<0.1	-	110,000	<1	-
15092_Liddell	SE148233-1	LAW_LL_ESSW03	LAW_LL_ESSW03	18/01/2016	<0.05	<0.00005	4	-	890	-	<1	-	17,000	4	-
15092_Liddell	SE148233-1	LAW_LL_ESSW04	LAW_LL_ESSW04	18/01/2016	<0.05	<0.00005	9	-	1100	-	<0.1	-	110,000	<1	-
15092_Liddell	SE148233-1	LAW_LL_ESSW05	LAW_LL_ESSW05	19/01/2016	<0.05	<0.00005	4	-	1000	-	<0.1	-	110,000	<1	-
15092_Liddell	SE148233-1	LAW_LL_ESSW06	LAW_LL_ESSW06	19/01/2016	<0.05	<0.00005	4	-	1000	-	<0.1	-	110,000	<1	-

Field_ID	Metals														
	Copper	Copper (Filtered)	Lead	Lead (Filtered)	Magnesium (Filtered)	Mercury	Mercury (Filtered)	Nickel	Nickel (Filtered)	Potassium (Filtered)	Selenium	Selenium (Filtered)	Zinc	Zinc (Filtered)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	1	1	1	1	100	0.05	0.05	1	1	200	1	1	5	5
ANZECC 2000 FW 95%	1.4	1.4	3.4	3.4		0.06	0.06	11	11		5	5	8	8
Recreational water quality and aesthetics	1000	1000	50	50		1	1	100	100		10	10	5000	5000
UK Health Protection Agency UKHPA (2009)														
LAW_95_ESSW04	3	-	<1	-	-	<0.05	-	6	-	-	3	-	<5	-
LAW_95_ESSW05	3	-	<1	-	-	<0.05	-	4	-	-	3	-	<5	-
LAW_LL_ESSW01	5	-	<1	-	66,000	<0.05	-	4	-	14,000	3	-	<5	-
LAW_LL_ESSW02	3	-	<1	-	71,000	<0.05	-	4	-	15,000	3	-	<5	-
LAW_LL_ESSW03	13	-	1	-	<100	1.2	-	5	-	31,000	3	-	26	-
LAW_LL_ESSW04	11	-	1	-	72,000	<0.05	-	8	-	16,000	5	-	22	-
LAW_LL_ESSW05	3	-	<1	-	71,000	<0.05	-	4	-	15,000	4	-	6	-
LAW_LL_ESSW06	3	-	<1	-	71,000	<0.05	-	4	-	15,000	3	-	64	-

					Inorganics									BTEX						
					Alkalinity (total) as CaCO3	Ammonia as N (Filtered)	Chloride (Filtered)	Electrical conductivity *(lab)	pH (Lab)	Salinity	Sodium (Filtered)	Sulphate (Filtered)	TOC	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX
					mg/L	mg/L	mg/L	uS/cm	pH_Units	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					5	0.01	0.05	2	0.1	2	0.1	1	0.2	0.5	0.5	0.5	1	0.5	1.5	3
ANZECC 2000 FW 95%						0.0009								950				350		
Recreational water quality and aesthetics						0.01	400				300	400		10						
UK Health Protection Agency UKHPA (2009)																				
Site_ID	SDG	Field_ID	Location_Code	Sampled_Date_Time																
15092_Liddell	SE148233-1	LAW_95_ESSW04	LAW_95_ESSW04	18/01/2016	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
15092_Liddell	SE148233-1	LAW_95_ESSW05	LAW_95_ESSW05	18/01/2016	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
15092_Liddell	SE148233-1	LAW_LL_ESSW01	LAW_LL_ESSW01	19/01/2016	130	0.05	310	2300	8.8	1500	240	500	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
15092_Liddell	SE148233-1	LAW_LL_ESSW02	LAW_LL_ESSW02	19/01/2016	140	0.08	320	2400	8.5	1600	260	530	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
15092_Liddell	SE148233-1	LAW_LL_ESSW03	LAW_LL_ESSW03	18/01/2016	4600	1	46,000	46,000	12.2	30,000	8900	35,000	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
15092_Liddell	SE148233-1	LAW_LL_ESSW04	LAW_LL_ESSW04	18/01/2016	140	0.15	360	2700	8	1700	360	550	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
15092_Liddell	SE148233-1	LAW_LL_ESSW05	LAW_LL_ESSW05	19/01/2016	140	0.02	330	2400	8.4	1600	260	540	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
15092_Liddell	SE148233-1	LAW_LL_ESSW06	LAW_LL_ESSW06	19/01/2016	140	0.02	320	2400	8.4	1600	250	530	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3

	TRH						TPH							MAH								
	C6-C10	C6-C10 less BTEX (F1)	C10-C16	C16-C34	C34-C40	TRH C37-C40	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	50	50	60	500	500	200	40	50	200	200	450	650	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
ANZECC 2000 FW 95%																					
Recreational water quality and aesthetics																					
UK Health Protection Agency UKHPA (2009)																					
LAW_95_ESSW04	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-
LAW_95_ESSW05	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	-	-	-	-	-	-	-	-	-
LAW_LL_ESSW01	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
LAW_LL_ESSW02	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
LAW_LL_ESSW03	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
LAW_LL_ESSW04	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
LAW_LL_ESSW05	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
LAW_LL_ESSW06	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Environmental Strategies
PROVIDING BENEFITS

					PAH/Phenols																		EW_EPA8100_LL
					1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Pyrene	Total PAH (18)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.1	0.01	0.01	0.1
ANZECC 2000 FW 95%																			16				
Recreational water quality and aesthetics											0.01												
UK Health Protection Agency UKHPA (2009)																							
Site_ID	SDG	Field_ID	Location_Code	Sampled_Date_Time																			
15092_Liddell	SE148233-1	LAW_95_ESSW04	LAW_95_ESSW04	18/01/2016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<0.1
15092_Liddell	SE148233-1	LAW_95_ESSW05	LAW_95_ESSW05	18/01/2016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSW01	LAW_LL_ESSW01	19/01/2016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSW02	LAW_LL_ESSW02	19/01/2016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSW03	LAW_LL_ESSW03	18/01/2016	0.03	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	0.02	<0.01	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSW04	LAW_LL_ESSW04	18/01/2016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSW05	LAW_LL_ESSW05	19/01/2016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<0.1
15092_Liddell	SE148233-1	LAW_LL_ESSW06	LAW_LL_ESSW06	19/01/2016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.01	<0.1

	VOCs			Chlorinated Hydrocarbons																														
	2-Nitropropane	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	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	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	100	1	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	5	0.5	5	0.5	0.5	0.5	4	0.5	0.5	0.5	0.5	0.5	0.3
ANZECC 2000 FW 95%							6500																											
Recreational water quality and aesthetics									0.3				10							3										30	10			
UK Health Protection Agency UKHPA (2009)																																		
Field_ID																																		
LAW_95_ESSW04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LAW_95_ESSW05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LAW_LL_ESSW01	<100	<1	<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	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3
LAW_LL_ESSW02	<100	<1	<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	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3
LAW_LL_ESSW03	<100	<1	<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	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3
LAW_LL_ESSW04	<100	<1	<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	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3
LAW_LL_ESSW05	<100	<1	<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	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3
LAW_LL_ESSW06	<100	<1	<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	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3

Site_ID	SDG	Field_ID	Location_Code	Sampled_Date_Time	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Arochlor 1268	Aroclor 1262	PCBs (Sum of total)	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane
					PCBs										Halogenated Hydrocarbons				
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					1	1	1	0.1	1	0.1	1	0.001	1	5	0.5	10	5	5	1
ANZECC 2000 FW 95%								0.6		0.03									
Recreational water quality and aesthetics																			
UK Health Protection Agency UKHPA (2009)																			
15092_Liddell	SE148233-1	LAW_95_ESSW04	LAW_95_ESSW04	18/01/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	SE148233-1	LAW_95_ESSW05	LAW_95_ESSW05	18/01/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15092_Liddell	SE148233-1	LAW_LL_ESSW01	LAW_LL_ESSW01	19/01/2016	<1	<1	<1	<0.1	<1	<0.1	<1	<0.001	<1	<5	<0.5	<10	<5	<5	<1
15092_Liddell	SE148233-1	LAW_LL_ESSW02	LAW_LL_ESSW02	19/01/2016	<1	<1	<1	<0.1	<1	<0.1	<1	<0.001	<1	<5	<0.5	<10	<5	<5	<1
15092_Liddell	SE148233-1	LAW_LL_ESSW03	LAW_LL_ESSW03	18/01/2016	<1	<1	<1	<0.1	<1	<0.1	<1	<0.001	<1	<5	<0.5	<10	<5	<5	<1
15092_Liddell	SE148233-1	LAW_LL_ESSW04	LAW_LL_ESSW04	18/01/2016	<1	<1	<1	<0.1	<1	<0.1	<1	<0.001	<1	<5	<0.5	<10	<5	<5	<1
15092_Liddell	SE148233-1	LAW_LL_ESSW05	LAW_LL_ESSW05	19/01/2016	<1	<1	<1	<0.1	<1	<0.1	<1	<0.001	<1	<5	<0.5	<10	<5	<5	<1
15092_Liddell	SE148233-1	LAW_LL_ESSW06	LAW_LL_ESSW06	19/01/2016	<1	<1	<1	<0.1	<1	<0.1	<1	<0.001	<1	<5	<0.5	<10	<5	<5	<1

Field_ID	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Acetone	Acrylonitrile	Allyl chloride	Carbon disulfide	MTBE	Vinyl acetate
	Halogenated Benzenes									Solvents								
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	mg/L	µg/L
EQL	0.5	0.5	0.5	0.5	0.3	0.5	0.5	0.5	0.5	10	5	5	0.01	0.5	0.002	2	0.002	10
ANZECC 2000 FW 95%	10	170	160	260	60													
Recreational water quality and aesthetics																		
UK Health Protection Agency UKHPA (2009)																		
LAW_95_ESSW04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LAW_95_ESSW05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LAW_LL_ESSW01	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
LAW_LL_ESSW02	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
LAW_LL_ESSW03	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	0.072	<0.5	<0.002	<2	<0.002	<10
LAW_LL_ESSW04	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
LAW_LL_ESSW05	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10
LAW_LL_ESSW06	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<5	<5	<0.01	<0.5	<0.002	<2	<0.002	<10

Table 10 LL Pre-existing Soils beneath Sediment Analytical Results

EnvironmentalStrategies
PROVIDING BENEFITS

Site_ID	Field_ID	Location	Date	Sediment Description
Lake Liddell	SD19 0.02-0.09	SD19	14/08/2015	Silty CLAY - grey brown, stiff, medium plasticity, organic matter, rootlets, soil odour.
Lake Liddell	SD23 0.15-0.21	SD23	14/08/2015	Muddy SAND - light brown, fine grained, well sorted, rootlets, soil odour, (potentially pre lake).
Lake Liddell	SD25 0.4-0.5	SD25	15/08/2015	Sandy CLAY - grey with grey brown mottling, soil odour.

Metals and Metalloids

	Arsenic	Boron	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Selenium	Zinc
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	1	5	0.3	0.3	0.5	1	0.01	0.5	3	0.5
NEPM 2013 Table B(7) Management Limits										
NEPM 2013 Table 1A(1) HIL-C	300	20000	90	300	17000	600	80	1200	700	30000
NAGD 2009										
ISQG-High	70		10	370	270	220	1	52		410
ISQG-Low	20		1.5	80	65	50	0.15	21		200
SD19 0.02-0.09	12	<5	<0.3	8.1	13	11	0.03	10	<3	27
SD23 0.15-0.21	2	<5	<0.3	7.2	4.2	7	0.01	4.4	<3	8.9
SD25 0.4-0.5	4	<5	<0.3	8.7	5.9	9	<0.01	4.5	<3	12
Statistical Summary										
Number of Results	46	46	46	46	46	46	46	46	46	46
Number of Detects	46	23	5	46	46	46	43	46	23	46
Minimum Concentration	2	<5	<0.3	1.4	2.5	4	<0.01	2.5	<3	5.8
Minimum Detect	2	5	0.3	1.4	2.5	4	0.01	2.5	3	5.8
Maximum Concentration	24	38	0.4	26	350	20	1.4	41	20	130
Maximum Detect	24	38	0.4	26	350	20	1.4	41	20	130
Average Concentration	12	5.9	0.17	11	64	10	0.13	14	4.3	45
Median Concentration	12	3.75	0.15	8.7	37.5	9.5	0.07	11.5	2.25	42.5
Standard Deviation	7.2	5.9	0.068	6.5	75	3.8	0.22	9.6	4.4	29
Number of Guideline Exceedances	12	0	0	0	17	0	10	11	0	0
Number of Guideline Exceedances(Detects Only)	12	0	0	0	17	0	10	11	0	0

PAHs - Not Normalised

	Benzo(b+j)fluoranthene - Not Normalised	1-Methylnaphthalene - Not Normalised	2-methylnaphthalene - Not Normalised	Acenaphthene - Not Normalised	Acenaphthylene - Not Normalised	Anthracene - Not Normalised	Benz(a)anthracene	Benzo(a) pyrene - Not Normalised	Benzo(g,h,i)perylene - Not Normalised	Benzo(k)fluoranthene - Not Normalised	Chrysene - Not Normalised	Dibenz(a,h)anthracene - Not Normalised	Carcinogenic PAHs (as B(a)P TPE) - Not Normalised	Carcinogenic PAHs (as B(a)P TPE, PEFx3) - Not Normalised	Fluoranthene - Not Normalised	Fluorene - Not Normalised	Indeno(1,2,3-c,d)pyrene - Not Normalised	Naphthalene - Not Normalised	PAHs (Sum of total) - Not Normalised	Phenanthrene - Not Normalised	Low molecular weight PAHs - Not Normalised	High molecular weight PAHs - Not Normalised	Pyrene - Not Normalised
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			0.1	0.1	0.1	0.1	0.8	0.1			0.1
NEPM 2013 Table B(7) Management Limits																							
NEPM 2013 Table 1A(1) HIL-C													3	3					300				
NAGD 2009																							
ISQG-High				0.5	0.64	1.1	1.6	1.6			2.8	0.26			5.1	0.54		2.1	45	1.5	3.16	9.6	2.6
ISQG-Low				0.016	0.044	0.085	0.261	0.43			0.384	0.063			0.6	0.019		0.16	4	0.24	0.552	1.7	0.665
SD19 0.02-0.09	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD23 0.15-0.21	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
SD25 0.4-0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
Statistical Summary																							
Number of Results	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Number of Detects	5	12	15	1	0	3	15	8	6	8	14	0	7	6	26	5	4	8	18	20	46	46	22
Minimum Concentration	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1	<0.1	<0.1	<0.1	<0.8	<0.1	0.35	0.3	<0.1
Minimum Detect	0.1	0.1	0.1	0.2	ND	0.1	0.1	0.1	0.1	0.1	0.1	ND	0.2	0.4	0.1	0.1	0.1	ND	0.8	0.1	0.35	0.3	0.1
Maximum Concentration	<1	2.5	4.4	<0.5	<0.1	<0.5	1.1	0.3	0.2	<0.5	0.9	<0.1	<1	<1.5	2.2	<1	0.2	0.9	14	1.5	7.6	5.95	1.6
Maximum Detect	0.5	2.5	4.4	0.2	ND	0.2	1.1	0.3	0.2	0.3	0.9	ND	0.5	0.6	2.2	0.5	0.2	0.9	14	1.5	7.6	5.95	1.6
Average Concentration	0.12	0.18	0.28	0.066	0.05	0.068	0.18	0.08	0.07	0.079	0.16	0.05	0.17	0.23	0.4	0.09	0.058	0.071	2.1	0.27	0.92	1.1	0.27
Median Concentration	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.15	0.15	0.05	0.05	0.05	0.4	0.05	0.35	0.45	0.075
Standard Deviation	0.12	0.4	0.71	0.054	0	0.054	0.25	0.07	0.048	0.061	0.22	0	0.13	0.16	0.58	0.1	0.026	0.068	3.1	0.38	1.3	1.5	0.39
Number of Guideline Exceedances	0	0	0	46	46	46	10	0	0	0	7	46	0	0	10	46	0	6	7	13	15	10	6
Number of Guideline Exceedances(Detects Only)	0	0	0	1	0	3	8	0	0	0	6	0	0	0	10	5	0	6	7	13	15	10	6

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applying half the LOR for those analytes reported to be <LOR

Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has been calculated by using have the LOR for C6-C9 fractions which were reported below the LOR

Where a range of Naphthalene values are reported, ES have adopted the highest of these when calculating low molecular weight PAHs

Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w) to calculate the Normalised results

Table 10 LL Pre-existing Soils beneath Sediment Analytical Results

Site_ID	Field_ID	Location	Date	Inorganics: TOC	BTEX - Not Normalised: Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 less BTEX (F1)
				%w/w	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.02	0.1	0.1	0.1	0.2	0.1	0.3	0.6	25
NEPM 2013 Table B(7) Management Limits												
NEPM 2013 Table 1A(1) HIL-C												
NAGD 2009												
ISQG-High												
ISQG-Low												
Lake Liddell	SD19 0.02-0.09	SD19	14/08/2015	5.7	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25
Lake Liddell	SD23 0.15-0.21	SD23	14/08/2015	30	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25
Lake Liddell	SD25 0.4-0.5	SD25	15/08/2015	1.7	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25
Statistical Summary												
Number of Results				46	46	46	46	46	46	46	46	46
Number of Detects				46	0	0	0	0	0	0	0	0
Minimum Concentration				0.13	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25
Minimum Detect				0.13	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				53	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.6	<25
Maximum Detect				53	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				9.2	0.05	0.05	0.05	0.1	0.05	0.15	0.3	13
Median Concentration				4.65	0.05	0.05	0.05	0.1	0.05	0.15	0.3	12.5
Standard Deviation				12	0	0	0	0	0	0	0	0
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0	0

Sample / Row	TPH - Not Normalised: TRH C37-C40 - Not Normalised	>C10-C16 - Not Normalised	F2-NAPHTHALENE - Not Normalised	>C16-C34 - Not Normalised	>C34-C40 - Not Normalised	C6 - C9 - Not Normalised	C10 - C14 - Not Normalised	C15 - C28 - Not Normalised	C29-C36 - Not Normalised	+C10 - C36 (Sum of total) - Not Normalised	C10 - C40 (Sum of total) - Not Normalised	Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) - Not Normalised	C6-C10 - Not Normalised
Units	µg/kg	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	100000	25	25	90	120	20	20	45	45	110	210		25
NEPM 2013 Table B(7) Management Limits		1000		2500	10000								700
NEPM 2013 Table 1A(1) HIL-C													
NAGD 2009												550	
ISQG-High													
ISQG-Low													
SD19 0.02-0.09	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
SD23 0.15-0.21	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
SD25 0.4-0.5	<100,000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Number of Results	46	46	46	46	46	46	46	46	46	46	46	46	46
Number of Detects	0	15	15	28	0	0	14	30	22	26	20	20	0
Minimum Concentration	<100000	<25	<25	<90	<120	<20	<20	<45	<45	<110	<210	<230	<25
Minimum Detect	ND	31	31	100	ND	ND	21	51	54	130	230	250	ND
Maximum Concentration	<100000	480	480	2000	<120	<20	320	1800	510	2600	2600	2610	<25
Maximum Detect	ND	480	480	2000	ND	ND	320	1800	510	2600	2600	2610	ND
Average Concentration	50000	51	51	349	60	10	33	272	103	396	410	422	13
Median Concentration	50000	12.5	12.5	160	60	10	10	100	22.5	155	105	115	12.5
Standard Deviation	0	91	91	452	0	0	58	387	119	548	538	538	0
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample / Row	2-Nitropropane	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	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
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	10	1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table B(7) Management Limits													
NEPM 2013 Table 1A(1) HIL-C													
NAGD 2009													
ISQG-High													
ISQG-Low													
SD19 0.02-0.09	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SD23 0.15-0.21	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SD25 0.4-0.5	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Number of Results	46	46	46	46	46	46	46	46	46	46	46	46	46
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<10	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Median Concentration	5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Standard Deviation	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample / Row	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Trichloroethene
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	0.1	1	0.1	0.1	0.1	0.5	0.1	0.1
NEPM 2013 Table B(7) Management Limits																	
NEPM 2013 Table 1A(1) HIL-C																	
NAGD 2009																	
ISQG-High																	
ISQG-Low																	
SD19 0.02-0.09	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1
SD23 0.15-0.21	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1
SD25 0.4-0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1
Number of Results	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.05	0.5	0.05	0.05	0.05	0.25	0.05	0.05
Median Concentration	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.05	0.5	0.05	0.05	0.05	0.25	0.05	0.05
Standard Deviation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments

Low molecular and High molecular PAH have been calculated by applyin
Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has bee
Where a range of Naphthalene values are reported, ES have adopted the
Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w

EnvironmentalStrategies
PROVIDING BENEFITS

VOCs - Not Normalised

Site_ID	Field_ID	Location	Date	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	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	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	1	5	1
NEPM 2013 Table B(7) Management Limits																					
NEPM 2013 Table 1A(1) HIL-C																					
NAGD 2009																					
ISQG-High																					
ISQG-Low																					
Lake Liddell	SD19 0.02-0.09	SD19	14/08/2015	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1
Lake Liddell	SD23 0.15-0.21	SD23	14/08/2015	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1
Lake Liddell	SD25 0.4-0.5	SD25	15/08/2015	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1
Statistical Summary																					
Number of Results				46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Number of Detects				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<5	<1
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.5	2.5	0.5
Median Concentration				0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.5	2.5	0.5
Standard Deviation				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Site_ID	Field_ID	Location	Date	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	Acetone	Acrylonitrile	Allyl chloride	Carbon disulfide	MTBE	Vinyl acetate
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	10	5	1	10	0.1	0.1	0.5	0.1	10
NEPM 2013 Table B(7) Management Limits																					
NEPM 2013 Table 1A(1) HIL-C																					
NAGD 2009																					
ISQG-High																					
ISQG-Low																					
Lake Liddell	SD19 0.02-0.09	SD19	14/08/2015	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD23 0.15-0.21	SD23	14/08/2015	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Lake Liddell	SD25 0.4-0.5	SD25	15/08/2015	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Statistical Summary																					
Number of Results				46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Number of Detects				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<5	<1	<10	<0.1	<0.1	<0.5	<0.1	<10
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	5	2.5	0.5	5	0.05	0.05	0.25	0.05	5
Median Concentration				0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	5	2.5	0.5	5	0.05	0.05	0.25	0.05	5
Standard Deviation				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments
Low molecular and High molecular PAH have been calculated by applyin
Total Petroleum Hydrocarbons C6-C40 (sum of C6-C9 + C10-C40) has bee
Where a range of Naphthalene values are reported, ES have adopted the
Half the LOR divided by the recalculated TOC (between 0.2 and 10 %w/w

APPENDIX E – Bore Logs

Sediment Log

Hole ID.	**SD1**
Project Number:	**15106**
Hole Depth:	**0.43 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**11/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.0–0.35			SP	Natural	**Muddy SAND** - grey, firm, fine grained, well sorted, soil odour.	-	SD1_0.0-0.1
								-	SD1_0.15-0.25
							Stone at 0.3m to 9mmØ, subrounded, low spherical.		
		0.35–0.43			CL		**Sandy CLAY** - yellow brown with grey, gravel to 5mmØ, soil odour.	-	SD1_0.4-0.43
		0.43					**Refusal at 0.43 m**		

Additional Comments

Log Drawn By: Laurie White	Logged By: **Ewan Cook** Date: **11/08/2015**
Contact: laurie.white@reumad.com.au	Checked By: **Craig Wellings** Date: **29/02/2016**

Sediment Log

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Hole ID.	**SD2**
Project Number:	**15106**
Hole Depth:	**0.35 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**11/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.10			SP	Natural	**SAND** - dark grey, coarse grained, gastropod shells to 1mmØ, soil odour.	-	SD2_0.0-0.1
		0.2 0.24			SP		**Muddy SAND** - grey, firm, fine grained, very well sorted, rootlets, soil odour.	-	SD2_0.15-0.24
		0.26			SP		**SAND** - dark grey, firm, coarse grained, gastropod shells to 3mmØ, soil odour.		
		0.3 0.35			CL		**Silty CLAY / MUD** - olive / green brown, medium plasticity, rootlets, soil odour.	-	SD2_0.26-0.35
		0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2					**Refusal at 0.35 m**		

Additional Comments

Appeared to be a film on the surface of the water.

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Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**11/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

Hole ID.	**SD3**
Project Number:	**15106**
Hole Depth:	**0.32 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**11/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.1, 0.2, 0.25			SP	Natural	**SAND** - dark grey, coarse grained, gravel to 5mmØ, fibrous organic material, soil odour.	-	SD3_0.0-0.1
Piston Corer		0.3, 0.32			SP	Natural	**Muddy SAND** - grey, firm, fine grained, well sorted, organic matter, rootlets, hydrocarbon odour, potential rock at 0.32m.	-	SD3_0.25-0.32
		0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2					**Refusal at 0.32 m**		

Additional Comments

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**11/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

Hole ID.	**SD4**
Project Number:	**15106**
Hole Depth:	**0.87 m**
Sheet:	**1 of 1**

EnvironmentalStrategies
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Project Name:	**Environmental Site Assessment**	Date:	**11/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.0–0.08				Fill	**FILL** - SAND, black, fine grained, well sorted, soil odour.	-	SD4_0.0-0.08
		0.08–0.48				Fill	**FILL** - MUD, black, soil odour.	-	SD4_0.15-0.25 QA1 QA2
								-	SD4_0.4-0.47
		0.48–0.57				Fill	**FILL** - Gravel / Coal Pieces, black, soil odour.		
		0.57–0.76				Fill	**FILL** - MUD, dark grey, minor sand fragments, soil odour.		
		0.76–0.87			CL	Natural	**Silty CLAY** - brown, trace sand, rootlets, soil odour.		
		0.87					**End of Hole at 0.87 m** Target depth.		

Additional Comments

Sediment Log

Hole ID.	SD5
Project Number:	15106
Hole Depth:	0.10 m
Sheet:	1 of 1

Project Name:	**Environmental Site Assessment**	Date:	**12/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Pis. Corer		0.05			SP	Natural	**Muddy SAND** - grey, fine grained, fibres, gastropod shells, soil odour.	-	SD5_0.0-0.05
		0.10			CL		**Silty CLAY** - green brown / olive, trace gravel, rootlets, soil odour.		
							Refusal at 0.10 m		
		0.2							
		0.3							
		0.4							
		0.5							
		0.6							
		0.7							
		0.8							
		0.9							
		1.0							
		1.1							
		1.2							

Additional Comments

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**12/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

Environmental Strategies
PROVIDING BENEFITS

Hole ID.	SD6
Project Number:	15106
Hole Depth:	0.55 m
Sheet:	1 of 1

Project Name:	**Environmental Site Assessment**	Date:	**12/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.0–0.26 (0.1, 0.2)			SP	Natural	**Muddy SAND / Sandy MUD** - brown grey, fine grained, organic matter, gastropod shells, soil odour.	-	SD6_0.0-0.1
								-	SD6_0.15-0.25
		0.26–0.42 (0.3, 0.4)			ML		**MUD** - dark grey, soil odour.		
		0.42–0.55 (0.5)			CL		**Sandy CLAY** - light grey, coarse grained, organic matter, rootlets, soil odour.	-	SD6_0.43-0.5
		0.55 (0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2)					**End of Hole at 0.55 m**		

Additional Comments

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Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**12/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

EnvironmentalStrategies
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Hole ID.	**SD7**
Project Number:	**15106**
Hole Depth:	**1.05 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**12/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.07			SP	Natural	**SAND** - light brown with black, fine grained, organic odour.	-	SD7_0.0-0.6
		0.57			ML		**MUD** - dark grey / black, slight hydrocarbon odour.	- -	SD7_0.15-0.25 SD7_0.4-0.5 QA3 QA4
		0.72			SP		**Muddy SAND** - black, fine grained, slight hydrocarbon odour.		
		0.82			SP		**SAND** - black, fine grained, strong hydrocarbon odour.		
		0.96			SP		**SAND** - black, medium grained, sheen on core below 0.8m, fine grained from 0.86m.		
		1.05			SP		**Gravelly SAND** - black, fine to medium grained, gravels, sheen on core, hydrocarbon odour.		
							End of Hole at 1.05 m		

Depth scale: 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**12/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

EnvironmentalStrategies
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Hole ID.	**SD8**
Project Number:	**15106**
Hole Depth:	**0.43 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**12/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.30			SP	Natural	**Muddy SAND** - grey, medium grained, abundant gastropod shells, gravels, soil odour.	-	SD8_0.0-0.1
								-	SD8_0.15-0.25
		0.40			SP		**Sandy MUD** - grey, soil odour.	-	SD8_0.3-0.4
		0.43			GP		**Muddy GRAVEL** - grey brown, soil odour.		
							End of Hole at 0.43 m		

Depth scale: 0.1, 0.2, 0.30, 0.40, 0.43, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**12/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

Environmental Strategies
PROVIDING BENEFITS

Hole ID.	**SD9**
Project Number:	**15106**
Hole Depth:	**1.03 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**12/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.0–0.19			SP	Natural	**SAND** - grey, fine grained, gravel, soil odour.	-	SD9_0.0-0.1
								-	SD9_0.15-0.25
Piston Corer		0.19–1.03			SP	Natural	**SAND** - grey, fine grained, well sorted, soil odour.	-	SD9_0.4-0.5
		1.03					**End of Hole at 1.03 m**		

Depth scale: 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2

Additional Comments

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Ewan Cook** Date: **12/08/2015**
Checked By: **Craig Wellings** Date: **29/02/2016**

Sediment Log

Hole ID.	**SD10**
Project Number:	**15106**
Hole Depth:	**0.43 m**
Sheet:	**1 of 1**

EnvironmentalStrategies
PROVIDING BENEFITS

Project Name:	**Environmental Site Assessment**	Date:	**12/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.1, 0.2, 0.27			ML	Natural	**MUD** - dark grey, soil odour.	-	SD10_0.0-0.12
								-	SD10_0.14-0.26
		0.3, 0.4, 0.43			CL		**Silty CLAY** - brown, stiff, organic matter, soil odour.		
		0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2					**Refusal at 0.43 m**		

Additional Comments

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**12/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	**SD11**
Project Number:	**15106**
Hole Depth:	**1.12 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**12/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.12			ML	Natural	**MUD** - grey, soil odour.	- - -	SD11_0.0-0.1 SD11_0.15-0.25 SD11_0.4-0.5
		1.2					**End of Hole at 1.12 m**		

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**12/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	**SD12**
Project Number:	**15106**
Hole Depth:	**0.50 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**13/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.1, 0.2, 0.3, 0.4, 0.50				Fill	**FILL** - Coal Fragments, black, minor gravel, trace fine grained sand.	-	SD12_0.0-0.5
		0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2					**End of Hole at 0.50 m**		

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**13/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

Environmental Strategies
PROVIDING BENEFITS

Hole ID.	SD13
Project Number:	15106
Hole Depth:	0.10 m
Sheet:	1 of 1

Project Name:	Environmental Site Assessment	Date:	13/08/2015
Location / Site:	Lake Liddell	Ground Level :	N/A
Client:	AGL Macquarie	Top of Casing :	N/A
Drill Method:	Piston Corer	Easting:	N/A
		Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Pis. Corer		0.02			ML	Natural	**MUD** - dark grey, rootlets, soil odour.	-	SD13_0.0-0.02
		0.10			CL		**Silty CLAY** - green brown, stiff, rootlets, soil odour.	-	SD13_0.03-0.1
							Refusal at 0.10 m		
		0.2							
		0.3							
		0.4							
		0.5							
		0.6							
		0.7							
		0.8							
		0.9							
		1.0							
		1.1							
		1.2							

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	Ewan Cook	Date:	13/08/2015
Contact:	laurie.white@reumad.com.au	Checked By:	Craig Wellings	Date:	29/02/2016

Sediment Log

Hole ID.	**SD14**
Project Number:	**15106**
Hole Depth:	**0.46 m**
Sheet:	**1 of 1**

EnvironmentalStrategies
PROVIDING BENEFITS

Project Name:	**Environmental Site Assessment**	Date:	**13/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.1, 0.2, 0.3, 0.4			SP	Natural	**SAND** - light brown, fine to medium grained, gastropod shells, gravels, soil odour.	-	SD14_0.0-0.1
								-	SD14_0.15-0.25
		0.41			CL		**Sandy CLAY** - light brown, medium plasticity, soil odour.	-	SD14_0.41-0.46
		0.46					**End of Hole at 0.46 m**		
		0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2							

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**13/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

Hole ID.	**SD15**
Project Number:	**15106**
Hole Depth:	**0.07 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**13/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer / Grab Sampler**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
PC		0.04			ML	Nat.	**MUD** - dark grey, abundant gastropod shells, organic matter, soil odour.	-	SD15_0.0-0.04
		0.07			CL		**Silty CLAY** - brown with black mottling, medium plasticity, soil odour.		
							Refusal at 0.07 m		

Depth scale: 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2

Additional Comments

Piston corer unable to obtain enough sample. Grab sampler used.

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**13/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

Environmental Strategies
PROVIDING BENEFITS

Hole ID.	**SD16**
Project Number:	**15106**
Hole Depth:	**0.46 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**13/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.0–0.37			SP	Natural	**Muddy SAND** - dark brown, lighter colour with depth, minor rootlets, soil odour.	-	SD16_0.0-0.1
								-	SD16_0.15-0.25
		0.37–0.46			CL		**Silty CLAY** - pale green, stiff, soil odour.	-	SD16_0.4-0.46
		0.46					**Refusal at 0.46 m**		

Depth scale: 0.1, 0.2, 0.3, 0.37, 0.4, 0.46, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**13/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

Hole ID.	SD17
Project Number:	15106
Hole Depth:	0.55 m
Sheet:	1 of 1

Project Name:	**Environmental Site Assessment**	Date:	**13/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.0–0.50			ML	Natural	**MUD** - grey, soil odour.	-	SD17_0.0-0.1
								-	SD17_0.15-0.25
							Highly organic material from 0.4 to 0.5m, black, anoxic odour.	-	SD17_0.4-0.5
		0.50–0.55			CL		**Silty CLAY** - brown, stiff, soil odour.		
		0.55					**End of Hole at 0.55 m** Target depth.		

Depth scale: 0.1, 0.2, 0.3, 0.4, 0.50, 0.55, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2

Additional Comments

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Ewan Cook** Date: **13/08/2015**
Checked By: **Craig Wellings** Date: **29/02/2016**

Sediment Log

Hole ID.	**SD18**
Project Number:	**15106**
Hole Depth:	**0.35 m**
Sheet:	**1 of 1**

Environmental Strategies
PROVIDING BENEFITS

Project Name:	**Environmental Site Assessment**
Location / Site:	**Lake Liddell**
Client:	**AGL Macquarie**
Drill Method:	**Piston Corer**

Date:	**14/08/2015**
Ground Level :	**N/A**
Top of Casing :	**N/A**
Easting:	**N/A**
Northing:	**N/A**
Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.01			ML	Natural	**MUD** - brown and yellow layer, a gastropod shell, soil odour.		
		0.35			SP		**Muddy SAND** - dark brown to light grey with depth, firm, fine grained, rootlets, soil odour.	-	0.0-0.1
								-	0.15-0.25
								-	0.3-0.35
							Refusal at 0.35 m		

Depth scale: 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**14/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

Hole ID.	**SD19**
Project Number:	**15106**
Hole Depth:	**0.09 m**
Sheet:	**1 of 1**

Environmental Strategies
PROVIDING BENEFITS

Project Name:	**Environmental Site Assessment**	Date:	**14/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
PC		0.02			ML	Nat.	**MUD** - brown, anhydrous layer, gastropod shells, soil odour.	-	SD19_0.0-0.01
		0.09			CL		**Silty CLAY** - grey brown, stiff, medium plasticity, organic matter, rootlets, soil odour.	-	SD19_0.02-0.09
		0.1					**Refusal at 0.09 m**		
		0.2							
		0.3							
		0.4							
		0.5							
		0.6							
		0.7							
		0.8							
		0.9							
		1.0							
		1.1							
		1.2							

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**14/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

Hole ID.	**SD20**
Project Number:	**15106**
Hole Depth:	**0.02 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**14/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer / Grab Sampler**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
PC		0.02			ML	Nat	**MUD** - grey and brown, minor gastropod shells, organic odour.	-	SD20_0.0-0.02
							Refusal at 0.02 m		
		0.1							
		0.2							
		0.3							
		0.4							
		0.5							
		0.6							
		0.7							
		0.8							
		0.9							
		1.0							
		1.1							
		1.2							

Additional Comments

Piston corer unable to obtain enough sample. Grab sampler used.

Log Drawn By: Laurie White	Logged By: **Ewan Cook**	Date: **14/08/2015**
Contact: laurie.white@reumad.com.au	Checked By: **Craig Wellings**	Date: **29/02/2016**

Sediment Log

Hole ID.	**SD21**
Project Number:	**15106**
Hole Depth:	**0.11 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**14/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.03				FILL	**FILL** - MUD, grey brown, coal fragments, occasional gastropod shells, soil odour.	-	SD21_0.0-0.03
		0.1 0.11			CL	Nat.	**Silty CLAY** - brown, medium plasticity, soil odour.	-	SD21_0.04-0.11
		0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2					**Refusal at 0.11 m**		

Additional Comments

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**14/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

Hole ID.	**SD22**
Project Number:	**15106**
Hole Depth:	**0.05 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**14/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer / Grab Sampler**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
PC		0.05			ML	Nat.	**MUD** - grey brown, occasional gastropod shells, soil odour.	-	SD22_0.0-0.05
		0.1					**Refusal at 0.05 m**		
		0.2							
		0.3							
		0.4							
		0.5							
		0.6							
		0.7							
		0.8							
		0.9							
		1.0							
		1.1							
		1.2							

Additional Comments

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**14/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

EnvironmentalStrategies PROVIDING BENEFITS	Hole ID.	**SD23**
	Project Number:	**15106**
	Hole Depth:	**0.21 m**
	Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**14/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer / Grab Sampler**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.1 *0.15*			ML	Natural	**MUD** - grey brown, anoxic odour.	-	SD23_0.0-0.10
		0.2 *0.21*			SP		**Muddy SAND** - light brown, fine grained, well sorted, rootlets, soil odour, (potentially pre lake).	-	SD23_0.15-0.21
		0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2					**Refusal at 0.21 m**		

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**14/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	**SD24**
Project Number:	**15106**
Hole Depth:	**0.22 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**14/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer / Grab Sampler**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.04			ML	Natural	**MUD** - grey brown, soil odour.	-	SD24_0.0-0.04
		0.1, 0.2, 0.22			SP		**Muddy SAND** - grey brown, stiff, medium plasticity, rootlets, soil odour.	-	SD24_0.1-0.2
		0.3 – 1.2					**Refusal at 0.22 m**		

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**14/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	**SD25**
Project Number:	**15106**
Hole Depth:	**0.53 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**15/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Piston Corer		0.04			ML	Natural	**MUD** - dark grey, hydrous, minor organic matter, soil odour.	-	SD25_0.0-0.1
		0.31			SP		**Sandy MUD** - light brown, soil odour.	-	SD25_0.15-0.25
		0.40			SP		**Muddy SAND** - light brown grey, gas vesicles, soil odour.		
		0.53			CL		**Sandy CLAY** - grey with grey brown mottling, soil odour.	-	SD25_0.4-0.5
							End of Hole at 0.53 m Target depth.		

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**15/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

ES LOG ENV AGL AGLM 15105 LIDDELL.GPJ 20151001_REUMAD.GDT 29/2/16 12:36:05 PM

Sediment Log

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	**SD26**
Project Number:	**15106**
Hole Depth:	**0.05 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**15/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Grab Sampler**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Grab		0.05			SP	Nat.	**Muddy SAND** - grey, fine grained, well sorted, soil odour.	-	SD26_0.0-0.05
							End of Hole at 0.05 m		

Depth scale: 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**15/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Sediment Log

Hole ID.	**SD27**
Project Number:	**15106**
Hole Depth:	**0.04 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**15/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Grab Sampler**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
Grab		0.04			SP	Nat.	**Muddy SAND** - grey, fine grained, abundant gastropod shells, soil odour.	-	SD27_0.0-0.04
							End of Hole at 0.04 m		

Depth scale: 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2

Additional Comments

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**15/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

ES LOG ENV AGL AGLM 15105 LIDDELL.GPJ 20151001_REUMAD.GDT 29/2/16 12:36:06 PM

Sediment Log

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	**SD28**
Project Number:	**15106**
Hole Depth:	**0.09 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**15/08/2015**
Location / Site:	**Lake Liddell**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Piston Corer / Grab Sampler**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	PID ppm	Sample ID No.
PC		0.02			SP	Nat.	**Muddy SAND** - brown grey, fine grained, organic matter, roots, soil odour.	-	SD28_0.0-0.02
		0.09			CL		**Silty CLAY** - brown, stiff, medium plasticity, soil odour.		
							End of Hole at 0.09 m		

Depth scale: 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Ewan Cook**	Date:	**15/08/2015**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Test Pit Log

Environmental Strategies
PROVIDING BENEFITS

Hole ID.	LAW_LL_ESSD01
Project Number:	15106
Hole Depth:	0.40 m
Sheet:	1 of 1

Project Name:	Environmental Site Assessment	Date:	14/01/2016
Location / Site:	Liddell Power Station	Ground Level :	N/A
Client:	AGL Macquarie	Top of Casing :	N/A
Drill Method:	Hand Auger	Easting:	N/A
		Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	PID ppm	Sample ID No.
HA		0.2 0.40				Fill	FILL - Clayey SAND, some Gravel, grey to black, soft, loose, medium grained, gap graded, sub angular to very angular, anaerobic odour.	wet	0.1	LAW_LL_ESSD01_0.0-0.4
		0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0					**End of Hole at 0.40 m**			

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	Greg Sheehan	Date:	14/01/2016
Contact:	laurie.white@reumad.com.au	Checked By:	Craig Wellings	Date:	29/02/2016

Test Pit Log

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	LAW_LL_ESSD02
Project Number:	15106
Hole Depth:	0.10 m
Sheet:	1 of 1

Project Name:	**Environmental Site Assessment**	Date:	**14/01/2016**
Location / Site:	**Liddell Power Station**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Hand Auger**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	PID ppm	Sample ID No.
HA		0.10				Fill	FILL - Sandy GRAVEL, brown and grey, loose, medium grained, gap graded, sub angular to very angular, no odour, no staining.	sat'd	0.0	LAW_LL_ESSD02_0.0-0.1
							End of Hole at 0.10 m			
		0.2								
		0.4								
		0.6								
		0.8								
		1.0								
		1.2								
		1.4								
		1.6								
		1.8								
		2.0								

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Greg Sheehan**	Date:	**14/01/2016**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Borehole Log

Environmental Strategies
PROVIDING BENEFITS

Hole ID.	L_LL_ESSD03
Project Number:	15106
Hole Depth:	0.20 m 1
Sheet:	of 1

Project Name:	Environmental Site Assessment	Date:	18/01/2016
Location / Site:	Liddell Power Station	Ground Level :	N/A
Client:	AGL Macquarie	Top of Casing :	N/A
Drill Method:	Hand Auger	Easting:	N/A
		Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	PID ppm	Sample ID No.
HA		0.20				Fill	**FILL** - Gravelly SAND, brown, very loose, gap graded, sub rounded to very angular, no odour at discharge, no staining.	saturated	0.0	L_LL_ESSD03_0.0-0.2 DUPGSA180116/TRIPGSA180116
		0.4					**End of Hole at 0.20 m**			
		0.6								
		0.8								
		1.0								
		1.2								
		1.4								
		1.6								
		1.8								
		2.0								

Additional Comments

Log Drawn By:	Laurie White	Logged By:	Greg Sheehan	Date:	18/01/2016
Contact:	laurie.white@reumad.com.au	Checked By:	Craig Wellings	Date:	29/02/2016

Test Pit Log

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	LAW_LL_ESSD04
Project Number:	15106
Hole Depth:	0.25 m
Sheet:	1 of 1

Project Name:	**Environmental Site Assessment**	Date:	**18/01/2016**
Location / Site:	**Liddell Power Station**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Hand Auger**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	PID ppm	Sample ID No.
HA		0.1 0.2 0.25				Fill	FILL - Silty CLAY with some Gravel, dark grey, soft, loose, sub angular to very angular, poorly graded, organics present, no odour.	wet	0.0	LAW_LL_ESSD04_0.1
		0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0					**End of Hole at 0.25 m**			

Additional Comments

REUMAD

Log Drawn By:	Laurie White	Logged By:	**Greg Sheehan**	Date:	**18/01/2016**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Test Pit Log

Hole ID.	**LAW_LL_ESSD05**
Project Number:	**15106**
Hole Depth:	**0.03 m**
Sheet:	**1 of 1**

Project Name:	**Environmental Site Assessment**	Date:	**14/01/2016**
Location / Site:	**Liddell Power Station**	Ground Level :	**N/A**
Client:	**AGL Macquarie**	Top of Casing :	**N/A**
Drill Method:	**Hand Auger**	Easting:	**N/A**
		Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	PID ppm	Sample ID No.
HA		*0.03*				Fill	FILL - Gravelly SAND, brown, red, black, very loose, gap graded, sub angular to very angular, anaerobic odour.	saturated	0.1	LAW_LL_ESSD05_0.03
							End of Hole at 0.03 m			
		0.1								
		0.2								
		0.3								
		0.4								
		0.5								
		0.6								
		0.7								
		0.8								
		0.9								
		1.0								

Additional Comments

Log Drawn By:	Laurie White	Logged By:	**Greg Sheehan**	Date:	**14/01/2016**
Contact:	laurie.white@reumad.com.au	Checked By:	**Craig Wellings**	Date:	**29/02/2016**

Test Pit Log

Hole ID.	LAW_LL_ESSD06
Project Number:	15106
Hole Depth:	0.20 m
Sheet:	1 of 1

Project Name:	Environmental Site Assessment	Date:	14/01/2016
Location / Site:	Liddell Power Station	Ground Level :	N/A
Client:	AGL Macquarie	Top of Casing :	N/A
Drill Method:	Hand Auger	Easting:	N/A
		Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	PID ppm	Sample ID No.
HA		0.20				Fill	FILL - Silty CLAY and GRAVEL, dark grey, soft, loose, poorly graded, very angular, organics present, organic odour.	wet	0.0	LAW_LL_ESSD06_0.0-0.2
		0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0					**End of Hole at 0.20 m**			

Additional Comments

Log Drawn By:	Laurie White	Logged By:	Greg Sheehan	Date:	14/01/2016
Contact:	laurie.white@reumad.com.au	Checked By:	Craig Wellings	Date:	29/02/2016

Sediment Log

Hole ID.	L_P_ESSD01		
Project Number:	16142		
Hole Depth:	0.42 m		
Sheet:	1 of 1		

Project Name:	APECS Additional Works	Date:	4/08/2016
Location / Site:	Liddell Power Station, Muswellbrook NSW	Ground Level :	N/A
Client:	AGLM	Top of Casing :	N/A
Drilling Company:	ES	Easting:	N/A
Drill Method:	Hand Auger	Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
Sediment Sampler		0.03				FILL	**FILL** - SILT, dark brown, organic matter.			No odour.
		0.42			CL	Natural	**CLAY** - red brown, firm, medium plasticity.	0.0	L_P_ESSD01_0.1	No odour.
							End of Hole at 0.420 m Target depth.			

Depth scale: 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0

Additional Comments

Strike Groundwater Level — Static Groundwater Level

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer

Log Drawn By: Laurie White — Contact: laurie.white@reumad.com.au

Logged By: **TS** — Checked By:

Date: **4/08/2016** — Date:

Sediment Log

Hole ID.	L_P_ESSD02
Project Number:	16142
Hole Depth:	0.24 m
Sheet:	1 of 1

Project Name:	APECS Additional Works	Date:	4/08/2016
Location / Site:	Liddell Power Station, Muswellbrook NSW	Ground Level :	N/A
Client:	AGLM	Top of Casing :	N/A
Drilling Company:	ES	Easting:	N/A
Drill Method:	Hand Auger	Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Sample ID: DUP TRIP	Observations / Comments
Sediment Sampler		0.1, 0.12				Fill	**FILL** - SILT, black / dark brown, loose, significant organic matter.	---	L_P_ESSD02_0.05	DUPTSB 040816	Organic odour.
		0.2, 0.24			CL	Natural	**Silty CLAY** - brown / dark brown, firm, high plasticity.	---	L_P_ESSD02_0.2		No odour.
		0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0					**End of Hole at 0.240 m** Target depth.				

Additional Comments

Strike Groundwater Level
Static Groundwater Level

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **TS**
Date: **4/08/2016**
Checked By:
Date:

APPENDIX F – Field Measurement Tables

Field_ID	Location_Code	Sampled_Date_Time	pH (Field)	EC (field)	DO (Field)	Redox (Field)	Temp (Field)
			pH_Units	uS/cm	ppm	mV	oC
SW1 1	SW01	15/08/2015	8.56	1836	7.47	149.5	18.3
SW1 7.1	SW01	15/08/2015	8.55	1833	6.83	145.1	17.9
SW2 1	SW02	15/08/2015	8.52	1898	7.14	155.2	19.8
SW2 2.4	SW02	15/08/2015	8.52	1879	6.73	114.9	19.4
SW3 1	SW03	15/08/2015	8.54	1894	6.52	127.2	19.3
SW4 1	SW04	15/08/2015	8.53	1890	6.64	110.5	19.6
SW4 2.5	SW04	15/08/2015	8.52	1848	6.41	99.3	18.3
SW5 1	SW05	15/08/2015	8.55	1856	6.59	132.6	18.5
SW5 3.1	SW05	15/08/2015	8.53	1848	6.87	130	18.1
SW6 1	SW06	15/08/2015	8.55	1876	7.84	135.1	18.9
SW6 3.2	SW06	15/08/2015	8.55	1881	6.47	128.1	19
SW7 1	SW07	15/08/2015	8.54	1915	7.32	132.3	19.8
SW8 1	SW08	15/08/2015	8.56	1871	7.07	138.1	19
SW8 5.6	SW08	15/08/2015	8.55	1787	7.56	135.8	16.6
SW9 1	SW09	15/08/2015	8.56	1830	7.47	141	18.1
SW9 3.1	SW09	15/08/2015	8.56	1830	7.77	141.7	17.9
SW10 1	SW10	15/08/2015	8.53	1862	6.78	135.6	18.8
SW10 11.8	SW10	15/08/2015	8.47	1777	6.95	134.1	16.3
SW11 1	SW11	15/08/2015	8.53	1921	6.3	122.2	20.2
SW11 5.1	SW11	15/08/2015	8.47	1769	6.41	123.4	16.3
SW12 1	SW12	15/08/2015	8.49	2043	5.93	122.8	22.5
SW12 2.6	SW12	15/08/2015	8.5	1883	6.13	120.3	19.1
SW13 1	SW13	15/08/2015	8.5	1874	7.46	140.7	19.2
SW13 11	SW13	15/08/2015	8.42	1795	5.61	139.2	16.8
SW14 1	SW14	15/08/2015	8.58	1765	7.39	148.7	16.1
SW14 8.2	SW14	15/08/2015	8.56	1723	8.25	148.6	15.1
SW18 1	SW18	14/08/2015	8.45	873	6.93	116.8	14
SW18 15.6	SW18	14/08/2015	8.14	1680	7.28	108.6	14.8
SW19 1	SW19	14/08/2015	8.55	1684	7.7	137.5	14.5
SW19 15.8	SW19	14/08/2015	8.53	1692	7	139.6	14.6
SW20 1	SW20	14/08/2015	8.56	1729	7.05	177.2	15.7
SW20 11.4	SW20	14/08/2015	8.49	1733	6.41	184	15.7
SW21 1	SW21	14/08/2015	8.53	1733	7.37	152.8	15.6
SW21 15.8	SW21	14/08/2015	8.43	1722	6.16	162.4	15.3
SW22 1	SW22	14/08/2015	8.54	1842	6.37	165	18.2
SW22 9.3	SW22	14/08/2015	8.51	1746	7.22	159.6	16
SW23 1	SW23	14/08/2015	8.59	1765	6.77	147.8	16.1
SW23 24.4	SW23	14/08/2015	8.41	1717	5.81	151.6	15.1
SW24 1	SW24	14/08/2015	8.57	1768	7.55	165.6	16.4
SW24 19.6	SW24	14/08/2015	8.45	1715	6.51	160.4	15.2
SW25 1	SW25	15/08/2015	8.55	1760	7.04	89.8	16.2
SW25 21.2	SW25	15/08/2015	8.48	1690	6.44	78.6	14.6
SW26 1	SW26	15/08/2015	8.51	1961	5.67	112.4	19.8
SW26 7.9	SW26	15/08/2015	8.15	1850	7	130.6	17.4

APPENDIX G – Field Records

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD1
Project Number:	15106
Hole Depth:	0·43m
Sheet:	1

Project Name:		Date Started:	11/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample			Well Graphic	Material Type	Material Description	Observations / Comments
		PID ppm	ID No.	DUP / TRIP				
0.0m							Ground Level	
			SD1 0–0·1 SD1 0·15–0·25				Muddy Sand, grey, fg, well sorted, firm, SO. Stone @ 0·3m <0·[redacted]mm sub rounded low spherical.	
0·35m			SD1 0·4–0·43				sandy clay, yellow brown with grey [redacted], cr<5mm, SO	
					BT @ 0·43m on refusal			

Additional Comments

Depth 7·3m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD2
Project Number:	15106
Hole Depth:	0·35m
Sheet:	1

Project Name:		Date Started:	11/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample PID ppm	Sample ID No.	Sample DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
0·10			SD2 0–0·10				Sand, dark grey, cg, gastropod shells <1mm, SO.	
0·24			SD2 0·15–0·24				Muddy sand, grey, fg, very well sorted, rootlets, SO firm.	
0·26							Sand, dark grey, cg, gastropod shells <1mm, <3mm, SO.	
0·35			SD2 0·26–0·35				Silty clay / mud, olive / green brown, rootlets, MP, SO (appears to be pre ~~dating~~ lake sediment)	
					BT		@ 0·35m refused in clay	

Additional Comments

Depth 2·6m

Appeared to be a film on the surface of the water

Field Log Template

Environmental Strategies
PROVIDING BENEFITS

Hole ID.	SD3
Project Number:	15106
Hole Depth:	0.32
Sheet:	1

Project Name:		Date Started:	11/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample: PID ppm	Sample: ID No.	Sample: DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							Ground Level	
			SD3 0-0.1				Sand, dark grey, ~~fg~~ ~~grey~~, cg cr < 5mm, fibrous organic material so.	
0.25			SD3 0.25-0.32				Muddy sand, grey, fg, well sorted, organic matter, hydrocarbon odour rootlets.	

BT @ 0.32 on potentially rock

Additional Comments

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD4
Project Number:	15106
Hole Depth:	0.87 m
Sheet:	1

Project Name:	[redacted]	Date Started:	12/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample: PID ppm	Sample: ID No.	Sample: DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
0.08m			SD4 0–0.08				Sand, black, fg, well sorted,	
0.48		QA1 QA2	SD4 0.15–0.25 ~~SD4 0.15–0.25 DUP~~ ~~SD4 0.15–0.25 TRIP~~ SD4 0.40–0.47				Mud, black, SO	
0.57							Gravel, black, coal pieces, SO.	
0.76							Mud, dark grey, minor sand fragments, SO.	
0.87							Silty clay, ~~[illegible]~~ brown, rootlets, SO trace sand.	
					BT	@	0.87m at required depth	

Additional Comments

depth 2.7m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD5
Project Number:	15106
Hole Depth:	0.10
Sheet:	1

Project Name:		Date Started:	12/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample: PID ppm	Sample: ID No.	Sample: DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							Ground Level	
0.05			SD5 0 - 0.05				muddy sand, grey, fg, fibres, gastropod shells, SO.	
0.10							silty clay, green (brown) olive, rootlets, SO trace gravel	

BT @ 0.1m on refusal in silty clay

Additional Comments

Depth 3.3 m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD6
Project Number:	15106
Hole Depth:	0.55 m
Sheet:	1

Project Name:		Date Started:	12/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Cores	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample: PID ppm	Sample: ID No.	Sample: DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
0.26			SD6 0-0.1 SD6 0.15-0.25				Muddy sand / Sandy mud, brown grey, fg, Gastropod shells, OM, SO.	
0.42							Mud, dark grey, SO	
			SD6 0.43-0.5				Sandy clay, light grey, cg, OM, rootlets, SO.	
							BT @ 0.55m in silty clay.	

Additional Comments
depth 3.4m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD7
Project Number:	15106
Hole Depth:	1.05 m
Sheet:	1

Project Name:		Date Started:	12/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston core	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample: PID ppm	Sample: ID No.	Sample: DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
0.07			SD7 0-0.06				Sand light brown with black, fg, organic odour.	
0.57		QA3 QA4	SD7 0.15-0.25 SD7 0.4-0.5 ~~[illegible]~~ ~~[illegible]~~	~~[illegible]~~ ~~[illegible]~~			Mud, dark grey/black, slight hydrocarbon odour.	
0.72							Muddy sand, black, fg slight hydrocarbon odour.	
0.82							Sand, black, fg, strong hydrocarbon odour.	
0.96							Sand, black, fg @ 0.82 fg @ 0.86	sheen on core below 0.8m
1.05							Gravelly sand, black, fg-mg, gravels, sheen on core, hydrocarbon odour	
				BT @ 1.05 m				

Additional Comments

Depth 1.2m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD8
Project Number:	15106
Hole Depth:	0·43 m
Sheet:	1

Project Name:		Date Started:	12/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample PID ppm	Sample ID No.	Sample DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							Ground Level	
		SD8 ~~0-0.10~~ / SD8 0-15-0.25					Muddy sand, grey, mg abundant gastropod shells, gravels SO	
0·30		SD8 0·30-0·40					Sandy mud, grey, SO	
0·40							Muddy gravel, grey brown SO.	

~~BH~~ @ 0·43 m on gravel

Additional Comments

depth 5·6m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD9		
Project Number:	15106		
Hole Depth:	1.03 m		
Sheet:	1		
Project Name:		Date Started:	12/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample			Well Graphic	Material Type	Material Description	Observations / Comments
		PID ppm	ID No.	DUP / TRIP				
0.0m							Ground Level	
		SD9	0-0.10				[redacted] sand, grey fg [redacted]. gravels, [redacted], so	
0.19		SD9	0.15-0.25					
		SD9	0.4-0.50				Sand, gray, fg, well sorted, so.	
1.03								

~~A~~ @ 1.03 m

Additional Comments

depth 3.3 m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD10
Project Number:	15106
Hole Depth:	0·43m
Sheet:	1

Project Name:		Date Started:	12/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample: PID ppm	Sample: ID No.	Sample: DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
			SD10 0-0·12 SD10 0·14-0·26				Mud, dark grey, SO	
0·27							Silty clay, brown, O.M, SO stiff.	
			BT @ 0·43m on Refusal					

Additional Comments

depth 12·0 m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD11
Project Number:	15106
Hole Depth:	1.12 m
Sheet:	1

Project Name:		Date Started:	12/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample: PID ppm	Sample: ID No.	Sample: DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
			SD11 0-0.1				Mud, gray, SO	
			SD11 0.15-0.25					
			SD11 0.4-0.5					
					BT @		1.12	

Additional Comments
depth 5.3 m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD12
Project Number:	15106
Hole Depth:	0.50
Sheet:	1

Project Name:		Date Started:	13/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample			Well Graphic	Material Type	Material Description	Observations / Comments
		PID ppm	ID No.	DUP / TRIP				
0.0m							*Ground Level*	
			SD12 0-0.5				Coal fragments minor gravel and trace sand fg component	
				BT	@	0.50m		

Additional Comments

depth 2.8m

Field Log Template

Environmental Strategies
PROVIDING BENEFITS

Hole ID.	SD13
Project Number:	15106
Hole Depth:	0.10
Sheet:	1

Project Name:		Date Started:	13/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample PID ppm	Sample ID No.	Sample DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							Ground Level	
		Resample 14/08/15	SD13 0-0.02				Mud, dark grey, rootlets, SO	
0.02		SD13	0.8 - 0.10				silty clay, green brown, rootlets, SO stiff.	
0.10					Refusal		@ 0.1m	

Additional Comments
depth 11.2m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD14
Project Number:	15106
Hole Depth:	0.46
Sheet:	1

Project Name:		Date Started:	13/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Coring	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample PID ppm	Sample ID No.	Sample DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
0.41			SD14 0-0.1 SD14 0.15-0.25				Sand, light brown, gastropods, gravels fs-ms. SO	
0.46			SD14 0.41-0.46				Sandy clay, light brown, MP SO	
					BT	@	0.46 m	

Additional Comments
depth 8.4 m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD15
Project Number:	15106
Hole Depth:	0.07
Sheet:	1

Project Name:	
Location / Site:	Lake Liddell
Client:	AGL
Drilling Company:	
Drill Method:	Piston corer / grab sampler
Logged By:	E.C.
Date Started:	13/08/15
Date Completed:	
Ground Level:	
Easting:	
Northing:	

Depth (m)	Water Level	Sample: PID ppm	Sample: ID No.	Sample: DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							Ground Level	
0.04		SD15 0 – 0.04					Mud, dark grey, abundant gastropods, O.M, SO.	
0.07							Silty clay, brown with black mottling, MP, SO	

Refusal @ 0.07m in silty clay

depth 5.1m

Additional Comments

Piston corer unable to obtain enough sample. Grab sampler used.

Field Log Template

Environmental Strategies
PROVIDING BENEFITS

Hole ID.	SD16
Project Number:	15106
Hole Depth:	0.46m
Sheet:	

Project Name:	
Location / Site:	Lake Liddell
Client:	AGL
Drilling Company:	
Drill Method:	Piston Corer
Logged By:	EC

Date Started:	13/08/15
Date Completed:	
Ground Level:	
Easting:	
Northing:	

Depth (m)	Water Level	Sample PID ppm	Sample ID No.	Sample DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							Ground Level	
			SD16 0-0.10 SD16 0.15-0.25				Muddy sand, dark brown, lighter colour with depth, minor rootlets, SO.	
0.37			SD16 0.4-0.46				Silty clay, pale green, stiff SO.	
0.46					EOH		0.46 on refusal in silty clay	

Additional Comments
depth 10.2m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD17
Project Number:	15106
Hole Depth:	0.55
Sheet:	1

Project Name:		Date Started:	13/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample PID ppm	Sample ID No.	Sample DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
		QA5	SD17 0-0.10 ~~SD17 0-0.10 DUP~~ SD17 0.15-0.25 SD17 0.4-0.5				Mud, grey, SO. high organic material, black, anoxic odour @ 0.4 – 0.5m	
0.5							Silty clay, brown, stiff SO.	
0.55								
							BT @ 0.55m on required depth	

Additional Comments

depth 6.5m

Field Log Template

Environmental Strategies
PROVIDING BENEFITS

Hole ID.	SD18
Project Number:	15106
Hole Depth:	0.35
Sheet:	1

Project Name:		Date Started:	14/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample			Well Graphic	Material Type	Material Description	Observations / Comments
		PID ppm	ID No.	DUP / TRIP				
0.0m							*Ground Level*	
0.01							Mud, brown, oxygenous layer, SD, a gastropod shell	
			SD18 0-0.10 SD18 0.15-0.25 SD18 0.30-0.35				Muddy sand, dark brown to light gray with depth, fs, firm, rootlets @ 0.1m	
0.35								
					Refusal @ 0.35m			

Additional Comments

Depth 15.8m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD19
Project Number:	
Hole Depth:	0.09
Sheet:	

Project Name:		Date Started:	14/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Core / Grab sample	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample PID ppm	Sample ID No.	Sample DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							Ground Level	
			SD19 0-0.01				Mud, brown, anhydrous layer, SO, gastropods.	
			SD19 0.02-0.09				Silty clay, grey brown, O.M, rootlets, stiff, SO. MP.	
			Refusal @ 0.09m on silty clay.					

Additional Comments
Depth 16.0m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD20
Project Number:	15106
Hole Depth:	
Sheet:	1

Project Name:		Date Started:	14/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston corer (refusal) Grab sample taken	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample			Well Graphic	Material Type	Material Description	Observations / Comments
		PID ppm	ID No.	DUP / TRIP				
0.0m							Ground Level	
			SD20 0-0.02				mud, grey and brown, minor gastropods, organic odour.	
			Refusal @ 0.02m					

Additional Comments

depth 11.6m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD21
Project Number:	15106
Hole Depth:	0.11
Sheet:	

Project Name:		Date Started:	14/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Piston Corer grab sampler	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample: PID ppm	Sample: ID No.	Sample: DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							Ground Level	
0.03			SD21 0-0.03				Mud, grey brown, coal fragments, occasional gastropods, SO	
0.11			SD21 0.04-0.11				Silty clay, brown, MP, SO	
							Refusal @ 0.11m on silty clay	

Additional Comments
Depth 16.0 m

Field Log Template

Environmental Strategies
PROVIDING BENEFITS

Hole ID. 5022
Project Number: 15106
Hole Depth: 0·05
Sheet: 1

Project Name:
Location / Site: LAKE LIDDELL
Client: AGL
Drilling Company:
Drill Method: Piston Corer (refusal) grab sampler
Logged By: EC

Date Started: 14/08/15
Date Completed:
Ground Level:
Easting:
Northing:

Depth (m)	Water Level	Sample			Well Graphic	Material Type	Material Description	Observations / Comments
		PID ppm	ID No.	DUP / TRIP				
0.0m							*Ground Level*	
			5022 0-0·05				Mud, grey brown, gastropods occasional, SO.	
				Refusal @ 0·05 m on silty clay				

Additional Comments
Depth 9.5 m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD23
Project Number:	1506
Hole Depth:	0.21
Sheet:	1

Project Name:		Date Started:	14/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Gravity corer & grab sampler	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample: PID ppm	Sample: ID No.	Sample: DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
			SD23 0-0.10				Mud, grey brown, anoxic odour.	
0.15			SD23 0.15-0.21				Muddy sand, light brown, fg, well sorted, rootlets, SO. (Potentially pre lake)	
0.20				Refusal @ 0.21 m on silty clay				

Additional Comments
depth 24.6 m.

Field Log Template

Environmental Strategies
PROVIDING BENEFITS

Hole ID.	SD24
Project Number:	15106
Hole Depth:	0.22
Sheet:	1

Project Name:		Date Started:	14/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Gravity corer & grab sampler	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample PID ppm	Sample ID No.	Sample DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
0.04			SD24 0-0.04				Mud, grey brown, SO	
0.22			SD24 0.05-20				Silty clay, grey brown, MP stiff, SO. rootlets.	
					Refusal @		0.22 m in silty clay	

Additional Comments
depth 19.8 m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID. SD25
Project Number: 15106
Hole Depth: 0.53
Sheet: 1

Project Name:
Location / Site: Lake Liddell
Client: AGL
Drilling Company:
Drill Method: Piston Gravity corer
Logged By: EC

Date Started: 15/08/15
Date Completed:
Ground Level:
Easting:
Northing:

Depth (m)	Water Level	Sample: PID ppm	Sample: ID No.	Sample: DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
0.04							Mud, grey dark, hydrous, minor O.M, SO	
0.31			SD25 0-0.1 SD25 0.15-0.25				light brown, SO sandy mud	
0.40							Muddy sand, light brown grey, gas vesicles, SO.	
0.53			SD25 0.4-0.5				Sandy clay, grey with green brown mottling	

BT @ 0.53 m on required depth / refusal

Additional Comments
Depth 21.4m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD26
Project Number:	15106
Hole Depth:	0.05
Sheet:	1

Project Name:		Date Started:	15/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Grab sample	Northing:	
Logged By:	EG		

Depth (m)	Water Level	Sample PID ppm	Sample ID No.	Sample DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
			SD26 0-0.05				muddy sand, grey, fg, well sorted, So.	
0.05					Grab sample to 0.05			

Additional Comments depth 8.1m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD27
Project Number:	15106
Hole Depth:	0.04
Sheet:	1

Project Name:		Date Started:	15/08/15
Location / Site:	Lake Liddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Grab Sample	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample: PID ppm	Sample: ID No.	Sample: DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
			SD27 0-0.04				muddy sand, grey, fg, abundant gastropods, SO	
0.04								
			Grab sample to 0.04 m					

Additional Comments
depth 6.9m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	SD28
Project Number:	15106
Hole Depth:	0.09
Sheet:	1

Project Name:		Date Started:	15/08/15
Location / Site:	Lake Waddell	Date Completed:	
Client:	AGL	Ground Level:	
Drilling Company:		Easting:	
Drill Method:	Grab sampler / piston corer	Northing:	
Logged By:	EC		

Depth (m)	Water Level	Sample PID ppm	Sample ID No.	Sample DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							*Ground Level*	
0.02			SD28 0-0.02				Muddy sand, brown grey, fg, om, roots, SO	
							Silty clay, brown, MP, Stiff. SO.	
					Refusal @ 0.09			

Additional Comments
depth 2.4m

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	L_P_ESSD01
Project Number:	16142
Hole Depth:	0.42m
Sheet:	1/1

Project Name:	AGL -	Date Started:	4/8/16
Location / Site:	Penisular - reeds	Date Completed:	4/8/16
Client:		Ground Level:	
Drilling Company:	-	Easting:	
Drill Method:	Sediment Sampler	Northing:	
Logged By:	TS		

Depth (m)	Water Level	Sample PID ppm	Sample ID No.	Sample DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							Ground Level	
						sed	Silt, low plastic, dark brown with organic matter throughout	
0.03							Clay, plastic, red/brown Firm	
		0.0	L_P_ESSD01					
0.42								
			L_P_ESSW01					

Additional Comments

T°C = 16.7 pH = 6.19
DO ppm = 9.66 Redox = 24.2 mV
EC us/cm ~ 1707

Clear with little (quantity) green suspended solids, no odours. Taken among Lake Liddell reeds, windy day, overcast, some energy reaching sample location.

Field Log Template

EnvironmentalStrategies
PROVIDING BENEFITS

Hole ID.	L_P_ESSD02
Project Number:	16142
Hole Depth:	0.24
Sheet:	1/1

Project Name:	~~16044~~ AGL	Date Started:	4/8/16
Location / Site:	Penisular - reeds	Date Completed:	4/8/16
Client:		Ground Level:	
Drilling Company:	-	Easting:	
Drill Method:	Sediment sampler	Northing:	
Logged By:	TS		

Depth (m)	Water Level	Sample PID ppm	Sample ID No.	Sample DUP / TRIP	Well Graphic	Material Type	Material Description	Observations / Comments
0.0m							Ground Level	
							silt, soft, Black/dark brown, significant organic matter, organic odour	
0.05		L_P_ESSD02_0.05		TS Dup ~~Pt~~ B040816				
0.12								
							siltyclay brown/dark brown Firm, high plasticity	
0.20 ~~0.20~~		L-P-ESSD02_0.2						
0.24								
							2 Samples 0.05m L_P_ESSD02_0.05 0.2m L_P_ESSD02_0.2 1 Dup @ 0.05m Dup TS B040816	

Additional Comments L_P_ESSW02 DUP TSA040816

Temp: 13.7
DO: 9.56 ppm
C: 1734 µS/cm

pH: 6.40
Redox: 43.0 mV

Clear with some green suspended solids. Taken among Little Liddell reeds, windy/overcast day, ~~some~~ little energy reaching sampling location

SURFACE WATER FIELD RECORD SHEET

Environmental Strategies
PROVIDING BENEFITS

PROJECT : AGL Macquarie
JOB No: 15106
LOCATION : Lake Liddell
DATE : 14/08/15
TIME:
OPERATOR : EC

SAMPLE	~~TIME~~ Time	~~FLOW CONDITIONS~~ Depth	pH	EC (µS/cm)	DO (ppm)	Redox (mv)	Temp (°c)	Clarity	Odour	COMMENTS
SW18	9:23	15.6	8.14	1680	7.28	108.6	14.8	Clear	NIL	
SW18	9:36	1.0	8.45	*873	6.93	116.8	14.0	Clear	NIL	
SW19	10:49	15.8	8.53	1692	7.00	139.6	14.6	Clear	NIL	
SW19	10:59	1.0	8.55	1684	7.70	137.5	14.5	Clear	NIL	
SW20	11:58	11.4	8.49	1733	6.41	184.0	15.7	Clear	NIL	
SW20	12:05	1.0	8.56	1729	7.05	177.2	15.7	Clear	NIL	
SW21	13:04	15.8	8.43	1722	6.16	162.4	15.3	Clear	NIL	
SW21	13:15	1.0	8.53	1733	6.37	152.8	15.6	Clear	NIL	
SW22	14:24	9.3	8.51	1746	7.22	159.2	16.0	Clear	NIL	
SW22	14:34	1.0	8.54	1842	6.37	165.0	18.2	Clear	NIL	
SW23	17:13	24.4	8.41	1717	5.81	151.6	15.1	Clear	NIL	
SW23	17:23	1.0	8.57	1765	6.77	147.8	16.1	Clear	NIL	
SW24	17:36	19.6	8.45	1715	6.51	160.4	15.2	Clear	NIL	
SW24	17:48	1.0	8.57	1768	7.55	165.6	16.4	Clear	NIL	

Notes:

~~SU~~RFACE WATER FIELD RECORD SHEET

Environmental Strategies
PROVIDING BENEFITS

PROJECT : AGL Macquarie
JOB No: 15106
LOCATION : Lake Liddell
DATE : 15/08/15
TIME:
OPERATOR : EC

SAMPLE	TIME	Depth ~~FLOW CONDITIONS~~	pH	EC (µS/cm)	DO (ppm)	Redox (mv)	Temp (°c)	Clarity	Odour	COMMENTS
SW25	9:38	21.2	8.48	1690	6.44	78.6	14.6	Clear	NIL	
SW25	9:47	1.0	8.55	1760	7.04	89.8	16.2	Clear	NIL	
SW4	10:02	2.5	8.52	1848	6.41	99.3 (99.3)	18.3	Clear	NIL	
SW4	10:09	1.0	8.53	1890	6.64	110.5	19.6	Clear	NIL	
SW11	10:15	5.1	8.47	1769	6.41	123.4	16.3	Clear	NIL	
SW11	10:23	1.0	8.52	1921	6.30	122.2	20.2	Clear	NIL	
SW12	10:38	2.6	8.50	1883	6.13	120.3	19.1	Clear	NIL	
SW12	10:45	1.0	8.49	2043	5.93	122.8	22.5	Clear	NIL	QA1 and QA2
SW13	11:07	11.0	8.42	1795	5.61	139.2	16.8	Clear	NIL	
SW13	11:15	1.0	8.50	1874	7.46	140.7	19.2	Clear	NIL	
SW5	11:39	3.1	8.53	1848	6.87	130.0	18.1	Clear	NIL	
SW5	11:49	1.0	8.55	1856	6.59	132.6	18.5	Clear	NIL	
SW10	12:04	11.8	8.47	1777	6.95	134.1	16.3	Clear	NIL	
SW10	12:12	1.0	8.53	1862	6.78	135.6	18.8	Clear	NIL	
SW6	12:24	3.2	8.55	1881	6.47	128.1	19.0	Clear	NIL	
SW6	12:29	1.0	8.55	1876	7.84	135.1	18.9	Clear	NIL	
SW7	13:07	1.0	8.54	1915	7.32	132.3	19.8	Clear	NIL	

Notes:

CE WATER FIELD RECORD SHEET

Environmental Strategies
PROVIDING BENEFITS

T: AGL Macquarie
: 15106
ION: Lake Liddell
DATE: 15/08/15
TIME:
OPERATOR: EC

SAMPLE	TIME	~~FLOW CONDITIONS~~	pH	EC (µS/cm)	DO (ppm)	Redox (mv)	Temp (°c)	Clarity	Odour	COMMENTS
SW3	13:18	1.0	8.54	1894	6.52	127.2	19.3	Clear	NIL	Q3 & Q4
SW26	14:20	7.9	8.15	1850	7.00	130.6	17.4	Clear	NIL	
SW26	14:30	1.0	8.51	1961	5.61	112.4	19.8	Clear	NIL	
SW2	14:52	2.4	8.52	1879	6.73	114.9	19.4	Clear	NIL	
SW2	14:56	1.0	8.52	1898	7.14	135.2	19.8	Clear	NIL	
SW8	15:06	5.6	8.55	1787	7.56	135.8	16.6	Clear	NIL	
SW8	15:15	1.0	8.56	1871	7.07	138.1	19.0	Clear	NIL	
SW9	15:25	3.1	8.56	1830	7.77	141.7	17.9	Slightly turbid	NIL	Sample taken is amongst weed at bottom
SW9	15:32	1.0	8.56	1830	7.14	141.0	18.1	Clear	NIL	
SW1	15:44	7.1	8.55	1833	6.83	145.1	17.9	Slightly turbid	NIL	Q5
SW1	15:54	1.0	8.56	1836	7.47	149.5	18.3	Clear	NIL	
SW14	16:10	8.2	8.56	1723	8.25	148.6	15.1	Clear	NIL	
SW14	16:20	1.0	8.58	1765	7.39	148.7	16.1	Clear	NIL	

Notes:

APPENDIX H – Field QA/QC

Site_ID	Field_ID	Sample_Type	Sampled_Date_Time	3/4-Methylphenol (m/p-cresol)	Nitrite Nitrogen, NO2 as N (Filtered)	Phosphorous filterable reactive (P) (Filtered)	Tokuthion	1 & 2 Chloronaphthalene	Di(2-ethylhexyl)adipate	Total PAH (18)	Arsenic	Arsenic (Filtered)	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium (Filtered)	Chromium (III+VI)	Chromium (III+VI) (Filtered)	Copper	Copper (Filtered)	Lead	Lead (Filtered)	Magnesium (Filtered)
										EW_EPA8100_LL	Metals													
				mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.001	0.005	0.005	0.0005	0.001	1	0.1	1	1	5	5	0.1	0.1	100	1	1	1	1	1	1	100
Lake Liddell	FBEC11815	Field_B	11/08/2015	-	-	-	-	-	-	-	<1	<1	<5	<5	<0.1	<0.1	-	<1	<1	<1	<1	<1	<1	-
Lake Liddell	RINEC130815	Rinsate	13/08/2015	-	-	-	-	-	-	-	<1	<1	<5	<5	<0.1	<0.1	-	<1	<1	<1	<1	<1	<1	-
Lake Liddell	RINEC110815	Rinsate	11/08/2015	-	-	-	-	-	-	-	<1	<1	<5	<5	<0.1	<0.1	-	<1	<1	<1	<1	<1	<1	-
Lake Liddell	RINEC120815	Rinsate	12/08/2015	-	-	-	-	-	-	-	<1	<1	<5	<5	<0.1	<0.1	-	<1	<1	2	<1	<1	<1	-
Lake Liddell	RINEC140815	Rinsate	14/08/2015	-	<0.005	<0.005	-	-	-	-	<1	<1	<5	<5	<0.1	<0.1	-	<1	<1	<1	<1	<1	<1	-
Lake Liddell	RINEC150815	Rinsate	15/08/2015	-	<0.005	<0.005	-	-	-	-	<1	<1	<5	<5	<0.1	<0.1	-	<1	<1	<1	<1	<1	<1	-
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Site_ID	Field_ID	Sample_Type	Sampled_Date_Time	Mercury	Mercury (Filtered)	Nickel	Nickel (Filtered)	Phosphorus	Potassium (Filtered)	Selenium	Selenium (Filtered)	Zinc	Zinc (Filtered)	Alkalinity (total) as CaCO3	Ammonia as N (Filtered)	Chloride (Filtered)	Electrical conductivity *(lab)	Electrical conductivity *(lab) (Filtered)	Nitrate (as N) (Filtered)	pH (Lab)
				Metals										Inorganics						
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	uS/cm	uS/cm	mg/L	pH_Units
EQL				0.05	0.05	1	1	50	200	1	1	5	5	5	0.005	1	2	2	0.005	0
Lake Liddell	FBEC11815	Field_B	11/08/2015	<0.05	<0.05	<1	<1	-	-	<1	<1	<5	<5	-	-	-	-	-	-	-
Lake Liddell	RINEC130815	Rinsate	13/08/2015	<0.05	<0.05	<1	<1	-	-	<1	<1	<5	<5	-	-	-	-	-	-	-
Lake Liddell	RINEC110815	Rinsate	11/08/2015	<0.05	<0.05	<1	<1	-	-	<1	<1	<5	<5	-	-	-	-	-	-	-
Lake Liddell	RINEC120815	Rinsate	12/08/2015	<0.05	<0.05	<1	<1	-	-	<1	<1	<5	<5	-	-	-	-	-	-	-
Lake Liddell	RINEC140815	Rinsate	14/08/2015	<0.05	<0.05	<1	<1	200	-	<1	<1	<5	<5	-	0.08	-	<2	-	0.008	6.8
Lake Liddell	RINEC150815	Rinsate	15/08/2015	<0.05	3.1	<1	<1	210	-	<1	<1	<5	<5	-	0.32	-	<2	-	0.005	5.2
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Statistical Summary	3/4-Methylphenol (m/p-cresol)	Nitrite Nitrogen, NO2 as N (Filtered)	Phosphorous filterable reactive (P) (Filtered)	Tokuthion	1 & 2 Chloronaphthalene	Di(2-ethylhexyl)adipate	Total PAH (18)	Arsenic	Arsenic (Filtered)	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium (Filtered)	Chromium (III+VI)	Chromium (III+VI) (Filtered)	Copper	Copper (Filtered)	Lead	Lead (Filtered)	Magnesium (Filtered)
Number of Results	4	21	21	4	4	4	8	75	19	74	18	75	19	2	75	19	75	19	75	19	2
Number of Detects	0	2	5	0	0	0	0	0	0	15	3	0	0	0	0	0	8	2	0	0	0
Minimum Concentration	<0.001	<0.005	<0.005	<0.0005	<0.001	<1	<0.1	<1	<1	<5	<5	<0.1	<0.1	<100	<1	<1	<1	<1	<1	<1	<100
Minimum Detect	ND	0.006	0.005	ND	ND	ND	ND	ND	ND	5	6	ND	ND	ND	ND	ND	1	2	ND	ND	ND
Maximum Concentration	<0.001	0.006	0.25	<0.0005	<0.001	<1	<0.1	<1	<1	91	44	<0.1	<0.1	<100	<1	<1	4	6	<1	<1	<100
Maximum Detect	ND	0.006	0.25	ND	ND	ND	ND	ND	ND	91	44	ND	ND	ND	ND	ND	4	6	ND	ND	ND
Average Concentration	0.0005	0.0028	0.016	0.00025	0.0005	0.5	0.05	0.5	0.5	6.9	5.9	0.05	0.05		0.5	0.5	0.67	0.87	0.5	0.5	
Geometric Average	0.0005	0.0027	0.0041	0.00025	0.0005	0.5	0.05	0.5	0.5	3.6	3.4	0.05	0.05		0.5	0.5	0.58	0.61	0.5	0.5	
Median Concentration	0.0005	0.0025	0.0025	0.00025	0.0005	0.5	0.05	0.5	0.5	2.5	2.5	0.05	0.05	50	0.5	0.5	0.5	0.5	0.5	0.5	50
Standard Deviation	0	0.0011	0.054	0	0	0	0	0	0	15	10	0	0		0	0	0.57	1.3	0	0	
Geometric Standard Deviation		1.3	3.1							2.3	2.3						1.6	1.9			
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit	0	10	24	0	0	0	0	0	0	20	17	0	0	0	0	0	11	11	0	0	0
% of Results below the Detect Limit	100	90	76	100	100	100	100	100	100	80	83	100	100	100	100	100	89	89	100	100	100
% of Detects at or above Guidelines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Statistical Summary	Mercury	Mercury (Filtered)	Nickel	Nickel (Filtered)	Phosphorus	Potassium (Filtered)	Selenium	Selenium (Filtered)	Zinc	Zinc (Filtered)	Alkalinity (total) as CaCO3	Ammonia as N (Filtered)	Chloride (Filtered)	Electrical conductivity *(lab)	Electrical conductivity *(lab) (Filtered)	Nitrate (as N) (Filtered)	pH (Lab)
Number of Results	75	19	75	19	21	2	74	18	75	19	2	23	2	69	8	21	15
Number of Detects	0	4	0	1	5	0	0	0	5	4	0	22	0	20	4	16	15
Minimum Concentration	<0.05	<0.05	<1	<1	<50	<200	<1	<1	<5	<5	<5	<0.01	<1	<2	<2	<0.005	4.2
Minimum Detect	ND	0.1	ND	1	60	ND	ND	ND	5	6	ND	0.018	ND	2	2	0.005	4.2
Maximum Concentration	<0.1	3.1	<1	1	210	<200	<1	<1	8	110	<5	0.32	<1	35	5	0.49	7
Maximum Detect	ND	3.1	ND	1	210	ND	ND	ND	8	110	ND	0.32	ND	35	5	0.49	7
Average Concentration	0.026	0.2	0.5	0.53	54		0.5	0.5	2.7	14		0.047		2.7	2.1	0.072	5.6
Geometric Average	0.026	0.045	0.5	0.52	37		0.5	0.5	2.7	4.1		0.031		1.6	1.8	0.015	5.6
Median Concentration	0.025	0.025	0.5	0.5	25	100	0.5	0.5	2.5	2.5	2.5	0.02	0.5	1	1.5	0.007	5.8
Standard Deviation	0.0049	0.7	0	0.11	62		0	0	0.98	32		0.063		5	1.5	0.14	0.82
Geometric Standard Deviation	1.1	3.2		1.2	2.1				1.3	3.3		2.2		2.3	1.9	5.8	1.2
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit	0	21	0	5	24	0	0	0	7	21	0	96	0	29	50	76	100
% of Results below the Detect Limit	100	79	100	95	76	100	100	100	93	79	100	4	100	71	50	24	0
% of Detects at or above Guidelines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Env Stds Comments

Site_ID	Field_ID	Sample_Type	Sampled_Date_Time	pH (Lab) (Filtered)	Salinity	Salinity (Filtered)	Sodium (Filtered)	Sulphate (Filtered)	TOC	BTEX: Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX
				pH_Units	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0	2	2	0.1	1	0.2	0.5	0.5	0.5	1	0.5	1.5	3
Lake Liddell	FBEC11815	Field_B	11/08/2015	-	-	-	-	-	0.3	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Lake Liddell	RINEC130815	Rinsate	13/08/2015	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Lake Liddell	RINEC110815	Rinsate	11/08/2015	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Lake Liddell	RINEC120815	Rinsate	12/08/2015	-	-	-	-	-	0.2	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Lake Liddell	RINEC140815	Rinsate	14/08/2015	-	<2	-	-	-	0.3	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Lake Liddell	RINEC150815	Rinsate	15/08/2015	-	<2	-	-	-	0.3	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3

Field_ID	TRH: C6-C10	C6-C10 less BTEX (F1)	C10-C16	C16-C34	C34-C40	TPH: TRH C37-C40	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	50	50	60	500	500	200	40	50	200	200	450	650
FBEC11815	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650
RINEC130815	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650
RINEC110815	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650
RINEC120815	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650
RINEC140815	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650
RINEC150815	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650
TBEC110815	-	-	-	-	-	-	-	-	-	-	-	-
TBEC120815	-	-	-	-	-	-	-	-	-	-	-	-
TBEC130815	-	-	-	-	-	-	-	-	-	-	-	-
TBEC140815	-	-	-	-	-	-	-	-	-	-	-	-
TBEC150815	-	-	-	-	-	-	-	-	-	-	-	-

Field_ID	MAH: 1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	PAH: Benzo(b+j)fluoranthene	7,12-dimethylbenz(a)anthracene	1-Methylnaphthalene	2,4-dimethylphenol	2-methylnaphthalene	2-methylphenol	2-nitrophenol
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0001	0.5	0.01	0.5	0.01	0.5	0.5
FBEC11815	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.01	-	<0.01	-	-
RINEC130815	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.01	-	<0.01	-	-
RINEC110815	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.01	-	<0.01	-	-
RINEC120815	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.01	-	<0.01	-	-
RINEC140815	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.01	-	<0.01	-	-
RINEC150815	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.01	-	<0.01	-	-
TBEC110815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TBEC120815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TBEC130815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TBEC140815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TBEC150815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Statistic	pH (Lab) (Filtered)	Salinity	Salinity (Filtered)	Sodium (Filtered)	Sulphate (Filtered)	TOC	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX
Number of Results	8	69	8	2	2	6	138	138	138	138	138	133	133
Number of Detects	8	15	1	2	0	4	1	10	1	1	1	0	4
Minimum Concentration	5.5	<2	<2	0.1	<1	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Minimum Detect	5.5	2	4	0.1	ND	0.2	51	2.6	52	100	53	ND	4
Maximum Concentration	6.3	22	4	0.4	<1	0.3	51	51	52	100	53	<1.5	5
Maximum Detect	6.3	22	4	0.4	ND	0.3	51	51	52	100	53	ND	5
Average Concentration	5.9	1.9	1.4			0.22	0.62	0.84	0.63	1.2	0.64	0.75	1.6
Geometric Average	5.9	1.3	1.2			0.19	0.26	0.31	0.26	0.53	0.26	0.75	1.6
Median Concentration	5.9	1	1	0.25	0.5	0.25	0.25	0.25	0.25	0.5	0.25	0.75	1.5
Standard Deviation	0.28	3.1	1.1			0.098	4.3	4.4	4.4	8.5	4.5	0	0.56
Geometric Standard Deviation	1	1.9	1.6	2.7		1.7	1.6	2.2	1.6	1.6	1.6		1.2
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit	100	22	13	100	0	67	1	7	1	1	1	0	3
% of Results below the Detect Limit	0	78	88	0	100	33	99	93	99	99	99	100	97
% of Detects at or above Guidelines	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect	100	100	100	100	100	100	100	100	100	100	100	100	100

Statistic	C6-C10	C6-C10 less BTEX (F1)	C10-C16	C16-C34	C34-C40	TRH C37-C40	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)
Number of Results	106	106	93	93	93	93	106	93	93	93	93	93
Number of Detects	0	0	2	0	0	0	0	2	1	0	1	0
Minimum Concentration	<50	<50	<60	<500	<500	<200	<40	<50	<200	<200	<450	<650
Minimum Detect	ND	ND	66	ND	ND	ND	ND	59	250	ND	530	ND
Maximum Concentration	<50	<50	280	<500	<500	<200	<40	270	250	<200	530	<650
Maximum Detect	ND	ND	280	ND	ND	ND	ND	270	250	ND	530	ND
Average Concentration	25	25	33	250	250	100	20	28	102	100	228	325
Geometric Average	25	25	31	250	250	100	20	26	101	100	227	325
Median Concentration	25	25	30	250	250	100	20	25	100	100	225	325
Standard Deviation	0	0	26	0	0	0	0	26	16	0	32	0
Geometric Standard Deviation			1.3					1.3	1.1		1.1	
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit	0	0	2	0	0	0	0	2	1	0	1	0
% of Results below the Detect Limit	100	100	98	100	100	100	100	98	99	100	99	100
% of Detects at or above Guidelines	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect	100	100	100	100	100	100	100	100	100	100	100	100

Statistic	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Benzo(b+j)fluoranthene	7,12-dimethylbenz(a)anthracene	1-Methylnaphthalene	2,4-dimethylphenol	2-methylnaphthalene	2-methylphenol	2-nitrophenol
Number of Results	24	24	24	24	24	24	24	24	24	4	4	89	4	89	4	4
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0
Minimum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.0001	<0.5	<0.01	<0.5	<0.01	<0.5	<0.5
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	ND	0.02	ND	ND
Maximum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.0001	<0.5	0.02	<0.5	0.03	<0.5	<0.5
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND	0.03	ND	ND
Average Concentration	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.00005	0.25	0.0053	0.25	0.0056	0.25	0.25
Geometric Average	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.00005	0.25	0.0052	0.25	0.0053	0.25	0.25
Median Concentration	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.00005	0.25	0.005	0.25	0.005	0.25	0.25
Standard Deviation	0	0	0	0	0	0	0	0	0	0	0	0.0017	0	0.0034	0	0
Geometric Standard Deviation												1.2		1.3		
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0
% of Results below the Detect Limit	100	100	100	100	100	100	100	100	100	100	100	97	100	97	100	100
% of Detects at or above Guidelines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Env Stds Comments

Environmental Strategies
PROVIDING BENEFITS

PAH/Phenols

				3-methylcholanthrene	4-chloro-3-methylphenol	4-nitrophenol	Acenaphthene	Acenaphthylene	Acetophenone	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+k)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
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.5	2	1	0.01	0.01	1	0.01	0.01	0.01	0.02	0.01	0.1	0.01	0.01	0.01	0.01	0.01	0.02	0.1	0.01	0.5	0.01
Site_ID	**Field_ID**	**Sample_Type**	**Sampled_Date_Time**																						
Lake Liddell	FBEC11815	Field_B	11/08/2015	-	-	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.02	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	-	<0.01
Lake Liddell	RINEC130815	Rinsate	13/08/2015	-	-	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.02	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	-	<0.01
Lake Liddell	RINEC110815	Rinsate	11/08/2015	-	-	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.02	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	-	<0.01
Lake Liddell	RINEC120815	Rinsate	12/08/2015	-	-	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.02	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	-	<0.01
Lake Liddell	RINEC140815	Rinsate	14/08/2015	-	-	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.02	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	-	<0.01
Lake Liddell	RINEC150815	Rinsate	15/08/2015	-	-	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.02	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	-	<0.01
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Statistical Summary																									
Number of Results				4	4	4	89	89	4	89	89	89	89	89	4	89	89	89	89	89	137	89	89	4	89
Number of Detects				0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	6	0	2	0	0
Minimum Concentration				<0.5	<2	<1	<0.01	<0.01	<1	<0.01	<0.01	<0.01	<0.02	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.01	<0.5	<0.01
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	0.01	0.01	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND	0.02	ND	ND
Maximum Concentration				<0.5	<2	<1	<0.01	<0.01	<1	<0.01	0.01	0.01	<0.02	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	0.01	<0.5	<0.1	0.02	<0.5	<0.01
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	0.01	0.01	ND	ND	ND	ND	ND	ND	ND	0.01	0.09	ND	0.02	ND	ND
Average Concentration				0.25	1	0.5	0.005	0.005	0.5	0.005	0.0051	0.0051	0.01	0.005	0.05	0.005	0.005	0.005	0.005	0.0051	0.099	0.05	0.0054	0.25	0.005
Geometric Average				0.25	1	0.5	0.005	0.005	0.5	0.005	0.005	0.005	0.01	0.005	0.05	0.005	0.005	0.005	0.005	0.005	0.035	0.05	0.0052	0.25	0.005
Median Concentration				0.25	1	0.5	0.005	0.005	0.5	0.005	0.005	0.005	0.01	0.005	0.05	0.005	0.005	0.005	0.005	0.005	0.01	0.05	0.005	0.25	0.005
Standard Deviation				0	0	0	0	0	0	0	0.00053	0.00053	0	0	0	0	0	0	0	0.00053	0.11	0	0.0031	0	0
Geometric Standard Deviation											1.1	1.1								1.1	4.7		1.3		
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit				0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	4	0	2	0	0
% of Results below the Detect Limit				100	100	100	100	100	100	100	99	99	100	100	100	100	100	100	100	99	96	100	98	100	100
% of Detects at or above Guidelines				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect				100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

VOCs

				2-Nitropropane	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	Pentachloroethane	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	1,2-dichloropropane	1,3-dichloropropane
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				100	1	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
Site_ID	**Field_ID**	**Sample_Type**	**Sampled_Date_Time**																
Lake Liddell	FBEC11815	Field_B	11/08/2015	<100	<1	<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
Lake Liddell	RINEC130815	Rinsate	13/08/2015	<100	<1	<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
Lake Liddell	RINEC110815	Rinsate	11/08/2015	<100	<1	<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
Lake Liddell	RINEC120815	Rinsate	12/08/2015	<100	<1	<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
Lake Liddell	RINEC140815	Rinsate	14/08/2015	<100	<1	<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
Lake Liddell	RINEC150815	Rinsate	15/08/2015	<100	<1	<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
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																			
Number of Results				24	24	24	4	24	24	24	24	24	24	24	24	24	24	24	24
Number of Detects				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				<100	<1	<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
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				<100	<1	<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
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				50	0.5	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Geometric Average				50	0.5	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Median Concentration				50	0.5	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Standard Deviation				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geometric Standard Deviation																			
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results below the Detect Limit				100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% of Detects at or above Guidelines				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect				100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Env Stds Comments

Environmental Strategies
PROVIDING BENEFITS

Chlorinated Hydrocarbons

Site_ID	Field_ID	Sample_Type	Sampled_Date_Time	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	5	0.5	0.5	0.5	4	0.5	2	0.5	0.5	0.5	0.5	0.5	0.3
Lake Liddell	FBEC11815	Field_B	11/08/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	3.2	<5	<0.5	<0.5	<0.5	<4	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.3
Lake Liddell	RINEC130815	Rinsate	13/08/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	1.9	<5	<0.5	<0.5	<0.5	<4	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.3
Lake Liddell	RINEC110815	Rinsate	11/08/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	1.6	<5	<0.5	<0.5	<0.5	<4	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.3
Lake Liddell	RINEC120815	Rinsate	12/08/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	1.6	<5	<0.5	<0.5	<0.5	<4	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.3
Lake Liddell	RINEC140815	Rinsate	14/08/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.3
Lake Liddell	RINEC150815	Rinsate	15/08/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.3
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SVOCs

Field_ID	1,4-Naphthoquinone	2-(acetylamino) fluorene	4-(dimethylamino) azobenzene	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	Benzyl alcohol	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl) ether	Dibenzofuran	Hexachloropropene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Phenacetin
	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.001	0.5	1	1	1	1	1	1	1	1	0.5	1	1	1	1
FBEC11815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RINEC130815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RINEC110815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RINEC120815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RINEC140815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RINEC150815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TBEC110815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TBEC120815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TBEC130815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TBEC140815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TBEC150815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Field_ID	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	gamma-Chlordane	d-BHC
	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
EQL	0.1	0.1	0.1	0.1	0.1	0.0001	0.1
FBEC11815	-	-	-	-	-	-	-
RINEC130815	-	-	-	-	-	-	-
RINEC110815	-	-	-	-	-	-	-
RINEC120815	-	-	-	-	-	-	-
RINEC140815	-	-	-	-	-	-	-
RINEC150815	-	-	-	-	-	-	-
TBEC110815	-	-	-	-	-	-	-
TBEC120815	-	-	-	-	-	-	-
TBEC130815	-	-	-	-	-	-	-
TBEC140815	-	-	-	-	-	-	-
TBEC150815	-	-	-	-	-	-	-

Statistical Summary

Statistic	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
Number of Results	24	24	24	24	24	24	24	24	24	24	24	24	24	25	4	4	24	24	24	24	24
Number of Detects	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<4	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	3.2	<5	<0.5	<0.5	<0.5	<5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	3.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	0.25	0.25	0.25	0.25	0.25	0.25	2.5	1.2	2.5	0.25	0.25	0.25	2	0.25	1	0.25	0.25	0.25	0.25	0.25	0.15
Geometric Average	0.25	0.25	0.25	0.25	0.25	0.25	2.5	0.7	2.5	0.25	0.25	0.25	2	0.25	1	0.25	0.25	0.25	0.25	0.25	0.15
Median Concentration	0.25	0.25	0.25	0.25	0.25	0.25	2.5	0.725	2.5	0.25	0.25	0.25	2	0.25	1	0.25	0.25	0.25	0.25	0.25	0.15
Standard Deviation	0	0	0	0	0	0	0	1	0	0	0	0	0.14	0	0	0	0	0	0	0	0
Geometric Standard Deviation								2.9					1.1								
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results below the Detect Limit	100	100	100	100	100	100	100	50	100	100	100	100	100	100	100	100	100	100	100	100	100
% of Detects at or above Guidelines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Statistic	1,4-Naphthoquinone	2-(acetylamino) fluorene	4-(dimethylamino) azobenzene	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	Benzyl alcohol	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl) ether	Dibenzofuran	Hexachloropropene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Phenacetin
Number of Results	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.001	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.001	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	0.0005	0.25	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.25	0.5	0.5	0.5	0.5
Geometric Average	0.0005	0.25	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.25	0.5	0.5	0.5	0.5
Median Concentration	0.0005	0.25	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.25	0.5	0.5	0.5	0.5
Standard Deviation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geometric Standard Deviation															
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results below the Detect Limit	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% of Detects at or above Guidelines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Statistic	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	gamma-Chlordane	d-BHC
Number of Results	4	4	4	4	4	4	4
Number of Detects	0	0	0	0	0	0	0
Minimum Concentration	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0001	<0.1
Minimum Detect	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0001	<0.1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND
Average Concentration	0.05	0.05	0.05	0.05	0.05	0.00005	0.05
Geometric Average	0.05	0.05	0.05	0.05	0.05	0.00005	0.05
Median Concentration	0.05	0.05	0.05	0.05	0.05	0.00005	0.05
Standard Deviation	0	0	0	0	0	0	0
Geometric Standard Deviation							
Number of Guideline Exceedances	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0
% of Results at or above the Detect Limit	0	0	0	0	0	0	0
% of Results below the Detect Limit	100	100	100	100	100	100	100
% of Detects at or above Guidelines	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect	100	100	100	100	100	100	100

Env Stds Comments

Environmental Strategies PROVIDING BENEFITS

Organochlorine Pesticides

Site_ID	Field_ID	Sample_Type	Sampled_Date_Time	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Lake Liddell	FBEC11815	Field_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC130815	Rinsate	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC110815	Rinsate	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC120815	Rinsate	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC140815	Rinsate	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC150815	Rinsate	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-

Organophosphorous Pesticides

Site_ID	Field_ID	Sample_Type	Sampled_Date_Time	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos E	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	cis-Chlorfenvinphos	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Ethyl methanesulfonate
				µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.2	0.2	0.5	0.0005	0.2	0.0005	0.5	0.5	0.005	0.5	0.5	0.5	0.2	0.5	1
Lake Liddell	FBEC11815	Field_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC130815	Rinsate	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC110815	Rinsate	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC120815	Rinsate	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC140815	Rinsate	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC150815	Rinsate	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Site_ID	Field_ID	Sample_Type	Sampled_Date_Time	Fenitrothion	Fenthion	EPN	Isosafrole (cis)	Isosafrole (trans)	Malathion	Methidathion	Methyl methanesulfonate	Methyl parathion	Mevinphos (Phosdrin)	Phorate	Ronnel	Safrole	Strophos	Arochlor 1016	Arochlor 1221
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.2	0.5	0.5	1	1	0.2	0.5	1	0.5	1	0.5	0.5	1	0.5	0.1	0.1
Lake Liddell	FBEC11815	Field_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC130815	Rinsate	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC110815	Rinsate	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC120815	Rinsate	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC140815	Rinsate	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC150815	Rinsate	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Statistic	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
Number of Results	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Geometric Average	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Median Concentration	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Standard Deviation	0	0	0	0	0	0	0	0	0	0	0	0
Geometric Standard Deviation												
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit	0	0	0	0	0	0	0	0	0	0	0	0
% of Results below the Detect Limit	100	100	100	100	100	100	100	100	100	100	100	100
% of Detects at or above Guidelines	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect	100	100	100	100	100	100	100	100	100	100	100	100

Statistic	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos E	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	cis-Chlorfenvinphos	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Ethyl methanesulfonate
Number of Results	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.2	<0.2	<0.5	<0.0005	<0.2	<0.0005	<0.5	<0.5	<0.005	<0.5	<0.5	<0.5	<0.2	<0.5	<1
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.2	<0.2	<0.5	<0.0005	<0.2	<0.0005	<0.5	<0.5	<0.005	<0.5	<0.5	<0.5	<0.2	<0.5	<1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	0.1	0.1	0.25	0.00025	0.1	0.00025	0.25	0.25	0.0025	0.25	0.25	0.25	0.1	0.25	0.5
Geometric Average	0.1	0.1	0.25	0.00025	0.1	0.00025	0.25	0.25	0.0025	0.25	0.25	0.25	0.1	0.25	0.5
Median Concentration	0.1	0.1	0.25	0.00025	0.1	0.00025	0.25	0.25	0.0025	0.25	0.25	0.25	0.1	0.25	0.5
Standard Deviation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geometric Standard Deviation															
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results below the Detect Limit	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% of Detects at or above Guidelines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Statistic	Fenitrothion	Fenthion	EPN	Isosafrole (cis)	Isosafrole (trans)	Malathion	Methidathion	Methyl methanesulfonate	Methyl parathion	Mevinphos (Phosdrin)	Phorate	Ronnel	Safrole	Strophos	Arochlor 1016	Arochlor 1221
Number of Results	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.2	<0.5	<0.5	<1	<1	<0.2	<0.5	<1	<0.5	<1	<0.5	<0.5	<1	<0.5	<0.1	<0.1
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.2	<0.5	<0.5	<1	<1	<0.2	<0.5	<1	<0.5	<1	<0.5	<0.5	<1	<0.5	<1	<1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	0.1	0.25	0.25	0.5	0.5	0.1	0.25	0.5	0.25	0.5	0.25	0.25	0.5	0.25	0.35	0.35
Geometric Average	0.1	0.25	0.25	0.5	0.5	0.1	0.25	0.5	0.25	0.5	0.25	0.25	0.5	0.25	0.23	0.23
Median Concentration	0.1	0.25	0.25	0.5	0.5	0.1	0.25	0.5	0.25	0.5	0.25	0.25	0.5	0.25	0.5	0.5
Standard Deviation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.23	0.23
Geometric Standard Deviation															3.3	3.3
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results below the Detect Limit	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% of Detects at or above Guidelines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Env Stds Comments

Site_ID	Field_ID	Sample_Type	Sampled_Date_Time	PCBs														
				Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Arochlor 1268	Aroclor 1262	PCB 101	PCB 118	PCB 138	PCB 153	PCB 180	PCB 28	PCB 52	PCBs (Sum of total)
				µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.1	0.1	0.1	0.1	0.1	0.0001	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5
Lake Liddell	FBEC11815	Field_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC130815	Rinsate	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC110815	Rinsate	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC120815	Rinsate	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC140815	Rinsate	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC150815	Rinsate	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																		
Number of Results				6	6	6	6	6	6	6	4	4	4	4	4	4	4	6
Number of Detects				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				<0.1	<0.1	<0.1	<0.1	<0.1	<0.0001	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				<1	<0.1	<1	<0.1	<1	<0.001	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				0.35	0.05	0.35	0.05	0.35	0.00035	0.35	0.05	0.05	0.05	0.05	0.05	0.05	0.05	1.8
Geometric Average				0.23	0.05	0.23	0.05	0.23	0.00023	0.23	0.05	0.05	0.05	0.05	0.05	0.05	0.05	1.2
Median Concentration				0.5	0.05	0.5	0.05	0.5	0.0005	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	2.5
Standard Deviation				0.23	0	0.23	0	0.23	0.00023	0.23	0	0	0	0	0	0	0	1.2
Geometric Standard Deviation				3.3		3.3		3.3	3.3	3.3								3.3
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results below the Detect Limit				100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% of Detects at or above Guidelines				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect				100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Site_ID	Field_ID	Sample_Type	Sampled_Date_Time	Pesticides												
				Carbaryl	Carbofuran	Demeton-S-methyl	Fenamiphos	Famphur	Isodrin	Mirex	Parathion	Pirimiphos-methyl	Pirimphos-ethyl	Profenofos	Sulfotepp	Thionazin
				µg/L	mg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L
EQL				0.5	0.0005	0.5	0.5	0.0005	0.1	0.1	0.2	0.0005	0.5	0.5	0.5	0.001
Lake Liddell	FBEC11815	Field_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC130815	Rinsate	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC110815	Rinsate	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC120815	Rinsate	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC140815	Rinsate	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC150815	Rinsate	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																
Number of Results				4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects				0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				<0.5	<0.0005	<0.5	<0.5	<0.0005	<0.1	<0.1	<0.2	<0.0005	<0.5	<0.5	<0.5	<0.001
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				<0.5	<0.0005	<0.5	<0.5	<0.0005	<0.1	<0.1	<0.2	<0.0005	<0.5	<0.5	<0.5	<0.001
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				0.25	0.00025	0.25	0.25	0.00025	0.05	0.05	0.1	0.00025	0.25	0.25	0.25	0.0005
Geometric Average				0.25	0.00025	0.25	0.25	0.00025	0.05	0.05	0.1	0.00025	0.25	0.25	0.25	0.0005
Median Concentration				0.25	0.00025	0.25	0.25	0.00025	0.05	0.05	0.1	0.00025	0.25	0.25	0.25	0.0005
Standard Deviation				0	0	0	0	0	0	0	0	0	0	0	0	0
Geometric Standard Deviation																
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit				0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results below the Detect Limit				100	100	100	100	100	100	100	100	100	100	100	100	100
% of Detects at or above Guidelines				0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect				100	100	100	100	100	100	100	100	100	100	100	100	100

Site_ID	Field_ID	Sample_Type	Sampled_Date_Time	Halogenated Hydrocarbons					Halogenated Phenols						
				1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	2346&2356-Tetrachlorophenol	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,6-dichlorophenol	2-chlorophenol	Pentachlorophenol
				µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.5	10	5	5	1	0.001	0.5	0.5	0.5	0.5	0.5	0.5
Lake Liddell	FBEC11815	Field_B	11/08/2015	<0.5	<10	<5	<5	<1	-	-	-	-	-	-	-
Lake Liddell	RINEC130815	Rinsate	13/08/2015	<0.5	<10	<5	<5	<1	-	-	-	-	-	-	-
Lake Liddell	RINEC110815	Rinsate	11/08/2015	<0.5	<10	<5	<5	<1	-	-	-	-	-	-	-
Lake Liddell	RINEC120815	Rinsate	12/08/2015	<0.5	<10	<5	<5	<1	-	-	-	-	-	-	-
Lake Liddell	RINEC140815	Rinsate	14/08/2015	<0.5	<10	<5	<5	<1	-	-	-	-	-	-	-
Lake Liddell	RINEC150815	Rinsate	15/08/2015	<0.5	<10	<5	<5	<1	-	-	-	-	-	-	-
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary															
Number of Results				24	24	24	24	24	4	4	4	4	4	4	4
Number of Detects				0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				<0.5	<10	<5	<5	<1	<0.001	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				<0.5	<10	<5	<5	<1	<0.001	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				0.25	5	2.5	2.5	0.5	0.0005	0.25	0.25	0.25	0.25	0.25	0.25
Geometric Average				0.25	5	2.5	2.5	0.5	0.0005	0.25	0.25	0.25	0.25	0.25	0.25
Median Concentration				0.25	5	2.5	2.5	0.5	0.0005	0.25	0.25	0.25	0.25	0.25	0.25
Standard Deviation				0	0	0	0	0	0	0	0	0	0	0	0
Geometric Standard Deviation															
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit				0	0	0	0	0	0	0	0	0	0	0	0
% of Results below the Detect Limit				100	100	100	100	100	100	100	100	100	100	100	100
% of Detects at or above Guidelines				0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect				100	100	100	100	100	100	100	100	100	100	100	100

Env Stds Comments

Environmental Strategies
PROVIDING BENEFITS

Halogenated Benzenes

				1,2,3,4-tetrachlorobenzene	1,2,3,5 & 1,2,4,5 Tetrachlorobenzene	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene
				mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.0005	1	0.5	0.5	0.5	0.5	0.3	0.5	0.5	0.5	0.5	0.1	0.5
Site_ID	Field_ID	Sample_Type	Sampled_Date_Time													
Lake Liddell	FBEC11815	Field_B	11/08/2015	-	-	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-
Lake Liddell	RINEC130815	Rinsate	13/08/2015	-	-	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-
Lake Liddell	RINEC110815	Rinsate	11/08/2015	-	-	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-
Lake Liddell	RINEC120815	Rinsate	12/08/2015	-	-	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-
Lake Liddell	RINEC140815	Rinsate	14/08/2015	-	-	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-
Lake Liddell	RINEC150815	Rinsate	15/08/2015	-	-	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	-	-
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																
Number of Results				4	4	24	25	25	25	25	24	24	24	24	4	4
Number of Detects				0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				<0.0005	<1	<0.5	<0.5	<0.5	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				<0.0005	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				0.00025	0.5	0.25	0.25	0.25	0.25	0.15	0.25	0.25	0.25	0.25	0.05	0.25
Geometric Average				0.00025	0.5	0.25	0.25	0.25	0.25	0.15	0.25	0.25	0.25	0.25	0.05	0.25
Median Concentration				0.00025	0.5	0.25	0.25	0.25	0.25	0.15	0.25	0.25	0.25	0.25	0.05	0.25
Standard Deviation				0	0	0	0	0	0	0.02	0	0	0	0	0	0
Geometric Standard Deviation										1.1						
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit				0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results below the Detect Limit				100	100	100	100	100	100	100	100	100	100	100	100	100
% of Detects at or above Guidelines				0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect				100	100	100	100	100	100	100	100	100	100	100	100	100

Explosives / Phthalates / Other

				Explosives: 1,3-Dinitrobenzene	2,4-Dinitrotoluene	2,6-dinitrotoluene	Nitrobenzene	Phthalates: Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Other: o,o,o-Triethylphosphorothioate
				mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
EQL				0.001	1	1	1	50	1	5	1	10	1	0.0005
Site_ID	Field_ID	Sample_Type	Sampled_Date_Time											
Lake Liddell	FBEC11815	Field_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC130815	Rinsate	13/08/2015	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC110815	Rinsate	11/08/2015	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC120815	Rinsate	12/08/2015	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC140815	Rinsate	14/08/2015	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	RINEC150815	Rinsate	15/08/2015	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary														
Number of Results				4	4	4	4	4	4	4	4	4	4	4
Number of Detects				0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				<0.001	<1	<1	<1	<50	<1	<5	<1	<10	<1	<0.0005
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				<0.001	<1	<1	<1	<50	<1	<5	<1	<10	<1	<0.0005
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				0.0005	0.5	0.5	0.5	25	0.5	2.5	0.5	5	0.5	0.00025
Geometric Average				0.0005	0.5	0.5	0.5	25	0.5	2.5	0.5	5	0.5	0.00025
Median Concentration				0.0005	0.5	0.5	0.5	25	0.5	2.5	0.5	5	0.5	0.00025
Standard Deviation				0	0	0	0	0	0	0	0	0	0	0
Geometric Standard Deviation														
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit				0	0	0	0	0	0	0	0	0	0	0
% of Results below the Detect Limit				100	100	100	100	100	100	100	100	100	100	100
% of Detects at or above Guidelines				0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect				100	100	100	100	100	100	100	100	100	100	100

Amino Aliphatics / Amino Aromatics / Anilines / Herbicides / Nitroaromatics

				Amino Aliphatics: N-nitrosodiethylamine	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	Amino Aromatics: 1-naphthylamine	2-naphthylamine	Diphenylamine	Anilines: 2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline	2-methyl-5-nitroaniline	Aniline	2-methylaniline	Herbicides: Trifluralin	itroaromati: 4-aminobiphenyl	Pentachloronitrobenzene	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Acetone
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
EQL				1	1	1	2	2	1	1	1	1	1	1	5	1	0.0005	1	1	10	5	5	0.01
Site_ID	Field_ID	Sample_Type	Sampled_Date_Time																				
Lake Liddell	FBEC11815	Field_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<5	<5	<0.01
Lake Liddell	RINEC130815	Rinsate	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<5	<5	<0.01
Lake Liddell	RINEC110815	Rinsate	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<5	<5	<0.01
Lake Liddell	RINEC120815	Rinsate	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<5	<5	<0.01
Lake Liddell	RINEC140815	Rinsate	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<5	<5	<0.01
Lake Liddell	RINEC150815	Rinsate	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<5	<5	<0.01
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																							
Number of Results				4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	24	24	24	24
Number of Detects				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				<1	<1	<1	<2	<2	<1	<1	<1	<1	<1	<1	<5	<1	<0.0005	<1	<1	<10	<5	<5	<0.01
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				<1	<1	<1	<2	<2	<1	<1	<1	<1	<1	<1	<5	<1	<0.0005	<1	<1	<10	<5	<5	<0.01
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.00025	0.5	0.5	5	2.5	2.5	0.005
Geometric Average				0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.00025	0.5	0.5	5	2.5	2.5	0.005
Median Concentration				0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.00025	0.5	0.5	5	2.5	2.5	0.005
Standard Deviation				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geometric Standard Deviation																							
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results at or above the Detect Limit				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results below the Detect Limit				100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% of Detects at or above Guidelines				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect				100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Env Stds Comments

				Solvents					
				Acrylonitrile	Allyl chloride	Carbon disulfide	Isophorone	MTBE	Vinyl acetate
				µg/L	mg/L	µg/L	µg/L	mg/L	µg/L
EQL				0.5	0.002	2	1	0.002	10
Site_ID	**Field_ID**	**Sample_Type**	**Sampled_Date_Time**						
Lake Liddell	FBEC11815	Field_B	11/08/2015	<0.5	<0.002	<2	-	<0.002	<10
Lake Liddell	RINEC130815	Rinsate	13/08/2015	<0.5	<0.002	<2	-	<0.002	<10
Lake Liddell	RINEC110815	Rinsate	11/08/2015	<0.5	<0.002	<2	-	<0.002	<10
Lake Liddell	RINEC120815	Rinsate	12/08/2015	<0.5	<0.002	<2	-	<0.002	<10
Lake Liddell	RINEC140815	Rinsate	14/08/2015	<0.5	<0.002	<2	-	<0.002	<10
Lake Liddell	RINEC150815	Rinsate	15/08/2015	<0.5	<0.002	<2	-	<0.002	<10
Lake Liddell	TBEC110815	Trip_B	11/08/2015	-	-	-	-	-	-
Lake Liddell	TBEC120815	Trip_B	12/08/2015	-	-	-	-	-	-
Lake Liddell	TBEC130815	Trip_B	13/08/2015	-	-	-	-	-	-
Lake Liddell	TBEC140815	Trip_B	14/08/2015	-	-	-	-	-	-
Lake Liddell	TBEC150815	Trip_B	15/08/2015	-	-	-	-	-	-

Statistical Summary

Number of Results	24	24	24	4	24	24
Number of Detects	0	0	0	0	0	0
Minimum Concentration	<0.5	<0.002	<2	<1	<0.002	<10
Minimum Detect	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.5	<0.002	<2	<1	<0.002	<10
Maximum Detect	ND	ND	ND	ND	ND	ND
Average Concentration	0.25	0.001	1	0.5	0.001	5
Geometric Average	0.25	0.001	1	0.5	0.001	5
Median Concentration	0.25	0.001	1	0.5	0.001	5
Standard Deviation	0	0	0	0	0	0
Geometric Standard Deviation						
Number of Guideline Exceedances	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0
% of Results at or above the Detect Limit	0	0	0	0	0	0
% of Results below the Detect Limit	100	100	100	100	100	100
% of Detects at or above Guidelines	0	0	0	0	0	0
% of Results Below Guidelines or Non-Detect	100	100	100	100	100	100

Env Stds Comments

Field Duplicates (soil)
Filter: SDG in(

ChemName	Units	EQL	SE142463-1	SE142463-1		SE142463-1	Interlab_D	
		SDG	SE142463-1	SE142463-1		SE142463-1	Interlab_D	
		Field ID	SD4 0.15-0.25	QA1	**RPD**	SD4 0.15-0.25	QA2	**RPD**
		Sampled Date/Time	12/08/2015	12/08/2015		12/08/2015	12/08/2015	
ChemName	**Units**	**EQL**						
Metals								
Arsenic	mg/kg	1 : 4 (Interlab)	6	6	0	6	8	29
Boron	mg/kg	5 : 3 (Interlab)	6	6	0	6	8	29
Cadmium	mg/kg	0.3 : 0.4 (Interlab)	<0.3	<0.3	0	<0.3	<0.4	0
Chromium	mg/kg	0.3 : 1 (Interlab)	5.4	5.7	5	5.4	7	26
Copper	mg/kg	0.5 : 1 (Interlab)	47	49	4	47	57	19
Lead	mg/kg	1	14	15	7	14	18	25
Mercury	mg/kg	0.01 : 0.1 (Interlab)	0.06	0.05	18	0.06	<0.1	0
Nickel	mg/kg	0.5 : 1 (Interlab)	8.6	9.2	7	8.6	10	15
Selenium	mg/kg	3 : 2 (Interlab)	<3	4	29	<3	4	29
Zinc	mg/kg	0.5 : 1 (Interlab)	49	52	6	49	57	15
Inorganics								
TOC	%w/w	0.02						
BTEX								
Benzene	mg/kg	0.1 : 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
Benzene	mg/kg	0.1 : 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
Toluene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
Ethylbenze	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Xylene (m	mg/kg	0.2 : 2 (Interlab)	<0.2	<0.2	0	<0.2	<2	0
Xylene (o)	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Xylene Tot	mg/kg	0.3	<0.3	<0.3	0	<0.3		
Total BTEX	mg/kg	0.6	<0.6	<0.6	0	<0.6		
TRH								
C6-C10	mg/kg	25	<25	<25	0	<25	<25	0
C6-C10 les	mg/kg	25	<25	<25	0	<25	<25	0
C10-C16	mg/kg	25 : 50 (Interlab)	130	130	0	130	120	8
F2-NAPHT	mg/kg	25 : 50 (Interlab)	130	130	0	130	120	8
C16-C34	mg/kg	90 : 100 (Interlab)	710	800	12	710	1100	43
C34-C40	mg/kg	120 : 100 (Interlab)	<120	<120	0	<120	200	50
TPH								
TRH C37-(	mg/kg	100	<100	<100	0	<100		
C6 - C9	mg/kg	20 : 25 (Interlab)	<20	<20	0	<20	<25	0
C10 - C14	mg/kg	20 : 50 (Interlab)	86	80	7	86	55	44
C15 - C28	mg/kg	45 : 100 (Interlab)	600	630	5	600	760	24
C29-C36	mg/kg	45 : 100 (Interlab)	160	240	40	**160**	**440**	**93**
+C10 - C3(	mg/kg	110	850	950	11	850		
C10 - C40	mg/kg	210	850	950	11	850		
MAH								
1,2,4-trime	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,3,5-trime	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Isopropylb	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
n-butylben	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
n-propylbe	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
p-isopropyl	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
sec-butylb	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Styrene	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
tert-butylb	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
PAH								
Benzo(b+j)	mg/kg	0.1	**0.7**	**1.3**	**60**	0.7		
PAH/Phenols								
1-Methylna	mg/kg	0.1	0.4	0.6	40	0.4		
2-methylna	mg/kg	0.1	0.6	0.8	29	0.6		
Acenaphth	mg/kg	0.3 : 0.01 (Interlab)						
Acenaphth	mg/kg	0.1 : 0.2 (Dupe)	<0.1	<0.2	0	<0.1		
Acenaphth	mg/kg	0.1 : 0.01 (Interlab)	<0.1			**<0.1**	**0.17**	**52**
Acenaphth	mg/kg	0.1 : 0.01 (Interlab)	<0.1	<0.1	0	<0.1	0.06	0
Anthracene	mg/kg	0.1 : 0.3 (Dupe)	<0.1	<0.3	0	<0.1		
Anthracene	mg/kg	0.1 : 0.01 (Interlab)	<0.1			<0.1	0.12	18
Benz(a)ant	mg/kg	0.1 : 0.01 (Interlab)	0.8	1.1	32	0.8	0.79	1
Benzo(a) p	mg/kg	0.1 : 0.01 (Interlab)	0.2	0.4	67	**0.2**	**0.38**	**62**
Benzo(g,h,	mg/kg	0.1 : 0.01 (Interlab)	0.2	0.3	40	**0.2**	**0.32**	**46**
Benzo(k)flu	mg/kg	0.1	0.3	0.5	50	0.3		
Chrysene	mg/kg	0.1 : 0.01 (Interlab)	0.7	1.1	44	0.7	0.9	25
Dibenz(a,h	mg/kg	0.1 : 0.01 (Interlab)	<0.1	<0.1	0	<0.1	0.1	0
Carcinoger	mg/kg	0.2 TEQ (mg/kg)	**0.5**	**0.7**	**33**	0.5		
Carcinoger	mg/kg	0.3 TEQ (mg/kg)	**0.5**	**0.8**	**46**	0.5		
Fluoranthe	mg/kg	0.1 : 0.01 (Interlab)	1.9	3	45	1.9	2.3	19
Fluorene	mg/kg	1 : 0.01 (Interlab)						
Fluorene	mg/kg	0.1 : 0.2 (Dupe)	<0.1	<0.2	0	<0.1		
Fluorene	mg/kg	0.1 : 0.01 (Interlab)	<0.1			**<0.1**	**0.26**	**89**
Indeno(1,2	mg/kg	0.1 : 0.01 (Interlab)	0.2	0.2	0	0.2	0.18	11
Naphthaler	mg/kg	0.1 : 1 (Interlab)	0.3	0.4	29	0.3	<1 - 0.34	13
Naphthaler	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	**<0.1**	**<1 - 0.34**	**109**

Field Duplicates (soil)		SDG	SE142463-1	SE142463-1		SE142463-1	Interlab_D	
Filter: SDG in(		Field ID	SD4 0.15-0.25	QA1	RPD	SD4 0.15-0.25	QA2	RPD
		Sampled Date/Time	12/08/2015	12/08/2015		12/08/2015	12/08/2015	
PAHs (Sun	mg/kg	0.8	8.5	13	42	8.5		
Phenanthr	mg/kg	0.1 : 0.01 (Interlab)	1	1.4	33	**1**	**1.7**	**52**
Pyrene	mg/kg	0.1 : 0.01 (Interlab)	1.2	1.8	40	1.2	1.5	22
VOCs								
2-Nitroprop	mg/kg	10	<10	<10	0	<10		
cis-1,4-Dic	mg/kg	1	<1	<1	0	<1		
trans-1,4-D	mg/kg	1	<1	<1	0	<1		
Chlorinated Hydrocarbons								
1,1,1,2-tetr	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,1,1-trichl	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,1,2,2-tetr	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,1,2-trichl	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,1-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,1-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,1-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,2,3-trichl	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,2-dibrom	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,2-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,2-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,3-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
2,2-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Bromochlo	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Bromodich	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Bromoform	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Carbon tet	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Chlorodibr	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Chloroetha	mg/kg	1	<1	<1	0	<1	<1	0
Chloroform	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Chloromet	mg/kg	1	<1	<1	0	<1	<1	0
cis-1,2-dic	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
cis-1,3-dic	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Dibromom	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Dichlorome	mg/kg	0.5	<0.5	<0.5	0	<0.5		
Hexachlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Trichloroet	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Tetrachlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
trans-1,2-d	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
trans-1,3-d	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Vinyl chlori	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Halogenated Hydrocarbons								
1,2-dibrom	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Bromomet	mg/kg	1	<1	<1	0	<1	<1	0
Dichlorodif	mg/kg	1	<1	<1	0	<1	<1	0
Iodometha	mg/kg	5	<5	<5	0	<5		
Trichloroflu	mg/kg	1	<1	<1	0	<1	<1	0
Halogenated Benzenes								
1,2,3-trichl	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,2,4-trichl	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,2-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,3-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
1,4-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
2-chlorotol	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
4-chlorotol	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Bromobenz	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Chlorobenz	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<1	0
Solvents								
Methyl Eth	mg/kg	10	<10	<10	0	<10		
2-hexanon	mg/kg	5	<5	<5	0	<5		
4-Methyl-2	mg/kg	1	<1	<1	0	<1		
Acetone	mg/kg	10	<10	<10	0	<10		
Acrylonitril	mg/kg	0.1	<0.1	<0.1	0	<0.1		
Allyl chlori	mg/kg	0.1	<0.1	<0.1	0	<0.1		
Carbon dis	mg/kg	0.5	<0.5	<0.5	0	<0.5		
MTBE	mg/kg	0.1	<0.1	<0.1	0	<0.1		
Vinyl aceta	mg/kg	10	<10	<10	0	<10		

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 80 (1-10 x EQL); 50 (10-30 x EQL); 30 (> 30
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the ro

Field Duplicates (soil)	SDG		SE142463-1	Interlab_D		SE142463-1	SE142463-1	
Filter: SDG in	Field ID		QA3	QA4	RPD	SD17 0-0.1	QA5	RPD
	Sampled Date/Time		13/08/2015	13/08/2015		13/08/2015	13/08/2015	

ChemName	Units	EQL						
Metals								
Arsenic	mg/kg	1 : 4 (Interlab)	10	11	10	21	21	0
Boron	mg/kg	5 : 3 (Interlab)	35	41	16	7	6	15
Cadmium	mg/kg	0.3 : 0.4 (Interlab)	<0.3	<0.4	0	0.3	<0.3	0
Chromium	mg/kg	0.3 : 1 (Interlab)	15	18	18	22	22	0
Copper	mg/kg	0.5 : 1 (Interlab)	130	130	0	350	340	3
Lead	mg/kg	1	21	22	5	8	8	0
Mercury	mg/kg	0.01 : 0.1 (Interlab)	5	5.1	2	0.15	0.15	0
Nickel	mg/kg	0.5 : 1 (Interlab)	13	13	0	26	26	0
Selenium	mg/kg	3 : 2 (Interlab)	5	5	0	10	10	0
Zinc	mg/kg	0.5 : 1 (Interlab)	68	61	11	110	110	0
Inorganics								
TOC	%w/w	0.02				**3.9**	**5.7**	**38**
BTEX								
Benzene	mg/kg	0.1 : 0.2 (Interlab)	<0.1	<0.2	0	<0.1	<0.1	0
Benzene	mg/kg	0.1 : 0.2 (Interlab)	<0.1	<0.2	0	<0.1	<0.1	0
Toluene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.5	0	<0.1	<0.1	0
Ethylbenze	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Xylene (m	mg/kg	0.2 : 2 (Interlab)	<0.2	<2	0	<0.2	<0.2	0
Xylene (o)	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Xylene Tot	mg/kg	0.3				<0.3	<0.3	0
Total BTEX	mg/kg	0.6				<0.6	<0.6	0
TRH								
C6-C10	mg/kg	25	<25	<25	0	<25	<25	0
C6-C10 les	mg/kg	25	<25	<25	0	<25	<25	0
C10-C16	mg/kg	25 : 50 (Interlab)	**420**	**150**	**95**	<25	<25	0
F2-NAPHT	mg/kg	25 : 50 (Interlab)	**420**	**150**	**95**	<25	<25	0
C16-C34	mg/kg	90 : 100 (Interlab)	**3200**	**1500**	**72**	160	200	22
C34-C40	mg/kg	120 : 100 (Interlab)	<120	180	40	<120	<120	0
TPH								
TRH C37-(	mg/kg	100				<100	<100	0
C6 - C9	mg/kg	20 : 25 (Interlab)	<20	<25	0	<20	<20	0
C10 - C14	mg/kg	20 : 50 (Interlab)	**220**	**54**	**121**	<20	<20	0
C15 - C28	mg/kg	45 : 100 (Interlab)	**2600**	**1200**	**74**	98	120	20
C29-C36	mg/kg	45 : 100 (Interlab)	**920**	**530**	**54**	65	93	35
+C10 - C3(	mg/kg	110				160	210	27
C10 - C40	mg/kg	210				<210	210	0
MAH								
1,2,4-trime	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,3,5-trime	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Isopropylb	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
n-butylben	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
n-propylbe	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
p-isopropy	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
sec-butylb	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Styrene	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
tert-butylb	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
PAH								
Benzo(b+j)	mg/kg	0.1				<0.1	<0.1	0
PAH/Phenols								
1-Methylna	mg/kg	0.1				<0.1	<0.1	0
2-methylna	mg/kg	0.1				<0.1	<0.1	0
Acenaphth	mg/kg	0.3 : 0.01 (Interlab)	<0.3	0.09	0			
Acenaphth	mg/kg	0.1 : 0.2 (Dupe)						
Acenaphth	mg/kg	0.1 : 0.01 (Interlab)				<0.1	<0.1	0
Acenaphth	mg/kg	0.1 : 0.01 (Interlab)	<0.1	0.03	0	<0.1	<0.1	0
Anthracene	mg/kg	0.1 : 0.3 (Dupe)						
Anthracene	mg/kg	0.1 : 0.01 (Interlab)	**0.4**	**0.07**	**140**	<0.1	<0.1	0
Benz(a)ant	mg/kg	0.1 : 0.01 (Interlab)	**0.9**	**0.37**	**83**	0.1	<0.1	0
Benzo(a) p	mg/kg	0.1 : 0.01 (Interlab)	**0.3**	**0.11**	**93**	<0.1	<0.1	0
Benzo(g,h,	mg/kg	0.1 : 0.01 (Interlab)	**0.3**	**0.11**	**93**	<0.1	<0.1	0
Benzo(k)flu	mg/kg	0.1				<0.1	<0.1	0
Chrysene	mg/kg	0.1 : 0.01 (Interlab)	**0.8**	**0.23**	**111**	<0.1	<0.1	0
Dibenz(a,h	mg/kg	0.1 : 0.01 (Interlab)	<0.1	0.02	0	<0.1	<0.1	0
Carcinoger	mg/kg	0.2 TEQ (mg/kg)				<0.2	<0.2	0
Carcinoger	mg/kg	0.3 TEQ (mg/kg)				<0.3	<0.3	0
Fluoranthe	mg/kg	0.1 : 0.01 (Interlab)	**2.1**	**0.47**	**127**	0.1	0.1	0
Fluorene	mg/kg	1 : 0.01 (Interlab)	<1	0.24	0			
Fluorene	mg/kg	0.1 : 0.2 (Dupe)						
Fluorene	mg/kg	0.1 : 0.01 (Interlab)				<0.1	<0.1	0
Indeno(1,2	mg/kg	0.1 : 0.01 (Interlab)	**0.2**	**0.05**	**120**	<0.1	<0.1	0
Naphthaler	mg/kg	0.1 : 1 (Interlab)	**0.8**	**<1 - 0.33**	**83**	<0.1	<0.1	0
Naphthaler	mg/kg	0.1 : 1 (Interlab)	**<0.1**	**<1 - 0.33**	**107**	<0.1	<0.1	0

Field Duplicates (soil)		SDG	SE142463-1	Interlab_D		SE142463-1	SE142463-1	
Filter: SDG in		Field ID	QA3	QA4	RPD	SD17 0-0.1	QA5	RPD
		Sampled Date/Time	13/08/2015	13/08/2015		13/08/2015	13/08/2015	
PAHs (Sun	mg/kg	0.8				0.8	<0.8	0
Phenanthr	mg/kg	0.1 : 0.01 (Interlab)	**2**	**0.52**	**117**	0.1	0.1	0
Pyrene	mg/kg	0.1 : 0.01 (Interlab)	**1.3**	**0.42**	**102**	0.1	0.1	0
VOCs								
2-Nitroprop	mg/kg	10				<10	<10	0
cis-1,4-Dic	mg/kg	1				<1	<1	0
trans-1,4-D	mg/kg	1				<1	<1	0
Chlorinated Hydrocarbons								
1,1,1,2-tetr	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,1,1-trichl	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,1,2,2-tetr	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,1,2-trichl	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,1-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,1-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,1-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,2,3-trichl	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,2-dibrom	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,2-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,2-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,3-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
2,2-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Bromochlo	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Bromodich	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Bromoform	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Carbon tet	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Chlorodibr	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Chloroetha	mg/kg	1	<1	<1	0	<1	<1	0
Chloroform	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Chloromet	mg/kg	1	<1	<1	0	<1	<1	0
cis-1,2-dic	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
cis-1,3-dic	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Dibromom	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Dichlorom	mg/kg	0.5				<0.5	<0.5	0
Hexachlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Trichloroet	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Tetrachlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
trans-1,2-d	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
trans-1,3-d	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Vinyl chlori	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Halogenated Hydrocarbons								
1,2-dibrom	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Bromomet	mg/kg	1	<1	<1	0	<1	<1	0
Dichlorodif	mg/kg	1	<1	<1	0	<1	<1	0
Iodometha	mg/kg	5				<5	<5	0
Trichloroflu	mg/kg	1	<1	<1	0	<1	<1	0
Halogenated Benzenes								
1,2,3-trichl	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,2,4-trichl	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,2-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,3-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
1,4-dichlor	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
2-chlorotol	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
4-chlorotol	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Bromoben	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Chloroben	mg/kg	0.1 : 1 (Interlab)	<0.1	<1	0	<0.1	<0.1	0
Solvents								
Methyl Eth	mg/kg	10				<10	<10	0
2-hexanon	mg/kg	5				<5	<5	0
4-Methyl-2	mg/kg	1				<1	<1	0
Acetone	mg/kg	10				<10	<10	0
Acrylonitril	mg/kg	0.1				<0.1	<0.1	0
Allyl chlori	mg/kg	0.1				<0.1	<0.1	0
Carbon dis	mg/kg	0.5				<0.5	<0.5	0
MTBE	mg/kg	0.1				<0.1	<0.1	0
Vinyl aceta	mg/kg	10				<10	<10	0

*RPDs have only been considered where a conc

**High RPDs are in bold (Acceptable RPDs for e x EQL))

***Interlab Duplicates are matched on a per comw header relate to those used in the primary laboratory

Field Duplicates (water)
Filter: SDG in(

	SDG	SE142588-1	SE142588-1		SE142588-1	SE142588-1	
	Field ID	SW12 1	QA1	**RPD**	SW3 1	QA3	**RPD**
	Sampled Date/Time	15/08/2015	15/08/2015		15/08/2015	15/08/2015	

ChemName	**Units**	**EQL**						
Nitrite Nitro	mg/l	0.005	<0.005	<0.005	0	<0.005	<0.005	0
Phosphoro	mg/l	0.005	0.006	<0.005	18	<0.005	<0.005	0
Metals								
Arsenic	µg/L	1	3	3	0	3	3	0
Arsenic (Fi	µg/L	1	2	2	0	2	2	0
Boron	µg/L	5	940	950	1	940	960	2
Boron (Filte	µg/L	5	560	600	7	490	580	17
Cadmium	µg/L	0.1	0.1	0.1	0	0.1	0.2	67
Cadmium (	µg/L	0.1	<0.1	<0.1	0	<0.1	<0.1	0
Chromium	µg/L	1	<1	<1	0	<1	<1	0
Chromium	µg/L	1	<1	<1	0	<1	<1	0
Copper	µg/L	1	5	4	22	4	4	0
Copper (Fil	µg/L	1	2	3	40	2	2	0
Lead	µg/L	1	<1	<1	0	<1	<1	0
Lead (Filter	µg/L	1	<1	<1	0	<1	<1	0
Mercury	µg/l	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Mercury (F	µg/l	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Nickel	µg/L	1	4	4	0	4	4	0
Nickel (Filte	µg/L	1	3	3	0	2	3	40
Phosphoru	µg/l	50	**90**	**560**	**145**	**240**	**510**	**72**
Selenium	µg/L	1	2	2	0	2	2	0
Selenium (	µg/L	1	2	2	0	2	2	0
Zinc	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0
Zinc (Filter	µg/L	5	<5	<5	0	<5	<5	0
Inorganics								
Ammonia a	mg/l	0.01	0.01	0.02	67	0.03	0.03	0
Electrical c	uS/cm	2	1600	1600	0	1600	1700	6
Nitrate (as	mg/l	0.005	<0.005	0.005	0	0.006	<0.005	18
pH (Lab)	pH_Units	0	8.5	8.3	2	8.7	8.3	5
Salinity	mg/l	2 : 1 (Interlab)	1000	1000	0	1000	1100	10
TOC	mg/l	0.2 : 1 (Interlab)	8	7.6	5	8	8.1	1
BTEX								
Benzene	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Benzene	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Toluene	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Ethylbenze	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Xylene (m	µg/L	1 : 2 (Interlab)	<1	<1	0	<1	<1	0
Xylene (o)	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Xylene Tot	µg/L	1.5	<1.5	<1.5	0	<1.5	<1.5	0
Total BTEX	µg/L	3	<3	<3	0	<3	<3	0
TRH								
C6-C10	µg/L	50 : 10 (Interlab)	<50	<50	0	<50	<50	0
C6-C10 les	µg/L	50 : 10 (Interlab)	<50	<50	0	<50	<50	0
C10-C16	µg/L	60 : 50 (Interlab)	<60	<60	0	<60	<60	0
C16-C34	µg/L	500 : 100 (Interlab)	<500	<500	0	<500	<500	0
C34-C40	µg/L	500 : 100 (Interlab)	<500	<500	0	<500	<500	0
TPH								
TRH C37-C	µg/L	200	<200	<200	0	<200	<200	0
C6 - C9	µg/L	40 : 10 (Interlab)	<40	<40	0	<40	<40	0
C10 - C14	µg/L	50	<50	<50	0	<50	<50	0
C15 - C28	µg/L	200 : 100 (Interlab)	<200	<200	0	<200	<200	0
C29-C36	µg/L	200 : 100 (Interlab)	<200	<200	0	<200	<200	0
+C10 - C36	µg/L	450	<450	<450	0	<450	<450	0
C10 - C40	µg/L	650	<650	<650	0	<650	<650	0
MAH								
1,2,4-trime	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,3,5-trime	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Isopropylbe	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
n-butylbenz	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
n-propylbe	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
p-isopropyl	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
sec-butylbe	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Styrene	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
tert-butylbe	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
PAH/Phenols								
1-Methylna	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
2-methylna	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Acenaphth	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Acenaphth	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Anthracene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Benz(a)ant	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Benzo(a) p	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Benzo(b+k	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
Benzo(g,h,	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Chrysene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0

Field Duplicates (water) Filter: SDG in(		SDG / Field ID / Sampled Date/Time	SE142588-1 SW12 1 15/08/2015	SE142588-1 QA1 15/08/2015	RPD	SE142588-1 SW3 1 15/08/2015	SE142588-1 QA3 15/08/2015	RPD
Dibenz(a,h	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Fluoranthe	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Fluorene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Indeno(1,2	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Naphthaler	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Naphthaler	µg/L	0.02 : 1 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0
PAHs (Sun	µg/L	0.1	<0.1	<0.1	0	<0.1	<0.1	0
Phenanthr	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Pyrene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
VOCs								
2-Nitroprop	µg/L	100	<100	<100	0	<100	<100	0
cis-1,4-Dic	µg/L	1	<1	<1	0	<1	<1	0
trans-1,4-D	µg/L	1	<1	<1	0	<1	<1	0
Chlorinated Hydrocarbons								
1,1,1,2-tetr	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,1,1-trichl	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,1,2,2-tetr	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,1,2-trichl	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,1-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,1-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,1-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,2,3-trichl	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,2-dibrom	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,2-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,2-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,3-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
2,2-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Bromochlo	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Bromodich	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Bromoform	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Carbon tet	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Chlorodibr	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Chloroetha	µg/L	5 : 10 (Interlab)	<5	<5	0	<5	<5	0
Chloroform	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Chloromet	µg/L	5 : 10 (Interlab)	<5	<5	0	<5	<5	0
cis-1,2-dic	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
cis-1,3-dic	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Dibromome	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Dichlorome	µg/L	4	<4	<4	0	<4	<4	0
Hexachlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Trichloroet	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Tetrachlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
trans-1,2-d	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
trans-1,3-d	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Vinyl chlor	µg/L	0.3 : 10 (Interlab)	<0.3	<0.3	0	<0.3	<0.3	0
Halogenated Hydrocarbons								
1,2-dibrom	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Bromomet	µg/L	10	<10	<10	0	<10	<10	0
Dichlorodif	µg/L	5 : 10 (Interlab)	<5	<5	0	<5	<5	0
Iodometha	µg/L	5	<5	<5	0	<5	<5	0
Trichloroflu	µg/L	1 : 10 (Interlab)	<1	<1	0	<1	<1	0
Halogenated Benzenes								
1,2,3-trichl	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,2,4-trichl	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,2-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,3-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
1,4-dichlor	µg/L	0.3 : 1 (Interlab)	<0.3	<0.3	0	<0.3	<0.3	0
2-chlorotol	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
4-chlorotol	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Bromobenz	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Chlorobenz	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
Solvents								
Methyl Eth	µg/L	10	<10	<10	0	<10	<10	0
2-hexanon	µg/L	5	<5	<5	0	<5	<5	0
4-Methyl-2	µg/L	5	<5	<5	0	<5	<5	0
Acetone	mg/l	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Acrylonitril	µg/L	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Allyl chlori	mg/l	0.002	<0.002	<0.002	0	<0.002	<0.002	0
Carbon dis	µg/L	2	<2	<2	0	<2	<2	0
MTBE	mg/l	0.002	<0.002	<0.002	0	<0.002	<0.002	0
Vinyl aceta	µg/L	10	<10	<10	0	<10	<10	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 80 (1-10 x EQL); 50 (10-30 x EQL); 30 (> 3(
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the ro

Field Duplicates (water)		SDG	SE142588-1	SE142588-1		SE142588-1	Interlab_D		SE142588-1	Interlab_D	
Filter: SDG in(		**Field ID**	SW1 7.1	QA5	**RPD**	SW12 1	QA2	**RPD**	SW3 1	QA4	**RPD**
		Sampled Date/Time	15/08/2015	15/08/2015		15/08/2015	15/08/2015		15/08/2015	15/08/2015	
ChemName	**Units**	**EQL**									
Nitrite Nitro	mg/l	0.005	<0.005	<0.005	0	<0.005			<0.005		
Phosphoro	mg/l	0.005	<0.005	<0.005	0	0.006			<0.005		
Metals											
Arsenic	µg/L	1	3	4	29	3	3	0	3	3	0
Arsenic (Fil	µg/L	1	2	2	0	2			2		
Boron	µg/L	5	920	960	4	940	830	12	940	850	10
Boron (Filte	µg/L	5	**420**	**600**	**35**	560			490		
Cadmium	µg/L	0.1	0.1	0.1	0	0.1	<0.1	0	0.1	0.2	67
Cadmium (	µg/L	0.1	<0.1	<0.1	0	<0.1			<0.1		
Chromium	µg/L	1	<1	<1	0	<1	<1	0	<1	<1	0
Chromium	µg/L	1	<1	<1	0	<1			<1		
Copper	µg/L	1	4	6	40	5	6	18	4	5	22
Copper (Fil	µg/L	1	2	2	0	2			2		
Lead	µg/L	1	<1	<1	0	<1	<1	0	<1	<1	0
Lead (Filte	µg/L	1	<1	<1	0	<1			<1		
Mercury	µg/l	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Mercury (F	µg/l	0.05	<0.05	<0.05	0	<0.05			<0.05		
Nickel	µg/L	1	5	5	0	4	4	0	4	4	0
Nickel (Filte	µg/L	1	2	3	40	3			2		
Phosphoru	µg/l	50	**110**	**260**	**81**	90	100	11	**240**	**90**	**91**
Selenium	µg/L	1	2	3	40	2	3	40	2	3	40
Selenium (	µg/L	1	2	2	0	2			2		
Zinc	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	3	0	<5	5	0
Zinc (Filter	µg/L	5	<5	<5	0	<5			<5		
Inorganics											
Ammonia a	mg/l	0.01	0.02	0.04	67	0.01			0.03		
Electrical c	uS/cm	2	1400	1700	19	1600			1600		
Nitrate (as	mg/l	0.005	0.007	<0.005	33	<0.005			0.006		
pH (Lab)	pH_Units	0	8.7	8.2	6	8.5	8.4	1	8.7	8.5	2
Salinity	mg/l	2 : 1 (Interlab)	880	1100	22	1000	830	19	1000	1000	0
TOC	mg/l	0.2 : 1 (Interlab)	7.4	7.3	1	**8**	**3**	**91**	**8**	**5**	**46**
BTEX											
Benzene	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Benzene	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Toluene	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Ethylbenze	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Xylene (m	µg/L	1 : 2 (Interlab)	<1	<1	0	<1	<2	0	<1	<2	0
Xylene (o)	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Xylene Tot	µg/L	1.5	<1.5	<1.5	0	<1.5			<1.5		
Total BTEX	µg/L	3	<3	<3	0	<3			<3		
TRH											
C6-C10	µg/L	50 : 10 (Interlab)	<50	<50	0	<50	<10	0	<50	<10	0
C6-C10 les	µg/L	50 : 10 (Interlab)	<50	<50	0	<50	<10	0	<50	<10	0
C10-C16	µg/L	60 : 50 (Interlab)	<60	<60	0	<60	<50	0	<60	<50	0
C16-C34	µg/L	500 : 100 (Interlab)	<500	<500	0	<500	<100	0	<500	<100	0
C34-C40	µg/L	500 : 100 (Interlab)	<500	<500	0	<500	<100	0	<500	<100	0
TPH											
TRH C37-C	µg/L	200	<200	<200	0	<200			<200		
C6 - C9	µg/L	40 : 10 (Interlab)	<40	<40	0	<40	<10	0	<40	<10	0
C10 - C14	µg/L	50	<50	<50	0	<50	<50	0	<50	<50	0
C15 - C28	µg/L	200 : 100 (Interlab)	<200	<200	0	<200	<100	0	<200	<100	0
C29-C36	µg/L	200 : 100 (Interlab)	<200	<200	0	<200	<100	0	<200	<100	0
+C10 - C36	µg/L	450	<450	<450	0	<450			<450		
C10 - C40	µg/L	650	<650	<650	0	<650			<650		
MAH											
1,2,4-trime	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,3,5-trime	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Isopropylbe	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
n-butylbenz	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
n-propylbe	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
p-isopropyl	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
sec-butylbe	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Styrene	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
tert-butylbe	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
PAH/Phenols											
1-Methylna	µg/L	0.01	<0.01	<0.01	0	<0.01			<0.01		
2-methylna	µg/L	0.01	<0.01	<0.01	0	<0.01			<0.01		
Acenaphth	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Acenaphth	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Anthracene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Benz(a)ant	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Benzo(a) p	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Benzo(b+k	µg/L	0.02	<0.02	<0.02	0	<0.02			<0.02		
Benzo(g,h,	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Chrysene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0

Field Duplicates (water)		**SDG**	SE142588-1	SE142588-1		SE142588-1	Interlab_D		SE142588-1	Interlab_D	
Filter: SDG in(		**Field ID**	SW1 7.1	QA5	**RPD**	SW12 1	QA2	**RPD**	SW3 1	QA4	**RPD**
		Sampled Date/Time	15/08/2015	15/08/2015		15/08/2015	15/08/2015		15/08/2015	15/08/2015	
Dibenz(a,h	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Fluoranthe	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Fluorene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Indeno(1,2	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Naphthaler	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.02	0	<0.5	<0.02	0
Naphthaler	µg/L	0.02 : 1 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
PAHs (Sun	µg/L	0.1	<0.1	<0.1	0	<0.1			<0.1		
Phenanthre	µg/L	0.01	<0.01	<0.01	0	**<0.01**	**0.03**	**100**	**<0.01**	**0.03**	**100**
Pyrene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
VOCs											
2-Nitroprop	µg/L	100	<100	<100	0	<100			<100		
cis-1,4-Dic	µg/L	1	<1	<1	0	<1			<1		
trans-1,4-D	µg/L	1	<1	<1	0	<1			<1		
Chlorinated Hydrocarbons											
1,1,1,2-tetr	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,1,1-trichl	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,1,2,2-tetr	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,1,2-trichl	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,1-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,1-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,1-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,2,3-trichl	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,2-dibrom	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,2-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,2-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,3-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
2,2-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Bromochlo	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Bromodich	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Bromoform	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Carbon tet	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Chlorodibr	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Chloroetha	µg/L	5 : 10 (Interlab)	<5	<5	0	<5	<10	0	<5	<10	0
Chloroform	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Chloromet	µg/L	5 : 10 (Interlab)	<5	<5	0	<5	<10	0	<5	<10	0
cis-1,2-dich	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
cis-1,3-dich	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Dibromome	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Dichlorome	µg/L	4	<4	<4	0	<4			<4		
Hexachlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Trichloroet	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Tetrachlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
trans-1,2-d	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
trans-1,3-d	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Vinyl chlori	µg/L	0.3 : 10 (Interlab)	<0.3	<0.3	0	<0.3	<10	0	<0.3	<10	0
Halogenated Hydrocarbons											
1,2-dibrom	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Bromometh	µg/L	10	<10	<10	0	<10	<10	0	<10	<10	0
Dichlorodif	µg/L	5 : 10 (Interlab)	<5	<5	0	<5	<10	0	<5	<10	0
Iodometha	µg/L	5	<5	<5	0	<5			<5		
Trichloroflu	µg/L	1 : 10 (Interlab)	<1	<1	0	<1	<10	0	<1	<10	0
Halogenated Benzenes											
1,2,3-trichl	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,2,4-trichl	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,2-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,3-dichlor	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
1,4-dichlor	µg/L	0.3 : 1 (Interlab)	<0.3	<0.3	0	<0.3	<1	0	<0.3	<1	0
2-chlorotol	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
4-chlorotol	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Bromobenz	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Chlorobenz	µg/L	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0
Solvents											
Methyl Eth	µg/L	10	<10	<10	0	<10			<10		
2-hexanone	µg/L	5	<5	<5	0	<5			<5		
4-Methyl-2	µg/L	5	<5	<5	0	<5			<5		
Acetone	mg/l	0.01	<0.01	<0.01	0	<0.01			<0.01		
Acrylonitril	µg/L	0.5	<0.5	<0.5	0	<0.5			<0.5		
Allyl chlorid	mg/l	0.002	<0.002	<0.002	0	<0.002			<0.002		
Carbon dis	µg/L	2	<2	<2	0	<2			<2		
MTBE	mg/l	0.002	<0.002	<0.002	0	<0.002			<0.002		
Vinyl aceta	µg/L	10	<10	<10	0	<10			<10		

*RPDs have only been considered where a concen
**High RPDs are in bold (Acceptable RPDs for eac) x EQL))
***Interlab Duplicates are matched on a per compow header relate to those used in the primary laboratory

Field Blanks (soil)
Filter: SDG in('SE142588-1','SE142463-1','PE1011

		SDG	PE101189-1	SE142463-1
		Field ID	Trip Blank	Trip Blank
		Sampled_Date/Time	8/07/2015	8/07/2015
		Sample Type	Trip_B	Trip_B

ChemName	Units	EQL		
BTEX				
Benzene	mg/kg	0.1		<0.1
Toluene	mg/kg	0.1		<0.1
Ethylbenzene	mg/kg	0.1		<0.1
Xylene (m & p)	mg/kg	0.2		<0.2
Xylene (o)	mg/kg	0.1		<0.1
Xylene Total	mg/kg	0.3		<0.3
Total BTEX	mg/kg	0.6		<0.6
Chlorinated Hydrocarbons				
1,1,1,2-tetrachloroethane	mg/kg	0.1		
1,1,1-trichloroethane	mg/kg	0.1		
1,1,2,2-tetrachloroethane	mg/kg	0.1		
1,1,2-trichloroethane	mg/kg	0.1		
1,1-dichloroethane	mg/kg	0.1		
1,1-dichloroethene	mg/kg	0.1		
1,1-dichloropropene	mg/kg	0.1		
1,2,3-trichloropropane	mg/kg	0.1		
1,2-dibromo-3-chloropropane	mg/kg	0.1		
1,2-dichloroethane	mg/kg	0.1		
1,2-dichloropropane	mg/kg	0.1		
1,3-dichloropropane	mg/kg	0.1		
2,2-dichloropropane	mg/kg	0.1		
Bromochloromethane	mg/kg	0.1		
Bromodichloromethane	mg/kg	0.1		
Bromoform	mg/kg	0.1		
Carbon tetrachloride	mg/kg	0.1		
Chlorodibromomethane	mg/kg	0.1		
Chloroethane	mg/kg	1		
Chloroform	mg/kg	0.1		
Chloromethane	mg/kg	1		
cis-1,2-dichloroethene	mg/kg	0.1		
cis-1,3-dichloropropene	mg/kg	0.1		
Dibromomethane	mg/kg	0.1		
Dichloromethane	mg/kg	0.5		
Hexachlorobutadiene	mg/kg	0.1		
Trichloroethene	mg/kg	0.1		
Tetrachloroethene	mg/kg	0.1		
trans-1,2-dichloroethene	mg/kg	0.1		
trans-1,3-dichloropropene	mg/kg	0.1		
Vinyl chloride	mg/kg	0.1		
Halogenated Benzenes				
1,2,3-trichlorobenzene	mg/kg	0.1		
1,2,4-trichlorobenzene	mg/kg	0.1		
1,2-dichlorobenzene	mg/kg	0.1		
1,3-dichlorobenzene	mg/kg	0.1		
1,4-dichlorobenzene	mg/kg	0.1		
2-chlorotoluene	mg/kg	0.1		
4-chlorotoluene	mg/kg	0.1		
Bromobenzene	mg/kg	0.1		
Chlorobenzene	mg/kg	0.1		
Halogenated Hydrocarbons				
1,2-dibromoethane	mg/kg	0.1		
Bromomethane	mg/kg	1		
Dichlorodifluoromethane	mg/kg	1		
Iodomethane	mg/kg	5		
Trichlorofluoromethane	mg/kg	1		
Inorganics				
TOC	%w/w	0.02	**0.03**	
MAH				
Total MAH	mg/kg	1.8		
1,2,4-trimethylbenzene	mg/kg	0.1		
1,3,5-trimethylbenzene	mg/kg	0.1		
Isopropylbenzene	mg/kg	0.1		
n-butylbenzene	mg/kg	0.1		
n-propylbenzene	mg/kg	0.1		
p-isopropyltoluene	mg/kg	0.1		
sec-butylbenzene	mg/kg	0.1		
Styrene	mg/kg	0.1		
tert-butylbenzene	mg/kg	0.1		
Metals				
Arsenic	mg/kg	1		
Boron	mg/kg	5		
Cadmium	mg/kg	0.3		
Chromium (III+VI)	mg/kg	0.3		
Copper	mg/kg	0.5		
Lead	mg/kg	1		
Mercury	mg/kg	0.01		
Nickel	mg/kg	0.5		
Selenium	mg/kg	3		
Zinc	mg/kg	0.5		
PAH				
Benzo(b+j)fluoranthene	mg/kg	0.1		<0.1
PAH/Phenols				
1-Methylnaphthalene	mg/kg	0.1		<0.1
2-methylnaphthalene	mg/kg	0.1		<0.1
Acenaphthene	mg/kg	0.1		<0.1
Acenaphthylene	mg/kg	0.1		<0.1

Field Blanks (soil)
Filter: SDG in('SE142588-1','SE142463-1','PE1011

		SDG	PE101189-1	SE142463-1
		Field ID	Trip Blank	Trip Blank
		Sampled_Date/Time	8/07/2015	8/07/2015
		Sample Type	Trip_B	Trip_B
Anthracene	mg/kg	0.1		<0.1
Benz(a)anthracene	mg/kg	0.1		<0.1
Benzo(a) pyrene	mg/kg	0.1		<0.1
Benzo(b+k)fluoranthene	mg/kg	0.2		
Benzo(g,h,i)perylene	mg/kg	0.1		<0.1
Benzo(k)fluoranthene	mg/kg	0.1		<0.1
Chrysene	mg/kg	0.1		<0.1
Dibenz(a,h)anthracene	mg/kg	0.1		<0.1
Carcinogenic PAHs (as B(a)P TPE)	mg/kg	0.2		<0.2
Carcinogenic PAHs (as B(a)P TPE, PEFx3)	mg/kg	0.3		<0.3
Fluoranthene	mg/kg	0.1		<0.1
Fluorene	mg/kg	0.1		<0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1		<0.1
Naphthalene	mg/kg	0.1		<0.1
PAHs (Sum of total)	mg/kg	0.8		<0.8
Phenanthrene	mg/kg	0.1		<0.1
Pyrene	mg/kg	0.1		<0.1
Solvents				
Methyl Ethyl Ketone	mg/kg	10		
2-hexanone (MBK)	mg/kg	5		
4-Methyl-2-pentanone	mg/kg	1		
Acetone	mg/kg	10		
Acrylonitrile	mg/kg	0.1		
Allyl chloride	mg/kg	0.1		
Carbon disulfide	mg/kg	0.5		
MTBE	mg/kg	0.1		
Vinyl acetate	mg/kg	10		
TPH				
TRH C37-C40	mg/kg	100		
C6 - C9	mg/kg	20		
C10 - C14	mg/kg	20		
C15 - C28	mg/kg	45		
C29-C36	mg/kg	45		
+C10 - C36 (Sum of total)	mg/kg	110		
C10 - C40 (Sum of total)	mg/kg	210		
TRH				
C6-C10	mg/kg	25		
C6-C10 less BTEX (F1)	mg/kg	25		
C10-C16	mg/kg	25		
F2-NAPHTHALENE	mg/kg	25		
C16-C34	mg/kg	90		
C34-C40	mg/kg	120		
VOCs				
2-Nitropropane	mg/kg	10		
cis-1,4-Dichloro-2-butene	mg/kg	1		
trans-1,4-Dichloro-2-butene	mg/kg	1		
Total THM	mg/kg	0.4		

APPENDIX I – Laboratory Certificates and Chain of Custody

TEST CERTIFICATE

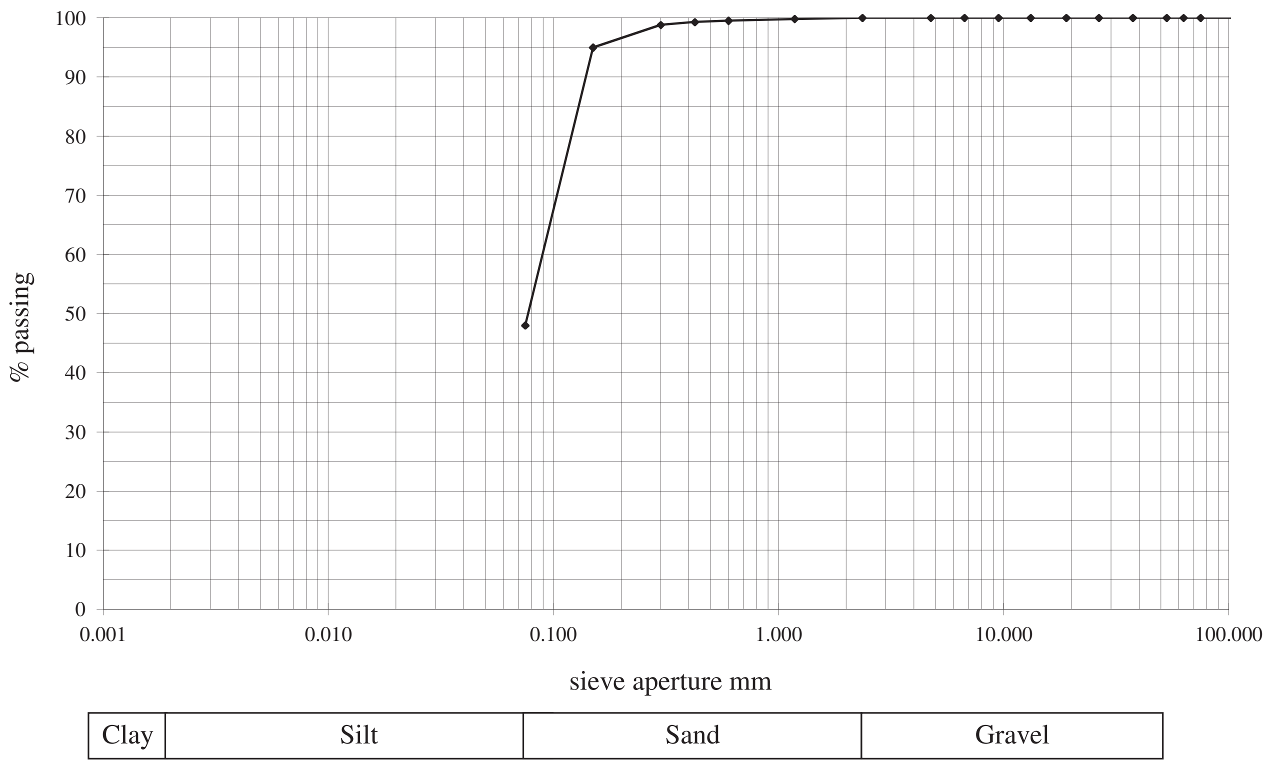
ABN 44 000 964 278
ph: +61 (0)2 8594 0481
fax: +61 (0)2 8594 0499

SGS Australia Pty Ltd
Unit 15, 33 Maddox Street
(PO Box 6432)
Alexandria NSW 2015
Australia

PARTICLE SIZE DISTRIBUTION

Client: **SGS Australia Pty Ltd - Environmental Sydney (5258 201)**
Address: **Unit 1633 Maddox StreetAlexandria NSW 2015**
Project: **SE142463**
Location:

Test Method:	**AS 1289 3.6.1**		
Job Number:	15-32-229	Lab Number:	15-AC-1679
Sample Source:	SE142463.001 SD1 0-0.1m	Date Tested:	20/08/2015
Sampled By:	Client	Checked By:	ME



Sample Description: SILTY SAND: Grey

Sieve Size (mm)	% Passing	Sieve Size (mm)	% Passing
150.0		1.18	
75.0		0.600	**100**
63.0		0.425	**99**
53.0		0.300	**99**
37.5		0.150	**95**
26.5		0.075	**48**
19.0		0.050	
13.2		0.020	
9.5		0.010	
6.7		0.005	
4.75		0.002	
2.36			

Hydrometer Type: **N/A**
Dispersant Type: **N/A**
Pretreatment:
Loss on Pretreatment: **None**
Remarks:

Approved Signatory: Aaron Lacey   Date: 21/08/2015

Accredited for Compliance with ISO/IEC 17025

Accreditation No. 2418

TEST CERTIFICATE

ABN 44 000 964 278
ph: +61 (0)2 8594 0481
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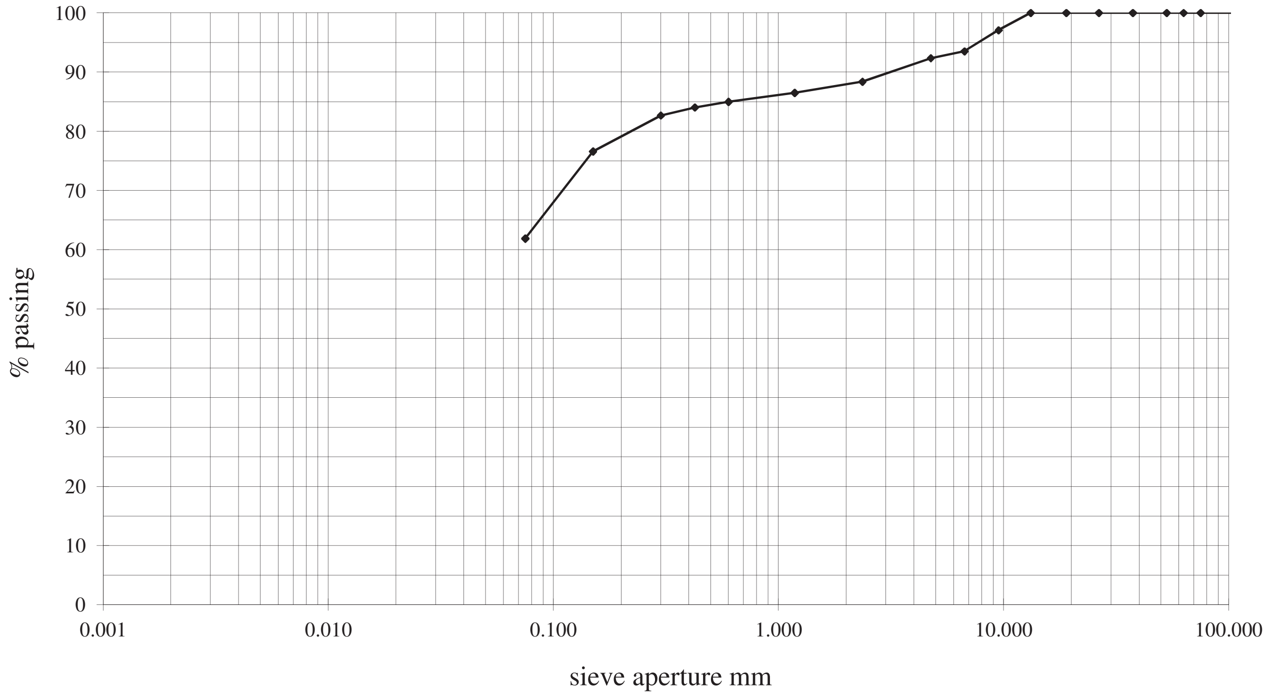
Alexandria NSW 2015
Australia

PARTICLE SIZE DISTRIBUTION

Client: **SGS Australia Pty Ltd - Environmental Sydney (5258 201)**
Address: **Unit 1633 Maddox StreetAlexandria NSW 2015**
Project: **SE142463**
Location:

Test Method: **AS 1289 3.6.1**
Job Number: 15-32-229 | Lab Number: 15-AC-1680
Sample Source: SE142463.011 SD6 0.15-0.25m | Date Tested: 20/08/2015
Sampled By: Client | Checked By: ME



Clay	Silt	Sand	Gravel

Sample Description: SILTY CLAY: Dark Brown

Sieve Size (mm)	% Passing	Sieve Size (mm)	% Passing
150.0		1.18	**86**
75.0		0.600	**85**
63.0		0.425	**84**
53.0		0.300	**83**
37.5		0.150	**77**
26.5		0.075	**62**
19.0		0.050	
13.2	**100**	0.020	
9.5	**97**	0.010	
6.7	**94**	0.005	
4.75	**92**	0.002	
2.36	**88**		

Hydrometer Type: **N/A**
Dispersant Type: **N/A**
Pretreatment:
Loss on Pretreatment: **None**
Remarks:

Approved Signatory: Aaron Lacey Date: 21/08/2015

Accredited for Compliance with ISO/IEC 17025

Accreditation No. 2418

TEST CERTIFICATE

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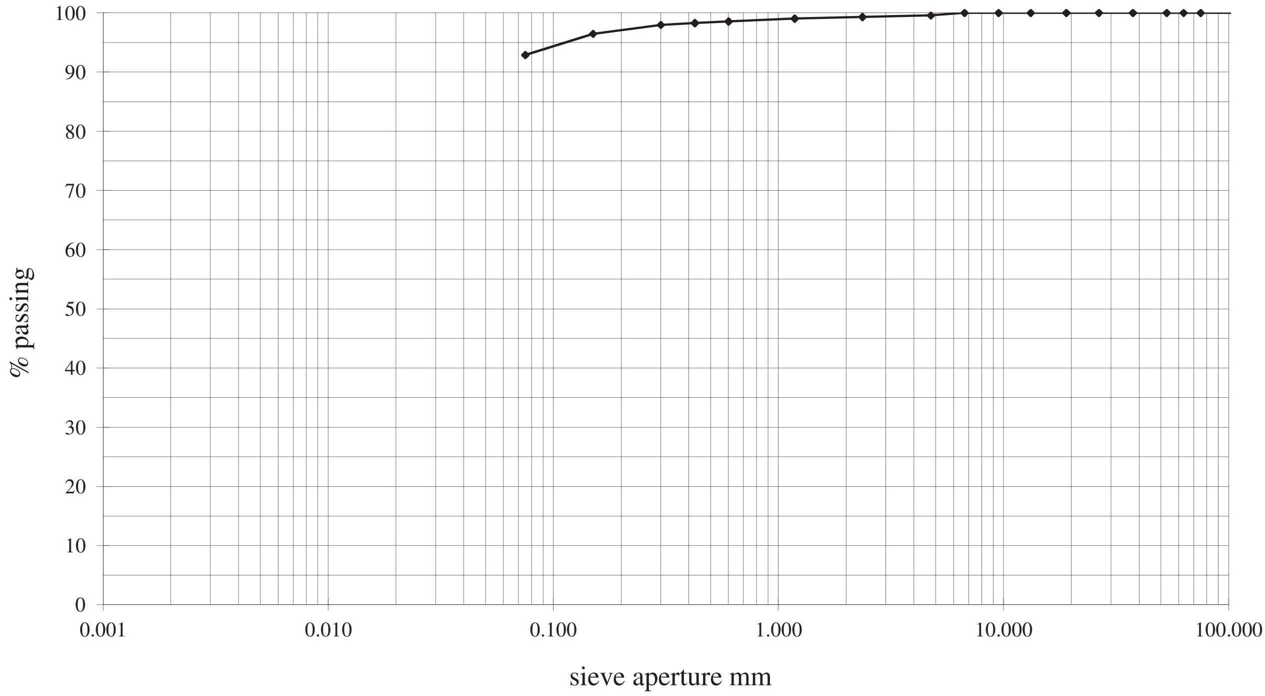
Unit 15, 33 Maddox Street
(PO Box 6432)
Alexandria NSW 2015
Australia

PARTICLE SIZE DISTRIBUTION

Client: **SGS Australia Pty Ltd - Environmental Sydney (5258 201)**
Address: **Unit 1633 Maddox StreetAlexandria NSW 2015**
Project: **SE142463**
Location:
Test Method: **AS 1289 3.6.1**
Job Number: 15-32-229
Sample Source: SE142463.013 SD7 0.15-0.25m
Sampled By: Client
Lab Number: 15-AC-1681
Date Tested: 20/08/2015
Checked By: ME



Clay	Silt	Sand	Gravel

Sample Description: SILTY CLAY: Dark Brown

Sieve Size (mm)	% Passing	Sieve Size (mm)	% Passing
150.0		1.18	**99**
75.0		0.600	**99**
63.0		0.425	**98**
53.0		0.300	**98**
37.5		0.150	**96**
26.5		0.075	**93**
19.0		0.050	
13.2		0.020	
9.5		0.010	
6.7		0.005	
4.75	**100**	0.002	
2.36	**99**		

Hydrometer Type: **N/A**
Dispersant Type: **N/A**
Pretreatment:
Loss on Pretreatment: **None**
Remarks:

Approved Signatory: Aaron Lacey Date: 21/08/2015

Accredited for Compliance with ISO/IEC 17025

Accreditation No. 2418

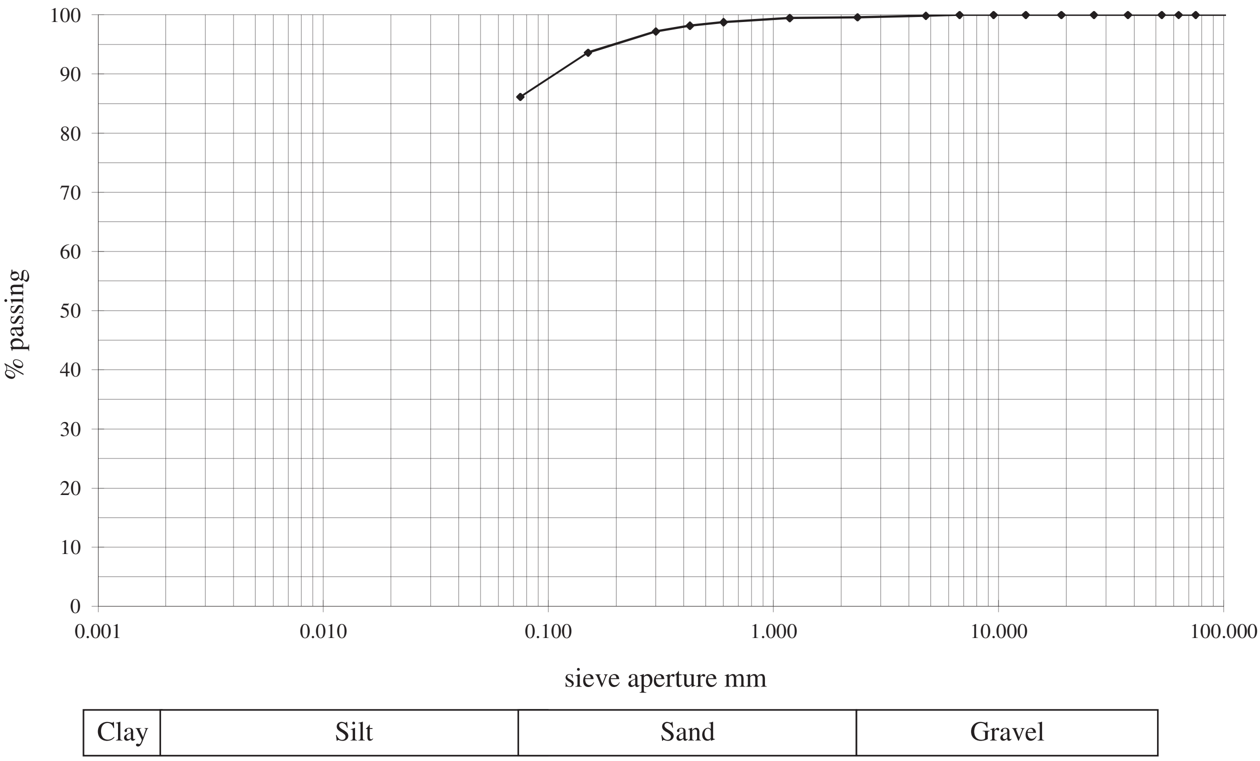
TEST CERTIFICATE

ABN 44 000 964 278
ph: +61 (0)2 8594 0481
fax: +61 (0)2 8594 0499

SGS Australia Pty Ltd
Unit 15, 33 Maddox Street
(PO Box 6432)
Alexandria NSW 2015
Australia

PARTICLE SIZE DISTRIBUTION

Client: **SGS Australia Pty Ltd - Environmental Sydney (5258 201)**
Address: **Unit 1633 Maddox StreetAlexandria NSW 2015**
Project: **SE142463**
Location:
Test Method: **AS 1289 3.6.1**
Job Number: 15-32-229
Sample Source: SE142463.030 SD17 0.15-0.25m
Sampled By: Client
Lab Number: 15-AC-1682
Date Tested: 20/08/2015
Checked By: ME



Sample Description: SILTY CLAY: Dark Brown

Sieve Size (mm)	% Passing	Sieve Size (mm)	% Passing
150.0		1.18	**99**
75.0		0.600	**99**
63.0		0.425	**98**
53.0		0.300	**97**
37.5		0.150	**94**
26.5		0.075	**86**
19.0		0.050	
13.2		0.020	
9.5		0.010	
6.7		0.005	
4.75		0.002	
2.36	**100**		

Hydrometer Type: **N/A**
Dispersant Type: **N/A**
Pretreatment:
Loss on Pretreatment: **None**
Remarks:

Approved Signatory: Aaron Lacey Date: 21/08/2015

Accredited for Compliance with ISO/IEC 17025

Accreditation No. 2418

ANALYTICAL REPORT

CLIENT DETAILS		LABORATORY DETAILS	
Contact	Ryan Wells	Manager	Huong Crawford
Client	ENVIRONMENTAL STRATEGIES PTY LIMITED	Laboratory	SGS Alexandria Environmental
Address	Suite 15201, Locomotive Workshop 2 Locomotive Street NSW 2015	Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	02 9690 2555 / 0408 649 917	Telephone	+61 2 8594 0400
Facsimile	(Not specified)	Facsimile	+61 2 8594 0499
Email	ryanwells@environmentalstrategies.com.au	Email	au.environmental.sydney@sgs.com
Project	**15106**	SGS Reference	**SE142463 R1**
Order Number	(Not specified)	Date Received	14/8/2015
Samples	49	Date Reported	16/10/2015

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

PRIVILEGED AND CONFIDENTIAL
`Not to be distributed or disclosed to any person other than Environmental Strategies'
TOC(Combustion) subcontracted to SGS Perth Environmental, 28 Reid Rd Perth Airport WA, NATA Accreditation Number 2562, Site Number 898.B_50_ESSD01 only one 500mL A/B received. No jarred samples received.
PAH-The Limit of Reporting (LOR) has been raised due to interferences from the sample matrix.

Grain Size Analysis subcontracted to SGS CMT Division-Unit 15, 33 Maddox Street Alexandria NSW 2015, NATA Accreditation Number: 2418.

This report cancels and supersedes the report No. SE142463 R0. dated 14/10/2015 issued by SGS Environmental Services due to an amended Sample ID for sample .013.

SIGNATORIES

Andy Sutton	Dong Liang	Kamrul Ahsan
Senior Organic Chemist	Metals/Inorganics Team Leader	Senior Chemist

VOC's in Soil [AN433/AN434] Tested: 17/8/2015

PARAMETER	UOM	LOR	SD1 0-0.1 SEDIMENT - 11/8/2015 SE142463.001	SD1 0.15-0.25 SEDIMENT - 11/8/2015 SE142463.002	SD2 0-0.1 SEDIMENT - 11/8/2015 SE142463.003	SD2 0.15-0.24 SEDIMENT - 11/8/2015 SE142463.004	SD3 0-0.1 SEDIMENT - 11/8/2015 SE142463.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	<1	<1
Chloromethane	mg/kg	1	<1	<1	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	<1	<1	<1	<1	<1
Chloroethane	mg/kg	1	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	<10	<10
Iodomethane	mg/kg	5	<5	<5	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	<10	<10	<10	<10	<10
MEK (2-butanone)	mg/kg	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	<10	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1

VOC's in Soil [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SD1 0-0.1 SEDIMENT - 11/8/2015 SE142463.001	SD1 0.15-0.25 SEDIMENT - 11/8/2015 SE142463.002	SD2 0-0.1 SEDIMENT - 11/8/2015 SE142463.003	SD2 0.15-0.24 SEDIMENT - 11/8/2015 SE142463.004	SD3 0-0.1 SEDIMENT - 11/8/2015 SE142463.005
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SD3 0.25-0.32 SEDIMENT - 11/8/2015 SE142463.006	SD4 0-0.8 SEDIMENT - 12/8/2015 SE142463.007	SD4 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.008	SD5 0-0.05 SEDIMENT - 12/8/2015 SE142463.009	SD6 0-0.1 SEDIMENT - 12/8/2015 SE142463.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	<1	<1
Chloromethane	mg/kg	1	<1	<1	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	<1	<1	<1	<1	<1
Chloroethane	mg/kg	1	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	<10	<10
Iodomethane	mg/kg	5	<5	<5	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	<10	<10	<10	<10	<10
MEK (2-butanone)	mg/kg	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	<10	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1

VOC's in Soil [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SD3 0.25-0.32 SEDIMENT - 11/8/2015 SE142463.006	SD4 0-0.8 SEDIMENT - 12/8/2015 SE142463.007	SD4 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.008	SD5 0-0.05 SEDIMENT - 12/8/2015 SE142463.009	SD6 0-0.1 SEDIMENT - 12/8/2015 SE142463.010
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SD6 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.011	SD7 0-0.6 SEDIMENT - 12/8/2015 SE142463.012	SD7 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.013	SD8 0-0.1 SEDIMENT - 12/8/2015 SE142463.014	SD8 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.015
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	<1	<1
Chloromethane	mg/kg	1	<1	<1	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	<1	<1	<1	<1	<1
Chloroethane	mg/kg	1	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	<10	<10
Iodomethane	mg/kg	5	<5	<5	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	<10	<10	<10	<10	<10
MEK (2-butanone)	mg/kg	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	<10	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1

VOC's in Soil [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SD6 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.011	SD7 0-0.6 SEDIMENT - 12/8/2015 SE142463.012	SD7 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.013	SD8 0-0.1 SEDIMENT - 12/8/2015 SE142463.014	SD8 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.015
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SD9 0-0.1 SEDIMENT - 12/8/2015 SE142463.016	SD9 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.017	SD10 0-0.12 SEDIMENT - 12/8/2015 SE142463.018	SD10 0.14-0.26 SEDIMENT - 12/8/2015 SE142463.019	SD11 0-0.10 SEDIMENT - 12/8/2015 SE142463.020
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	<1	<1
Chloromethane	mg/kg	1	<1	<1	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	<1	<1	<1	<1	<1
Chloroethane	mg/kg	1	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	<10	<10
Iodomethane	mg/kg	5	<5	<5	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	<10	<10	<10	<10	<10
MEK (2-butanone)	mg/kg	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	<10	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1

VOC's in Soil [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SD9 0-0.1 SEDIMENT - 12/8/2015 SE142463.016	SD9 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.017	SD10 0-0.12 SEDIMENT - 12/8/2015 SE142463.018	SD10 0.14-0.26 SEDIMENT - 12/8/2015 SE142463.019	SD11 0-0.10 SEDIMENT - 12/8/2015 SE142463.020
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 17/8/2015 (continued)

			SD11 0.15-0.25	SD12 0-0.5	SD13 0.03-0.1	SD14 0-0.1	SD14 0.15-0.25
			SEDIMENT	SEDIMENT	SOIL	SEDIMENT	SEDIMENT
			-	-	-	-	-
			12/8/2015	13/8/2015	13/8/2015	13/8/2015	13/8/2015
PARAMETER	UOM	LOR	SE142463.021	SE142463.022	SE142463.023	SE142463.024	SE142463.025
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	<1	<1
Chloromethane	mg/kg	1	<1	<1	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	<1	<1	<1	<1	<1
Chloroethane	mg/kg	1	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	<10	<10
Iodomethane	mg/kg	5	<5	<5	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	<10	<10	<10	<10	<10
MEK (2-butanone)	mg/kg	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	<10	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1

VOC's in Soil [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SD11 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.021	SD12 0-0.5 SEDIMENT - 13/8/2015 SE142463.022	SD13 0.03-0.1 SOIL - 13/8/2015 SE142463.023	SD14 0-0.1 SEDIMENT - 13/8/2015 SE142463.024	SD14 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.025
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 17/8/2015 (continued)

			SD15 0-0.04	SD16 0-0.1	SD16 0.15-0.25	SD17 0-0.1	SD17 0.15-0.25
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
			-	-	-	-	-
			13/8/2015	13/8/2015	13/8/2015	13/8/2015	13/8/2015
PARAMETER	**UOM**	**LOR**	**SE142463.026**	**SE142463.027**	**SE142463.028**	**SE142463.029**	**SE142463.030**
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	<1	<1
Chloromethane	mg/kg	1	<1	<1	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	<1	<1	<1	<1	<1
Chloroethane	mg/kg	1	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	<10	<10
Iodomethane	mg/kg	5	<5	<5	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	<10	<10	<10	<10	<10
MEK (2-butanone)	mg/kg	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	<10	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1

VOC's in Soil [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SD15 0-0.04 SEDIMENT - 13/8/2015 SE142463.026	SD16 0-0.1 SEDIMENT - 13/8/2015 SE142463.027	SD16 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.028	SD17 0-0.1 SEDIMENT - 13/8/2015 SE142463.029	SD17 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.030
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	QA1 SEDIMENT - 13/8/2015 SE142463.031	QA3 SEDIMENT - 13/8/2015 SE142463.032	QA5 SEDIMENT - 13/8/2015 SE142463.033	Trip Blank SOIL - 8/7/2015 SE142463.037	TRIP SPIKE SOIL - 11/8/2015 SE142463.046
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	[95%]
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	[93%]
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	[93%]
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	[93%]
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	[92%]
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	-
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	-
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	-	-
Chloromethane	mg/kg	1	<1	<1	<1	-	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Bromomethane	mg/kg	1	<1	<1	<1	-	-
Chloroethane	mg/kg	1	<1	<1	<1	-	-
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	-	-
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	-	-
Iodomethane	mg/kg	5	<5	<5	<5	-	-
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	-	-
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	-	-
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Vinyl acetate	mg/kg	10	<10	<10	<10	-	-
MEK (2-butanone)	mg/kg	10	<10	<10	<10	-	-
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
2-nitropropane	mg/kg	10	<10	<10	<10	-	-
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	-	-
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	-	-
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	-	-
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	-	-

VOC's in Soil [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	QA1 SEDIMENT - 13/8/2015 SE142463.031	QA3 SEDIMENT - 13/8/2015 SE142463.032	QA5 SEDIMENT - 13/8/2015 SE142463.033	Trip Blank SOIL - 8/7/2015 SE142463.037	TRIP SPIKE SOIL - 11/8/2015 SE142463.046
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-	-
Total VOC*	mg/kg	24	-	-	-	-	-

Volatile Petroleum Hydrocarbons in Soil [AN433/AN434/AN410]   Tested: 17/8/2015

			SD1 0-0.1	SD1 0.15-0.25	SD2 0-0.1	SD2 0.15-0.24	SD3 0-0.1
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
			-	-	-	-	-
			11/8/2015	11/8/2015	11/8/2015	11/8/2015	11/8/2015
PARAMETER	UOM	LOR	SE142463.001	SE142463.002	SE142463.003	SE142463.004	SE142463.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

			SD3 0.25-0.32	SD4 0-0.8	SD4 0.15-0.25	SD5 0-0.05	SD6 0-0.1
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
			-	-	-	-	-
			11/8/2015	12/8/2015	12/8/2015	12/8/2015	12/8/2015
PARAMETER	UOM	LOR	SE142463.006	SE142463.007	SE142463.008	SE142463.009	SE142463.010
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

			SD6 0.15-0.25	SD7 0-0.6	SD7 0.15-0.25	SD8 0-0.1	SD8 0.15-0.25
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
			-	-	-	-	-
			12/8/2015	12/8/2015	12/8/2015	12/8/2015	12/8/2015
PARAMETER	UOM	LOR	SE142463.011	SE142463.012	SE142463.013	SE142463.014	SE142463.015
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

			SD9 0-0.1	SD9 0.15-0.25	SD10 0-0.12	SD10 0.14-0.26	SD11 0-0.10
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
			-	-	-	-	-
			12/8/2015	12/8/2015	12/8/2015	12/8/2015	12/8/2015
PARAMETER	UOM	LOR	SE142463.016	SE142463.017	SE142463.018	SE142463.019	SE142463.020
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

			SD11 0.15-0.25	SD12 0-0.5	SD13 0.03-0.1	SD14 0-0.1	SD14 0.15-0.25
			SEDIMENT	SEDIMENT	SOIL	SEDIMENT	SEDIMENT
			-	-	-	-	-
			12/8/2015	13/8/2015	13/8/2015	13/8/2015	13/8/2015
PARAMETER	UOM	LOR	SE142463.021	SE142463.022	SE142463.023	SE142463.024	SE142463.025
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

			SD15 0-0.04	SD16 0-0.1	SD16 0.15-0.25	SD17 0-0.1	SD17 0.15-0.25
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
			-	-	-	-	-
			13/8/2015	13/8/2015	13/8/2015	13/8/2015	13/8/2015
PARAMETER	UOM	LOR	SE142463.026	SE142463.027	SE142463.028	SE142463.029	SE142463.030
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

Volatile Petroleum Hydrocarbons in Soil [AN433/AN434/AN410] Tested: 17/8/2015 (continued)

			QA1	QA3	QA5
			SEDIMENT	SEDIMENT	SEDIMENT
			-	-	-
			13/8/2015	13/8/2015	13/8/2015
PARAMETER	UOM	LOR	SE142463.031	SE142463.032	SE142463.033
TRH C6-C9	mg/kg	20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 17/8/2015

PARAMETER	UOM	LOR	SD1 0-0.1 SEDIMENT - 11/8/2015 SE142463.001	SD1 0.15-0.25 SEDIMENT - 11/8/2015 SE142463.002	SD2 0-0.1 SEDIMENT - 11/8/2015 SE142463.003	SD2 0.15-0.24 SEDIMENT - 11/8/2015 SE142463.004	SD3 0-0.1 SEDIMENT - 11/8/2015 SE142463.005
TRH C10-C14	mg/kg	20	<20	<20	73	97	<20
TRH C15-C28	mg/kg	45	65	96	900	1200	100
TRH C29-C36	mg/kg	45	<45	<45	280	430	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	120	160	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	120	160	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	100	1100	1500	140
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	1200	1700	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	1200	1700	<210

PARAMETER	UOM	LOR	SD3 0.25-0.32 SEDIMENT - 11/8/2015 SE142463.006	SD4 0-0.8 SEDIMENT - 12/8/2015 SE142463.007	SD4 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.008	SD5 0-0.05 SEDIMENT - 12/8/2015 SE142463.009	SD6 0-0.1 SEDIMENT - 12/8/2015 SE142463.010
TRH C10-C14	mg/kg	20	220	110	86	<20	<20
TRH C15-C28	mg/kg	45	1300	770	600	<45	130
TRH C29-C36	mg/kg	45	320	220	160	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	360	160	130	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	360	160	130	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	1500	920	710	<90	160
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	1800	1100	850	<110	130
TRH C10-C40 Total	mg/kg	210	1800	1100	850	<210	<210

PARAMETER	UOM	LOR	SD6 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.011	SD7 0-0.6 SEDIMENT - 12/8/2015 SE142463.012	SD7 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.013	SD8 0-0.1 SEDIMENT - 12/8/2015 SE142463.014	SD8 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.015
TRH C10-C14	mg/kg	20	44	34	320	21	28
TRH C15-C28	mg/kg	45	440	190	1800	210	310
TRH C29-C36	mg/kg	45	150	<45	510	65	92
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	69	51	480	31	46
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	69	51	480	31	46
TRH >C16-C34 (F3)	mg/kg	90	550	200	2000	260	380
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	630	230	2600	300	430
TRH C10-C40 Total	mg/kg	210	630	230	2600	300	430

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SD9 0-0.1 SEDIMENT - 12/8/2015 SE142463.016	SD9 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.017	SD10 0-0.12 SEDIMENT - 12/8/2015 SE142463.018	SD10 0.14-0.26 SEDIMENT - 12/8/2015 SE142463.019	SD11 0-0.10 SEDIMENT - 12/8/2015 SE142463.020
TRH C10-C14	mg/kg	20	<20	<20	24	41	<20
TRH C15-C28	mg/kg	45	150	<45	240	550	<45
TRH C29-C36	mg/kg	45	<45	<45	93	230	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	34	66	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	34	66	<25
TRH >C16-C34 (F3)	mg/kg	90	180	<90	320	740	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	190	<110	350	820	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	350	820	<210

PARAMETER	UOM	LOR	SD11 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.021	SD12 0-0.5 SEDIMENT - 13/8/2015 SE142463.022	SD13 0.03-0.1 SOIL - 13/8/2015 SE142463.023	SD14 0-0.1 SEDIMENT - 13/8/2015 SE142463.024	SD14 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.025
TRH C10-C14	mg/kg	20	<20	28	<20	<20	<20
TRH C15-C28	mg/kg	45	160	230	<45	<45	<45
TRH C29-C36	mg/kg	45	120	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	47	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	47	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	270	240	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	280	280	<110	<110	<110
TRH C10-C40 Total	mg/kg	210	280	280	<210	<210	<210

PARAMETER	UOM	LOR	SD15 0-0.04 SEDIMENT - 13/8/2015 SE142463.026	SD16 0-0.1 SEDIMENT - 13/8/2015 SE142463.027	SD16 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.028	SD17 0-0.1 SEDIMENT - 13/8/2015 SE142463.029	SD17 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.030
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	98	85
TRH C29-C36	mg/kg	45	<45	<45	<45	65	57
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	160	140
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	160	140
TRH C10-C40 Total	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	QA1 SEDIMENT - 13/8/2015 SE142463.031	QA3 SEDIMENT - 13/8/2015 SE142463.032	QA5 SEDIMENT - 13/8/2015 SE142463.033
TRH C10-C14	mg/kg	20	80	220	<20
TRH C15-C28	mg/kg	45	630	2600	120
TRH C29-C36	mg/kg	45	240	920	93
TRH C37-C40	mg/kg	100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	130	420	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	130	420	<25
TRH >C16-C34 (F3)	mg/kg	90	800	3200	200
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	950	3800	210
TRH C10-C40 Total	mg/kg	210	950	3800	210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 17/8/2015

PARAMETER	UOM	LOR	SD1 0-0.1 SEDIMENT - 11/8/2015 SE142463.001	SD1 0.15-0.25 SEDIMENT - 11/8/2015 SE142463.002	SD2 0-0.1 SEDIMENT - 11/8/2015 SE142463.003	SD2 0.15-0.24 SEDIMENT - 11/8/2015 SE142463.004	SD3 0-0.1 SEDIMENT - 11/8/2015 SE142463.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.5↑	0.2	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	0.6	0.5	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	0.4	0.4	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.5↑	<0.2↑	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	0.7	<0.2↑	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	1.0	0.2	0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	0.6	<0.2↑	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.5↑	<0.2↑	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.5↑	<0.2↑	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.4↑	<0.2↑	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.2↑	<0.2↑	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.2↑	<0.2↑	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.2↑	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	<0.2	<0.2	<1.0↑	<0.4↑	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<1.5↑	<0.6↑	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<1.0↑	<0.4↑	<0.2
Total PAH	mg/kg	0.8	<0.8	<0.8	<4.0↑	<1.6↑	<0.8

PARAMETER	UOM	LOR	SD3 0.25-0.32 SEDIMENT - 11/8/2015 SE142463.006	SD4 0-0.8 SEDIMENT - 12/8/2015 SE142463.007	SD4 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.008	SD5 0-0.05 SEDIMENT - 12/8/2015 SE142463.009	SD6 0-0.1 SEDIMENT - 12/8/2015 SE142463.010
Naphthalene	mg/kg	0.1	<0.5↑	<0.5↑	0.3	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	2.1	<0.5↑	0.6	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	1.1	<0.5↑	0.4	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.5↑	<0.5↑	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.5↑	<0.5↑	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.6	1.1	1.0	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.5↑	<0.5↑	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.8	2.2	1.9	<0.1	0.2
Pyrene	mg/kg	0.1	0.5	1.4	1.2	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.4↑	0.9	0.8	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.3↑	0.9	0.7	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.3↑	0.7	0.7	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.2↑	0.2	0.3	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	0.3	0.2	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.1	0.2	<0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.2↑	0.2	0.2	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	<0.4↑	0.5	0.4	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.6↑	0.6	0.5	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.4↑	0.5	0.5	<0.2	<0.2
Total PAH	mg/kg	0.8	5.1	7.9	8.5	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SD6 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.011	SD7 0-0.6 SEDIMENT - 12/8/2015 SE142463.012	SD7 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.013	SD8 0-0.1 SEDIMENT - 12/8/2015 SE142463.014	SD8 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.015
Naphthalene	mg/kg	0.1	<0.1	0.2	0.9	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	0.2	0.4	4.4	<0.1	0.1
1-methylnaphthalene	mg/kg	0.1	0.1	0.3	2.5	<0.1	0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<1.0↑	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.2	0.5	1.5	<0.1	0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.3	0.7	1.1	0.2	0.2
Pyrene	mg/kg	0.1	0.2	0.4	0.8	0.1	0.1
Benzo(a)anthracene	mg/kg	0.1	<0.2↑	0.4	0.4	<0.1	0.1
Chrysene	mg/kg	0.1	<0.2↑	0.3	0.5	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.2↑	0.3	0.6	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.1	0.2	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	<0.4↑	<0.2	0.3	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.6↑	<0.3	0.4	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.4↑	<0.2	0.4	<0.2	<0.2
Total PAH	mg/kg	0.8	<1.6↑	3.9	14	1.0	1.3

PARAMETER	UOM	LOR	SD9 0-0.1 SEDIMENT - 12/8/2015 SE142463.016	SD9 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.017	SD10 0-0.12 SEDIMENT - 12/8/2015 SE142463.018	SD10 0.14-0.26 SEDIMENT - 12/8/2015 SE142463.019	SD11 0-0.10 SEDIMENT - 12/8/2015 SE142463.020
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	0.1	0.3	0.2
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.2	<0.1	0.2	0.5	0.2
Pyrene	mg/kg	0.1	0.1	<0.1	0.1	0.3	0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	<0.2	<0.2	<0.2	<0.2	0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	0.4
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	0.4
Total PAH	mg/kg	0.8	<0.8	<0.8	<0.8	2.4	1.3

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SD11 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.021	SD12 0-0.5 SEDIMENT - 13/8/2015 SE142463.022	SD13 0.03-0.1 SOIL - 13/8/2015 SE142463.023	SD14 0-0.1 SEDIMENT - 13/8/2015 SE142463.024	SD14 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.025
Naphthalene	mg/kg	0.1	<0.1	0.3	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	0.6	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	0.5	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.2	1.0	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.3	1.5	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	0.2	0.9	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	0.1	0.6	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	0.1	0.6	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.3	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.2	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	<0.2	0.3	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	0.4	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	0.3	<0.2	<0.2	<0.2
Total PAH	mg/kg	0.8	1.3	7.0	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	SD15 0-0.04 SEDIMENT - 13/8/2015 SE142463.026	SD16 0-0.1 SEDIMENT - 13/8/2015 SE142463.027	SD16 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.028	SD17 0-0.1 SEDIMENT - 13/8/2015 SE142463.029	SD17 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.030
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH	mg/kg	0.8	<0.8	<0.8	<0.8	0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	QA1 SEDIMENT - 13/8/2015 SE142463.031	QA3 SEDIMENT - 13/8/2015 SE142463.032	QA5 SEDIMENT - 13/8/2015 SE142463.033	Trip Blank SOIL - 8/7/2015 SE142463.037
Naphthalene	mg/kg	0.1	0.4	0.8	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	0.8	2.8	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	0.6	1.9	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.2↑	<0.3↑	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.2↑	<1.0↑	<0.1	<0.1
Phenanthrene	mg/kg	0.1	1.4	2.0	0.1	<0.1
Anthracene	mg/kg	0.1	<0.3↑	0.4	<0.1	<0.1
Fluoranthene	mg/kg	0.1	3.0	2.1	0.1	<0.1
Pyrene	mg/kg	0.1	1.8	1.3	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	1.1	0.9	<0.1	<0.1
Chrysene	mg/kg	0.1	1.1	0.8	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	1.3	0.8	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	0.5	0.4	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.4	0.3	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.2	0.2	<0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	0.3	0.3	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	0.7	0.5	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	0.8	0.6	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	0.7	0.6	<0.2	<0.2
Total PAH	mg/kg	0.8	13	15	<0.8	<0.8

Total Recoverable Metals in Soil by ICPOES [AN040/AN320] Tested: 20/8/2015

PARAMETER	UOM	LOR	SD1 0-0.1 SEDIMENT - 11/8/2015 SE142463.001	SD1 0.15-0.25 SEDIMENT - 11/8/2015 SE142463.002	SD2 0-0.1 SEDIMENT - 11/8/2015 SE142463.003	SD2 0.15-0.24 SEDIMENT - 11/8/2015 SE142463.004	SD3 0-0.1 SEDIMENT - 11/8/2015 SE142463.005
Arsenic, As	mg/kg	1	3	3	13	5	11
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	5.0	4.7	6.3	5.2	5.2
Copper, Cu	mg/kg	0.5	21	25	37	34	12
Nickel, Ni	mg/kg	0.5	4.2	3.7	12	4.7	10
Lead, Pb	mg/kg	1	6	7	10	11	17
Zinc, Zn	mg/kg	0.5	21	23	70	40	30
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3
Boron, B	mg/kg	5	<5	<5	6	5	<5

PARAMETER	UOM	LOR	SD3 0.25-0.32 SEDIMENT - 11/8/2015 SE142463.006	SD4 0-0.8 SEDIMENT - 12/8/2015 SE142463.007	SD4 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.008	SD5 0-0.05 SEDIMENT - 12/8/2015 SE142463.009	SD6 0-0.1 SEDIMENT - 12/8/2015 SE142463.010
Arsenic, As	mg/kg	1	8	12	6	10	13
Cadmium, Cd	mg/kg	0.3	0.4	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	7.9	4.8	5.4	9.6	8.4
Copper, Cu	mg/kg	0.5	33	38	47	27	47
Nickel, Ni	mg/kg	0.5	9.8	14	8.6	11	14
Lead, Pb	mg/kg	1	13	8	14	6	8
Zinc, Zn	mg/kg	0.5	49	44	49	26	46
Selenium, Se	mg/kg	3	3	4	<3	<3	4
Boron, B	mg/kg	5	<5	11	6	<5	<5

PARAMETER	UOM	LOR	SD6 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.011	SD7 0-0.6 SEDIMENT - 12/8/2015 SE142463.012	SD7 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.013	SD8 0-0.1 SEDIMENT - 12/8/2015 SE142463.014	SD8 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.015
Arsenic, As	mg/kg	1	13	9	18	23	16
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	11	8.4	13	13	9.3
Copper, Cu	mg/kg	0.5	110	12	71	50	47
Nickel, Ni	mg/kg	0.5	13	8.5	12	20	15
Lead, Pb	mg/kg	1	11	9	19	11	9
Zinc, Zn	mg/kg	0.5	74	24	67	75	64
Selenium, Se	mg/kg	3	8	<3	4	<3	4
Boron, B	mg/kg	5	<5	<5	38	<5	<5

PARAMETER	UOM	LOR	SD9 0-0.1 SEDIMENT - 12/8/2015 SE142463.016	SD9 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.017	SD10 0-0.12 SEDIMENT - 12/8/2015 SE142463.018	SD10 0.14-0.26 SEDIMENT - 12/8/2015 SE142463.019	SD11 0-0.10 SEDIMENT - 12/8/2015 SE142463.020
Arsenic, As	mg/kg	1	10	3	24	23	13
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	5.1	3.8	17	20	21
Copper, Cu	mg/kg	0.5	29	8.1	120	290	67
Nickel, Ni	mg/kg	0.5	8.5	2.7	21	26	29
Lead, Pb	mg/kg	1	9	9	15	20	9
Zinc, Zn	mg/kg	0.5	32	15	68	130	49
Selenium, Se	mg/kg	3	4	<3	9	20	3
Boron, B	mg/kg	5	6	5	7	7	9

Total Recoverable Metals in Soil by ICPOES [AN040/AN320] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SD11 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.021	SD12 0-0.5 SEDIMENT - 13/8/2015 SE142463.022	SD13 0.03-0.1 SOIL - 13/8/2015 SE142463.023	SD14 0-0.1 SEDIMENT - 13/8/2015 SE142463.024	SD14 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.025
Arsenic, As	mg/kg	1	14	9	4	6	5
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	24	1.4	15	6.8	7.3
Copper, Cu	mg/kg	0.5	71	12	9.6	9.3	3.4
Nickel, Ni	mg/kg	0.5	31	8.8	7.5	5.1	4.0
Lead, Pb	mg/kg	1	10	10	11	6	7
Zinc, Zn	mg/kg	0.5	51	41	14	12	9.6
Selenium, Se	mg/kg	3	5	<3	<3	<3	<3
Boron, B	mg/kg	5	9	<5	<5	<5	<5

PARAMETER	UOM	LOR	SD15 0-0.04 SEDIMENT - 13/8/2015 SE142463.026	SD16 0-0.1 SEDIMENT - 13/8/2015 SE142463.027	SD16 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.028	SD17 0-0.1 SEDIMENT - 13/8/2015 SE142463.029	SD17 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.030
Arsenic, As	mg/kg	1	21	5	2	21	12
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	0.3	<0.3
Chromium, Cr	mg/kg	0.3	9.3	8.7	6.5	22	17
Copper, Cu	mg/kg	0.5	42	9.5	2.5	350	140
Nickel, Ni	mg/kg	0.5	14	5.0	2.5	26	18
Lead, Pb	mg/kg	1	8	6	5	8	10
Zinc, Zn	mg/kg	0.5	27	11	5.8	110	72
Selenium, Se	mg/kg	3	4	<3	<3	10	11
Boron, B	mg/kg	5	7	<5	<5	7	5

PARAMETER	UOM	LOR	QA1 SEDIMENT - 13/8/2015 SE142463.031	QA3 SEDIMENT - 13/8/2015 SE142463.032	QA5 SEDIMENT - 13/8/2015 SE142463.033
Arsenic, As	mg/kg	1	6	10	21
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	5.7	15	22
Copper, Cu	mg/kg	0.5	49	130	340
Nickel, Ni	mg/kg	0.5	9.2	13	26
Lead, Pb	mg/kg	1	15	21	8
Zinc, Zn	mg/kg	0.5	52	68	110
Selenium, Se	mg/kg	3	4	5	10
Boron, B	mg/kg	5	6	35	6

Mercury in Soil [AN312] Tested: 19/8/2015

PARAMETER	UOM	LOR	SD1 0-0.1 SEDIMENT - 11/8/2015 SE142463.001	SD1 0.15-0.25 SEDIMENT - 11/8/2015 SE142463.002	SD2 0-0.1 SEDIMENT - 11/8/2015 SE142463.003	SD2 0.15-0.24 SEDIMENT - 11/8/2015 SE142463.004	SD3 0-0.1 SEDIMENT - 11/8/2015 SE142463.005
Mercury	mg/kg	0.01	0.07	0.10	0.13	0.13	0.05

PARAMETER	UOM	LOR	SD3 0.25-0.32 SEDIMENT - 11/8/2015 SE142463.006	SD4 0-0.8 SEDIMENT - 12/8/2015 SE142463.007	SD4 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.008	SD5 0-0.05 SEDIMENT - 12/8/2015 SE142463.009	SD6 0-0.1 SEDIMENT - 12/8/2015 SE142463.010
Mercury	mg/kg	0.01	0.11	0.05	0.06	0.02	0.06

PARAMETER	UOM	LOR	SD6 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.011	SD7 0-0.6 SEDIMENT - 12/8/2015 SE142463.012	SD7 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.013	SD8 0-0.1 SEDIMENT - 12/8/2015 SE142463.014	SD8 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.015
Mercury	mg/kg	0.01	0.18	0.34	1.4	0.05	0.08

PARAMETER	UOM	LOR	SD9 0-0.1 SEDIMENT - 12/8/2015 SE142463.016	SD9 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.017	SD10 0-0.12 SEDIMENT - 12/8/2015 SE142463.018	SD10 0.14-0.26 SEDIMENT - 12/8/2015 SE142463.019	SD11 0-0.10 SEDIMENT - 12/8/2015 SE142463.020
Mercury	mg/kg	0.01	0.06	0.09	0.24	0.47	0.07

PARAMETER	UOM	LOR	SD11 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.021	SD12 0-0.5 SEDIMENT - 13/8/2015 SE142463.022	SD13 0.03-0.1 SOIL - 13/8/2015 SE142463.023	SD14 0-0.1 SEDIMENT - 13/8/2015 SE142463.024	SD14 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.025
Mercury	mg/kg	0.01	0.08	0.01	0.02	0.01	<0.01

PARAMETER	UOM	LOR	SD15 0-0.04 SEDIMENT - 13/8/2015 SE142463.026	SD16 0-0.1 SEDIMENT - 13/8/2015 SE142463.027	SD16 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.028	SD17 0-0.1 SEDIMENT - 13/8/2015 SE142463.029	SD17 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.030
Mercury	mg/kg	0.01	0.03	0.01	<0.01	0.15	0.27

PARAMETER	UOM	LOR	QA1 SEDIMENT - 13/8/2015 SE142463.031	QA3 SEDIMENT - 13/8/2015 SE142463.032	QA5 SEDIMENT - 13/8/2015 SE142463.033
Mercury	mg/kg	0.01	0.05	5.0	0.15

Moisture Content [AN002] Tested: 17/8/2015

PARAMETER	UOM	LOR	SD1 0-0.1 SEDIMENT - 11/8/2015 SE142463.001	SD1 0.15-0.25 SEDIMENT - 11/8/2015 SE142463.002	SD2 0-0.1 SEDIMENT - 11/8/2015 SE142463.003	SD2 0.15-0.24 SEDIMENT - 11/8/2015 SE142463.004	SD3 0-0.1 SEDIMENT - 11/8/2015 SE142463.005
% Moisture	%	0.5	42	44	37	38	24

PARAMETER	UOM	LOR	SD3 0.25-0.32 SEDIMENT - 11/8/2015 SE142463.006	SD4 0-0.8 SEDIMENT - 12/8/2015 SE142463.007	SD4 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.008	SD5 0-0.05 SEDIMENT - 12/8/2015 SE142463.009	SD6 0-0.1 SEDIMENT - 12/8/2015 SE142463.010
% Moisture	%	0.5	32	44	48	32	35

PARAMETER	UOM	LOR	SD6 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.011	SD7 0-0.6 SEDIMENT - 12/8/2015 SE142463.012	SD7 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.013	SD8 0-0.1 SEDIMENT - 12/8/2015 SE142463.014	SD8 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.015
% Moisture	%	0.5	45	24	64	37	34

PARAMETER	UOM	LOR	SD9 0-0.1 SEDIMENT - 12/8/2015 SE142463.016	SD9 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.017	SD10 0-0.12 SEDIMENT - 12/8/2015 SE142463.018	SD10 0.14-0.26 SEDIMENT - 12/8/2015 SE142463.019	SD11 0-0.10 SEDIMENT - 12/8/2015 SE142463.020
% Moisture	%	0.5	46	40	60	67	55

PARAMETER	UOM	LOR	SD11 0.15-0.25 SEDIMENT - 12/8/2015 SE142463.021	SD12 0-0.5 SEDIMENT - 13/8/2015 SE142463.022	SD13 0.03-0.1 SOIL - 13/8/2015 SE142463.023	SD14 0-0.1 SEDIMENT - 13/8/2015 SE142463.024	SD14 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.025
% Moisture	%	0.5	55	25	27	22	17

PARAMETER	UOM	LOR	SD15 0-0.04 SEDIMENT - 13/8/2015 SE142463.026	SD16 0-0.1 SEDIMENT - 13/8/2015 SE142463.027	SD16 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.028	SD17 0-0.1 SEDIMENT - 13/8/2015 SE142463.029	SD17 0.15-0.25 SEDIMENT - 13/8/2015 SE142463.030
% Moisture	%	0.5	43	23	20	54	52

PARAMETER	UOM	LOR	QA1 SEDIMENT - 13/8/2015 SE142463.031	QA3 SEDIMENT - 13/8/2015 SE142463.032	QA5 SEDIMENT - 13/8/2015 SE142463.033
% Moisture	%	0.5	48	64	54

VOCs in Water [AN433/AN434] Tested: 17/8/2015

PARAMETER	UOM	LOR	TBEC110815 WATER - 11/8/2015 SE142463.034	TBEC120815 WATER - 12/8/2015 SE142463.035	TBEC130815 WATER - 13/8/2015 SE142463.036	RINEC110815 WATER - 11/8/2015 SE142463.038	RINEC120815 WATER - 12/8/2015 SE142463.039
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	-	-	-	<5	<5
Chloromethane	µg/L	5	-	-	-	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	-	-	-	<0.3	<0.3
Bromomethane	µg/L	10	-	-	-	<10	<10
Chloroethane	µg/L	5	-	-	-	<5	<5
Trichlorofluoromethane	µg/L	1	-	-	-	<1	<1
Acetone (2-propanone)	µg/L	10	-	-	-	<10	<10
Iodomethane	µg/L	5	-	-	-	<5	<5
1,1-dichloroethene	µg/L	0.5	-	-	-	<0.5	<0.5
Acrylonitrile	µg/L	0.5	-	-	-	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	4	-	-	-	<4	<4
Allyl chloride	µg/L	2	-	-	-	<2	<2
Carbon disulfide	µg/L	2	-	-	-	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	-	-	-	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	-	-	-	<2	<2
1,1-dichloroethane	µg/L	0.5	-	-	-	<0.5	<0.5
Vinyl acetate	µg/L	10	-	-	-	<10	<10
MEK (2-butanone)	µg/L	10	-	-	-	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	-	-	-	<0.5	<0.5
Bromochloromethane	µg/L	0.5	-	-	-	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	-	-	-	1.6	1.6
2,2-dichloropropane	µg/L	0.5	-	-	-	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	-	-	-	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	-	-	-	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	-	-	-	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	-	-	-	<0.5	<0.5
Dibromomethane	µg/L	0.5	-	-	-	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	-	-	-	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	-	-	-	<0.5	<0.5
2-nitropropane	µg/L	100	-	-	-	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	-	-	-	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	-	-	-	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	-	-	-	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	-	-	-	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	-	-	-	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	-	-	-	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	-	-	-	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	-	-	-	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	-	-	-	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	-	-	-	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	-	-	-	<0.5	<0.5
Chlorobenzene	µg/L	0.5	-	-	-	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	-	-	-	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	-	-	-	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	-	-	-	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	-	-	-	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	-	-	-	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	-	-	-	<1	<1

VOCs in Water [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	TBEC110815 WATER - 11/8/2015 SE142463.034	TBEC120815 WATER - 12/8/2015 SE142463.035	TBEC130815 WATER - 13/8/2015 SE142463.036	RINEC110815 WATER - 11/8/2015 SE142463.038	RINEC120815 WATER - 12/8/2015 SE142463.039
Isopropylbenzene (Cumene)	µg/L	0.5	-	-	-	<0.5	<0.5
Bromobenzene	µg/L	0.5	-	-	-	<0.5	<0.5
n-propylbenzene	µg/L	0.5	-	-	-	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	-	-	-	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	-	-	-	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	-	-	-	<0.5	<0.5
tert-butylbenzene	µg/L	0.5	-	-	-	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	-	-	-	<0.5	<0.5
sec-butylbenzene	µg/L	0.5	-	-	-	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	-	-	-	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	-	-	-	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	-	-	-	<0.5	<0.5
1,2-dichlorobenzene	µg/L	0.5	-	-	-	<0.5	<0.5
n-butylbenzene	µg/L	0.5	-	-	-	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	-	-	-	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	-	-	-	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	-	-	-	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	-	-	-	<0.5	<0.5
Total VOC	µg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	RINEC130815 WATER - 13/8/2015 SE142463.040	SW15 1 WATER - 13/8/2015 SE142463.041	SW15 4.9 WATER - 13/8/2015 SE142463.042	SW16 1 WATER - 13/8/2015 SE142463.043	SW16 10 WATER - 13/8/2015 SE142463.044
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	<5	<5	<5
Chloromethane	µg/L	5	<5	<5	<5	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Bromomethane	µg/L	10	<10	<10	<10	<10	<10
Chloroethane	µg/L	5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	µg/L	10	<10	<10	<10	<10	<10
Iodomethane	µg/L	5	<5	<5	<5	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	<4	<4	<4
Allyl chloride	µg/L	2	<2	<2	<2	<2	<2
Carbon disulfide	µg/L	2	<2	<2	<2	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	<2	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	<10	<10	<10	<10
MEK (2-butanone)	µg/L	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	1.9	<0.5	<0.5	<0.5	<0.5
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitropropane	µg/L	100	<100	<100	<100	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	<5	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1

VOCs in Water [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	RINEC130815 WATER - 13/8/2015 SE142463.040	SW15 1 WATER - 13/8/2015 SE142463.041	SW15 4.9 WATER - 13/8/2015 SE142463.042	SW16 1 WATER - 13/8/2015 SE142463.043	SW16 10 WATER - 13/8/2015 SE142463.044
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total VOC	µg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SW17 6.3 WATER - 13/8/2015 SE142463.045	TRIP SPIKE WATER - 11/8/2015 SE142463.047	SW17 1 WATER - 13/8/2015 SE142463.048	FBEC11815 WATER - 11/8/2015 SE142463.049
Benzene	µg/L	0.5	<0.5	[76%]	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	[104%]	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	[96%]	<0.5	<0.5
m/p-xylene	µg/L	1	<1	[98%]	<1	<1
o-xylene	µg/L	0.5	<0.5	[101%]	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	-	<1.5	<1.5
Total BTEX	µg/L	3	<3	-	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	-	<5	<5
Chloromethane	µg/L	5	<5	-	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	-	<0.3	<0.3
Bromomethane	µg/L	10	<10	-	<10	<10
Chloroethane	µg/L	5	<5	-	<5	<5
Trichlorofluoromethane	µg/L	1	<1	-	<1	<1
Acetone (2-propanone)	µg/L	10	<10	-	<10	<10
Iodomethane	µg/L	5	<5	-	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	-	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	-	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	4	<4	-	<4	<4
Allyl chloride	µg/L	2	<2	-	<2	<2
Carbon disulfide	µg/L	2	<2	-	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	-	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	-	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	-	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	-	<10	<10
MEK (2-butanone)	µg/L	10	<10	-	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	-	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	-	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	<0.5	-	<0.5	3.2
2,2-dichloropropane	µg/L	0.5	<0.5	-	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	-	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	-	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	-	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	-	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	-	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	-	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	-	<0.5	<0.5
2-nitropropane	µg/L	100	<100	-	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	<0.5	-	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	-	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	-	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	-	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	-	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	-	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5	-	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	-	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	-	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	-	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	-	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	-	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	-	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	<1	-	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	-	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	-	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	-	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	-	<1	<1

VOCs in Water [AN433/AN434] Tested: 17/8/2015 (continued)

PARAMETER	UOM	LOR	SW17 6.3 WATER - 13/8/2015 SE142463.045	TRIP SPIKE WATER - 11/8/2015 SE142463.047	SW17 1 WATER - 13/8/2015 SE142463.048	FBEC11815 WATER - 11/8/2015 SE142463.049
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	-	<0.5	<0.5
Bromobenzene	µg/L	0.5	<0.5	-	<0.5	<0.5
n-propylbenzene	µg/L	0.5	<0.5	-	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5	-	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5	-	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	-	<0.5	<0.5
tert-butylbenzene	µg/L	0.5	<0.5	-	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	-	<0.5	<0.5
sec-butylbenzene	µg/L	0.5	<0.5	-	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5	-	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3	-	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	<0.5	-	<0.5	<0.5
1,2-dichlorobenzene	µg/L	0.5	<0.5	-	<0.5	<0.5
n-butylbenzene	µg/L	0.5	<0.5	-	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	-	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	-	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5	-	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	-	<0.5	<0.5
Total VOC	µg/L	10	-	-	-	-

Volatile Petroleum Hydrocarbons in Water [AN433/AN434/AN410] Tested: 17/8/2015

PARAMETER	UOM	LOR	RINEC110815 WATER - 11/8/2015 SE142463.038	RINEC120815 WATER - 12/8/2015 SE142463.039	RINEC130815 WATER - 13/8/2015 SE142463.040	SW15 1 WATER - 13/8/2015 SE142463.041	SW15 4.9 WATER - 13/8/2015 SE142463.042
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	SW16 1 WATER - 13/8/2015 SE142463.043	SW16 10 WATER - 13/8/2015 SE142463.044	SW17 6.3 WATER - 13/8/2015 SE142463.045	SW17 1 WATER - 13/8/2015 SE142463.048	FBEC11815 WATER - 11/8/2015 SE142463.049
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 17/8/2015

PARAMETER	UOM	LOR	RINEC110815 WATER - 11/8/2015 SE142463.038	RINEC120815 WATER - 12/8/2015 SE142463.039	RINEC130815 WATER - 13/8/2015 SE142463.040	SW15 1 WATER - 13/8/2015 SE142463.041	SW15 4.9 WATER - 13/8/2015 SE142463.042
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650	<650

PARAMETER	UOM	LOR	SW16 1 WATER - 13/8/2015 SE142463.043	SW16 10 WATER - 13/8/2015 SE142463.044	SW17 6.3 WATER - 13/8/2015 SE142463.045	SW17 1 WATER - 13/8/2015 SE142463.048	FBEC11815 WATER - 11/8/2015 SE142463.049
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650	<650

Low Level PAH (Poly Aromatic Hydrocarbons) in Water [AN420] Tested: 17/8/2015

PARAMETER	UOM	LOR	RINEC110815 WATER - 11/8/2015 SE142463.038	RINEC120815 WATER - 12/8/2015 SE142463.039	RINEC130815 WATER - 13/8/2015 SE142463.040	SW15 1 WATER - 13/8/2015 SE142463.041	SW15 4.9 WATER - 13/8/2015 SE142463.042
Naphthalene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a&h)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carcinogenic PAHs (as BaP TEQ) - assume non detects	TEQ	0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Total PAH VIC EPA Guidelines (16)*	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SW16 1 WATER - 13/8/2015 SE142463.043	SW16 10 WATER - 13/8/2015 SE142463.044	SW17 6.3 WATER - 13/8/2015 SE142463.045	SW17 1 WATER - 13/8/2015 SE142463.048	FBEC11815 WATER - 11/8/2015 SE142463.049
Naphthalene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a&h)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carcinogenic PAHs (as BaP TEQ) - assume non detects	TEQ	0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Total PAH VIC EPA Guidelines (16)*	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Conductivity and TDS by Calculation - Water [AN106] Tested: 21/8/2015

PARAMETER	UOM	LOR	SW15 1 WATER - 13/8/2015 SE142463.041	SW15 4.9 WATER - 13/8/2015 SE142463.042	SW16 1 WATER - 13/8/2015 SE142463.043	SW16 10 WATER - 13/8/2015 SE142463.044	SW17 6.3 WATER - 13/8/2015 SE142463.045
Conductivity @ 25 C	µS/cm	2	1900	1900	1900	2000	2000
Salinity*	mg/L	2	1200	1200	1200	1300	1300

PARAMETER	UOM	LOR	SW17 1 WATER - 13/8/2015 SE142463.048
Conductivity @ 25 C	µS/cm	2	1900
Salinity*	mg/L	2	1300

Forms of Carbon [AN190] Tested: 21/8/2015

PARAMETER	UOM	LOR	RINEC110815 WATER - 11/8/2015 SE142463.038	RINEC120815 WATER - 12/8/2015 SE142463.039	RINEC130815 WATER - 13/8/2015 SE142463.040	SW15 1 WATER - 13/8/2015 SE142463.041	SW15 4.9 WATER - 13/8/2015 SE142463.042
Total Organic Carbon as NPOC	mg/L	0.2	<0.2	0.2	<0.2	7.9	7.9

PARAMETER	UOM	LOR	SW16 1 WATER - 13/8/2015 SE142463.043	SW16 10 WATER - 13/8/2015 SE142463.044	SW17 6.3 WATER - 13/8/2015 SE142463.045	SW17 1 WATER - 13/8/2015 SE142463.048	FBEC11815 WATER - 11/8/2015 SE142463.049
Total Organic Carbon as NPOC	mg/L	0.2	7.5	8.4	8.1	7.9	0.3

Trace Metals (Total) in Water by ICPMS [AN022/AN318] Tested: 19/8/2015

PARAMETER	UOM	LOR	RINEC110815 WATER - 11/8/2015 SE142463.038	RINEC120815 WATER - 12/8/2015 SE142463.039	RINEC130815 WATER - 13/8/2015 SE142463.040	SW15 1 WATER - 13/8/2015 SE142463.041	SW15 4.9 WATER - 13/8/2015 SE142463.042
Total Arsenic	μg/L	1	<1	<1	<1	3	3
Total Cadmium	μg/L	0.1	<0.1	<0.1	<0.1	0.1	0.1
Total Chromium	μg/L	1	<1	<1	<1	<1	<1
Total Copper	μg/L	1	<1	2	<1	4	4
Total Nickel	μg/L	1	<1	<1	<1	4	4
Total Lead	μg/L	1	<1	<1	<1	<1	<1
Total Zinc	μg/L	5	<5	<5	<5	<5	<5
Total Selenium	μg/L	1	<1	<1	<1	2	2
Total Boron	μg/L	5	<5	<5	<5	880	890

PARAMETER	UOM	LOR	SW16 1 WATER - 13/8/2015 SE142463.043	SW16 10 WATER - 13/8/2015 SE142463.044	SW17 6.3 WATER - 13/8/2015 SE142463.045	SW17 1 WATER - 13/8/2015 SE142463.048	FBEC11815 WATER - 11/8/2015 SE142463.049
Total Arsenic	μg/L	1	3	4	4	4	<1
Total Cadmium	μg/L	0.1	0.1	0.1	0.1	0.1	<0.1
Total Chromium	μg/L	1	<1	<1	<1	<1	<1
Total Copper	μg/L	1	4	9	11	11	<1
Total Nickel	μg/L	1	4	5	6	6	<1
Total Lead	μg/L	1	<1	<1	<1	<1	<1
Total Zinc	μg/L	5	<5	<5	<5	<5	<5
Total Selenium	μg/L	1	2	3	3	3	<1
Total Boron	μg/L	5	880	900	910	930	<5

Mercury (total) in Water [AN311/AN312] Tested: 20/8/2015

PARAMETER	UOM	LOR	RINEC110815 WATER - 11/8/2015 SE142463.038	RINEC120815 WATER - 12/8/2015 SE142463.039	RINEC130815 WATER - 13/8/2015 SE142463.040	SW15 1 WATER - 13/8/2015 SE142463.041	SW15 4.9 WATER - 13/8/2015 SE142463.042
Total Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

PARAMETER	UOM	LOR	SW16 1 WATER - 13/8/2015 SE142463.043	SW16 10 WATER - 13/8/2015 SE142463.044	SW17 6.3 WATER - 13/8/2015 SE142463.045	SW17 1 WATER - 13/8/2015 SE142463.048	FBEC11815 WATER - 11/8/2015 SE142463.049
Total Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 19/8/2015

PARAMETER	UOM	LOR	RINEC110815 WATER - 11/8/2015 SE142463.038	RINEC120815 WATER - 12/8/2015 SE142463.039	RINEC130815 WATER - 13/8/2015 SE142463.040	SW15 1 WATER - 13/8/2015 SE142463.041	SW15 4.9 WATER - 13/8/2015 SE142463.042
Arsenic, As	µg/L	1	<1	<1	<1	3	3
Cadmium, Cd	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium, Cr	µg/L	1	<1	<1	<1	<1	<1
Copper, Cu	µg/L	1	<1	<1	<1	3	3
Nickel, Ni	µg/L	1	<1	<1	<1	4	4
Lead, Pb	µg/L	1	<1	<1	<1	<1	<1
Zinc, Zn	µg/L	5	<5	<5	<5	<5	<5
Selenium, Se	µg/L	1	<1	<1	<1	2	3
Boron, B	µg/L	5	<5	<5	<5	830	860

PARAMETER	UOM	LOR	SW16 1 WATER - 13/8/2015 SE142463.043	SW16 10 WATER - 13/8/2015 SE142463.044	SW17 6.3 WATER - 13/8/2015 SE142463.045	SW17 1 WATER - 13/8/2015 SE142463.048	FBEC11815 WATER - 11/8/2015 SE142463.049
Arsenic, As	µg/L	1	3	3	4	4	<1
Cadmium, Cd	µg/L	0.1	<0.1	0.1	<0.1	0.1	<0.1
Chromium, Cr	µg/L	1	<1	<1	<1	<1	<1
Copper, Cu	µg/L	1	3	5	7	7	<1
Nickel, Ni	µg/L	1	4	5	5	5	<1
Lead, Pb	µg/L	1	<1	<1	<1	<1	<1
Zinc, Zn	µg/L	5	<5	<5	<5	<5	<5
Selenium, Se	µg/L	1	3	3	3	3	<1
Boron, B	µg/L	5	860	880	900	900	<5

Mercury (dissolved) in Water [AN311/AN312] Tested: 20/8/2015

PARAMETER	UOM	LOR	RINEC110815 WATER - 11/8/2015 SE142463.038	RINEC120815 WATER - 12/8/2015 SE142463.039	RINEC130815 WATER - 13/8/2015 SE142463.040	SW15 1 WATER - 13/8/2015 SE142463.041	SW15 4.9 WATER - 13/8/2015 SE142463.042
Mercury	mg/L	0.00005	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑

PARAMETER	UOM	LOR	SW16 1 WATER - 13/8/2015 SE142463.043	SW16 10 WATER - 13/8/2015 SE142463.044	SW17 6.3 WATER - 13/8/2015 SE142463.045	SW17 1 WATER - 13/8/2015 SE142463.048	FBEC11815 WATER - 11/8/2015 SE142463.049
Mercury	mg/L	0.00005	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN022/AN318	Following acid digestion of un filtered sample, determination of elements at trace level in waters by ICP-MS technique, in accordance with USEPA 6020A.
AN022	The water sample is digested with Nitric Acid and made up to the original volume similar to APHA3030E.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN190	TOC and DOC in Water: A homogenised micro portion of sample is injected into a heated reaction chamber packed with an oxidative catalyst that converts organic carbon to carbon dioxide. The CO2 is measured using a non-dispersive infrared detector. The process is fully automated in a commercially available analyser. If required a sugar value can be calculated from the TOC result. Reference APHA 5310 B.
AN190	Chemical oxygen demand can be calculated/estimated based on the O2/C relation as 2.67*NPOC (TOC). This is an estimate only and the factor will vary with sample matrix so results should be interpreted with caution.
AN311/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN318	Determination of elements at trace level in waters by ICP-MS technique, in accordance with USEPA 6020A.
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	Carcinogenic PAHs may be expressed as Benzo(a)pyrene equivalents by applying the BaP toxicity equivalence factor (NEPM 1999, June 2013, B7). These can be reported as the individual PAHs and as a sum of carcinogenic PAHs. The sum is reported three ways, the first assuming all <LOR results are zero, the second assuming all <LOR results are half the LOR and the third assuming all <LOR results are the LOR.

AN433/AN434/AN410	VOCs and C6-C9/C6-C10 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN433/AN434	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

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.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

STATEMENT OF QA/QC PERFORMANCE

SE142463 R1

CLIENT DETAILS

Contact	Ryan Wells	Manager	Huong Crawford
Client	ENVIRONMENTAL STRATEGIES PTY LIMITED	Laboratory	SGS Alexandria Environmental
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Project	**15106**	SGS Reference	**SE142463 R1**
Order Number	(Not specified)	Date Received	14 Aug 2015
Samples	49	Date Reported	16 Oct 2015

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS Environmental Services' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document and was supplied by the Client.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Extraction Date	Forms of Carbon	10 items
	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	1 item
	VOC's in Soil	1 item
Analysis Date	Forms of Carbon	10 items
Matrix Spike	Total Recoverable Metals in Soil by ICPOES	1 item
	Total Recoverable Metals in Soil by ICPOES	5 items

SAMPLE SUMMARY

Sample counts by matrix	3 Soil,32 Sediment,'	Type of documentation received	COC
Date documentation received	14/8/2015	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	2°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice	Samples clearly labelled	Yes
Complete documentation received	Yes	Number of eskies/boxes received	

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW15 1	SE142463.041	LB083516	13 Aug 2015	14 Aug 2015	10 Sep 2015	21 Aug 2015	10 Sep 2015	21 Aug 2015
SW15 4.9	SE142463.042	LB083516	13 Aug 2015	14 Aug 2015	10 Sep 2015	21 Aug 2015	10 Sep 2015	21 Aug 2015
SW16 1	SE142463.043	LB083516	13 Aug 2015	14 Aug 2015	10 Sep 2015	21 Aug 2015	10 Sep 2015	21 Aug 2015
SW16 10	SE142463.044	LB083516	13 Aug 2015	14 Aug 2015	10 Sep 2015	21 Aug 2015	10 Sep 2015	21 Aug 2015
SW17 6.3	SE142463.045	LB083516	13 Aug 2015	14 Aug 2015	10 Sep 2015	21 Aug 2015	10 Sep 2015	21 Aug 2015
SW17 1	SE142463.048	LB083516	13 Aug 2015	14 Aug 2015	10 Sep 2015	21 Aug 2015	10 Sep 2015	21 Aug 2015

Forms of Carbon

Method: ME-(AU)-[ENV]AN190

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINEC110815	SE142463.038	LB083511	11 Aug 2015	14 Aug 2015	18 Aug 2015	21 Aug 2015†	18 Aug 2015	21 Aug 2015†
RINEC120815	SE142463.039	LB083511	12 Aug 2015	14 Aug 2015	19 Aug 2015	21 Aug 2015†	19 Aug 2015	21 Aug 2015†
RINEC130815	SE142463.040	LB083511	13 Aug 2015	14 Aug 2015	20 Aug 2015	21 Aug 2015†	20 Aug 2015	21 Aug 2015†
SW15 1	SE142463.041	LB083511	13 Aug 2015	14 Aug 2015	20 Aug 2015	21 Aug 2015†	20 Aug 2015	21 Aug 2015†
SW15 4.9	SE142463.042	LB083511	13 Aug 2015	14 Aug 2015	20 Aug 2015	21 Aug 2015†	20 Aug 2015	21 Aug 2015†
SW16 1	SE142463.043	LB083511	13 Aug 2015	14 Aug 2015	20 Aug 2015	21 Aug 2015†	20 Aug 2015	21 Aug 2015†
SW16 10	SE142463.044	LB083511	13 Aug 2015	14 Aug 2015	20 Aug 2015	21 Aug 2015†	20 Aug 2015	21 Aug 2015†
SW17 6.3	SE142463.045	LB083511	13 Aug 2015	14 Aug 2015	20 Aug 2015	21 Aug 2015†	20 Aug 2015	21 Aug 2015†
SW17 1	SE142463.048	LB083511	13 Aug 2015	14 Aug 2015	20 Aug 2015	21 Aug 2015†	20 Aug 2015	21 Aug 2015†
FBEC11815	SE142463.049	LB083511	11 Aug 2015	14 Aug 2015	18 Aug 2015	21 Aug 2015†	18 Aug 2015	21 Aug 2015†

Low Level PAH (Poly Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TBEC110815	SE142463.034	LB083092	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
TBEC120815	SE142463.035	LB083092	12 Aug 2015	14 Aug 2015	19 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
TBEC130815	SE142463.036	LB083092	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
RINEC110815	SE142463.038	LB083123	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
RINEC120815	SE142463.039	LB083123	12 Aug 2015	14 Aug 2015	19 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
RINEC130815	SE142463.040	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SW15 1	SE142463.041	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SW15 4.9	SE142463.042	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SW16 1	SE142463.043	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SW16 10	SE142463.044	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SW17 6.3	SE142463.045	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SW17 1	SE142463.048	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
FBEC11815	SE142463.049	LB083123	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINEC110815	SE142463.038	LB083410	11 Aug 2015	14 Aug 2015	08 Sep 2015	20 Aug 2015	08 Sep 2015	20 Aug 2015
RINEC120815	SE142463.039	LB083410	12 Aug 2015	14 Aug 2015	09 Sep 2015	20 Aug 2015	09 Sep 2015	20 Aug 2015
RINEC130815	SE142463.040	LB083410	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
SW15 1	SE142463.041	LB083410	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
SW15 4.9	SE142463.042	LB083410	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
SW16 1	SE142463.043	LB083410	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
SW16 10	SE142463.044	LB083410	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
SW17 6.3	SE142463.045	LB083410	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
SW17 1	SE142463.048	LB083410	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
FBEC11815	SE142463.049	LB083410	11 Aug 2015	14 Aug 2015	08 Sep 2015	20 Aug 2015	08 Sep 2015	20 Aug 2015

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINEC110815	SE142463.038	LB083412	11 Aug 2015	14 Aug 2015	08 Sep 2015	20 Aug 2015	08 Sep 2015	20 Aug 2015
RINEC120815	SE142463.039	LB083412	12 Aug 2015	14 Aug 2015	09 Sep 2015	20 Aug 2015	09 Sep 2015	20 Aug 2015
RINEC130815	SE142463.040	LB083412	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
SW15 1	SE142463.041	LB083412	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
SW15 4.9	SE142463.042	LB083412	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
SW16 1	SE142463.043	LB083412	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
SW16 10	SE142463.044	LB083412	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
SW17 6.3	SE142463.045	LB083412	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
SW17 1	SE142463.048	LB083412	13 Aug 2015	14 Aug 2015	10 Sep 2015	20 Aug 2015	10 Sep 2015	20 Aug 2015
FBEC11815	SE142463.049	LB083412	11 Aug 2015	14 Aug 2015	08 Sep 2015	20 Aug 2015	08 Sep 2015	20 Aug 2015

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD1 0-0.1	SE142463.001	LB083328	11 Aug 2015	14 Aug 2015	08 Sep 2015	19 Aug 2015	08 Sep 2015	21 Aug 2015
SD1 0.15-0.25	SE142463.002	LB083328	11 Aug 2015	14 Aug 2015	08 Sep 2015	19 Aug 2015	08 Sep 2015	21 Aug 2015
SD2 0-0.1	SE142463.003	LB083328	11 Aug 2015	14 Aug 2015	08 Sep 2015	19 Aug 2015	08 Sep 2015	21 Aug 2015
SD2 0.15-0.24	SE142463.004	LB083328	11 Aug 2015	14 Aug 2015	08 Sep 2015	19 Aug 2015	08 Sep 2015	21 Aug 2015
SD3 0-0.1	SE142463.005	LB083328	11 Aug 2015	14 Aug 2015	08 Sep 2015	19 Aug 2015	08 Sep 2015	21 Aug 2015
SD3 0.25-0.32	SE142463.006	LB083328	11 Aug 2015	14 Aug 2015	08 Sep 2015	19 Aug 2015	08 Sep 2015	21 Aug 2015
SD4 0-0.8	SE142463.007	LB083328	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD4 0.15-0.25	SE142463.008	LB083328	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD5 0-0.05	SE142463.009	LB083328	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD6 0-0.1	SE142463.010	LB083328	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD6 0.15-0.25	SE142463.011	LB083328	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD7 0-0.6	SE142463.012	LB083328	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD7 0.15-0.25	SE142463.013	LB083328	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD8 0-0.1	SE142463.014	LB083328	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD8 0.15-0.25	SE142463.015	LB083328	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD9 0-0.1	SE142463.016	LB083328	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD9 0.15-0.25	SE142463.017	LB083328	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD10 0-0.12	SE142463.018	LB083328	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD10 0.14-0.26	SE142463.019	LB083328	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD11 0-0.10	SE142463.020	LB083329	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD11 0.15-0.25	SE142463.021	LB083329	12 Aug 2015	14 Aug 2015	09 Sep 2015	19 Aug 2015	09 Sep 2015	21 Aug 2015
SD12 0-0.5	SE142463.022	LB083329	13 Aug 2015	14 Aug 2015	10 Sep 2015	19 Aug 2015	10 Sep 2015	21 Aug 2015
SD13 0.03-0.1	SE142463.023	LB083329	13 Aug 2015	14 Aug 2015	10 Sep 2015	19 Aug 2015	10 Sep 2015	21 Aug 2015
SD14 0-0.1	SE142463.024	LB083329	13 Aug 2015	14 Aug 2015	10 Sep 2015	19 Aug 2015	10 Sep 2015	21 Aug 2015
SD14 0.15-0.25	SE142463.025	LB083329	13 Aug 2015	14 Aug 2015	10 Sep 2015	19 Aug 2015	10 Sep 2015	21 Aug 2015
SD15 0-0.04	SE142463.026	LB083329	13 Aug 2015	14 Aug 2015	10 Sep 2015	19 Aug 2015	10 Sep 2015	21 Aug 2015
SD16 0-0.1	SE142463.027	LB083329	13 Aug 2015	14 Aug 2015	10 Sep 2015	19 Aug 2015	10 Sep 2015	21 Aug 2015
SD16 0.15-0.25	SE142463.028	LB083329	13 Aug 2015	14 Aug 2015	10 Sep 2015	19 Aug 2015	10 Sep 2015	21 Aug 2015
SD17 0-0.1	SE142463.029	LB083329	13 Aug 2015	14 Aug 2015	10 Sep 2015	19 Aug 2015	10 Sep 2015	21 Aug 2015
SD17 0.15-0.25	SE142463.030	LB083329	13 Aug 2015	14 Aug 2015	10 Sep 2015	19 Aug 2015	10 Sep 2015	21 Aug 2015
QA1	SE142463.031	LB083329	13 Aug 2015	14 Aug 2015	10 Sep 2015	19 Aug 2015	10 Sep 2015	21 Aug 2015
QA3	SE142463.032	LB083329	13 Aug 2015	14 Aug 2015	10 Sep 2015	19 Aug 2015	10 Sep 2015	21 Aug 2015
QA5	SE142463.033	LB083329	13 Aug 2015	14 Aug 2015	10 Sep 2015	19 Aug 2015	10 Sep 2015	21 Aug 2015

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD1 0-0.1	SE142463.001	LB083120	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD1 0.15-0.25	SE142463.002	LB083120	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD2 0-0.1	SE142463.003	LB083120	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD2 0.15-0.24	SE142463.004	LB083120	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD3 0-0.1	SE142463.005	LB083120	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD3 0.25-0.32	SE142463.006	LB083120	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD4 0-0.8	SE142463.007	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD4 0.15-0.25	SE142463.008	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD5 0-0.05	SE142463.009	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD6 0-0.1	SE142463.010	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD6 0.15-0.25	SE142463.011	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD7 0-0.6	SE142463.012	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD7 0.15-0.25	SE142463.013	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD8 0-0.1	SE142463.014	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD8 0.15-0.25	SE142463.015	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD9 0-0.1	SE142463.016	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD9 0.15-0.25	SE142463.017	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD10 0-0.12	SE142463.018	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD10 0.14-0.26	SE142463.019	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD11 0-0.10	SE142463.020	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	18 Aug 2015
SD11 0.15-0.25	SE142463.021	LB083120	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	22 Aug 2015	19 Aug 2015
SD12 0-0.5	SE142463.022	LB083120	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	22 Aug 2015	19 Aug 2015
SD13 0.03-0.1	SE142463.023	LB083120	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	22 Aug 2015	19 Aug 2015
SD14 0-0.1	SE142463.024	LB083120	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	22 Aug 2015	19 Aug 2015

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Moisture Content (continued) — Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD14 0.15-0.25	SE142463.025	LB083120	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	22 Aug 2015	19 Aug 2015
SD15 0-0.04	SE142463.026	LB083120	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	22 Aug 2015	19 Aug 2015
SD16 0-0.1	SE142463.027	LB083120	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	22 Aug 2015	19 Aug 2015
SD16 0.15-0.25	SE142463.028	LB083120	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	22 Aug 2015	19 Aug 2015
SD17 0-0.1	SE142463.029	LB083120	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	22 Aug 2015	19 Aug 2015
SD17 0.15-0.25	SE142463.030	LB083120	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	22 Aug 2015	19 Aug 2015
QA1	SE142463.031	LB083120	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	22 Aug 2015	19 Aug 2015
QA3	SE142463.032	LB083120	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	22 Aug 2015	19 Aug 2015
QA5	SE142463.033	LB083120	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	22 Aug 2015	19 Aug 2015
Trip Blank	SE142463.037	LB083120	08 Jul 2015	14 Aug 2015	22 Jul 2015	17 Aug 2015†	22 Aug 2015	19 Aug 2015

PAH (Polynuclear Aromatic Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD1 0-0.1	SE142463.001	LB083088	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD1 0.15-0.25	SE142463.002	LB083088	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD2 0-0.1	SE142463.003	LB083088	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD2 0.15-0.24	SE142463.004	LB083088	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD3 0-0.1	SE142463.005	LB083088	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD3 0.25-0.32	SE142463.006	LB083088	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD4 0-0.8	SE142463.007	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD4 0.15-0.25	SE142463.008	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD5 0-0.05	SE142463.009	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD6 0-0.1	SE142463.010	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD6 0.15-0.25	SE142463.011	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD7 0-0.6	SE142463.012	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD7 0.15-0.25	SE142463.013	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD8 0-0.1	SE142463.014	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD8 0.15-0.25	SE142463.015	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD9 0-0.1	SE142463.016	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD9 0.15-0.25	SE142463.017	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD10 0-0.12	SE142463.018	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD10 0.14-0.26	SE142463.019	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD11 0-0.10	SE142463.020	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD11 0.15-0.25	SE142463.021	LB083089	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD12 0-0.5	SE142463.022	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD13 0.03-0.1	SE142463.023	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD14 0-0.1	SE142463.024	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD14 0.15-0.25	SE142463.025	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD15 0-0.04	SE142463.026	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD16 0-0.1	SE142463.027	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD16 0.15-0.25	SE142463.028	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD17 0-0.1	SE142463.029	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
SD17 0.15-0.25	SE142463.030	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
QA1	SE142463.031	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
QA3	SE142463.032	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
QA5	SE142463.033	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	19 Aug 2015
Trip Blank	SE142463.037	LB083089	08 Jul 2015	14 Aug 2015	22 Jul 2015	17 Aug 2015†	26 Sep 2015	19 Aug 2015
SW15 1	SE142463.041	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SW15 4.9	SE142463.042	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SW16 1	SE142463.043	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SW16 10	SE142463.044	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SW17 6.3	SE142463.045	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015

Total Recoverable Metals in Soil by ICPOES — Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD1 0-0.1	SE142463.001	LB083433	11 Aug 2015	14 Aug 2015	07 Feb 2016	20 Aug 2015	07 Feb 2016	21 Aug 2015
SD1 0.15-0.25	SE142463.002	LB083433	11 Aug 2015	14 Aug 2015	07 Feb 2016	20 Aug 2015	07 Feb 2016	21 Aug 2015
SD2 0-0.1	SE142463.003	LB083433	11 Aug 2015	14 Aug 2015	07 Feb 2016	20 Aug 2015	07 Feb 2016	21 Aug 2015
SD2 0.15-0.24	SE142463.004	LB083433	11 Aug 2015	14 Aug 2015	07 Feb 2016	20 Aug 2015	07 Feb 2016	21 Aug 2015
SD3 0-0.1	SE142463.005	LB083433	11 Aug 2015	14 Aug 2015	07 Feb 2016	20 Aug 2015	07 Feb 2016	21 Aug 2015
SD3 0.25-0.32	SE142463.006	LB083433	11 Aug 2015	14 Aug 2015	07 Feb 2016	20 Aug 2015	07 Feb 2016	21 Aug 2015

HOLDING TIME SUMMARY

SE142463 R1

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Total Recoverable Metals in Soil by ICPOES (continued) — Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD4 0-0.8	SE142463.007	LB083433	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD4 0.15-0.25	SE142463.008	LB083433	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD5 0-0.05	SE142463.009	LB083433	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD6 0-0.1	SE142463.010	LB083433	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD6 0.15-0.25	SE142463.011	LB083433	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD7 0-0.6	SE142463.012	LB083433	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD7 0.15-0.25	SE142463.013	LB083433	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD8 0-0.1	SE142463.014	LB083433	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD8 0.15-0.25	SE142463.015	LB083433	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD9 0-0.1	SE142463.016	LB083433	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD9 0.15-0.25	SE142463.017	LB083433	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD10 0-0.12	SE142463.018	LB083433	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD10 0.14-0.26	SE142463.019	LB083433	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD11 0-0.10	SE142463.020	LB083434	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD11 0.15-0.25	SE142463.021	LB083434	12 Aug 2015	14 Aug 2015	08 Feb 2016	20 Aug 2015	08 Feb 2016	21 Aug 2015
SD12 0-0.5	SE142463.022	LB083434	13 Aug 2015	14 Aug 2015	09 Feb 2016	20 Aug 2015	09 Feb 2016	21 Aug 2015
SD13 0.03-0.1	SE142463.023	LB083434	13 Aug 2015	14 Aug 2015	09 Feb 2016	20 Aug 2015	09 Feb 2016	21 Aug 2015
SD14 0-0.1	SE142463.024	LB083434	13 Aug 2015	14 Aug 2015	09 Feb 2016	20 Aug 2015	09 Feb 2016	21 Aug 2015
SD14 0.15-0.25	SE142463.025	LB083434	13 Aug 2015	14 Aug 2015	09 Feb 2016	20 Aug 2015	09 Feb 2016	21 Aug 2015
SD15 0-0.04	SE142463.026	LB083434	13 Aug 2015	14 Aug 2015	09 Feb 2016	20 Aug 2015	09 Feb 2016	21 Aug 2015
SD16 0-0.1	SE142463.027	LB083434	13 Aug 2015	14 Aug 2015	09 Feb 2016	20 Aug 2015	09 Feb 2016	21 Aug 2015
SD16 0.15-0.25	SE142463.028	LB083434	13 Aug 2015	14 Aug 2015	09 Feb 2016	20 Aug 2015	09 Feb 2016	21 Aug 2015
SD17 0-0.1	SE142463.029	LB083434	13 Aug 2015	14 Aug 2015	09 Feb 2016	20 Aug 2015	09 Feb 2016	21 Aug 2015
SD17 0.15-0.25	SE142463.030	LB083434	13 Aug 2015	14 Aug 2015	09 Feb 2016	20 Aug 2015	09 Feb 2016	21 Aug 2015
QA1	SE142463.031	LB083434	13 Aug 2015	14 Aug 2015	09 Feb 2016	20 Aug 2015	09 Feb 2016	21 Aug 2015
QA3	SE142463.032	LB083434	13 Aug 2015	14 Aug 2015	09 Feb 2016	20 Aug 2015	09 Feb 2016	21 Aug 2015
QA5	SE142463.033	LB083434	13 Aug 2015	14 Aug 2015	09 Feb 2016	20 Aug 2015	09 Feb 2016	21 Aug 2015

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINEC110815	SE142463.038	LB083302	11 Aug 2015	14 Aug 2015	07 Feb 2016	19 Aug 2015	07 Feb 2016	20 Aug 2015
RINEC120815	SE142463.039	LB083302	12 Aug 2015	14 Aug 2015	08 Feb 2016	19 Aug 2015	08 Feb 2016	20 Aug 2015
RINEC130815	SE142463.040	LB083302	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
SW15 1	SE142463.041	LB083302	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
SW15 4.9	SE142463.042	LB083302	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
SW16 1	SE142463.043	LB083302	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
SW16 10	SE142463.044	LB083302	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
SW17 6.3	SE142463.045	LB083302	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
SW17 1	SE142463.048	LB083302	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
FBEC11815	SE142463.049	LB083302	11 Aug 2015	14 Aug 2015	07 Feb 2016	19 Aug 2015	07 Feb 2016	20 Aug 2015

Trace Metals (Total) in Water by ICPMS — Method: ME-(AU)-[ENV]AN022/AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINEC110815	SE142463.038	LB083304	11 Aug 2015	14 Aug 2015	07 Feb 2016	19 Aug 2015	07 Feb 2016	20 Aug 2015
RINEC120815	SE142463.039	LB083304	12 Aug 2015	14 Aug 2015	08 Feb 2016	19 Aug 2015	08 Feb 2016	20 Aug 2015
RINEC130815	SE142463.040	LB083304	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
SW15 1	SE142463.041	LB083304	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
SW15 4.9	SE142463.042	LB083304	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
SW16 1	SE142463.043	LB083304	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
SW16 10	SE142463.044	LB083304	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
SW17 6.3	SE142463.045	LB083304	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
SW17 1	SE142463.048	LB083304	13 Aug 2015	14 Aug 2015	09 Feb 2016	19 Aug 2015	09 Feb 2016	20 Aug 2015
FBEC11815	SE142463.049	LB083304	11 Aug 2015	14 Aug 2015	07 Feb 2016	19 Aug 2015	07 Feb 2016	20 Aug 2015

TRH (Total Recoverable Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD1 0-0.1	SE142463.001	LB083088	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD1 0.15-0.25	SE142463.002	LB083088	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD2 0-0.1	SE142463.003	LB083088	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD2 0.15-0.24	SE142463.004	LB083088	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD3 0-0.1	SE142463.005	LB083088	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015

HOLDING TIME SUMMARY

SE142463 R1

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD3 0.25-0.32	SE142463.006	LB083088	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD4 0-0.8	SE142463.007	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD4 0.15-0.25	SE142463.008	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD5 0-0.05	SE142463.009	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD6 0-0.1	SE142463.010	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD6 0.15-0.25	SE142463.011	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD7 0-0.6	SE142463.012	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD7 0.15-0.25	SE142463.013	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD8 0-0.1	SE142463.014	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD8 0.15-0.25	SE142463.015	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD9 0-0.1	SE142463.016	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD9 0.15-0.25	SE142463.017	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD10 0-0.12	SE142463.018	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD10 0.14-0.26	SE142463.019	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD11 0-0.10	SE142463.020	LB083088	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD11 0.15-0.25	SE142463.021	LB083089	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD12 0-0.5	SE142463.022	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD13 0.03-0.1	SE142463.023	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD14 0-0.1	SE142463.024	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD14 0.15-0.25	SE142463.025	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD15 0-0.04	SE142463.026	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD16 0-0.1	SE142463.027	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD16 0.15-0.25	SE142463.028	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD17 0-0.1	SE142463.029	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD17 0.15-0.25	SE142463.030	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
QA1	SE142463.031	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
QA3	SE142463.032	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
QA5	SE142463.033	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
Trip Blank	SE142463.037	LB083089	08 Jul 2015	14 Aug 2015	22 Jul 2015	17 Aug 2015†	26 Sep 2015	21 Aug 2015
SW15 1	SE142463.041	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW15 4.9	SE142463.042	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW16 1	SE142463.043	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW16 10	SE142463.044	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW17 6.3	SE142463.045	LB083089	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TBEC110815	SE142463.034	LB083092	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
TBEC120815	SE142463.035	LB083092	12 Aug 2015	14 Aug 2015	19 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
TBEC130815	SE142463.036	LB083092	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
RINEC110815	SE142463.038	LB083123	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
RINEC120815	SE142463.039	LB083123	12 Aug 2015	14 Aug 2015	19 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
RINEC130815	SE142463.040	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW15 1	SE142463.041	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW15 4.9	SE142463.042	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW16 1	SE142463.043	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW16 10	SE142463.044	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW17 6.3	SE142463.045	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW17 1	SE142463.048	LB083123	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
FBEC11815	SE142463.049	LB083123	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD1 0-0.1	SE142463.001	LB083073	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD1 0.15-0.25	SE142463.002	LB083073	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD2 0-0.1	SE142463.003	LB083073	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD2 0.15-0.24	SE142463.004	LB083073	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD3 0-0.1	SE142463.005	LB083073	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD3 0.25-0.32	SE142463.006	LB083073	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD4 0-0.8	SE142463.007	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD4 0.15-0.25	SE142463.008	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

VOC's in Soil (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD5 0-0.05	SE142463.009	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD6 0-0.1	SE142463.010	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD6 0.15-0.25	SE142463.011	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD7 0-0.6	SE142463.012	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD7 0.15-0.25	SE142463.013	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD8 0-0.1	SE142463.014	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD8 0.15-0.25	SE142463.015	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD9 0-0.1	SE142463.016	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD9 0.15-0.25	SE142463.017	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD10 0-0.12	SE142463.018	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD10 0.14-0.26	SE142463.019	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD11 0-0.10	SE142463.020	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD11 0.15-0.25	SE142463.021	LB083074	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD12 0-0.5	SE142463.022	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD13 0.03-0.1	SE142463.023	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD14 0-0.1	SE142463.024	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD14 0.15-0.25	SE142463.025	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD15 0-0.04	SE142463.026	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD16 0-0.1	SE142463.027	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD16 0.15-0.25	SE142463.028	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD17 0-0.1	SE142463.029	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SD17 0.15-0.25	SE142463.030	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
QA1	SE142463.031	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
QA3	SE142463.032	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
QA5	SE142463.033	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
Trip Blank	SE142463.037	LB083074	08 Jul 2015	14 Aug 2015	22 Jul 2015	17 Aug 2015†	26 Sep 2015	20 Aug 2015
SW15 1	SE142463.041	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW15 4.9	SE142463.042	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW16 1	SE142463.043	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW16 10	SE142463.044	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW17 6.3	SE142463.045	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
TRIP SPIKE	SE142463.046	LB083074	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015

VOCs in Water — Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TBEC110815	SE142463.034	LB083125	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015
TBEC120815	SE142463.035	LB083125	12 Aug 2015	14 Aug 2015	19 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015
TBEC130815	SE142463.036	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015
RINEC110815	SE142463.038	LB083125	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
RINEC120815	SE142463.039	LB083125	12 Aug 2015	14 Aug 2015	19 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
RINEC130815	SE142463.040	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SW15 1	SE142463.041	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SW15 4.9	SE142463.042	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SW16 1	SE142463.043	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SW16 10	SE142463.044	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SW17 6.3	SE142463.045	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
TRIP SPIKE	SE142463.047	LB083125	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015
SW17 1	SE142463.048	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
FBEC11815	SE142463.049	LB083125	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD1 0-0.1	SE142463.001	LB083073	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD1 0.15-0.25	SE142463.002	LB083073	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD2 0-0.1	SE142463.003	LB083073	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD2 0.15-0.24	SE142463.004	LB083073	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD3 0-0.1	SE142463.005	LB083073	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD3 0.25-0.32	SE142463.006	LB083073	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD4 0-0.8	SE142463.007	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD4 0.15-0.25	SE142463.008	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD5 0-0.05	SE142463.009	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD6 0-0.1	SE142463.010	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD6 0.15-0.25	SE142463.011	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD7 0-0.6	SE142463.012	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD7 0.15-0.25	SE142463.013	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD8 0-0.1	SE142463.014	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD8 0.15-0.25	SE142463.015	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD9 0-0.1	SE142463.016	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD9 0.15-0.25	SE142463.017	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD10 0-0.12	SE142463.018	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD10 0.14-0.26	SE142463.019	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD11 0-0.10	SE142463.020	LB083073	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD11 0.15-0.25	SE142463.021	LB083074	12 Aug 2015	14 Aug 2015	26 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD12 0-0.5	SE142463.022	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD13 0.03-0.1	SE142463.023	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD14 0-0.1	SE142463.024	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD14 0.15-0.25	SE142463.025	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD15 0-0.04	SE142463.026	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD16 0-0.1	SE142463.027	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD16 0.15-0.25	SE142463.028	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD17 0-0.1	SE142463.029	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SD17 0.15-0.25	SE142463.030	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
QA1	SE142463.031	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
QA3	SE142463.032	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
QA5	SE142463.033	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
Trip Blank	SE142463.037	LB083074	08 Jul 2015	14 Aug 2015	22 Jul 2015	17 Aug 2015†	26 Sep 2015	21 Aug 2015
SW15 1	SE142463.041	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW15 4.9	SE142463.042	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW16 1	SE142463.043	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW16 10	SE142463.044	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
SW17 6.3	SE142463.045	LB083074	13 Aug 2015	14 Aug 2015	27 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015
TRIP SPIKE	SE142463.046	LB083074	11 Aug 2015	14 Aug 2015	25 Aug 2015	17 Aug 2015	26 Sep 2015	21 Aug 2015

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TBEC110815	SE142463.034	LB083125	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
TBEC120815	SE142463.035	LB083125	12 Aug 2015	14 Aug 2015	19 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
TBEC130815	SE142463.036	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
RINEC110815	SE142463.038	LB083125	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015
RINEC120815	SE142463.039	LB083125	12 Aug 2015	14 Aug 2015	19 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015
RINEC130815	SE142463.040	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015
SW15 1	SE142463.041	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015
SW15 4.9	SE142463.042	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015
SW16 1	SE142463.043	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015
SW16 10	SE142463.044	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015
SW17 6.3	SE142463.045	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015
TRIP SPIKE	SE142463.047	LB083125	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	20 Aug 2015
SW17 1	SE142463.048	LB083125	13 Aug 2015	14 Aug 2015	20 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015
FBEC11815	SE142463.049	LB083125	11 Aug 2015	14 Aug 2015	18 Aug 2015	17 Aug 2015	26 Sep 2015	18 Aug 2015

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Low Level PAH (Poly Aromatic Hydrocarbons) in Water — Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	RINEC110815	SE142463.038	%	40 - 130%	NA
	RINEC120815	SE142463.039	%	40 - 130%	NA
	RINEC130815	SE142463.040	%	40 - 130%	NA
	SW15 1	SE142463.041	%	40 - 130%	NA
	SW15 4.9	SE142463.042	%	40 - 130%	NA
	SW16 1	SE142463.043	%	40 - 130%	NA
	SW16 10	SE142463.044	%	40 - 130%	NA
	SW17 6.3	SE142463.045	%	40 - 130%	NA
	SW17 1	SE142463.048	%	40 - 130%	NA
	FBEC11815	SE142463.049	%	40 - 130%	NA
d14-p-terphenyl (Surrogate)	RINEC110815	SE142463.038	%	40 - 130%	55
	RINEC120815	SE142463.039	%	40 - 130%	55
	RINEC130815	SE142463.040	%	40 - 130%	53
	SW15 1	SE142463.041	%	40 - 130%	46
	SW15 4.9	SE142463.042	%	40 - 130%	48
	SW16 1	SE142463.043	%	40 - 130%	56
	SW16 10	SE142463.044	%	40 - 130%	46
	SW17 6.3	SE142463.045	%	40 - 130%	44
	SW17 1	SE142463.048	%	40 - 130%	54
	FBEC11815	SE142463.049	%	40 - 130%	47
d5-nitrobenzene (Surrogate)	RINEC110815	SE142463.038	%	40 - 130%	NA
	RINEC120815	SE142463.039	%	40 - 130%	NA
	RINEC130815	SE142463.040	%	40 - 130%	NA
	SW15 1	SE142463.041	%	40 - 130%	NA
	SW15 4.9	SE142463.042	%	40 - 130%	NA
	SW16 1	SE142463.043	%	40 - 130%	NA
	SW16 10	SE142463.044	%	40 - 130%	NA
	SW17 6.3	SE142463.045	%	40 - 130%	NA
	SW17 1	SE142463.048	%	40 - 130%	NA
	FBEC11815	SE142463.049	%	40 - 130%	NA

PAH (Polynuclear Aromatic Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	SD1 0-0.1	SE142463.001	%	70 - 130%	78
	SD1 0.15-0.25	SE142463.002	%	70 - 130%	76
	SD2 0-0.1	SE142463.003	%	70 - 130%	100
	SD2 0.15-0.24	SE142463.004	%	70 - 130%	74
	SD3 0-0.1	SE142463.005	%	70 - 130%	90
	SD3 0.25-0.32	SE142463.006	%	70 - 130%	84
	SD4 0-0.8	SE142463.007	%	70 - 130%	84
	SD4 0.15-0.25	SE142463.008	%	70 - 130%	78
	SD5 0-0.05	SE142463.009	%	70 - 130%	84
	SD6 0-0.1	SE142463.010	%	70 - 130%	84
	SD6 0.15-0.25	SE142463.011	%	70 - 130%	90
	SD7 0-0.6	SE142463.012	%	70 - 130%	82
	SD7 0.15-0.25	SE142463.013	%	70 - 130%	88
	SD8 0-0.1	SE142463.014	%	70 - 130%	86
	SD8 0.15-0.25	SE142463.015	%	70 - 130%	92
	SD9 0-0.1	SE142463.016	%	70 - 130%	82
	SD9 0.15-0.25	SE142463.017	%	70 - 130%	82
	SD10 0-0.12	SE142463.018	%	70 - 130%	82
	SD10 0.14-0.26	SE142463.019	%	70 - 130%	94
	SD11 0-0.10	SE142463.020	%	70 - 130%	82
	SD11 0.15-0.25	SE142463.021	%	70 - 130%	90
	SD12 0-0.5	SE142463.022	%	70 - 130%	78
	SD13 0.03-0.1	SE142463.023	%	70 - 130%	86
	SD14 0-0.1	SE142463.024	%	70 - 130%	76
	SD14 0.15-0.25	SE142463.025	%	70 - 130%	78
	SD15 0-0.04	SE142463.026	%	70 - 130%	92
	SD16 0-0.1	SE142463.027	%	70 - 130%	78
	SD16 0.15-0.25	SE142463.028	%	70 - 130%	82

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	SD17 0-0.1	SE142463.029	%	70 - 130%	82
	SD17 0.15-0.25	SE142463.030	%	70 - 130%	80
	QA1	SE142463.031	%	70 - 130%	84
	QA3	SE142463.032	%	70 - 130%	88
	QA5	SE142463.033	%	70 - 130%	78
	Trip Blank	SE142463.037	%	70 - 130%	82
d14-p-terphenyl (Surrogate)	SD1 0-0.1	SE142463.001	%	70 - 130%	82
	SD1 0.15-0.25	SE142463.002	%	70 - 130%	74
	SD2 0-0.1	SE142463.003	%	70 - 130%	118
	SD2 0.15-0.24	SE142463.004	%	70 - 130%	90
	SD3 0-0.1	SE142463.005	%	70 - 130%	108
	SD3 0.25-0.32	SE142463.006	%	70 - 130%	102
	SD4 0-0.8	SE142463.007	%	70 - 130%	110
	SD4 0.15-0.25	SE142463.008	%	70 - 130%	106
	SD5 0-0.05	SE142463.009	%	70 - 130%	110
	SD6 0-0.1	SE142463.010	%	70 - 130%	108
	SD6 0.15-0.25	SE142463.011	%	70 - 130%	102
	SD7 0-0.6	SE142463.012	%	70 - 130%	106
	SD7 0.15-0.25	SE142463.013	%	70 - 130%	106
	SD8 0-0.1	SE142463.014	%	70 - 130%	110
	SD8 0.15-0.25	SE142463.015	%	70 - 130%	108
	SD9 0-0.1	SE142463.016	%	70 - 130%	102
	SD9 0.15-0.25	SE142463.017	%	70 - 130%	76
	SD10 0-0.12	SE142463.018	%	70 - 130%	104
	SD10 0.14-0.26	SE142463.019	%	70 - 130%	112
	SD11 0-0.10	SE142463.020	%	70 - 130%	106
	SD11 0.15-0.25	SE142463.021	%	70 - 130%	104
	SD12 0-0.5	SE142463.022	%	70 - 130%	104
	SD13 0.03-0.1	SE142463.023	%	70 - 130%	110
	SD14 0-0.1	SE142463.024	%	70 - 130%	104
	SD14 0.15-0.25	SE142463.025	%	70 - 130%	108
	SD15 0-0.04	SE142463.026	%	70 - 130%	118
	SD16 0-0.1	SE142463.027	%	70 - 130%	106
	SD16 0.15-0.25	SE142463.028	%	70 - 130%	112
	SD17 0-0.1	SE142463.029	%	70 - 130%	108
	SD17 0.15-0.25	SE142463.030	%	70 - 130%	110
	QA1	SE142463.031	%	70 - 130%	110
	QA3	SE142463.032	%	70 - 130%	108
	QA5	SE142463.033	%	70 - 130%	108
	Trip Blank	SE142463.037	%	70 - 130%	122
d5-nitrobenzene (Surrogate)	SD1 0-0.1	SE142463.001	%	70 - 130%	74
	SD1 0.15-0.25	SE142463.002	%	70 - 130%	74
	SD2 0-0.1	SE142463.003	%	70 - 130%	110
	SD2 0.15-0.24	SE142463.004	%	70 - 130%	82
	SD3 0-0.1	SE142463.005	%	70 - 130%	96
	SD3 0.25-0.32	SE142463.006	%	70 - 130%	88
	SD4 0-0.8	SE142463.007	%	70 - 130%	100
	SD4 0.15-0.25	SE142463.008	%	70 - 130%	92
	SD5 0-0.05	SE142463.009	%	70 - 130%	96
	SD6 0-0.1	SE142463.010	%	70 - 130%	100
	SD6 0.15-0.25	SE142463.011	%	70 - 130%	98
	SD7 0-0.6	SE142463.012	%	70 - 130%	100
	SD7 0.15-0.25	SE142463.013	%	70 - 130%	104
	SD8 0-0.1	SE142463.014	%	70 - 130%	102
	SD8 0.15-0.25	SE142463.015	%	70 - 130%	100
	SD9 0-0.1	SE142463.016	%	70 - 130%	94
	SD9 0.15-0.25	SE142463.017	%	70 - 130%	82
	SD10 0-0.12	SE142463.018	%	70 - 130%	96
	SD10 0.14-0.26	SE142463.019	%	70 - 130%	102
	SD11 0-0.10	SE142463.020	%	70 - 130%	90
	SD11 0.15-0.25	SE142463.021	%	70 - 130%	90

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	SD12 0-0.5	SE142463.022	%	70 - 130%	82
	SD13 0.03-0.1	SE142463.023	%	70 - 130%	96
	SD14 0-0.1	SE142463.024	%	70 - 130%	84
	SD14 0.15-0.25	SE142463.025	%	70 - 130%	86
	SD15 0-0.04	SE142463.026	%	70 - 130%	98
	SD16 0-0.1	SE142463.027	%	70 - 130%	88
	SD16 0.15-0.25	SE142463.028	%	70 - 130%	90
	SD17 0-0.1	SE142463.029	%	70 - 130%	86
	SD17 0.15-0.25	SE142463.030	%	70 - 130%	86
	QA1	SE142463.031	%	70 - 130%	88
	QA3	SE142463.032	%	70 - 130%	98
	QA5	SE142463.033	%	70 - 130%	82
	Trip Blank	SE142463.037	%	70 - 130%	96

VOC's in Soil — Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SD1 0-0.1	SE142463.001	%	60 - 130%	72
	SD1 0.15-0.25	SE142463.002	%	60 - 130%	86
	SD2 0-0.1	SE142463.003	%	60 - 130%	90
	SD2 0.15-0.24	SE142463.004	%	60 - 130%	95
	SD3 0-0.1	SE142463.005	%	60 - 130%	110
	SD3 0.25-0.32	SE142463.006	%	60 - 130%	97
	SD4 0-0.8	SE142463.007	%	60 - 130%	86
	SD4 0.15-0.25	SE142463.008	%	60 - 130%	76
	SD5 0-0.05	SE142463.009	%	60 - 130%	113
	SD6 0-0.1	SE142463.010	%	60 - 130%	105
	SD6 0.15-0.25	SE142463.011	%	60 - 130%	98
	SD7 0-0.6	SE142463.012	%	60 - 130%	99
	SD7 0.15-0.25	SE142463.013	%	60 - 130%	78
	SD8 0-0.1	SE142463.014	%	60 - 130%	108
	SD8 0.15-0.25	SE142463.015	%	60 - 130%	111
	SD9 0-0.1	SE142463.016	%	60 - 130%	85
	SD9 0.15-0.25	SE142463.017	%	60 - 130%	78
	SD10 0-0.12	SE142463.018	%	60 - 130%	97
	SD10 0.14-0.26	SE142463.019	%	60 - 130%	84
	SD11 0-0.10	SE142463.020	%	60 - 130%	96
	SD11 0.15-0.25	SE142463.021	%	60 - 130%	118
	SD12 0-0.5	SE142463.022	%	60 - 130%	120
	SD13 0.03-0.1	SE142463.023	%	60 - 130%	118
	SD14 0-0.1	SE142463.024	%	60 - 130%	106
	SD14 0.15-0.25	SE142463.025	%	60 - 130%	121
	SD15 0-0.04	SE142463.026	%	60 - 130%	96
	SD16 0-0.1	SE142463.027	%	60 - 130%	112
	SD16 0.15-0.25	SE142463.028	%	60 - 130%	112
	SD17 0-0.1	SE142463.029	%	60 - 130%	107
	SD17 0.15-0.25	SE142463.030	%	60 - 130%	109
	QA1	SE142463.031	%	60 - 130%	82
	QA3	SE142463.032	%	60 - 130%	86
	QA5	SE142463.033	%	60 - 130%	103
	Trip Blank	SE142463.037	%	60 - 130%	123
	TRIP SPIKE	SE142463.046	%	60 - 130%	110
d4-1,2-dichloroethane (Surrogate)	SD1 0-0.1	SE142463.001	%	60 - 130%	116
	SD1 0.15-0.25	SE142463.002	%	60 - 130%	110
	SD2 0-0.1	SE142463.003	%	60 - 130%	124
	SD2 0.15-0.24	SE142463.004	%	60 - 130%	129
	SD3 0-0.1	SE142463.005	%	60 - 130%	121
	SD3 0.25-0.32	SE142463.006	%	60 - 130%	119
	SD4 0-0.8	SE142463.007	%	60 - 130%	112
	SD4 0.15-0.25	SE142463.008	%	60 - 130%	98
	SD5 0-0.05	SE142463.009	%	60 - 130%	125
	SD6 0-0.1	SE142463.010	%	60 - 130%	120

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued) Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	SD6 0.15-0.25	SE142463.011	%	60 - 130%	110
	SD7 0-0.6	SE142463.012	%	60 - 130%	103
	SD7 0.15-0.25	SE142463.013	%	60 - 130%	101
	SD8 0-0.1	SE142463.014	%	60 - 130%	125
	SD8 0.15-0.25	SE142463.015	%	60 - 130%	107
	SD9 0-0.1	SE142463.016	%	60 - 130%	119
	SD9 0.15-0.25	SE142463.017	%	60 - 130%	116
	SD10 0-0.12	SE142463.018	%	60 - 130%	110
	SD10 0.14-0.26	SE142463.019	%	60 - 130%	94
	SD11 0-0.10	SE142463.020	%	60 - 130%	103
	SD11 0.15-0.25	SE142463.021	%	60 - 130%	118
	SD12 0-0.5	SE142463.022	%	60 - 130%	120
	SD13 0.03-0.1	SE142463.023	%	60 - 130%	115
	SD14 0-0.1	SE142463.024	%	60 - 130%	108
	SD14 0.15-0.25	SE142463.025	%	60 - 130%	119
	SD15 0-0.04	SE142463.026	%	60 - 130%	124
	SD16 0-0.1	SE142463.027	%	60 - 130%	117
	SD16 0.15-0.25	SE142463.028	%	60 - 130%	98
	SD17 0-0.1	SE142463.029	%	60 - 130%	127
	SD17 0.15-0.25	SE142463.030	%	60 - 130%	106
	QA1	SE142463.031	%	60 - 130%	112
	QA3	SE142463.032	%	60 - 130%	121
	QA5	SE142463.033	%	60 - 130%	123
	Trip Blank	SE142463.037	%	60 - 130%	121
	TRIP SPIKE	SE142463.046	%	60 - 130%	112
d8-toluene (Surrogate)	SD1 0-0.1	SE142463.001	%	60 - 130%	109
	SD1 0.15-0.25	SE142463.002	%	60 - 130%	91
	SD2 0-0.1	SE142463.003	%	60 - 130%	121
	SD2 0.15-0.24	SE142463.004	%	60 - 130%	128
	SD3 0-0.1	SE142463.005	%	60 - 130%	120
	SD3 0.25-0.32	SE142463.006	%	60 - 130%	127
	SD4 0-0.8	SE142463.007	%	60 - 130%	116
	SD4 0.15-0.25	SE142463.008	%	60 - 130%	98
	SD5 0-0.05	SE142463.009	%	60 - 130%	127
	SD6 0-0.1	SE142463.010	%	60 - 130%	118
	SD6 0.15-0.25	SE142463.011	%	60 - 130%	122
	SD7 0-0.6	SE142463.012	%	60 - 130%	112
	SD7 0.15-0.25	SE142463.013	%	60 - 130%	105
	SD8 0-0.1	SE142463.014	%	60 - 130%	125
	SD8 0.15-0.25	SE142463.015	%	60 - 130%	106
	SD9 0-0.1	SE142463.016	%	60 - 130%	121
	SD9 0.15-0.25	SE142463.017	%	60 - 130%	85
	SD10 0-0.12	SE142463.018	%	60 - 130%	118
	SD10 0.14-0.26	SE142463.019	%	60 - 130%	101
	SD11 0-0.10	SE142463.020	%	60 - 130%	108
	SD11 0.15-0.25	SE142463.021	%	60 - 130%	123
	SD12 0-0.5	SE142463.022	%	60 - 130%	113
	SD13 0.03-0.1	SE142463.023	%	60 - 130%	114
	SD14 0-0.1	SE142463.024	%	60 - 130%	122
	SD14 0.15-0.25	SE142463.025	%	60 - 130%	118
	SD15 0-0.04	SE142463.026	%	60 - 130%	124
	SD16 0-0.1	SE142463.027	%	60 - 130%	119
	SD16 0.15-0.25	SE142463.028	%	60 - 130%	125
	SD17 0-0.1	SE142463.029	%	60 - 130%	124
	SD17 0.15-0.25	SE142463.030	%	60 - 130%	117
	QA1	SE142463.031	%	60 - 130%	101
	QA3	SE142463.032	%	60 - 130%	115
	QA5	SE142463.033	%	60 - 130%	123
	Trip Blank	SE142463.037	%	60 - 130%	119
	TRIP SPIKE	SE142463.046	%	60 - 130%	125
Dibromofluoromethane (Surrogate)	SD1 0-0.1	SE142463.001	%	60 - 130%	102

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Dibromofluoromethane (Surrogate)	SD1 0.15-0.25	SE142463.002	%	60 - 130%	120
	SD2 0-0.1	SE142463.003	%	60 - 130%	116
	SD2 0.15-0.24	SE142463.004	%	60 - 130%	118
	SD3 0-0.1	SE142463.005	%	60 - 130%	118
	SD3 0.25-0.32	SE142463.006	%	60 - 130%	110
	SD4 0-0.8	SE142463.007	%	60 - 130%	104
	SD4 0.15-0.25	SE142463.008	%	60 - 130%	97
	SD5 0-0.05	SE142463.009	%	60 - 130%	116
	SD6 0-0.1	SE142463.010	%	60 - 130%	112
	SD6 0.15-0.25	SE142463.011	%	60 - 130%	104
	SD7 0-0.6	SE142463.012	%	60 - 130%	95
	SD7 0.15-0.25	SE142463.013	%	60 - 130%	95
	SD8 0-0.1	SE142463.014	%	60 - 130%	117
	SD8 0.15-0.25	SE142463.015	%	60 - 130%	121
	SD9 0-0.1	SE142463.016	%	60 - 130%	111
	SD9 0.15-0.25	SE142463.017	%	60 - 130%	109
	SD10 0-0.12	SE142463.018	%	60 - 130%	103
	SD10 0.14-0.26	SE142463.019	%	60 - 130%	90
	SD11 0-0.10	SE142463.020	%	60 - 130%	96
	SD11 0.15-0.25	SE142463.021	%	60 - 130%	116
	SD12 0-0.5	SE142463.022	%	60 - 130%	108
	SD13 0.03-0.1	SE142463.023	%	60 - 130%	103
	SD14 0-0.1	SE142463.024	%	60 - 130%	126
	SD14 0.15-0.25	SE142463.025	%	60 - 130%	104
	SD15 0-0.04	SE142463.026	%	60 - 130%	118
	SD16 0-0.1	SE142463.027	%	60 - 130%	111
	SD16 0.15-0.25	SE142463.028	%	60 - 130%	103
	SD17 0-0.1	SE142463.029	%	60 - 130%	121
	SD17 0.15-0.25	SE142463.030	%	60 - 130%	126
	QA1	SE142463.031	%	60 - 130%	116
	QA3	SE142463.032	%	60 - 130%	115
	QA5	SE142463.033	%	60 - 130%	114
	Trip Blank	SE142463.037	%	60 - 130%	109
	TRIP SPIKE	SE142463.046	%	60 - 130%	124

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TBEC110815	SE142463.034	%	40 - 130%	87
	TBEC120815	SE142463.035	%	40 - 130%	89
	TBEC130815	SE142463.036	%	40 - 130%	87
	RINEC110815	SE142463.038	%	40 - 130%	87
	RINEC120815	SE142463.039	%	40 - 130%	86
	RINEC130815	SE142463.040	%	40 - 130%	86
	SW15 1	SE142463.041	%	40 - 130%	87
	SW15 4.9	SE142463.042	%	40 - 130%	86
	SW16 1	SE142463.043	%	40 - 130%	86
	SW16 10	SE142463.044	%	40 - 130%	88
	SW17 6.3	SE142463.045	%	40 - 130%	87
	TRIP SPIKE	SE142463.047	%	40 - 130%	107
	SW17 1	SE142463.048	%	40 - 130%	89
	FBEC11815	SE142463.049	%	40 - 130%	87
d4-1,2-dichloroethane (Surrogate)	TBEC110815	SE142463.034	%	40 - 130%	115
	TBEC120815	SE142463.035	%	40 - 130%	115
	TBEC130815	SE142463.036	%	40 - 130%	121
	RINEC110815	SE142463.038	%	40 - 130%	118
	RINEC120815	SE142463.039	%	40 - 130%	115
	RINEC130815	SE142463.040	%	40 - 130%	115
	SW15 1	SE142463.041	%	40 - 130%	115
	SW15 4.9	SE142463.042	%	40 - 130%	117
	SW16 1	SE142463.043	%	40 - 130%	114
	SW16 10	SE142463.044	%	40 - 130%	116

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOCs in Water (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	SW17 6.3	SE142463.045	%	40 - 130%	117
	TRIP SPIKE	SE142463.047	%	40 - 130%	104
	SW17 1	SE142463.048	%	40 - 130%	116
	FBEC11815	SE142463.049	%	40 - 130%	117
d8-toluene (Surrogate)	TBEC110815	SE142463.034	%	40 - 130%	95
	TBEC120815	SE142463.035	%	40 - 130%	98
	TBEC130815	SE142463.036	%	40 - 130%	96
	RINEC110815	SE142463.038	%	40 - 130%	97
	RINEC120815	SE142463.039	%	40 - 130%	96
	RINEC130815	SE142463.040	%	40 - 130%	98
	SW15 1	SE142463.041	%	40 - 130%	95
	SW15 4.9	SE142463.042	%	40 - 130%	95
	SW16 1	SE142463.043	%	40 - 130%	95
	SW16 10	SE142463.044	%	40 - 130%	97
	SW17 6.3	SE142463.045	%	40 - 130%	96
	TRIP SPIKE	SE142463.047	%	40 - 130%	93
	SW17 1	SE142463.048	%	40 - 130%	97
	FBEC11815	SE142463.049	%	40 - 130%	97
Dibromofluoromethane (Surrogate)	TBEC110815	SE142463.034	%	40 - 130%	123
	TBEC120815	SE142463.035	%	40 - 130%	122
	TBEC130815	SE142463.036	%	40 - 130%	127
	RINEC110815	SE142463.038	%	40 - 130%	126
	RINEC120815	SE142463.039	%	40 - 130%	123
	RINEC130815	SE142463.040	%	40 - 130%	124
	SW15 1	SE142463.041	%	40 - 130%	120
	SW15 4.9	SE142463.042	%	40 - 130%	122
	SW16 1	SE142463.043	%	40 - 130%	117
	SW16 10	SE142463.044	%	40 - 130%	120
	SW17 6.3	SE142463.045	%	40 - 130%	122
	TRIP SPIKE	SE142463.047	%	40 - 130%	108
	SW17 1	SE142463.048	%	40 - 130%	120
	FBEC11815	SE142463.049	%	40 - 130%	126

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SD1 0-0.1	SE142463.001	%	60 - 130%	78
	SD1 0.15-0.25	SE142463.002	%	60 - 130%	87
	SD2 0-0.1	SE142463.003	%	60 - 130%	79
	SD2 0.15-0.24	SE142463.004	%	60 - 130%	92
	SD3 0-0.1	SE142463.005	%	60 - 130%	100
	SD3 0.25-0.32	SE142463.006	%	60 - 130%	89
	SD4 0-0.8	SE142463.007	%	60 - 130%	80
	SD4 0.15-0.25	SE142463.008	%	60 - 130%	86
	SD5 0-0.05	SE142463.009	%	60 - 130%	101
	SD6 0-0.1	SE142463.010	%	60 - 130%	95
	SD6 0.15-0.25	SE142463.011	%	60 - 130%	84
	SD7 0-0.6	SE142463.012	%	60 - 130%	86
	SD7 0.15-0.25	SE142463.013	%	60 - 130%	73
	SD8 0-0.1	SE142463.014	%	60 - 130%	97
	SD8 0.15-0.25	SE142463.015	%	60 - 130%	101
	SD9 0-0.1	SE142463.016	%	60 - 130%	75
	SD9 0.15-0.25	SE142463.017	%	60 - 130%	82
	SD10 0-0.12	SE142463.018	%	60 - 130%	83
	SD10 0.14-0.26	SE142463.019	%	60 - 130%	71
	SD11 0-0.10	SE142463.020	%	60 - 130%	78
	SD11 0.15-0.25	SE142463.021	%	60 - 130%	104
	SD12 0-0.5	SE142463.022	%	60 - 130%	102
	SD13 0.03-0.1	SE142463.023	%	60 - 130%	95
	SD14 0-0.1	SE142463.024	%	60 - 130%	86
	SD14 0.15-0.25	SE142463.025	%	60 - 130%	98
	SD15 0-0.04	SE142463.026	%	60 - 130%	78

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SD16 0-0.1	SE142463.027	%	60 - 130%	91
	SD16 0.15-0.25	SE142463.028	%	60 - 130%	90
	SD17 0-0.1	SE142463.029	%	60 - 130%	82
	SD17 0.15-0.25	SE142463.030	%	60 - 130%	85
	QA1	SE142463.031	%	60 - 130%	77
	QA3	SE142463.032	%	60 - 130%	73
	QA5	SE142463.033	%	60 - 130%	85
d4-1,2-dichloroethane (Surrogate)	SD1 0-0.1	SE142463.001	%	60 - 130%	112
	SD1 0.15-0.25	SE142463.002	%	60 - 130%	103
	SD2 0-0.1	SE142463.003	%	60 - 130%	130
	SD2 0.15-0.24	SE142463.004	%	60 - 130%	102
	SD3 0-0.1	SE142463.005	%	60 - 130%	107
	SD3 0.25-0.32	SE142463.006	%	60 - 130%	124
	SD4 0-0.8	SE142463.007	%	60 - 130%	118
	SD4 0.15-0.25	SE142463.008	%	60 - 130%	102
	SD5 0-0.05	SE142463.009	%	60 - 130%	106
	SD6 0-0.1	SE142463.010	%	60 - 130%	126
	SD6 0.15-0.25	SE142463.011	%	60 - 130%	115
	SD7 0-0.6	SE142463.012	%	60 - 130%	107
	SD7 0.15-0.25	SE142463.013	%	60 - 130%	106
	SD8 0-0.1	SE142463.014	%	60 - 130%	118
	SD8 0.15-0.25	SE142463.015	%	60 - 130%	117
	SD9 0-0.1	SE142463.016	%	60 - 130%	124
	SD9 0.15-0.25	SE142463.017	%	60 - 130%	121
	SD10 0-0.12	SE142463.018	%	60 - 130%	114
	SD10 0.14-0.26	SE142463.019	%	60 - 130%	99
	SD11 0-0.10	SE142463.020	%	60 - 130%	108
	SD11 0.15-0.25	SE142463.021	%	60 - 130%	121
	SD12 0-0.5	SE142463.022	%	60 - 130%	106
	SD13 0.03-0.1	SE142463.023	%	60 - 130%	114
	SD14 0-0.1	SE142463.024	%	60 - 130%	111
	SD14 0.15-0.25	SE142463.025	%	60 - 130%	115
	SD15 0-0.04	SE142463.026	%	60 - 130%	128
	SD16 0-0.1	SE142463.027	%	60 - 130%	114
	SD16 0.15-0.25	SE142463.028	%	60 - 130%	110
	SD17 0-0.1	SE142463.029	%	60 - 130%	105
	SD17 0.15-0.25	SE142463.030	%	60 - 130%	107
	QA1	SE142463.031	%	60 - 130%	116
	QA3	SE142463.032	%	60 - 130%	126
	QA5	SE142463.033	%	60 - 130%	127
d8-toluene (Surrogate)	SD1 0-0.1	SE142463.001	%	60 - 130%	114
	SD1 0.15-0.25	SE142463.002	%	60 - 130%	92
	SD2 0-0.1	SE142463.003	%	60 - 130%	125
	SD2 0.15-0.24	SE142463.004	%	60 - 130%	118
	SD3 0-0.1	SE142463.005	%	60 - 130%	127
	SD3 0.25-0.32	SE142463.006	%	60 - 130%	116
	SD4 0-0.8	SE142463.007	%	60 - 130%	120
	SD4 0.15-0.25	SE142463.008	%	60 - 130%	99
	SD5 0-0.05	SE142463.009	%	60 - 130%	128
	SD6 0-0.1	SE142463.010	%	60 - 130%	122
	SD6 0.15-0.25	SE142463.011	%	60 - 130%	120
	SD7 0-0.6	SE142463.012	%	60 - 130%	111
	SD7 0.15-0.25	SE142463.013	%	60 - 130%	106
	SD8 0-0.1	SE142463.014	%	60 - 130%	113
	SD8 0.15-0.25	SE142463.015	%	60 - 130%	124
	SD9 0-0.1	SE142463.016	%	60 - 130%	123
	SD9 0.15-0.25	SE142463.017	%	60 - 130%	88
	SD10 0-0.12	SE142463.018	%	60 - 130%	118
	SD10 0.14-0.26	SE142463.019	%	60 - 130%	99
	SD11 0-0.10	SE142463.020	%	60 - 130%	109
	SD11 0.15-0.25	SE142463.021	%	60 - 130%	124

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued) Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	SD12 0-0.5	SE142463.022	%	60 - 130%	109
	SD13 0.03-0.1	SE142463.023	%	60 - 130%	115
	SD14 0-0.1	SE142463.024	%	60 - 130%	125
	SD14 0.15-0.25	SE142463.025	%	60 - 130%	120
	SD15 0-0.04	SE142463.026	%	60 - 130%	124
	SD16 0-0.1	SE142463.027	%	60 - 130%	107
	SD16 0.15-0.25	SE142463.028	%	60 - 130%	107
	SD17 0-0.1	SE142463.029	%	60 - 130%	122
	SD17 0.15-0.25	SE142463.030	%	60 - 130%	116
	QA1	SE142463.031	%	60 - 130%	100
	QA3	SE142463.032	%	60 - 130%	114
	QA5	SE142463.033	%	60 - 130%	126
Dibromofluoromethane (Surrogate)	SD1 0-0.1	SE142463.001	%	60 - 130%	100
	SD1 0.15-0.25	SE142463.002	%	60 - 130%	123
	SD2 0-0.1	SE142463.003	%	60 - 130%	118
	SD2 0.15-0.24	SE142463.004	%	60 - 130%	121
	SD3 0-0.1	SE142463.005	%	60 - 130%	127
	SD3 0.25-0.32	SE142463.006	%	60 - 130%	112
	SD4 0-0.8	SE142463.007	%	60 - 130%	106
	SD4 0.15-0.25	SE142463.008	%	60 - 130%	99
	SD5 0-0.05	SE142463.009	%	60 - 130%	119
	SD6 0-0.1	SE142463.010	%	60 - 130%	114
	SD6 0.15-0.25	SE142463.011	%	60 - 130%	106
	SD7 0-0.6	SE142463.012	%	60 - 130%	97
	SD7 0.15-0.25	SE142463.013	%	60 - 130%	98
	SD8 0-0.1	SE142463.014	%	60 - 130%	119
	SD8 0.15-0.25	SE142463.015	%	60 - 130%	124
	SD9 0-0.1	SE142463.016	%	60 - 130%	114
	SD9 0.15-0.25	SE142463.017	%	60 - 130%	111
	SD10 0-0.12	SE142463.018	%	60 - 130%	106
	SD10 0.14-0.26	SE142463.019	%	60 - 130%	92
	SD11 0-0.10	SE142463.020	%	60 - 130%	98
	SD11 0.15-0.25	SE142463.021	%	60 - 130%	123
	SD12 0-0.5	SE142463.022	%	60 - 130%	103
	SD13 0.03-0.1	SE142463.023	%	60 - 130%	100
	SD14 0-0.1	SE142463.024	%	60 - 130%	118
	SD14 0.15-0.25	SE142463.025	%	60 - 130%	104
	SD15 0-0.04	SE142463.026	%	60 - 130%	120
	SD16 0-0.1	SE142463.027	%	60 - 130%	107
	SD16 0.15-0.25	SE142463.028	%	60 - 130%	100
	SD17 0-0.1	SE142463.029	%	60 - 130%	123
	SD17 0.15-0.25	SE142463.030	%	60 - 130%	128
	QA1	SE142463.031	%	60 - 130%	119
	QA3	SE142463.032	%	60 - 130%	118
	QA5	SE142463.033	%	60 - 130%	117

Volatile Petroleum Hydrocarbons in Water Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	RINEC110815	SE142463.038	%	40 - 130%	78
	RINEC120815	SE142463.039	%	40 - 130%	76
	RINEC130815	SE142463.040	%	40 - 130%	76
	SW15 1	SE142463.041	%	40 - 130%	78
	SW15 4.9	SE142463.042	%	40 - 130%	77
	SW16 1	SE142463.043	%	40 - 130%	77
	SW16 10	SE142463.044	%	40 - 130%	76
	SW17 6.3	SE142463.045	%	40 - 130%	77
	SW17 1	SE142463.048	%	40 - 130%	80
	FBEC11815	SE142463.049	%	40 - 130%	80
d4-1,2-dichloroethane (Surrogate)	RINEC110815	SE142463.038	%	60 - 130%	121
	RINEC120815	SE142463.039	%	60 - 130%	125
	RINEC130815	SE142463.040	%	60 - 130%	127

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Water (continued) Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	SW15 1	SE142463.041	%	60 - 130%	127
	SW15 4.9	SE142463.042	%	60 - 130%	128
	SW16 1	SE142463.043	%	60 - 130%	124
	SW16 10	SE142463.044	%	60 - 130%	128
	SW17 6.3	SE142463.045	%	60 - 130%	122
	SW17 1	SE142463.048	%	60 - 130%	129
	FBEC11815	SE142463.049	%	60 - 130%	116
d8-toluene (Surrogate)	RINEC110815	SE142463.038	%	40 - 130%	96
	RINEC120815	SE142463.039	%	40 - 130%	96
	RINEC130815	SE142463.040	%	40 - 130%	95
	SW15 1	SE142463.041	%	40 - 130%	95
	SW15 4.9	SE142463.042	%	40 - 130%	95
	SW16 1	SE142463.043	%	40 - 130%	94
	SW16 10	SE142463.044	%	40 - 130%	93
	SW17 6.3	SE142463.045	%	40 - 130%	96
	SW17 1	SE142463.048	%	40 - 130%	97
	FBEC11815	SE142463.049	%	40 - 130%	97
Dibromofluoromethane (Surrogate)	RINEC110815	SE142463.038	%	40 - 130%	127
	RINEC120815	SE142463.039	%	40 - 130%	121
	RINEC130815	SE142463.040	%	40 - 130%	125
	SW15 1	SE142463.041	%	40 - 130%	128
	SW15 4.9	SE142463.042	%	40 - 130%	129
	SW16 1	SE142463.043	%	40 - 130%	125
	SW16 10	SE142463.044	%	40 - 130%	128
	SW17 6.3	SE142463.045	%	40 - 130%	124
	SW17 1	SE142463.048	%	40 - 130%	128
	FBEC11815	SE142463.049	%	40 - 130%	108

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number		Parameter	Units	LOR	Result
LB083516.001		Conductivity @ 25 C	µS/cm	2	<2
		Salinity*	mg/L	2	<2

Forms of Carbon

Method: ME-(AU)-[ENV]AN190

Sample Number	Parameter	Units	LOR	Result
LB083511.001	Total Organic Carbon as NPOC	mg/L	0.2	0.3

Low Level PAH (Poly Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB083123.001		Naphthalene	µg/L	0.02	<0.02
		2-methylnaphthalene	µg/L	0.01	<0.01
		1-methylnaphthalene	µg/L	0.01	<0.01
		Acenaphthylene	µg/L	0.01	<0.01
		Acenaphthene	µg/L	0.01	<0.01
		Fluorene	µg/L	0.01	<0.01
		Phenanthrene	µg/L	0.01	<0.01
		Anthracene	µg/L	0.01	<0.01
		Fluoranthene	µg/L	0.01	<0.01
		Pyrene	µg/L	0.01	<0.01
		Benzo(a)anthracene	µg/L	0.01	<0.01
		Chrysene	µg/L	0.01	<0.01
		Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02
		Benzo(a)pyrene	µg/L	0.01	<0.01
		Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01
		Dibenzo(a&h)anthracene	µg/L	0.01	<0.01
		Benzo(ghi)perylene	µg/L	0.01	<0.01
	Surrogates	d14-p-terphenyl (Surrogate)	%	-	55

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Sample Number	Parameter	Units	LOR	Result
LB083410.001	Mercury	mg/L	0.00005	0.0000

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB083328.001	Mercury	mg/kg	0.01	<0.01
LB083329.001	Mercury	mg/kg	0.01	<0.01

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB083088.001		Naphthalene	mg/kg	0.1	<0.1
		2-methylnaphthalene	mg/kg	0.1	<0.1
		1-methylnaphthalene	mg/kg	0.1	<0.1
		Acenaphthylene	mg/kg	0.1	<0.1
		Acenaphthene	mg/kg	0.1	<0.1
		Fluorene	mg/kg	0.1	<0.1
		Phenanthrene	mg/kg	0.1	<0.1
		Anthracene	mg/kg	0.1	<0.1
		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	88

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB083088.001	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	84
		d14-p-terphenyl (Surrogate)	%	-	114
LB083089.001		Naphthalene	mg/kg	0.1	<0.1
		2-methylnaphthalene	mg/kg	0.1	<0.1
		1-methylnaphthalene	mg/kg	0.1	<0.1
		Acenaphthylene	mg/kg	0.1	<0.1
		Acenaphthene	mg/kg	0.1	<0.1
		Fluorene	mg/kg	0.1	<0.1
		Phenanthrene	mg/kg	0.1	<0.1
		Anthracene	mg/kg	0.1	<0.1
		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	100
		2-fluorobiphenyl (Surrogate)	%	-	92
		d14-p-terphenyl (Surrogate)	%	-	128

Total Recoverable Metals in Soil by ICPOES — Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB083433.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	0.5	<0.5
	Selenium, Se	mg/kg	3	<3
LB083434.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	0.5	<0.5
	Selenium, Se	mg/kg	3	<3

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB083302.001	Arsenic, As	µg/L	1	<1
	Boron, B	µg/L	5	<5
	Cadmium, Cd	µg/L	0.1	<0.1
	Chromium, Cr	µg/L	1	<1
	Copper, Cu	µg/L	1	<1
	Lead, Pb	µg/L	1	<1
	Nickel, Ni	µg/L	1	<1
	Selenium, Se	µg/L	1	<1
	Zinc, Zn	µg/L	5	<5

Trace Metals (Total) in Water by ICPMS — Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB083304.001	Total Arsenic	µg/L	1	<1
	Total Boron	µg/L	5	<5
	Total Cadmium	µg/L	0.1	<0.1
	Total Chromium	µg/L	1	<1
	Total Copper	µg/L	1	<1
	Total Lead	µg/L	1	<1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

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Trace Metals (Total) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB083304.001	Total Nickel	μg/L	1	<1
	Total Selenium	μg/L	1	<1
	Total Zinc	μg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB083088.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110
LB083089.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB083123.001	TRH C10-C14	μg/L	50	<50
	TRH C15-C28	μg/L	200	<200
	TRH C29-C36	μg/L	200	<200
	TRH C37-C40	μg/L	200	<200

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB083073.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1

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VOC's in Soil (continued) Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB083073.001	Halogenated Aromatics	Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	105
		d4-1,2-dichloroethane (Surrogate)	%	-	117
		d8-toluene (Surrogate)	%	-	119
		Bromofluorobenzene (Surrogate)	%	-	120
	Totals	Total BTEX*	mg/kg	0.6	<0.6
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1
LB083074.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1

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VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB083074.001	Halogenated Aliphatics	1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	107
		d4-1,2-dichloroethane (Surrogate)	%	-	112
		d8-toluene (Surrogate)	%	-	117
		Bromofluorobenzene (Surrogate)	%	-	116
	Totals	Total BTEX*	mg/kg	0.6	<0.6
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number	Parameter	Units	LOR

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB083125.001	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5
		1,2-dichloropropane	µg/L	0.5	<0.5
		cis-1,3-dichloropropene	µg/L	0.5	<0.5
		trans-1,3-dichloropropene	µg/L	0.5	<0.5
		1,2-dibromoethane (EDB)	µg/L	0.5	<0.5
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5
		Chloromethane	µg/L	5	<5
		Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3
		Bromomethane	µg/L	10	<10
		Chloroethane	µg/L	5	<5
		Trichlorofluoromethane	µg/L	1	<1
		Iodomethane	µg/L	5	<5
		1,1-dichloroethene	µg/L	0.5	<0.5
		Dichloromethane (Methylene chloride)	µg/L	4	<4
		Allyl chloride	µg/L	2	<2
		trans-1,2-dichloroethene	µg/L	0.5	<0.5
		1,1-dichloroethane	µg/L	0.5	<0.5
		cis-1,2-dichloroethene	µg/L	0.5	<0.5
		Bromochloromethane	µg/L	0.5	<0.5
		1,2-dichloroethane	µg/L	0.5	<0.5
		1,1,1-trichloroethane	µg/L	0.5	<0.5
		1,1-dichloropropene	µg/L	0.5	<0.5
		Carbon tetrachloride	µg/L	0.5	<0.5
		Dibromomethane	µg/L	0.5	<0.5
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5
		1,1,2-trichloroethane	µg/L	0.5	<0.5
		1,3-dichloropropane	µg/L	0.5	<0.5
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5
		1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5
		cis-1,4-dichloro-2-butene	µg/L	1	<1
		1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5
		1,2,3-trichloropropane	µg/L	0.5	<0.5
		trans-1,4-dichloro-2-butene	µg/L	1	<1
		1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5
		Hexachlorobutadiene	µg/L	0.5	<0.5
	Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5
		Bromobenzene	µg/L	0.5	<0.5
		2-chlorotoluene	µg/L	0.5	<0.5
		4-chlorotoluene	µg/L	0.5	<0.5
		1,3-dichlorobenzene	µg/L	0.5	<0.5
		1,4-dichlorobenzene	µg/L	0.3	<0.3
		1,2-dichlorobenzene	µg/L	0.5	<0.5
		1,2,4-trichlorobenzene	µg/L	0.5	<0.5
		1,2,3-trichlorobenzene	µg/L	0.5	<0.5
	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5	<0.5
		Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1
		o-xylene	µg/L	0.5	<0.5
		Styrene (Vinyl benzene)	µg/L	0.5	<0.5
		Isopropylbenzene (Cumene)	µg/L	0.5	<0.5
		n-propylbenzene	µg/L	0.5	<0.5
		1,3,5-trimethylbenzene	µg/L	0.5	<0.5
		tert-butylbenzene	µg/L	0.5	<0.5
		1,2,4-trimethylbenzene	µg/L	0.5	<0.5
		sec-butylbenzene	µg/L	0.5	<0.5
		p-isopropyltoluene	µg/L	0.5	<0.5
		n-butylbenzene	µg/L	0.5	<0.5
	Nitrogenous Compounds	Acrylonitrile	µg/L	0.5	<0.5
	Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	<10
		MtBE (Methyl-tert-butyl ether)	µg/L	2	<2

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOCs in Water (continued) Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB083125.001	Oxygenated Compounds	Vinyl acetate	µg/L	10	<10
		MEK (2-butanone)	µg/L	10	<10
		MIBK (4-methyl-2-pentanone)	µg/L	5	<5
		2-hexanone (MBK)	µg/L	5	<5
	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5
	Sulphonated	Carbon disulfide	µg/L	2	<2
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	109
		d4-1,2-dichloroethane (Surrogate)	%	-	102
		d8-toluene (Surrogate)	%	-	95
		Bromofluorobenzene (Surrogate)	%	-	80
	Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5
		Bromodichloromethane (THM)	µg/L	0.5	<0.5
		Dibromochloromethane (THM)	µg/L	0.5	<0.5
		Bromoform (THM)	µg/L	0.5	<0.5

Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result
LB083073.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	103
		d4-1,2-dichloroethane (Surrogate)	%	-	119
		d8-toluene (Surrogate)	%	-	115
LB083074.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	114
		d4-1,2-dichloroethane (Surrogate)	%	-	108
		d8-toluene (Surrogate)	%	-	120

Volatile Petroleum Hydrocarbons in Water Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result
LB083125.001		TRH C6-C9	µg/L	40	<40
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	116
		d4-1,2-dichloroethane (Surrogate)	%	-	113
		d8-toluene (Surrogate)	%	-	91
		Bromofluorobenzene (Surrogate)	%	-	80

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142615.001	LB083516.018	Conductivity @ 25 C	µS/cm	2	5100	5100	15	1
		Salinity*	mg/L	2	3300	3300	15	1

Forms of Carbon

Method: ME-(AU)-[ENV]AN190

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.049	LB083511.013	Total Organic Carbon as NPOC	mg/L	0.2	0.3	0.2	96	34

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.049	LB083410.025	Mercury	µg/L	0.00005	<0.0001	0.0000	200	38

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.045	LB083412.014	Total Mercury	µg/L	0.00005	<0.00005	0.00001	200	14
SE142505.013	LB083412.019	Total Mercury	µg/L	0.00005	<0.0001	0.0000	200	120

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.010	LB083328.014	Mercury	mg/kg	0.01	0.06	0.07	108	5
SE142463.019	LB083328.024	Mercury	mg/kg	0.01	0.47	0.48	41	3
SE142463.029	LB083329.014	Mercury	mg/kg	0.01	0.15	0.15	62	0
SE142464.009	LB083329.024	Mercury	mg/kg	0.01	<0.01	<0.01	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.010	LB083120.011	% Moisture	%w/w	0.5	35	35	33	1
SE142463.020	LB083120.022	% Moisture	%	0.5	55	55	32	0
SE142463.030	LB083120.033	% Moisture	%	0.5	52	51	32	2
			%w/w	0.5	52	51	32	2

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.009	LB083088.015		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	197	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	4
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	5

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued) Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.009	LB083088.015	Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	10
SE142463.016	LB083088.024		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	141	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	0.2	0.2	84	5
			Pyrene	mg/kg	0.1	0.1	0.1	121	18
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	148	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	155	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	184	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH	mg/kg	0.8	<0.8	<0.8	139	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	4
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
SE142463.026	LB083089.011		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	184	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	30	15
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	16
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	13
SE142463.033	LB083089.020		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	0.1	0.1	117	9
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	0.1	0.1	101	0
			Pyrene	mg/kg	0.1	0.1	0.1	125	10

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.033	LB083089.020		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	155	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	184	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	197	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH	mg/kg	0.8	<0.8	0.8	137	2
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	30	18
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	7
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	0

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.010	LB083433.014	Arsenic, As	mg/kg	1	13	13	38	3
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	8.4	8.0	36	4
		Copper, Cu	mg/kg	0.5	47	46	31	1
		Nickel, Ni	mg/kg	0.5	14	13	34	6
		Lead, Pb	mg/kg	1	8	7	43	8
		Zinc, Zn	mg/kg	0.5	46	44	34	4
		Selenium, Se	mg/kg	3	4	5	97	26
		Boron, B	mg/kg	5	<5	<5	140	0
SE142463.019	LB083433.024	Arsenic, As	mg/kg	1	23	24	34	4
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	170	0
		Chromium, Cr	mg/kg	0.3	20	20	32	0
		Copper, Cu	mg/kg	0.5	290	280	30	3
		Nickel, Ni	mg/kg	0.5	26	26	32	0
		Lead, Pb	mg/kg	1	20	20	35	0
		Zinc, Zn	mg/kg	0.5	130	130	32	2
		Selenium, Se	mg/kg	3	20	18	45	10
		Boron, B	mg/kg	5	7	7	101	2
SE142463.029	LB083434.014	Arsenic, As	mg/kg	1	21	21	35	1
		Cadmium, Cd	mg/kg	0.3	0.3	0.3	124	4
		Chromium, Cr	mg/kg	0.3	22	22	32	1
		Copper, Cu	mg/kg	0.5	350	340	30	2
		Nickel, Ni	mg/kg	0.5	26	26	32	1
		Lead, Pb	mg/kg	1	8	8	42	2
		Zinc, Zn	mg/kg	0.5	110	110	32	1
		Selenium, Se	mg/kg	3	10	10	60	10
		Boron, B	mg/kg	5	7	7	106	1
SE142464.009	LB083434.024	Arsenic, As	mg/kg	1	<3	<3	70	25
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	12	13	34	9
		Copper, Cu	mg/kg	0.5	22	22	32	0
		Nickel, Ni	mg/kg	0.5	8.4	8.9	36	6
		Lead, Pb	mg/kg	1	12	12	38	2
		Zinc, Zn	mg/kg	0.5	33	34	36	4

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.049	LB083302.014	Arsenic, As	μg/L	1	<1	<1	200	0
		Boron, B	μg/L	5	<5	<5	200	0
		Cadmium, Cd	μg/L	0.1	<0.1	<0.1	200	0
		Chromium, Cr	μg/L	1	<1	<1	200	0
		Copper, Cu	μg/L	1	<1	<1	200	0
		Lead, Pb	μg/L	1	<1	<1	200	0
		Nickel, Ni	μg/L	1	<1	<1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Trace Metals (Dissolved) in Water by ICPMS (continued) — Method: ME-(AU)-[ENV]AN318

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.049	LB083302.014		Selenium, Se	µg/L	1	<1	<1	200	0
			Zinc, Zn	µg/L	5	<5	<5	200	0
SE142569.011	LB083302.020		Arsenic, As	µg/L	1	<1	<1	200	0
			Cadmium, Cd	µg/L	0.1	<0.1	<0.1	200	0
			Chromium, Cr	µg/L	1	<1	<1	200	0
			Copper, Cu	µg/L	1	<1	<1	200	0
			Lead, Pb	µg/L	1	<1	<1	200	0
			Nickel, Ni	µg/L	1	<1	<1	200	0
			Zinc, Zn	µg/L	5	<5	<5	200	0

Trace Metals (Total) in Water by ICPMS — Method: ME-(AU)-[ENV]AN022/AN318

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.049	LB083304.014		Total Arsenic	µg/L	1	<1	<1	200	0
			Total Boron	µg/L	5	<5	<5	200	0
			Total Cadmium	µg/L	0.1	<0.1	<0.1	200	0
			Total Chromium	µg/L	1	<1	<1	200	0
			Total Copper	µg/L	1	<1	<1	200	0
			Total Lead	µg/L	1	<1	<1	200	0
			Total Nickel	µg/L	1	<1	<1	200	0
			Total Selenium	µg/L	1	<1	<1	200	0
			Total Zinc	µg/L	5	<5	<5	200	0
SE142505.013	LB083304.017		Total Arsenic	µg/L	1	<1	<1	200	0
			Total Cadmium	µg/L	0.1	<0.1	<0.1	200	0
			Total Chromium	µg/L	1	<1	<1	200	0
			Total Copper	µg/L	1	<1	<1	200	0
			Total Lead	µg/L	1	<1	<1	200	0
			Total Nickel	µg/L	1	<1	<1	200	0
			Total Zinc	µg/L	5	<5	<5	200	0

TRH (Total Recoverable Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.009	LB083088.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE142463.016	LB083088.023		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	150	170	58	11
			TRH C29-C36	mg/kg	45	<45	47	137	4
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	190	220	84	14
			TRH C10-C40 Total	mg/kg	210	<210	220	134	3
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	180	210	76	13
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE142463.033	LB083089.019		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	120	100	71	13
			TRH C29-C36	mg/kg	45	93	77	83	19
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	210	180	86	15
			TRH C10-C40 Total	mg/kg	210	210	<210	137	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	200	180	78	14
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil — Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.010	LB083073.014	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
			Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromomethane	mg/kg	1	<1	<1	200	0
			Chloroethane	mg/kg	1	<1	<1	200	0
			Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			Iodomethane	mg/kg	5	<5	<5	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
			Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
			Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
			2-nitropropane	mg/kg	10	<10	<10	200	0
		Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.010	LB083073.014	Oxygenated Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
			Vinyl acetate	mg/kg	10	<10	<10	200	0
			MEK (2-butanone)	mg/kg	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.6	5.6	50	0
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.0	6.1	50	1
			d8-toluene (Surrogate)	mg/kg	-	5.9	6.1	50	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.3	5.3	50	0
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
		Trihalomethanes	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
			Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	<0.1	<0.1	200	0
SE142463.020	LB083073.025	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
			Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromomethane	mg/kg	1	<1	<1	200	0
			Chloroethane	mg/kg	1	<1	<1	200	0
			Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			Iodomethane	mg/kg	5	<5	<5	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.020	LB083073.025	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
			Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
			Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
			2-nitropropane	mg/kg	10	<10	<10	200	0
		Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
			MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
			Vinyl acetate	mg/kg	10	<10	<10	200	0
			MEK (2-butanone)	mg/kg	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.8	5.1	50	5
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.1	5.2	50	2
			d8-toluene (Surrogate)	mg/kg	-	5.4	5.8	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.8	4.8	50	1
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
		Trihalomethanes	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
			Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	<0.1	<0.1	200	0
SE142463.030	LB083074.014	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
			Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromomethane	mg/kg	1	<1	<1	200	0
			Chloroethane	mg/kg	1	<1	<1	200	0
			Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			Iodomethane	mg/kg	5	<5	<5	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.030	LB083074.014	Halogenated Aliphatics	Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
			Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
			Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
			2-nitropropane	mg/kg	10	<10	<10	200	0
		Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
			MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
			Vinyl acetate	mg/kg	10	<10	<10	200	0
			MEK (2-butanone)	mg/kg	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	6.3	6.1	50	3
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.3	5.4	50	2
			d8-toluene (Surrogate)	mg/kg	-	5.9	5.7	50	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.5	5.5	50	1
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
		Trihalomethanes	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
			Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	<0.1	<0.1	200	0
SE142463.033	LB083074.027	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
			Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromomethane	mg/kg	1	<1	<1	200	0
			Chloroethane	mg/kg	1	<1	<1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued) Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.033	LB083074.027	Halogenated Aliphatics	Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			Iodomethane	mg/kg	5	<5	<5	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
			Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
			Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
			2-nitropropane	mg/kg	10	<10	<10	200	0
		Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
			MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
			Vinyl acetate	mg/kg	10	<10	<10	200	0
			MEK (2-butanone)	mg/kg	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.7	5.9	50	3
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.1	6.3	50	2
			d8-toluene (Surrogate)	mg/kg	-	6.1	6.0	50	3

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.033	LB083074.027	Surrogates	Bromofluorobenzene (Surrogate)	mg/kg	-	5.1	5.2	50	2
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
		Trihalomethan	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
		es	Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	<0.1	0.1	200	0

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.042	LB083125.025	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	200	0
		Halogenated	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	200	0
		Aliphatics	Chloromethane	µg/L	5	<5	<5	200	0
			Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	200	0
			Bromomethane	µg/L	10	<10	<10	200	0
			Chloroethane	µg/L	5	<5	<5	200	0
			Trichlorofluoromethane	µg/L	1	<1	<1	200	0
			Iodomethane	µg/L	5	<5	<5	200	0
			1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	200	0
			Allyl chloride	µg/L	2	<2	<2	200	0
			trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			Bromochloromethane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	200	0
			Dibromomethane	µg/L	0.5	<0.5	<0.5	200	0
			Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	200	0
			1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	200	0
			1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	200	0
			Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	200	0
		Halogenated	Chlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
		Aromatics	Bromobenzene	µg/L	0.5	<0.5	<0.5	200	0
			2-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			4-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	200	0
			1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
		Monocyclic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
		Aromatic	Toluene	µg/L	0.5	<0.5	<0.5	200	0
			Ethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			m/p-xylene	µg/L	1	<1	<1	200	0
			o-xylene	µg/L	0.5	<0.5	<0.5	200	0
			Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	200	0
			Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOCs in Water (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.042	LB083125.025	Monocyclic Aromatic	n-propylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			tert-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			sec-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	200	0
			n-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
		Nitrogenous	Acrylonitrile	µg/L	0.5	<0.5	<0.5	200	0
		Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	<10	<10	200	0
			MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	200	0
			Vinyl acetate	µg/L	10	<10	<10	200	0
			MEK (2-butanone)	µg/L	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	200	0
			2-hexanone (MBK)	µg/L	5	<5	<5	200	0
		Polycyclic	Naphthalene	µg/L	0.5	<0.5	<0.5	200	0
		Sulphonated	Carbon disulfide	µg/L	2	<2	<2	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	6.1	6.0	30	2
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.9	5.7	30	3
			d8-toluene (Surrogate)	µg/L	-	4.8	4.8	30	0
			Bromofluorobenzene (Surrogate)	µg/L	-	4.3	4.4	30	2
		Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Bromoform (THM)	µg/L	0.5	<0.5	<0.5	200	0

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.010	LB083073.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.7	5.8	30	1
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.3	6.3	30	0
			d8-toluene (Surrogate)	mg/kg	-	6.1	6.0	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	4.7	30	1
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE142463.020	LB083073.025		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.9	5.2	30	5
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.4	5.4	30	1
			d8-toluene (Surrogate)	mg/kg	-	5.4	5.6	30	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.9	4.0	30	2
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE142463.030	LB083074.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	6.4	6.3	30	2
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.4	5.4	30	1
			d8-toluene (Surrogate)	mg/kg	-	5.8	5.8	30	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.3	4.2	30	0
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE142463.033	LB083074.026		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.8	6.0	30	3
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.4	5.9	30	8
			d8-toluene (Surrogate)	mg/kg	-	6.3	6.0	30	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	3.9	30	9
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate	Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142463.042	LB083125.025		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	6.5	6.4	30	2
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	6.4	6.3	30	1
			d8-toluene (Surrogate)	µg/L	-	4.7	4.7	30	0
			Bromofluorobenzene (Surrogate)	µg/L	-	3.8	3.9	30	3
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083516.002	Conductivity @ 25 C	µS/cm	2	320	303	90 - 110	106

Forms of Carbon

Method: ME-(AU)-[ENV]AN190

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083511.002	Total Organic Carbon as NPOC	mg/L	0.2	19	20	80 - 120	94

Low Level PAH (Poly Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083123.002	Naphthalene	µg/L	0.02	27	40	60 - 140	68
	2-methylnaphthalene	µg/L	0.01	26	40	60 - 140	64
	1-methylnaphthalene	µg/L	0.01	25	40	60 - 140	64
	Acenaphthylene	µg/L	0.01	27	40	60 - 140	67
	Acenaphthene	µg/L	0.01	28	40	60 - 140	69
	Fluorene	µg/L	0.01	28	40	60 - 140	71
	Phenanthrene	µg/L	0.01	25	40	60 - 140	62
	Anthracene	µg/L	0.01	25	40	60 - 140	63
	Fluoranthene	µg/L	0.01	26	40	60 - 140	65
	Pyrene	µg/L	0.01	27	40	60 - 140	67
	Benzo(a)anthracene	µg/L	0.01	26	40	60 - 140	65
	Chrysene	µg/L	0.01	27	40	60 - 140	68
	Benzo(b&j&k)fluoranthene	µg/L	0.02	55	80	60 - 140	69
	Benzo(a)pyrene	µg/L	0.01	28	40	60 - 140	70
	Indeno(1,2,3-cd)pyrene	µg/L	0.01	25	40	60 - 140	62
	Dibenzo(a&h)anthracene	µg/L	0.01	25	40	60 - 140	61
	Benzo(ghi)perylene	µg/L	0.01	24	40	60 - 140	61

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083328.002	Mercury	mg/kg	0.01	0.20	0.2	70 - 130	100
LB083329.002	Mercury	mg/kg	0.01	0.21	0.2	70 - 130	106

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083088.003		Naphthalene	mg/kg	0.1	3.8	4	60 - 140	95
		2-methylnaphthalene	mg/kg	0.1	3.6	4	60 - 140	90
		1-methylnaphthalene	mg/kg	0.1	4.0	4	60 - 140	100
		Acenaphthylene	mg/kg	0.1	3.9	4	60 - 140	96
		Acenaphthene	mg/kg	0.1	3.8	4	60 - 140	94
		Fluorene	mg/kg	0.1	3.7	4	60 - 140	93
		Phenanthrene	mg/kg	0.1	3.5	4	60 - 140	89
		Anthracene	mg/kg	0.1	3.9	4	60 - 140	97
		Fluoranthene	mg/kg	0.1	3.7	4	60 - 140	92
		Pyrene	mg/kg	0.1	3.7	4	60 - 140	93
		Benzo(a)anthracene	mg/kg	0.1	3.1	4	60 - 140	78
		Chrysene	mg/kg	0.1	4.0	4	60 - 140	100
		Benzo(b&j)fluoranthene	mg/kg	0.1	3.2	4	60 - 140	81
		Benzo(k)fluoranthene	mg/kg	0.1	3.9	4	60 - 140	98
		Benzo(a)pyrene	mg/kg	0.1	3.5	4	60 - 140	87
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	4.1	4	60 - 140	103
		Dibenzo(a&h)anthracene	mg/kg	0.1	3.2	4	60 - 140	79
		Benzo(ghi)perylene	mg/kg	0.1	3.5	4	60 - 140	86
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	84
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	90
LB083089.002		Naphthalene	mg/kg	0.1	3.8	4	60 - 140	96
		Acenaphthylene	mg/kg	0.1	3.9	4	60 - 140	98
		Acenaphthene	mg/kg	0.1	3.9	4	60 - 140	96
		Phenanthrene	mg/kg	0.1	3.7	4	60 - 140	92

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083089.002		Anthracene	mg/kg	0.1	4.0	4	60 - 140	101
		Fluoranthene	mg/kg	0.1	3.8	4	60 - 140	95
		Pyrene	mg/kg	0.1	3.8	4	60 - 140	95
		Benzo(a)pyrene	mg/kg	0.1	3.7	4	60 - 140	92
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	84
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96

Total Recoverable Metals in Soil by ICPOES — Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083433.002	Arsenic, As	mg/kg	1	48	50	80 - 120	96
	Cadmium, Cd	mg/kg	0.3	49	50	80 - 120	99
	Chromium, Cr	mg/kg	0.3	48	50	80 - 120	97
	Copper, Cu	mg/kg	0.5	49	50	80 - 120	98
	Nickel, Ni	mg/kg	0.5	49	50	80 - 120	98
	Lead, Pb	mg/kg	1	49	50	80 - 120	97
	Zinc, Zn	mg/kg	0.5	49	50	80 - 120	98
	Selenium, Se	mg/kg	3	47	50	80 - 120	95
	Boron, B	mg/kg	5	45	50	80 - 120	90
LB083434.002	Arsenic, As	mg/kg	1	47	50	80 - 120	94
	Cadmium, Cd	mg/kg	0.3	49	50	80 - 120	97
	Chromium, Cr	mg/kg	0.3	48	50	80 - 120	96
	Copper, Cu	mg/kg	0.5	50	50	80 - 120	100
	Nickel, Ni	mg/kg	0.5	49	50	80 - 120	98
	Lead, Pb	mg/kg	1	48	50	80 - 120	96
	Zinc, Zn	mg/kg	0.5	49	50	80 - 120	98
	Selenium, Se	mg/kg	3	48	50	80 - 120	95
	Boron, B	mg/kg	5	44	50	80 - 120	88

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083302.002	Arsenic, As	µg/L	1	18	20	80 - 120	92
	Boron, B	µg/L	5	17	20	80 - 120	85
	Cadmium, Cd	µg/L	0.1	20	20	80 - 120	99
	Chromium, Cr	µg/L	1	20	20	80 - 120	101
	Copper, Cu	µg/L	1	20	20	80 - 120	99
	Lead, Pb	µg/L	1	19	20	80 - 120	97
	Nickel, Ni	µg/L	1	20	20	80 - 120	100
	Selenium, Se	µg/L	1	18	20	80 - 120	90
	Zinc, Zn	µg/L	5	20	20	80 - 120	100

Trace Metals (Total) in Water by ICPMS — Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083304.002	Total Arsenic	µg/L	1	20	20	80 - 120	98
	Total Boron	µg/L	5	17	20	80 - 120	87
	Total Cadmium	µg/L	0.1	20	20	80 - 120	100
	Total Chromium	µg/L	1	20	20	80 - 120	100
	Total Copper	µg/L	1	20	20	80 - 120	99
	Total Lead	µg/L	1	20	20	80 - 120	99
	Total Nickel	µg/L	1	20	20	80 - 120	100
	Total Selenium	µg/L	1	19	20	80 - 120	97
	Total Zinc	µg/L	5	20	20	80 - 120	99

TRH (Total Recoverable Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083088.002		TRH C10-C14	mg/kg	20	40	40	60 - 140	100
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	98
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	73
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	39	40	60 - 140	98
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	93
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	75
LB083089.002		TRH C10-C14	mg/kg	20	37	40	60 - 140	93
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	95

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TRH (Total Recoverable Hydrocarbons) in Soil (continued) — Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083089.002		TRH C29-C36	mg/kg	45	<45	40	60 - 140	83
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	38	40	60 - 140	95
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	90
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	80

TRH (Total Recoverable Hydrocarbons) in Water — Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083123.002		TRH C10-C14	µg/L	50	1000	1200	60 - 140	85
		TRH C15-C28	µg/L	200	1200	1200	60 - 140	97
		TRH C29-C36	µg/L	200	1100	1200	60 - 140	96
	TRH F Bands	TRH >C10-C16 (F2)	µg/L	60	1100	1200	60 - 140	95
		TRH >C16-C34 (F3)	µg/L	500	1200	1200	60 - 140	97
		TRH >C34-C40 (F4)	µg/L	500	540	600	60 - 140	91

VOC's in Soil — Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083073.002	Fumigants	2,2-dichloropropane	mg/kg	0.1	0.6	0.5	60 - 140	114
		1,2-dichloropropane	mg/kg	0.1	0.6	0.5	60 - 140	116
		cis-1,3-dichloropropene	mg/kg	0.1	0.5	0.5	60 - 140	104
		trans-1,3-dichloropropene	mg/kg	0.1	0.5	0.5	60 - 140	90
		1,2-dibromoethane (EDB)	mg/kg	0.1	0.6	0.5	60 - 140	116
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	0.5	60 - 140	120
		Chloromethane	mg/kg	1	<1	0.5	60 - 140	82
		Vinyl chloride (Chloroethene)	mg/kg	0.1	0.4	0.5	60 - 140	76
		Bromomethane	mg/kg	1	<1	0.5	60 - 140	124
		Chloroethane	mg/kg	1	<1	0.5	60 - 140	80
		Trichlorofluoromethane	mg/kg	1	<1	0.5	60 - 140	102
		Iodomethane	mg/kg	5	<5	0.5	60 - 140	74
		1,1-dichloroethene	mg/kg	0.1	2.1	2.56	60 - 140	82
		Dichloromethane (Methylene chloride)	mg/kg	0.5	0.6	0.5	60 - 140	124
		Allyl chloride	mg/kg	0.1	0.5	0.5	60 - 140	96
		trans-1,2-dichloroethene	mg/kg	0.1	0.6	0.5	60 - 140	110
		1,1-dichloroethane	mg/kg	0.1	0.6	0.5	60 - 140	114
		cis-1,2-dichloroethene	mg/kg	0.1	0.5	0.5	60 - 140	106
		Bromochloromethane	mg/kg	0.1	0.5	0.5	60 - 140	98
		1,2-dichloroethane	mg/kg	0.1	2.1	2.56	60 - 140	82
		1,1,1-trichloroethane	mg/kg	0.1	0.5	0.5	60 - 140	106
		1,1-dichloropropene	mg/kg	0.1	0.5	0.5	60 - 140	90
		Carbon tetrachloride	mg/kg	0.1	0.6	0.5	60 - 140	114
		Dibromomethane	mg/kg	0.1	0.6	0.5	60 - 140	118
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	2.0	2.56	60 - 140	77
		1,1,2-trichloroethane	mg/kg	0.1	0.6	0.5	60 - 140	122
		1,3-dichloropropane	mg/kg	0.1	0.6	0.5	60 - 140	118
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	0.5	0.5	60 - 140	102
		1,1,1,2-tetrachloroethane	mg/kg	0.1	0.6	0.5	60 - 140	112
		cis-1,4-dichloro-2-butene	mg/kg	1	<1	0.5	60 - 140	82
		1,1,2,2-tetrachloroethane	mg/kg	0.1	0.5	0.5	60 - 140	102
		1,2,3-trichloropropane	mg/kg	0.1	0.4	0.5	60 - 140	82
		trans-1,4-dichloro-2-butene	mg/kg	1	<1	0.5	60 - 140	96
		1,2-dibromo-3-chloropropane	mg/kg	0.1	0.4	0.5	60 - 140	82
		Hexachlorobutadiene	mg/kg	0.1	0.6	0.5	60 - 140	116
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	2.7	2.56	60 - 140	104
		Bromobenzene	mg/kg	0.1	0.4	0.5	60 - 140	86
		2-chlorotoluene	mg/kg	0.1	0.4	0.5	60 - 140	70
		4-chlorotoluene	mg/kg	0.1	0.4	0.5	60 - 140	76
		1,3-dichlorobenzene	mg/kg	0.1	0.5	0.5	60 - 140	96
		1,4-dichlorobenzene	mg/kg	0.1	0.5	0.5	60 - 140	100
		1,2-dichlorobenzene	mg/kg	0.1	0.5	0.5	60 - 140	106
		1,2,4-trichlorobenzene	mg/kg	0.1	0.4	0.5	60 - 140	78
		1,2,3-trichlorobenzene	mg/kg	0.1	0.4	0.5	60 - 140	78
	Monocyclic Aromatic	Benzene	mg/kg	0.1	3.6	2.9	60 - 140	123
		Toluene	mg/kg	0.1	3.2	2.9	60 - 140	111

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083073.002	Monocyclic Aromatic	Ethylbenzene	mg/kg	0.1	2.8	2.9	60 - 140	97
		m/p-xylene	mg/kg	0.2	5.9	5.9	60 - 140	99
		o-xylene	mg/kg	0.1	2.8	2.9	60 - 140	95
		Styrene (Vinyl benzene)	mg/kg	0.1	0.4	0.5	60 - 140	74
		Isopropylbenzene (Cumene)	mg/kg	0.1	0.4	0.5	60 - 140	82
		n-propylbenzene	mg/kg	0.1	0.4	0.5	60 - 140	72
		1,3,5-trimethylbenzene	mg/kg	0.1	0.4	0.5	60 - 140	74
		tert-butylbenzene	mg/kg	0.1	0.4	0.5	60 - 140	80
		1,2,4-trimethylbenzene	mg/kg	0.1	0.5	0.5	60 - 140	100
		sec-butylbenzene	mg/kg	0.1	0.4	0.5	60 - 140	76
		p-isopropyltoluene	mg/kg	0.1	0.5	0.5	60 - 140	98
		n-butylbenzene	mg/kg	0.1	0.4	0.5	60 - 140	86
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	0.6	0.5	60 - 140	122
		2-nitropropane	mg/kg	10	<10	0.5	60 - 140	98
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10	0.5	60 - 140	96
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	0.5	0.5	60 - 140	102
		Vinyl acetate	mg/kg	10	<10	0.5	60 - 140	114
		MEK (2-butanone)	mg/kg	10	<10	2.5	60 - 140	89
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	0.5	60 - 140	84
		2-hexanone (MBK)	mg/kg	5	<5	0.5	60 - 140	100
	Polycyclic	Naphthalene	mg/kg	0.1	0.6	0.5	60 - 140	116
	Sulphonated	Carbon disulfide	mg/kg	0.5	0.5	0.5	60 - 140	100
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.2	5	60 - 140	104
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.8	5	60 - 140	116
		d8-toluene (Surrogate)	mg/kg	-	4.8	5	60 - 140	96
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.7	5	60 - 140	113
	Trihalomethanes	Chloroform	mg/kg	0.1	2.2	2.56	60 - 140	88
		Bromodichloromethane	mg/kg	0.1	0.6	0.5	60 - 140	122
		Chlorodibromomethane	mg/kg	0.1	0.5	0.5	60 - 140	104
		Bromoform	mg/kg	0.1	0.6	0.5	60 - 140	122
LB083074.002	Fumigants	2,2-dichloropropane	mg/kg	0.1	0.5	0.5	60 - 140	94
		1,2-dichloropropane	mg/kg	0.1	0.6	0.5	60 - 140	110
		cis-1,3-dichloropropene	mg/kg	0.1	0.5	0.5	60 - 140	94
		trans-1,3-dichloropropene	mg/kg	0.1	0.4	0.5	60 - 140	86
		1,2-dibromoethane (EDB)	mg/kg	0.1	0.6	0.5	60 - 140	112
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	0.5	60 - 140	122
		Chloromethane	mg/kg	1	<1	0.5	60 - 140	80
		Vinyl chloride (Chloroethene)	mg/kg	0.1	0.4	0.5	60 - 140	74
		Bromomethane	mg/kg	1	<1	0.5	60 - 140	114
		Chloroethane	mg/kg	1	<1	0.5	60 - 140	78
		Trichlorofluoromethane	mg/kg	1	<1	0.5	60 - 140	96
		Iodomethane	mg/kg	5	<5	0.5	60 - 140	100
		1,1-dichloroethene	mg/kg	0.1	2.2	2.56	60 - 140	85
		Dichloromethane (Methylene chloride)	mg/kg	0.5	0.6	0.5	60 - 140	118
		Allyl chloride	mg/kg	0.1	0.5	0.5	60 - 140	90
		trans-1,2-dichloroethene	mg/kg	0.1	0.5	0.5	60 - 140	100
		1,1-dichloroethane	mg/kg	0.1	0.5	0.5	60 - 140	104
		cis-1,2-dichloroethene	mg/kg	0.1	0.5	0.5	60 - 140	96
		Bromochloromethane	mg/kg	0.1	0.5	0.5	60 - 140	96
		1,2-dichloroethane	mg/kg	0.1	2.1	2.56	60 - 140	80
		1,1,1-trichloroethane	mg/kg	0.1	0.5	0.5	60 - 140	98
		1,1-dichloropropene	mg/kg	0.1	0.4	0.5	60 - 140	82
		Carbon tetrachloride	mg/kg	0.1	0.6	0.5	60 - 140	118
		Dibromomethane	mg/kg	0.1	0.6	0.5	60 - 140	126
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	2.0	2.56	60 - 140	78
		1,1,2-trichloroethane	mg/kg	0.1	0.6	0.5	60 - 140	118
		1,3-dichloropropane	mg/kg	0.1	0.6	0.5	60 - 140	114
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	0.5	0.5	60 - 140	100
		1,1,1,2-tetrachloroethane	mg/kg	0.1	0.5	0.5	60 - 140	108
		cis-1,4-dichloro-2-butene	mg/kg	1	<1	0.5	60 - 140	82
		1,1,2,2-tetrachloroethane	mg/kg	0.1	0.5	0.5	60 - 140	98

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued) Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083074.002	Halogenated Aliphatics	1,2,3-trichloropropane	mg/kg	0.1	0.5	0.5	60 - 140	96
		trans-1,4-dichloro-2-butene	mg/kg	1	<1	0.5	60 - 140	90
		1,2-dibromo-3-chloropropane	mg/kg	0.1	0.4	0.5	60 - 140	88
		Hexachlorobutadiene	mg/kg	0.1	0.6	0.5	60 - 140	116
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	2.7	2.56	60 - 140	104
		Bromobenzene	mg/kg	0.1	0.4	0.5	60 - 140	84
		2-chlorotoluene	mg/kg	0.1	0.4	0.5	60 - 140	82
		4-chlorotoluene	mg/kg	0.1	0.4	0.5	60 - 140	76
		1,3-dichlorobenzene	mg/kg	0.1	0.5	0.5	60 - 140	94
		1,4-dichlorobenzene	mg/kg	0.1	0.5	0.5	60 - 140	98
		1,2-dichlorobenzene	mg/kg	0.1	0.5	0.5	60 - 140	102
		1,2,4-trichlorobenzene	mg/kg	0.1	0.4	0.5	60 - 140	78
		1,2,3-trichlorobenzene	mg/kg	0.1	0.4	0.5	60 - 140	74
	Monocyclic Aromatic	Benzene	mg/kg	0.1	3.4	2.9	60 - 140	117
		Toluene	mg/kg	0.1	3.1	2.9	60 - 140	107
		Ethylbenzene	mg/kg	0.1	2.8	2.9	60 - 140	96
		m/p-xylene	mg/kg	0.2	5.7	5.9	60 - 140	97
		o-xylene	mg/kg	0.1	2.7	2.9	60 - 140	93
		Styrene (Vinyl benzene)	mg/kg	0.1	0.4	0.5	60 - 140	72
		Isopropylbenzene (Cumene)	mg/kg	0.1	0.4	0.5	60 - 140	78
		n-propylbenzene	mg/kg	0.1	0.4	0.5	60 - 140	88
		1,3,5-trimethylbenzene	mg/kg	0.1	0.4	0.5	60 - 140	70
		tert-butylbenzene	mg/kg	0.1	0.4	0.5	60 - 140	78
		1,2,4-trimethylbenzene	mg/kg	0.1	0.5	0.5	60 - 140	100
		sec-butylbenzene	mg/kg	0.1	0.4	0.5	60 - 140	76
		p-isopropyltoluene	mg/kg	0.1	0.5	0.5	60 - 140	98
		n-butylbenzene	mg/kg	0.1	0.4	0.5	60 - 140	88
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	0.6	0.5	60 - 140	114
		2-nitropropane	mg/kg	10	<10	0.5	60 - 140	124
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10	0.5	60 - 140	92
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	0.5	0.5	60 - 140	102
		Vinyl acetate	mg/kg	10	<10	0.5	60 - 140	108
		MEK (2-butanone)	mg/kg	10	<10	2.5	60 - 140	98
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	0.5	60 - 140	84
		2-hexanone (MBK)	mg/kg	5	<5	0.5	60 - 140	100
	Polycyclic	Naphthalene	mg/kg	0.1	0.4	0.5	60 - 140	74
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	0.5	60 - 140	96
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.9	5	60 - 140	99
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.2	5	60 - 140	105
		d8-toluene (Surrogate)	mg/kg	-	5.1	5	60 - 140	103
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.8	5	60 - 140	116
	Trihalomethanes	Chloroform	mg/kg	0.1	2.2	2.56	60 - 140	85
		Bromodichloromethane	mg/kg	0.1	0.6	0.5	60 - 140	118
		Chlorodibromomethane	mg/kg	0.1	0.5	0.5	60 - 140	98
		Bromoform	mg/kg	0.1	0.6	0.5	60 - 140	118

VOCs in Water Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083125.002	Fumigants	2,2-dichloropropane	μg/L	0.5	7.2	10	60 - 140	72
		1,2-dichloropropane	μg/L	0.5	12	10	60 - 140	123
		cis-1,3-dichloropropene	μg/L	0.5	8.6	10	60 - 140	86
		trans-1,3-dichloropropene	μg/L	0.5	8.6	10	60 - 140	86
		1,2-dibromoethane (EDB)	μg/L	0.5	12	10	60 - 140	122
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	μg/L	5	8	10	60 - 140	78
		Chloromethane	μg/L	5	12	10	60 - 140	117
		Vinyl chloride (Chloroethene)	μg/L	0.3	8.1	10	60 - 140	81
		Bromomethane	μg/L	10	11	10	60 - 140	111
		Chloroethane	μg/L	5	9	10	60 - 140	94
		Trichlorofluoromethane	μg/L	1	12	10	60 - 140	120
		Iodomethane	μg/L	5	8	10	60 - 140	83
		1,1-dichloroethene	μg/L	0.5	9.8	10	60 - 140	98

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083125.002	Halogenated Aliphatics	Dichloromethane (Methylene chloride)	µg/L	4	12	10	60 - 140	120
		Allyl chloride	µg/L	2	9	10	60 - 140	90
		trans-1,2-dichloroethene	µg/L	0.5	9.7	10	60 - 140	97
		1,1-dichloroethane	µg/L	0.5	11	10	60 - 140	110
		cis-1,2-dichloroethene	µg/L	0.5	10	10	60 - 140	101
		Bromochloromethane	µg/L	0.5	11	10	60 - 140	110
		1,2-dichloroethane	µg/L	0.5	11	10	60 - 140	110
		1,1,1-trichloroethane	µg/L	0.5	11	10	60 - 140	112
		1,1-dichloropropene	µg/L	0.5	8.4	10	60 - 140	84
		Carbon tetrachloride	µg/L	0.5	12	10	60 - 140	115
		Dibromomethane	µg/L	0.5	12	10	60 - 140	125
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	12	10	60 - 140	120
		1,1,2-trichloroethane	µg/L	0.5	12	10	60 - 140	117
		1,3-dichloropropane	µg/L	0.5	13	10	60 - 140	126
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	12	10	60 - 140	123
		1,1,1,2-tetrachloroethane	µg/L	0.5	13	10	60 - 140	128
		cis-1,4-dichloro-2-butene	µg/L	1	7	10	60 - 140	72
		1,1,2,2-tetrachloroethane	µg/L	0.5	13	10	60 - 140	126
		1,2,3-trichloropropane	µg/L	0.5	10	10	60 - 140	105
		trans-1,4-dichloro-2-butene	µg/L	1	8	10	60 - 140	78
		1,2-dibromo-3-chloropropane	µg/L	0.5	8.4	10	60 - 140	84
		Hexachlorobutadiene	µg/L	0.5	9.8	10	60 - 140	98
	Halogenated Aromatics	Chlorobenzene	µg/L	0.5	12	10	60 - 140	118
		Bromobenzene	µg/L	0.5	9.3	10	60 - 140	93
		2-chlorotoluene	µg/L	0.5	8.2	10	60 - 140	82
		4-chlorotoluene	µg/L	0.5	8.2	10	60 - 140	82
		1,3-dichlorobenzene	µg/L	0.5	10	10	60 - 140	102
		1,4-dichlorobenzene	µg/L	0.3	10	10	60 - 140	102
		1,2-dichlorobenzene	µg/L	0.5	9.8	10	60 - 140	98
		1,2,4-trichlorobenzene	µg/L	0.5	7.4	10	60 - 140	74
		1,2,3-trichlorobenzene	µg/L	0.5	7.4	10	60 - 140	74
	Monocyclic Aromatic	Benzene	µg/L	0.5	10	10	60 - 140	103
		Toluene	µg/L	0.5	10	10	60 - 140	102
		Ethylbenzene	µg/L	0.5	9.4	10	60 - 140	94
		m/p-xylene	µg/L	1	20	20	60 - 140	102
		o-xylene	µg/L	0.5	11	10	60 - 140	111
		Styrene (Vinyl benzene)	µg/L	0.5	7.7	10	60 - 140	77
		Isopropylbenzene (Cumene)	µg/L	0.5	7.0	10	60 - 140	70
		n-propylbenzene	µg/L	0.5	7.1	10	60 - 140	71
		1,3,5-trimethylbenzene	µg/L	0.5	7.1	10	60 - 140	71
		tert-butylbenzene	µg/L	0.5	7.3	10	60 - 140	73
		1,2,4-trimethylbenzene	µg/L	0.5	7.7	10	60 - 140	77
		sec-butylbenzene	µg/L	0.5	7.1	10	60 - 140	71
		p-isopropyltoluene	µg/L	0.5	7.6	10	60 - 140	76
		n-butylbenzene	µg/L	0.5	7.4	10	60 - 140	74
	Nitrogenous	Acrylonitrile	µg/L	0.5	10	10	60 - 140	102
	Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	12	10	60 - 140	120
		MtBE (Methyl-tert-butyl ether)	µg/L	2	8	10	60 - 140	82
		Vinyl acetate	µg/L	10	12	10	60 - 140	123
		MEK (2-butanone)	µg/L	10	48	50	60 - 140	96
		MIBK (4-methyl-2-pentanone)	µg/L	5	8	10	60 - 140	77
		2-hexanone (MBK)	µg/L	5	8	10	60 - 140	75
	Polycyclic	Naphthalene	µg/L	0.5	8.2	10	60 - 140	82
	Sulphonated	Carbon disulfide	µg/L	2	10	10	60 - 140	96
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.4	5	60 - 140	108
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.0	5	60 - 140	101
		d8-toluene (Surrogate)	µg/L	-	5.0	5	60 - 140	101
		Bromofluorobenzene (Surrogate)	µg/L	-	5.2	5	60 - 140	103
	Trihalomethanes	Chloroform (THM)	µg/L	0.5	12	10	60 - 140	119
		Bromodichloromethane (THM)	µg/L	0.5	12	10	60 - 140	122
		Dibromochloromethane (THM)	µg/L	0.5	12	10	60 - 140	119

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOCs in Water (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083125.002	Trihalomethan	Bromoform (THM)	µg/L	0.5	11	10	60 - 140	113

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083073.002		TRH C6-C10	mg/kg	25	26	24.65	60 - 140	104
		TRH C6-C9	mg/kg	20	20	23.2	60 - 140	87
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.6	5	60 - 140	112
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.1	5	60 - 140	123
		d8-toluene (Surrogate)	mg/kg	-	6.0	5	60 - 140	120
		Bromofluorobenzene (Surrogate)	mg/kg	-	6.4	5	60 - 140	128
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	103
LB083074.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	89
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	83
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.9	5	60 - 140	117
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.0	5	60 - 140	121
		d8-toluene (Surrogate)	mg/kg	-	5.9	5	60 - 140	119
		Bromofluorobenzene (Surrogate)	mg/kg	-	6.1	5	60 - 140	122
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	60

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083125.002		TRH C6-C10	µg/L	50	930	946.63	60 - 140	98
		TRH C6-C9	µg/L	40	710	818.71	60 - 140	86
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.8	5	60 - 140	96
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	4.6	5	60 - 140	92
		d8-toluene (Surrogate)	µg/L	-	5.1	5	60 - 140	102
		Bromofluorobenzene (Surrogate)	µg/L	-	5.2	5	60 - 140	103
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	860	639.67	60 - 140	135

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142463.038	LB083410.014	Mercury	mg/L	0.00005	0.0084	<0.0001	0.008	104

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE141880.002	LB083412.004	Total Mercury	mg/L	0.00005	0.0081	0.0001	-	-

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142463.001	LB083328.004	Mercury	mg/kg	0.01	0.23	0.07	0.2	80
SE142463.020	LB083329.004	Mercury	mg/kg	0.01	0.24	0.07	0.2	83

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142463.002	LB083088.007		Naphthalene	mg/kg	0.1	4.0	<0.1	4	101
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	3.9	<0.1	4	97
			Acenaphthene	mg/kg	0.1	4.1	<0.1	4	102
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	3.4	<0.1	4	83
			Anthracene	mg/kg	0.1	3.2	<0.1	4	80
			Fluoranthene	mg/kg	0.1	3.0	<0.1	4	74
			Pyrene	mg/kg	0.1	2.9	<0.1	4	72
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	2.5	<0.1	4	62
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
			Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	2.5	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	2.6	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	2.5	<0.2	-	-
			Total PAH	mg/kg	0.8	27	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	-	82
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	80
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	74
SE142463.023	LB083089.007		Naphthalene	mg/kg	0.1	4.3	<0.1	4	108
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	4.5	<0.1	4	113
			Acenaphthene	mg/kg	0.1	4.4	<0.1	4	109
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	4.3	<0.1	4	108
			Anthracene	mg/kg	0.1	4.5	<0.1	4	112
			Fluoranthene	mg/kg	0.1	4.5	<0.1	4	112
			Pyrene	mg/kg	0.1	4.3	<0.1	4	108
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	4.3	<0.1	4	107
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
			Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142463.023	LB083089.007		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	4.3	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	4.4	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	4.4	<0.2	-	-
			Total PAH	mg/kg	0.8	35	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	90
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	80
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.6	-	94

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142463.001	LB083433.004		Arsenic, As	mg/kg	1	45	3	50	84
			Cadmium, Cd	mg/kg	0.3	42	<0.3	50	84
			Chromium, Cr	mg/kg	0.3	46	5.0	50	81
			Copper, Cu	mg/kg	0.5	58	21	50	74
			Nickel, Ni	mg/kg	0.5	45	4.2	50	81
			Lead, Pb	mg/kg	1	45	6	50	77
			Zinc, Zn	mg/kg	0.5	58	21	50	72
			Selenium, Se	mg/kg	3	9	<3	10	80
			Boron, B	mg/kg	5	11	<5	10	66 ④
SE142463.020	LB083434.004		Arsenic, As	mg/kg	1	53	13	50	80
			Cadmium, Cd	mg/kg	0.3	43	<0.3	50	86
			Chromium, Cr	mg/kg	0.3	56	21	50	69 ④
			Copper, Cu	mg/kg	0.5	80	67	50	25 ④
			Nickel, Ni	mg/kg	0.5	58	29	50	57 ④
			Lead, Pb	mg/kg	1	46	9	50	75
			Zinc, Zn	mg/kg	0.5	70	49	50	43 ④
			Selenium, Se	mg/kg	3	11	3	10	75
			Boron, B	mg/kg	5	12	9	10	31 ④

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142463.038	LB083302.004		Arsenic, As	µg/L	1	19	<1	20	93
			Boron, B	µg/L	5	17	<5	20	87
			Cadmium, Cd	µg/L	0.1	20	<0.1	20	102
			Chromium, Cr	µg/L	1	20	<1	20	102
			Copper, Cu	µg/L	1	20	<1	20	99
			Lead, Pb	µg/L	1	19	<1	20	97
			Nickel, Ni	µg/L	1	20	<1	20	100
			Selenium, Se	µg/L	1	20	<1	20	98
			Zinc, Zn	µg/L	5	22	<5	20	87

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142463.038	LB083304.004		Total Arsenic	µg/L	1	19	<1	20	102
			Total Boron	µg/L	5	18	<5	20	97
			Total Cadmium	µg/L	0.1	21	<0.1	20	109
			Total Chromium	µg/L	1	21	<1	20	110
			Total Copper	µg/L	1	21	<1	20	107
			Total Lead	µg/L	1	20	<1	20	105
			Total Nickel	µg/L	1	21	<1	20	108
			Total Selenium	µg/L	1	20	<1	20	102
			Total Zinc	µg/L	5	21	<5	20	102

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142463.002	LB083088.006		TRH C10-C14	mg/kg	20	61	<20	40	130
			TRH C15-C28	mg/kg	45	150	96	40	133
			TRH C29-C36	mg/kg	45	<45	<45	40	100
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	250	<110	-	-
			TRH C10-C40 Total	mg/kg	210	250	<210	-	-
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	65	<25	40	123
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	65	<25	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

TRH (Total Recoverable Hydrocarbons) in Soil (continued) — Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142463.002	LB083088.006	TRH F Bands	TRH >C16-C34 (F3)	mg/kg	90	140	100	40	90
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-
SE142463.022	LB083089.006		TRH C10-C14	mg/kg	20	68	28	40	100
			TRH C15-C28	mg/kg	45	260	230	40	60
			TRH C29-C36	mg/kg	45	70	<45	40	125
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	400	280	-	-
			TRH C10-C40 Total	mg/kg	210	400	280	-	-
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	87	47	40	100
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	87	47	-	-
			TRH >C16-C34 (F3)	mg/kg	90	270	240	40	78
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433/AN434/AN410

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142463.001	LB083073.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	78
			TRH C6-C9	mg/kg	20	<20	<20	23.2	75
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	6.2	5.0	-	124
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.4	5.6	-	108
			d8-toluene (Surrogate)	mg/kg	-	6.0	5.7	-	120
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.6	3.9	-	93
		VPH F	Benzene (F0)	mg/kg	0.1	2.2	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	98
SE142463.021	LB083074.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	75
			TRH C6-C9	mg/kg	20	<20	<20	23.2	72
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.1	6.2	-	103
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.2	6.1	-	104
			d8-toluene (Surrogate)	mg/kg	-	5.8	6.2	-	116
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.7	5.2	-	115
		VPH F	Benzene (F0)	mg/kg	0.1	2.5	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	72

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here:
http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

*	NATA accreditation does not cover tthe performance of this service .
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.

①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to Analytical Report comments for further information.

source: M630_SR_20150824131509.pdf page: 1 SGS Ref: SE142463_COC

SGS

CHAIN OF CUSTODY

Environmental Strategies
PROVIDING BENEFITS

Client: Environmental Strategies	**Client Project Number** 15106
Contact Person: Ryan Wells	
Project Mgr: Ryan Wells	**PO No.:**
Sampler: RH	**SGS Quote No. :** SY150422-1IS (revised with LOR's)
Address: Suite 15201, 2 Locomotive Street Eveleigh NSW 2065	**Date results required:** 5 day TAT (standard)
Phone: (02) 9690 2555 **Mob:** 0434 657 155	**Report format:** Esdat
Email: ryanwells@environmentalstrategies.com.au (COC, SRN, Lab Report) accounts@environmentalstrategies.com.au (invoice) natashapasley@environmentalstrategies.com.au (COC, SRN, Lab Report) david.burns@sustain450.com.au (COC, SRN, Lab Report)	**Lab Comments:** **Cooling Method:** Crushed ICE Metals (M10): As, Cd, Cr (total), Cu, Ni, Pb, Hg, Zn, Se, B. Nutrients: pH, TP, P, NO2, NO3, NH3.

This COC is 'Privileged & Confidential' and is not to be distributed or disclosed to any person other than Environmental Strategies authorised personnel.

1. Ensure that all extracts are held in an appropriately refrigerated area for 40 days
2. Please see attached document which outlines the required LOR's for analytes
3. Please ensure the QA/QC frequency stipulated in SGS quotation SY150422-1-IS satified across the entire project sample matrix type.
4. All samples to be NATA Accredited unless otherwise stipulated in SGS quotation SY150422-1-IS, or subsequent revisions.
5. 'X' means the sample is to be tested by the laboratory for the relevant analytical method (where LOR's are specified in SGS Quotation SY150422-1-IS, including most recent revision).
6. All triplicate samples to be sent to Envirolab

					Tests Required											Bottles Used							Comments
SGS Lab ID	Client Sample ID or information	Depth (m)	Date Sampled	Type of sample	Metals (M10)	PAHs	TRH	BTEX	VOCs	PCBs	Nutrients	Salinity	TOC (combustion)	Grain Size Analysis	Hold	40ml VOA Amber Glass Vials	Red Metal Plastic (Field Filtered)	Red Metal Plastic (Total)	Glass Amber 500ml	Green Plastic (non preserved)	Bag	Jar	Provide as much information about the sample as you can
1	SD1	0-0.1	11/08/2015	Sediment	X	X	X	X	X				X	X							1	2	For all sediment samples please only
2	SD1	0.15-0.25	11/08/2015	Sediment	X	X	X	X	X				X								1	2	analyse one 250ml jar, and place the
	SD1	0.4-0.43	11/08/2015	Soil											X						1	1	other 250ml jar and the 500ml
3	SD2	0-0.1	11/08/2015	Sediment	X	X	X	X	X				X								1	2	amber bottle on hold for possible
4	SD2	0.15-0.24	11/08/2015	Sediment	X	X	X	X	X				X								1	2	elutriate analysis - To be advised.
	SD2	0.26-0.35	11/08/2015	Soil											X						1	2	
5	SD3	0-0.1	11/08/2015	Sediment	X	X	X	X	X				X								1	2	
6	SD3	0.25-0.32	11/08/2015	Sediment	X	X	X	X	X				X								1	2	
7	SD4	0-0.8	12/08/2015	Sediment	X	X	X	X	X				X								1	2	
8	SD4	0.15-0.25	12/08/2015	Sediment	X	X	X	X	X				X								1	2	
	SD4	0.4-0.47	12/08/2015	Sediment											X						1	2	
9	SD5	0-0.05	12/08/2015	Sediment	X	X	X	X	X				X								1	2	
10	SD6	0-0.1	12/08/2015	Sediment	X	X	X	X	X				X								1	2	
11	SD6	0.15-0.25	12/08/2015	Sediment	X	X	X	X	X				X	X							1	2	
	SD6	0.43-0.5	12/08/2015	Sediment											X						1	2	
12	SD7	0-0.06	12/08/2015	Sediment	X	X	X	X	X				X								1	2	
13	SD7	0.15-0.25	12/08/2015	Sediment	X	X	X	X	X				X	X							1	2	
																					1	2	

SGS Alexandria Environmental
SE142463 COC
Received: 14 – Aug – 2015

Relinquished by: Environmental Strategies	**Received & Reliquished by (SGS Muswellbrook or Courier):**	**Lab Use Only:**
Print Name: RYAN STEWART	**Print Name:** Direct SGS Bob	
Date & Time: 1545 14/08/2015	**Receipt Date & Time:** 1600 **Relinquished Date & Time:**	**Lab Report Number:** SE142463
Signature	**Signature**	**Samples received:** Cool or Ambient (circle one)
Received by (primary lab): SGS Sydney	**Received by (secondary lab): ELS**	**Temperature Received at:** (if applicable) 2 °C
Print Name: EDWARD IBRAHIM	**Print Name:**	**Transported by: Hand delievered/courier**
Date & Time: 14/8/15 7:45pm	**Date & Time:**	**Security Seal Applied and Intact? (Yes/No)**
Signature	**Signature**	**Refer to Laboratory SRN for additional sample receipt/integrity details**

CHAIN OF COSTODY

Environmental Strategies
PROVIDING BENEFITS

Client: Environmental Strategies	**Client Project Number** 15106
Contact Person: Ryan Wells	
Project Mgr: Ryan Wells	**PO No.:**
Sampler: RH	**SGS Quote No. :** SY150422-1IS (revised with LOR's)
Address: Suite 15201, 2 Locomotive Street Eveleigh NSW 2065	**Date results required:** 5 day TAT (standard)
Phone: (02) 9690 2555 **Mob:** 0434 657 155	**Report format:** Esdat
Email: ryanwells@environmentalstrategies.com.au (COC, SRN, Lab Report) accounts@environmentalstrategies.com.au (invoice) natashapasley@environmentalstrategies.com.au (COC, SRN, Lab Report) david.burns@sustain450.com.au (COC, SRN, Lab Report)	**Lab Comments:** **Cooling Method:** Crushed ICE Metals (M10): As, Cd, Cr (total), Cu, Ni, Pb, Hg, Zn, Se, B. Nutrients: pH, TP, P, NO2, NO3, NH3.

This COC is 'Privileged & Confidential' and is not to be distributed or disclosed to any person other than Environmental Strategies authorised personnel.

1. Ensure that all extracts are held in an appropriately refrigerated area for 40 days
2. Please see attached document which outlines the required LOR's for analytes
3. Please ensure the QA/QC frequency stipulated in SGS quotation SY150422-1-IS satified across the entire project sample matrix type.
4. All samples to be NATA Accredited unless otherwise stipulated in SGS quotation SY150422-1-IS, or subsequent revisions.
5. 'X' means the sample is to be tested by the laboratory for the relevant analytical method (where LOR's are specified in SGS Quotation SY150422-1-IS, including most recent revision).
6. All triplicate samples to be sent to Envirolab

					Tests Required											Bottles Used							Comments
SGS Lab ID	Client Sample ID or information	Depth (m)	Date Sampled	Type of sample	Metals (M10)	PAHs	TRH	BTEX	VOCs	PCBs	Nutrients	Salinity	TOC (combustion)	Grain Size Analysis	Hold	40ml VOA Amber Glass Vials	Red Metal Plastic (Field Filtered)	Red Metal Plastic (Total)	Glass Amber 500ml	Green Plastic (non preserved)	Bag	Jar	Provide as much information about the sample as you can
	SD7	0.4-0.5	12/08/2015	Sediment											X						1	2	For all sediment samples please only
14	SD8	0-0.1	12/08/2015	Sediment	X	X	X	X	X				X								1	2	analyse one 250ml jar, and place the
15	SD8	0.15-0.25	12/08/2015	Sediment	X	X	X	X	X				X								1	2	other 250ml jar and the 500ml
	SD8	0.3-0.4	12/08/2015	Sediment											X						1	2	amber bottle on hold for possible
16	SD9	0-0.1	12/08/2015	Sediment	X	X	X	X	X				X								1	2	elutriate analysis - To be advised.
17	SD9	0.15-0.25	12/08/2015	Sediment	X	X	X	X	X				X								1	2	
	SD9	0.4-0.5	12/08/2015	Sediment											X						1	2	If only one sediment jar provided
18	SD10	0-0.12	12/08/2015	Sediment	X	X	X	X	X				X									2	please ignore the above comment.
19	SD10	0.14-0.26	12/08/2015	Sediment	X	X	X	X	X				X									2	
20	SD11	0-0.10	12/08/2015	Sediment	X	X	X	X	X				X								1	2	
21	SD11	0.15-0.25	12/08/2015	Sediment	X	X	X	X	X				X								1	2	
	SD11	0.4-0.5	12/08/2015	Sediment											X						1	2	
22	SD12	0-0.5	13/08/2015	Sediment	X	X	X	X	X				X									2	
23	SD13	0.03-0.1	13/08/2015	Soil	X	X	X	X	X				X									2	
24	SD14	0-0.1	13/08/2015	Sediment	X	X	X	X	X				X								1	2	
25	SD14	0.15-0.25	13/08/2015	Sediment	X	X	X	X	X				X									1	
	SD14	0.41-0.46	13/08/2015	Sediment											X							2	

Relinquished by: Environmental Strategies	**Received & Reliquished by (SGS Muswellbrook or Courier):**	**Lab Use Only:**
Print Name: RYAN STEWART	**Print Name:** BOb	
Date & Time: 1545 14/08/2015	**Receipt Date & Time:** 1600 **Relinquished Date & Time:**	**Lab Report Number:** SE142463
Signature	**Signature**	**Samples received:** Cool or Ambient (circle one)
Received by (primary lab): SGS Sydney	**Received by (secondary lab): ELS**	**Temperature Received at:** (if applicable) 2.0 °C
Print Name: EDWARD IBRAHIM	**Print Name:**	**Transported by: Hand delievered/courier**
Date & Time: 14/8/2015 7:45pm	**Date & Time:**	**Security Seal Applied and Intact? (Yes/No)**
Signature Edward Ibrahim	**Signature**	**Refer to Laboratory SRN for additional sample receipt/integrity details**

CHAIN OF COUSTODY

Environmental Strategies
PROVIDING BENEFITS

Client: Environmental Strategies	**Client Project Number** 15106
Contact Person: Ryan Wells	**PO No.:**
Project Mgr: Ryan Wells	**SGS Quote No. :** SY150422-1IS (revised with LOR's)
Sampler: RH	**Date results required:** 5 day TAT (standard)
Address: Suite 15201, 2 Locomotive Street Eveleigh NSW 2065	
Phone: (02) 9690 2555 **Mob:** 0434 657 155	**Report format:** Esdat
Email: ryanwells@environmentalstrategies.com.au (COC, SRN, Lab Report) accounts@environmentalstrategies.com.au (invoice) natashapasley@environmentalstrategies.com.au (COC, SRN, Lab Report)	**Lab Comments:**
	Cooling Method: Crushed ICE Metals (M10): As, Cd, Cr (total), Cu, Ni, Pb, Hg, Zn, Se, B. Nutrients: pH, TP, P, NO2, NO3, NH3.

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1. Ensure that all extracts are held in an appropriately refrigerated area for 40 days
2. Please see attached document which outlines the required LOR's for analytes
3. Please ensure the QA/QC frequency stipulated in SGS quotation SY150422-1-IS satified across the entire project sample matrix type.
4. All samples to be NATA Accredited unless otherwise stipulated in SGS quotation SY150422-1-IS, or subsequent revisions.
5. 'X' means the sample is to be tested by the laboratory for the relevant analytical method (where LOR's are specified in SGS Quotation SY150422-1-IS, including most recent revision).
6. All triplicate samples to be sent to Envirolab

					Tests Required											Bottles Used							Comments
SGS Lab ID	Client Sample ID or information	Depth (m)	Date Sampled	Type of sample	Metals (M10)	PAHs	TRH	BTEX	VOCs	PCBs	Nutrients	Salinity	TOC (combustion)	Grain Size Analysis	Hold	40ml VOA Amber Glass Vials	Red Metal Plastic (Field Filtered)	Red Metal Plastic (Total)	Glass Amber 500ml	Green Plastic (non preserved)	Bag	Jar	Provide as much information about the sample as you can
26	SD15	0-0.04	13/08/2015	Sediment	X	X	X	X	X				X								1	2	**For all sediment samples please only**
27	SD16	0-0.1	13/08/2015	Sediment	X	X	X	X	X				X									2	**analyse one 250ml jar, and place the**
28	SD16	0.15-0.25	13/08/2015	Sediment	X	X	X	X	X				X									2	**other 250ml jar and the 500ml**
	SD16	0.4-0.46	13/08/2015	Soil											X							1	**amber bottle on hold for possible**
29	SD17	0-0.1	13/08/2015	Sediment	X	X	X	X	X				X								1	2	**elutriate analysis - To be advised.**
30	SD17	0.15-0.25	13/08/2015	Sediment	X	X	X	X	X				X	X							1	2	
	SD17	0.4-0.5	13/08/2015	Sediment											X						1	2	**If only one sediment jar provided**
31	QA1		12/08/2015	Sediment	X	X	X	X	X				X									2	**please ignore the above comment.**
32	QA3		12/08/2015	Sediment	X	X	X	X	X				X									2	
33	QA5		13/08/2015	Sediment	X	X	X	X	X				X									2	
34	TBEC110815		11/08/2015	water				X								2							
35	TBEC120815		12/08/2015	water				X								2							
36	TBEC130815		13/08/2015	water				X								2							
37	Trip Blank		8/07/2015	Soil				X														1	
38	RINEC110815		11/08/2015	water	X	X	X	X	X				X			2		1	1	1			
39	RINEC120815		12/08/2015	water	X	X	X	X	X				X			2		1	1	1			
40	RINEC130815		13/08/2015	water	X	X	X	X	X				X			2		1	1	1			

Relinquished by: Environmental Strategies	**Received & Reliquished by (SGS Muswellbrook or Courier):**	**Lab Use Only:**
Print Name: Ryan Stewrat	**Print Name:**	**Lab Report Number:** SE142463
Date & Time: 14/08/2015 amended: 17/08/2015	**Receipt Date & Time:** **Relinquished Date & Time:**	**Samples received:** Cool or Ambient (circle one)
Signature Ryan Stewart - Via Email 17/08/2015	**Signature**	**Temperature Received at:** (if applicable) 2.3°C
Received by (primary lab): SGS Sydney	**Received by (secondary lab): ELS**	**Transported by: Hand delievered/courier**
Print Name: Emily Yin	**Print Name:**	**Security Seal Applied and Intact? (Yes/No)**
Date & Time: 14/8/15 7.45pm	**Date & Time:**	**Refer to Laboratory SRN for additional sample receipt/integrity details**
Signature	**Signature**	

CHAIN OF COSTODY

SGS

CHAIN OF CUSTODY

Page 4/4

Environmental Strategies
PROVIDING BENEFITS

Client: Environmental Strategies	**Client Project Number** 15106
Contact Person: Ryan Wells	
Project Mgr: Ryan Wells	**PO No.:**
Sampler: RH	**SGS Quote No. :** SY150422-1IS (revised with LOR's)
Address: Suite 15201, 2 Locomotive Street Eveleigh NSW 2065	**Date results required:** 5 day TAT (standard)
Phone: (02) 9690 2555 **Mob:** 0434 657 155	**Report format:** Esdat
Email: ryanwells@environmentalstrategies.com.au (COC, SRN, Lab Report) accounts@environmentalstrategies.com.au (invoice) natashapasley@environmentalstrategies.com.au (COC, SRN, Lab Report) david.burns@sustain450.com.au (COC, SRN, Lab Report)	**Lab Comments:** **Cooling Method:** Crushed ICE Metals (M10): As, Cd, Cr (total), Cu, Ni, Pb, Hg, Zn, Se, B. Nutrients: pH, TP, P, NO2, NO3, NH3.

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4. All samples to be NATA Accredited unless otherwise stipulated in SGS quotation SY150422-1-IS, or subsequent revisions.
5. 'X' means the sample is to be tested by the laboratory for the relevant analytical method (where LOR's are specified in SGS Quotation SY150422-1-IS, including most recent revision).
6. All triplicate samples to be sent to Envirolab

					Tests Required											Bottles Used							Comments
SGS Lab ID	Client Sample ID or information	Depth (m)	Date Sampled	Type of sample	Metals (M10)	PAHs	TRH	BTEX	VOCs	PCBs	Nutrients	Salinity	TOC (combustion)	Grain Size Analysis	Hold	40ml VOA Amber Glass Vials	Red Metal Plastic (Field Filtered)	Red Metal Plastic (Total)	Glass Amber 500ml	Green Plastic (non preserved)	Bag	Jar	Provide as much information about the sample as you can
41	SW15	1	13/08/2015	Water	X	X	X	X	X				X			2		1	1	1			For all sediment samples please only
42	SW15	4.9	13/08/2015	Water	X	X	X	X	X				X			2		1	1	1			analyse one 250ml jar, and place the
43	SW16	1	13/08/2015	Water	X	X	X	X	X				X			2		1	1	1			other 250ml jar and the 500ml
44	SW16	10	13/08/2015	Water	X	X	X	X	X				X			2		1	1	1			amber bottle on hold for possible
45	SW17	6.3	13/08/2015	Water	X	X	X	X	X				X			2		1	1	1			elutriate analysis - To be advised.
46	TRIP SPIKE	—	11/08/15	Soil				X								~~2~~ 2							
47	TRIP SPIKE	—	11/08/15	Water				X								2							If only one sediment jar provided
48	SW17	1	13/8	water																			please ignore the above comment.
49	FBEC1818		11/8/15	water																			

Relinquished by: Environmental Strategies	**Received & Reliquished by (SGS Muswellbrook or Courier):**	**Lab Use Only:**
Print Name: RYAN STEWART	**Print Name:** BOB 68	
Date & Time: 1545 14/08/2015	**Receipt Date & Time:** 1660 **Relinquished Date & Time:**	**Lab Report Number:** SE141463
Signature	**Signature**	**Samples received:** Cool or Ambient (circle one)
Received by (primary lab): SGS Sydney	**Received by (secondary lab):** ELS	**Temperature Received at:** (if applicable) 2.3 °C
Print Name: EDWARD IBRAHIM	**Print Name:**	**Transported by:** Hand delievered/courier
Date & Time: 14/8/2015 7:45pm	**Date & Time:**	**Security Seal Applied and Intact?** Yes/No
Signature Edward Ibrahim	**Signature**	**Refer to Laboratory SRN for additional sample receipt/integrity details**

CHAIN OF COUSTODY

SGS

Environmental
PROVIDING BENEFITS

Client: Environmental Strategies	**Client Project Number** 15106
Contact Person: Ryan Wells	
Project Mgr: Ryan Wells	**PO No.:**
Sampler: RH	**SGS Quote No. :** SY150422-1IS (revised with LOR's)
Address: Suite 15201, 2 Locomotive Street Eveleigh NSW 2065	**Date results required:** 5 day TAT (standard)
Phone: (02) 9690 2555 **Mob:** 0434 657 155	**Report format:** Esdat
Email: ryanwells@environmentalstrategies.com.au (COC, SRN, Lab Report) accounts@environmentalstrategies.com.au (invoice) natashapasley@environmentalstrategies.com.au (COC, SRN, Lab Report) david.burns@sustain450.com.au (COC, SRN, Lab Report)	**Lab Comments:** **Cooling Method:** Crushed ICE Metals (M10): As, Cd, Cr (total), Cu, Ni, Pb, Hg, Zn, Se, B. Nutrients: pH, TP, P, NO2, NO3, NH3.

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1. Ensure that all extracts are held in an appropriately refrigerated area for 40 days
2. Please see attached document which outlines the required LOR's for analytes
3. Please ensure the QA/QC frequency stipulated in SGS quotation SY150422-1-IS satified across the entire project sample matrix type.
4. All samples to be NATA Accredited unless otherwise stipulated in SGS quotation SY150422-1-IS, or subsequent revisions.
5. 'X' means the sample is to be tested by the laboratory for the relevant analytical method (where LOR's are specified in SGS Quotation SY150422-1-IS, including most recent revision).
6. All triplicate samples to be sent to Envirolab

					Tests Required											Bottles Used							Comments
SGS Lab ID	Client Sample ID or information	Depth (m)	Date Sampled	Type of sample	Metals (M10)	PAHs	TRH	BTEX	VOCs	PCBs	Nutrients	Salinity	TOC (combustion)	Grain Size Analysis	Hold	40ml VOA Amber Glass Vials	Red Metal Plastic (Field Filtered)	Red Metal Plastic (Total)	Glass Amber 500ml	Green Plastic (non preserved)	Bag	Jar	Provide as much information about the sample as you can
41	SW15	1	13/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
42	SW15	4.9	13/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			Only Analise for Nutrients if sample was frozen by laboratory.
43	SW16	1	13/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
44	SW16	10	13/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
45	SW17	6.3	13/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			

Relinquished by: Environmental Strategies	**Received & Reliquished by (SGS Muswellbrook or Courier):**	**Lab Use Only:**
Print Name: Ryan Stewrat	**Print Name:**	
Date & Time: 14/08/2015 amended: 17/08/2015	**Receipt Date & Time:** **Relinquished Date & Time:**	**Lab Report Number:** SE142463
Signature Ryan Stewart - Via Email 17/08/2015	**Signature**	**Samples received:** Cool or **Ambient** (circle one)
Received by (primary lab): SGS Sydney	**Received by (secondary lab): ELS**	**Temperature Received at:** (if applicable) 2.0°C
Print Name: Emily Yin	**Print Name:**	**Transported by: Hand delievered/courier**
Date & Time: 14/8/15 7.45pm	**Date & Time:**	**Security Seal Applied and Intact? (Yes/No)**
Signature	**Signature**	**Refer to Laboratory SRN for additional sample receipt/integrity details**

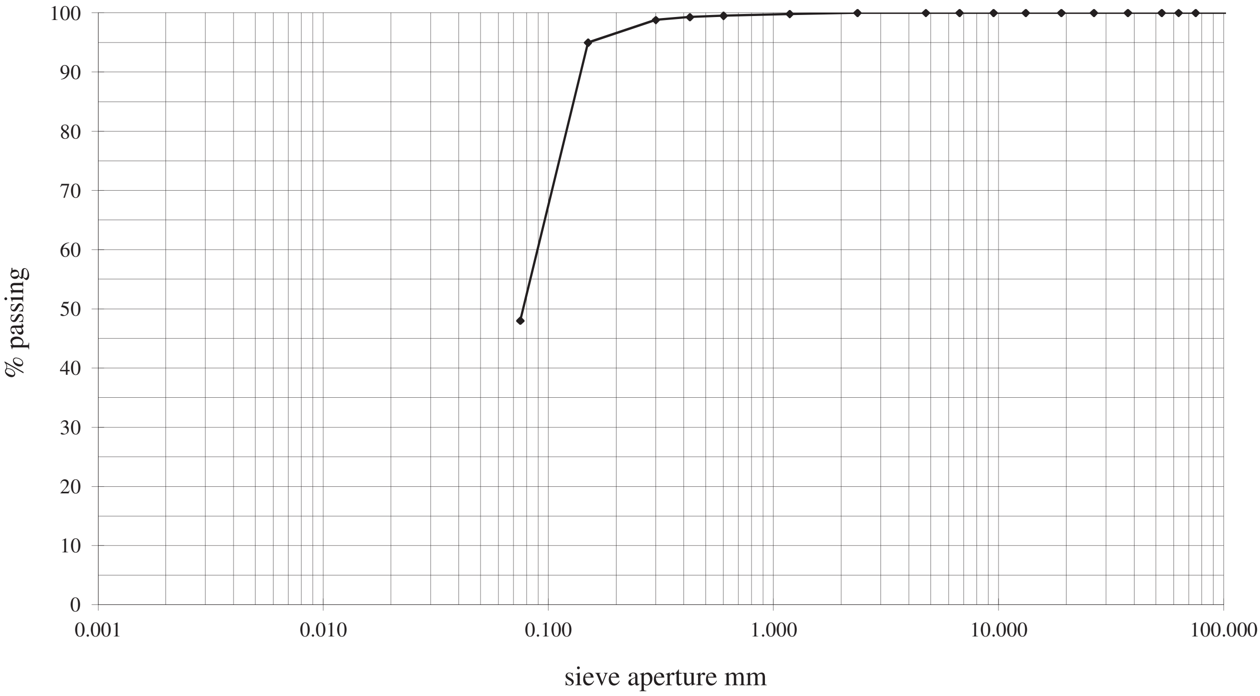
TEST CERTIFICATE

ABN 44 000 964 278
ph: +61 (0)2 8594 0481
fax: +61 (0)2 8594 0499

SGS Australia Pty Ltd
Unit 15, 33 Maddox Street
(PO Box 6432)
Alexandria NSW 2015
Australia

PARTICLE SIZE DISTRIBUTION

Client: **SGS Australia Pty Ltd - Environmental Sydney (5258 201)**
Address: **Unit 1633 Maddox StreetAlexandria NSW 2015**
Project: **SE142463**
Location:
Test Method: **AS 1289 3.6.1**
Job Number: 15-32-229 — Lab Number: 15-AC-1679
Sample Source: SE142463.001 SD1 0-0.1m — Date Tested: 20/08/2015
Sampled By: Client — Checked By: ME



Clay	Silt	Sand	Gravel

Sample Description: SILTY SAND: Grey

Sieve Size (mm)	% Passing	Sieve Size (mm)	% Passing
150.0		1.18	
75.0		0.600	**100**
63.0		0.425	**99**
53.0		0.300	**99**
37.5		0.150	**95**
26.5		0.075	**48**
19.0		0.050	
13.2		0.020	
9.5		0.010	
6.7		0.005	
4.75		0.002	
2.36			

Hydrometer Type: **N/A**
Dispersant Type: **N/A**
Pretreatment:
Loss on Pretreatment: **None**
Remarks:

Approved Signatory: Aaron Lacey — Date: 21/08/2015

Accredited for Compliance with ISO/IEC 17025

ıccreditation No. 2418

TEST CERTIFICATE

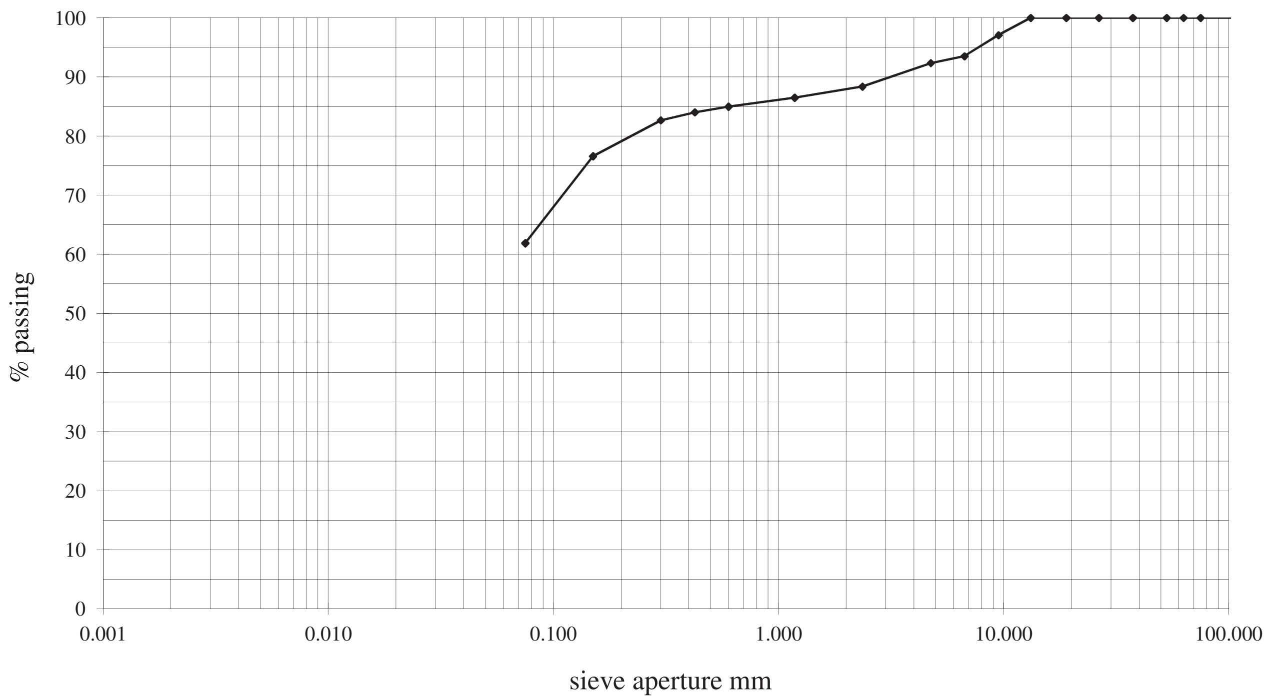
SGS
ABN 44 000 964 278
ph: +61 (0)2 8594 0481
fax: +61 (0)2 8594 0499

SGS Australia Pty Ltd
Unit 15, 33 Maddox Street
(PO Box 6432)
Alexandria NSW 2015
Australia

PARTICLE SIZE DISTRIBUTION

Client: **SGS Australia Pty Ltd - Environmental Sydney (5258 201)**
Address: **Unit 1633 Maddox StreetAlexandria NSW 2015**
Project: **SE142463**
Location:

Test Method: **AS 1289 3.6.1**
Job Number: 15-32-229 Lab Number: 15-AC-1680
Sample Source: SE142463.011 SD6 0.15-0.25m Date Tested: 20/08/2015
Sampled By: Client Checked By: ME



Clay	Silt	Sand	Gravel

Sample Description: SILTY CLAY: Dark Brown

Sieve Size (mm)	% Passing	Sieve Size (mm)	% Passing
150.0		1.18	**86**
75.0		0.600	**85**
63.0		0.425	**84**
53.0		0.300	**83**
37.5		0.150	**77**
26.5		0.075	**62**
19.0		0.050	
13.2	**100**	0.020	
9.5	**97**	0.010	
6.7	**94**	0.005	
4.75	**92**	0.002	
2.36	**88**		

Hydrometer Type: **N/A**
Dispersant Type: **N/A**
Pretreatment:
Loss on Pretreatment: **None**
Remarks:

Approved Signatory: Aaron Lacey Date: 21/08/2015

Accredited for Compliance with ISO/IEC 17025

ilac-MRA NATA

Accreditation No. 2418

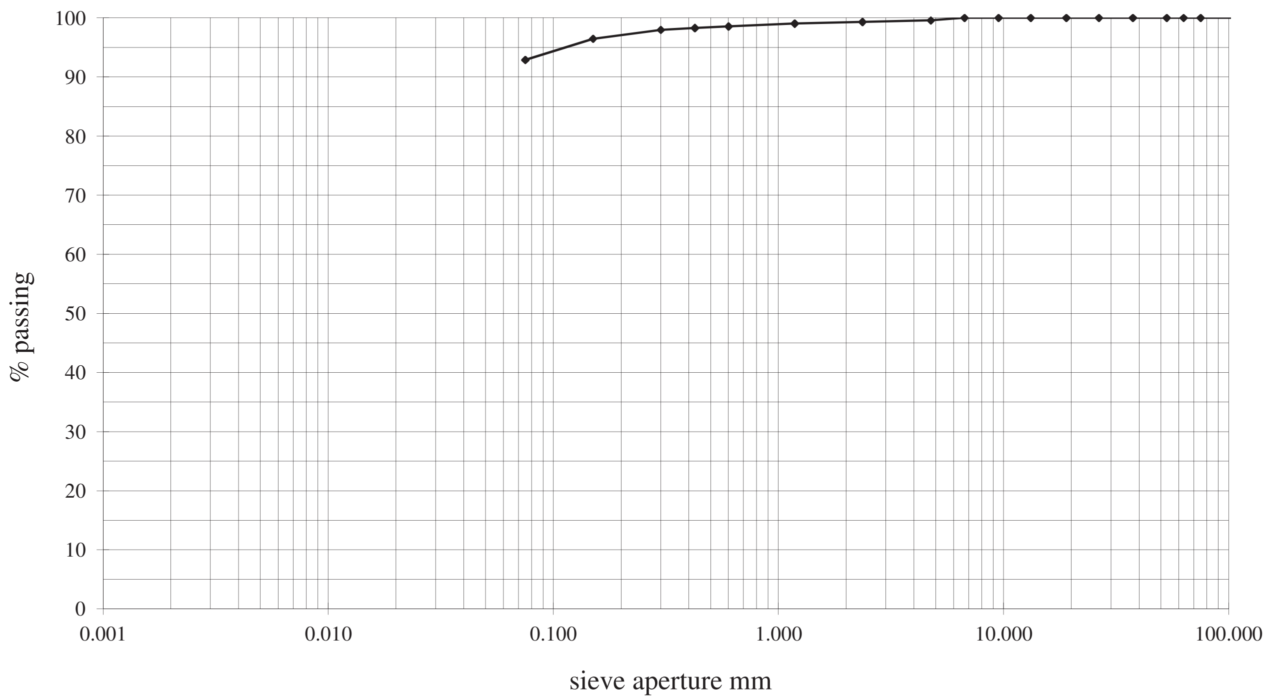
TEST CERTIFICATE

SGS
ABN 44 000 964 278
ph: +61 (0)2 8594 0481
fax: +61 (0)2 8594 0499

SGS Australia Pty Ltd
Unit 15, 33 Maddox Street
(PO Box 6432)
Alexandria NSW 2015
Australia

PARTICLE SIZE DISTRIBUTION

Client: **SGS Australia Pty Ltd - Environmental Sydney (5258 201)**
Address: **Unit 1633 Maddox StreetAlexandria NSW 2015**
Project: **SE142463**
Location:
Test Method: **AS 1289 3.6.1**
Job Number: 15-32-229 — Lab Number: 15-AC-1681
Sample Source: SE142463.013 SD7 0.15-0.25m — Date Tested: 20/08/2015
Sampled By: Client — Checked By: ME



Clay	Silt	Sand	Gravel

Sample Description: SILTY CLAY: Dark Brown

Sieve Size (mm)	% Passing	Sieve Size (mm)	% Passing
150.0		1.18	**99**
75.0		0.600	**99**
63.0		0.425	**98**
53.0		0.300	**98**
37.5		0.150	**96**
26.5		0.075	**93**
19.0		0.050	
13.2		0.020	
9.5		0.010	
6.7		0.005	
4.75	**100**	0.002	
2.36	**99**		

Hydrometer Type: **N/A**
Dispersant Type: **N/A**
Pretreatment:
Loss on Pretreatment: **None**
Remarks:

Approved Signatory: Aaron Lacey — Date: 21/08/2015

Accredited for Compliance with ISO/IEC 17025

ilac-MRA NATA

Accreditation No. 2418

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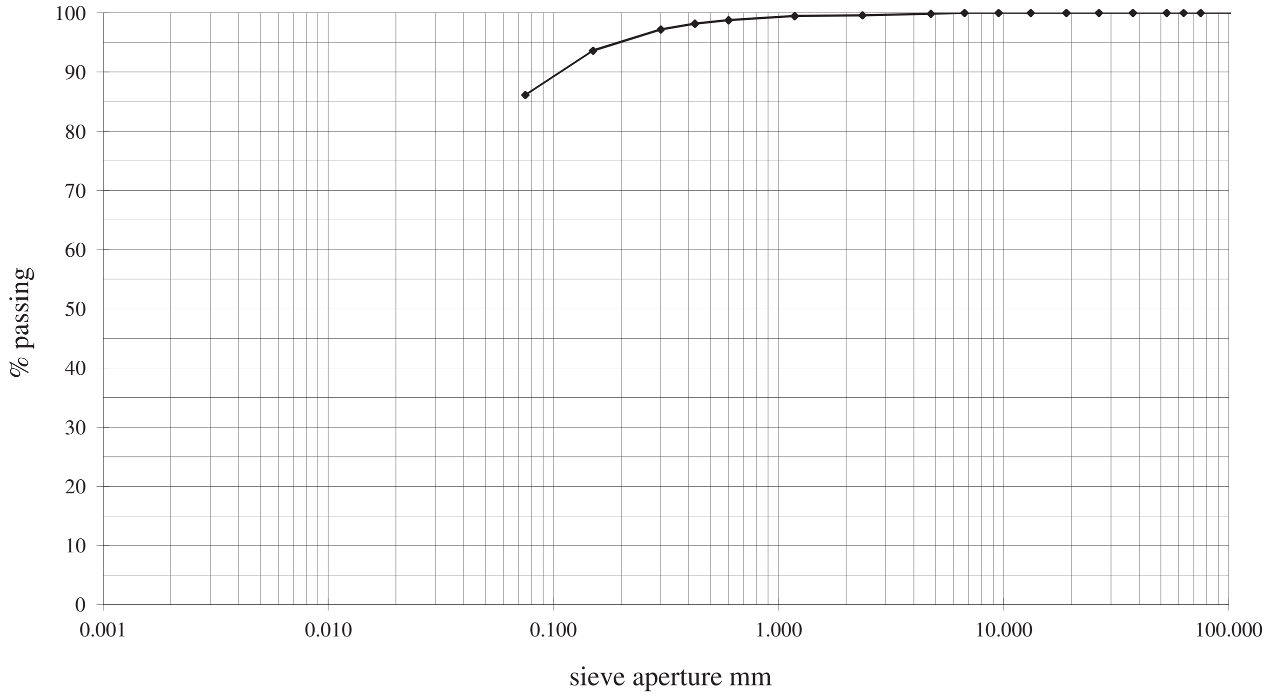
fax: +61 (0)2 8594 0499

SGS Australia Pty Ltd
Unit 15, 33 Maddox Street
(PO Box 6432)
Alexandria NSW 2015
Australia

PARTICLE SIZE DISTRIBUTION

Client: **SGS Australia Pty Ltd - Environmental Sydney (5258 201)**
Address: **Unit 1633 Maddox StreetAlexandria NSW 2015**
Project: **SE142463**
Location:
Test Method: **AS 1289 3.6.1**
Job Number: 15-32-229
Lab Number: 15-AC-1682
Sample Source: SE142463.030 SD17 0.15-0.25m
Date Tested: 20/08/2015
Sampled By: Client
Checked By: ME



Clay	Silt	Sand	Gravel

Sample Description: SILTY CLAY: Dark Brown

Sieve Size (mm)	% Passing	Sieve Size (mm)	% Passing
150.0		1.18	**99**
75.0		0.600	**99**
63.0		0.425	**98**
53.0		0.300	**97**
37.5		0.150	**94**
26.5		0.075	**86**
19.0		0.050	
13.2		0.020	
9.5		0.010	
6.7		0.005	
4.75		0.002	
2.36	**100**		

Hydrometer Type: **N/A**
Dispersant Type: **N/A**
Pretreatment:
Loss on Pretreatment: **None**
Remarks:

Approved Signatory: Aaron Lacey Date: 21/08/2015

Accredited for Compliance with ISO/IEC 17025

Accreditation No. 2418

SAMPLE RECEIPT ADVICE

SE142463

CLIENT DETAILS

Contact	Ryan Wells
Client	ENVIRONMENTAL STRATEGIES PTY LIMITED
Address	Suite 15201, Locomotive Workshop 2 Locomotive Street Eveleigh NSW 2015
Telephone	02 9690 2555 / 0408 649 917
Facsimile	(Not specified)
Email	ryanwells@environmentalstrategies.com.au
Project	**15106**
Order Number	(Not specified)
Samples	49

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Fri 14/8/2015
Report Due	Mon 24/8/2015
SGS Reference	**SE142463**

SUBMISSION DETAILS

This is to confirm that 49 samples were received on Friday 14/8/2015. Results are expected to be ready by Monday 24/8/2015. Please quote SGS reference SE142463 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	3 Soil,32 Sediment,14 Wat	Type of documentation received	COC
Date documentation received	14/8/2015	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	2°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice	Samples clearly labelled	Yes
Complete documentation received	Yes	Number of eskies/boxes received	

Samples will be held for one month for water samples and two months for soil samples from date of report, unless otherwise instructed.

COMMENTS

PRIVILEGED AND CONFIDENTIAL
`Not to be distributed or disclosed to any person other than Environmental Strategies'
TOC(Combustion) subcontracted to SGS Perth Environmental, 28 Reid Rd Perth Airport WA, NATA Accreditation Number 2562, Site Number 898.B_50_ESSD01 only one 500mL A/B received. No jarred samples received.
Grain Size Analysis subcontracted to SGS CMT Division-Unit 15, 33 Maddox Street Alexandria NSW 2015, NATA Accreditation Number: 2418.

Only 1 Trip Spike will be analysed.
Extra samples SW17 1 and FBEC11815 received.
11 samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.
Samples received at 14/8/15@7:45. Samples were not registered until the next working day.

SAMPLE RECEIPT ADVICE

SE142463

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED   Project 15106

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Metals in Soil by ICPOES	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	SD1 0-0.1	1	25	9	10	78	8
002	SD1 0.15-0.25	1	25	9	10	78	8
003	SD2 0-0.1	1	25	9	10	78	8
004	SD2 0.15-0.24	1	25	9	10	78	8
005	SD3 0-0.1	1	25	9	10	78	8
006	SD3 0.25-0.32	1	25	9	10	78	8
007	SD4 0-0.8	1	25	9	10	78	8
008	SD4 0.15-0.25	1	25	9	10	78	8
009	SD5 0-0.05	1	25	9	10	78	8
010	SD6 0-0.1	1	25	9	10	78	8
011	SD6 0.15-0.25	1	25	9	10	78	8
012	SD7 0-0.6	1	25	9	10	78	8
013	SD2 0.15-0.25	1	25	9	10	78	8
014	SD8 0-0.1	1	25	9	10	78	8
015	SD8 0.15-0.25	1	25	9	10	78	8
016	SD9 0-0.1	1	25	9	10	78	8
017	SD9 0.15-0.25	1	25	9	10	78	8
018	SD10 0-0.12	1	25	9	10	78	8
019	SD10 0.14-0.26	1	25	9	10	78	8
020	SD11 0-0.10	1	25	9	10	78	8
021	SD11 0.15-0.25	1	25	9	10	78	8
022	SD12 0-0.5	1	25	9	10	78	8
023	SD13 0.03-0.1	1	25	9	10	78	8
024	SD14 0-0.1	1	25	9	10	78	8

CONTINUED OVERLEAF

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SGS

SAMPLE RECEIPT ADVICE

SE142463

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED Project 15106

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Metals in Soil by ICPOES	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
025	SD14 0.15-0.25	1	25	9	10	78	8
026	SD15 0-0.04	1	25	9	10	78	8
027	SD16 0-0.1	1	25	9	10	78	8
028	SD16 0.15-0.25	1	25	9	10	78	8
029	SD17 0-0.1	1	25	9	10	78	8
030	SD17 0.15-0.25	1	25	9	10	78	8
031	QA1	1	25	9	10	78	8
032	QA3	1	25	9	10	78	8
033	QA5	1	25	9	10	78	8
037	Trip Blank	-	25	-	-	12	-
046	TRIP SPIKE	-	-	-	-	10	-

CONTINUED OVERLEAF

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
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Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE142463

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED Project 15106

SUMMARY OF ANALYSIS

No.	Sample ID	Moisture Content	Total Carbon and TOC by LECO Furnace
001	SD1 0-0.1	1	2
002	SD1 0.15-0.25	1	2
003	SD2 0-0.1	1	2
004	SD2 0.15-0.24	1	2
005	SD3 0-0.1	1	2
006	SD3 0.25-0.32	1	2
007	SD4 0-0.8	1	2
008	SD4 0.15-0.25	1	2
009	SD5 0-0.05	1	2
010	SD6 0-0.1	1	2
011	SD6 0.15-0.25	1	2
012	SD7 0-0.6	1	2
013	SD2 0.15-0.25	1	2
014	SD8 0-0.1	1	2
015	SD8 0.15-0.25	1	2
016	SD9 0-0.1	1	2
017	SD9 0.15-0.25	1	2
018	SD10 0-0.12	1	2
019	SD10 0.14-0.26	1	2
020	SD11 0-0.10	1	2
021	SD11 0.15-0.25	1	2
022	SD12 0-0.5	1	2
023	SD13 0.03-0.1	1	2
024	SD14 0-0.1	1	2

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE142463

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED Project 15106

SUMMARY OF ANALYSIS

No.	Sample ID	Conductivity and TDS by Calculation - Water	Forms of Carbon	Low Level PAH (Poly Aromatic Hydrocarbons) in	Moisture Content	Total Carbon and TOC by LECO Furnace	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
025	SD14 0.15-0.25	-	-	-	1	2	-	-	-
026	SD15 0-0.04	-	-	-	1	2	-	-	-
027	SD16 0-0.1	-	-	-	1	2	-	-	-
028	SD16 0.15-0.25	-	-	-	1	2	-	-	-
029	SD17 0-0.1	-	-	-	1	2	-	-	-
030	SD17 0.15-0.25	-	-	-	1	2	-	-	-
031	QA1	-	-	-	1	2	-	-	-
032	QA3	-	-	-	1	2	-	-	-
033	QA5	-	-	-	1	2	-	-	-
034	TBEC110815	-	-	-	-	-	-	12	-
035	TBEC120815	-	-	-	-	-	-	12	-
036	TBEC130815	-	-	-	-	-	-	12	-
038	RINEC110815	-	1	22	-	-	9	78	8
039	RINEC120815	-	1	22	-	-	9	78	8
040	RINEC130815	-	1	22	-	-	9	78	8
041	SW15 1	2	1	22	-	-	9	78	8
042	SW15 4.9	2	1	22	-	-	9	78	8
043	SW16 1	2	1	22	-	-	9	78	8
044	SW16 10	2	1	22	-	-	9	78	8
045	SW17 6.3	2	1	22	-	-	9	78	8
047	TRIP SPIKE	-	-	-	-	-	-	10	-
048	SW17 1	2	1	22	-	-	9	78	8

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE142463

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED   Project 15106

SUMMARY OF ANALYSIS

No.	Sample ID	Forms of Carbon	Low Level PAH (Poly Aromatic Hydrocarbons) in	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
049	FBEC11815	1	22	9	78	8

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE142463

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED Project 15106

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Mercury (total) in Water	Trace Metals (Dissolved) in Water by ICPMS	Trace Metals (Total) in Water by ICPMS
038	RINEC110815	1	1	9	9
039	RINEC120815	1	1	9	9
040	RINEC130815	1	1	9	9
041	SW15 1	1	1	9	9
042	SW15 4.9	1	1	9	9
043	SW16 1	1	1	9	9
044	SW16 10	1	1	9	9
045	SW17 6.3	1	1	9	9
048	SW17 1	1	1	9	9

CONTINUED OVERLEAF

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Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE142463

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED

Project 15106

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Mercury (total) in Water	Trace Metals (Dissolved) in Water by ICPMS	Trace Metals (Total) in Water by ICPMS
049	FBEC11815	1	1	9	9

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS		LABORATORY DETAILS	
Contact	Ryan Wells	Manager	Ros Ma
Client	ENVIRONMENTAL STRATEGIES GLOBAL PTY LTD	Laboratory	SGS Perth Environmental
Address	Suite 15201 Eveleigh NSW 2065	Address	28 Reid Rd Perth Airport WA 6105
Telephone	612 9690 2555	Telephone	(08) 9373 3500
Facsimile	02 8594 0499	Facsimile	(08) 9373 3556
Email	ryanwells@environmentalstrategies.com.au	Email	au.environmental.perth@sgs.com
Project	**SE142463_15106**	SGS Reference	**PE101189 R0**
Order Number	(Not specified)	Date Received	18 Aug 2015
Samples	34	Date Reported	26 Aug 2015

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(898/20210).

SIGNATORIES

Michael McKay
Inorganics and ARD Supervisor

Parameter	Units	LOR	PE101189.001	PE101189.002	PE101189.003	PE101189.004
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 Aug 2015	11 Aug 2015	11 Aug 2015	11 Aug 2015
Sample Name			SD1 0-0.1	SD1 0.15-0.25	SD2 0-0.1	SD2 0.15-0.24
Total Carbon and TOC by LECO Furnace Method: AN203 Tested: 24/8/2015						
Total Organic Carbon (TOC)	%w/w	0.02	9.1	11	28	15

Parameter	Units	LOR	PE101189.005	PE101189.006	PE101189.007	PE101189.008
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 Aug 2015	11 Aug 2015	12 Aug 2015	12 Aug 2015
Sample Name			SD3 0-0.1	SD3 0.25-0.32	SD4 0-0.8	SD4 0.15-0.25
Total Carbon and TOC by LECO Furnace Method: AN203 Tested: 24/8/2015						
Total Organic Carbon (TOC)	%w/w	0.02	1.4	17	53	40

Parameter	Units	LOR	PE101189.009	PE101189.010	PE101189.011	PE101189.012
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			12 Aug 2015	12 Aug 2015	12 Aug 2015	12 Aug 2015
Sample Name			SD5 0-0.05	SD6 0-0.1	SD6 0.15-0.25	SD7 0-0.06
Total Carbon and TOC by LECO Furnace Method: AN203 Tested: 24/8/2015						
Total Organic Carbon (TOC)	%w/w	0.02	1.4	6.8	9.2	9.7

Parameter	Units	LOR	PE101189.013	PE101189.014	PE101189.015	PE101189.016
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			12 Aug 2015	12 Aug 2015	12 Aug 2015	12 Aug 2015
Sample Name			SD7 0.15-0.25	SD8 0-0.1	SD8 0.15-0.25	SD9 0-0.1
Total Carbon and TOC by LECO Furnace Method: AN203 Tested: 24/8/2015						
Total Organic Carbon (TOC)	%w/w	0.02	24	5.2	4.4	12

Parameter	Units	LOR	PE101189.017	PE101189.018	PE101189.019	PE101189.020
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			12 Aug 2015	12 Aug 2015	12 Aug 2015	12 Aug 2015
Sample Name			SD9 0.15-0.25	SD10 0-0.12	SD10 0.14-0.26	SD11 0-0.10
Total Carbon and TOC by LECO Furnace Method: AN203 Tested: 24/8/2015						
Total Organic Carbon (TOC)	%w/w	0.02	11	6.8	11	4.9

Parameter	Units	LOR	PE101189.021	PE101189.022	PE101189.023	PE101189.024
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			12 Aug 2015	13 Aug 2015	12 Aug 2015	12 Aug 2015
Sample Name			SD11 0.15-0.25	SD12 0-0.5	SD13 0.03-0.1	SD14 0-0.1
Total Carbon and TOC by LECO Furnace Method: AN203 Tested: 24/8/2015						
Total Organic Carbon (TOC)	%w/w	0.02	5.5	46	1.9	1.1

Parameter	Units	LOR	Sample Number: PE101189.025 Sample Matrix: Soil Sample Date: 12 Aug 2015 Sample Name: SD14 0.15-0.25	PE101189.026 Soil 12 Aug 2015 SD15 0-0.04	PE101189.027 Soil 12 Aug 2015 SD16 0-0.1	PE101189.028 Soil 12 Aug 2015 SD16 0.15-0.25
Total Carbon and TOC by LECO Furnace Method: AN203 Tested: 24/8/2015						
Total Organic Carbon (TOC)	%w/w	0.02	0.71	2.1	0.95	0.50

Parameter	Units	LOR	PE101189.029	PE101189.030	PE101189.031	PE101189.032
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			12 Aug 2015	12 Aug 2015	12 Aug 2015	12 Aug 2015
Sample Name			SD17 0-0.1	SD17 0.15-0.25	QA1	QA3
Total Carbon and TOC by LECO Furnace Method: AN203 Tested: 24/8/2015						
Total Organic Carbon (TOC)	%w/w	0.02	3.9	3.1	33	28

Parameter	Units	LOR	PE101189.033	PE101189.034
Sample Number			PE101189.033	PE101189.034
Sample Matrix			Soil	Soil
Sample Date			13 Aug 2015	08 Jul 2015
Sample Name			QA5	Trip Blank
Total Carbon and TOC by LECO Furnace Method: AN203 Tested: 24/8/2015				
Total Organic Carbon (TOC)	%w/w	0.02	5.7	0.03

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage.* Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Total Carbon and TOC by LECO Furnace   Method: ME-(AU)-[ENV]AN203

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Organic Carbon (TOC)	LB107114	%w/w	0.02	<0.02	1 - 2%	102 - 103%
	LB107115	%w/w	0.02	<0.02	1%	94 - 108%

METHOD SUMMARY

METHOD	METHODOLOGY SUMMARY
AN203	The carbon in the sample is oxidised to carbon dioxide gas in a tube furnace using oxygen to aid the oxidation process. The evolved carbon dioxide is measure by an infra red cell. The infra red cell output is calibrated against the value of a known standard sample to provide the total carbon value of the unknown sample. The sample is pre-treated with hydrochloric acid to remove inorganic carbon/carbonate. The residual non-carbonate carbon is oxidised to carbon dioxide gas in a tube furnace using oxygen to aid the oxidation process. The evolved carbon dioxide is measure by an infra red cell. The infra red cell output is calibrated against the value of a known standard sample to provide the total organic carbon value of the unknown sample.

FOOTNOTES

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
**	Indicative data, theoretical holding time exceeded.	QFL	QC result is below the lower tolerance
^	Performed by outside laboratory.	-	The sample was not analysed for this analyte
		NVL	Not Validated

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

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.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

STATEMENT OF QA/QC PERFORMANCE

PE101189 R0

CLIENT DETAILS

Contact	Ryan Wells
Client	ENVIRONMENTAL STRATEGIES GLOBAL PTY LTD
Address	Suite 15201 Eveleigh NSW 2065
Telephone	612 9690 2555
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Email	ryanwells@environmentalstrategies.com.au
Project	**SE142463_15106**
Order Number	(Not specified)
Samples	34

LABORATORY DETAILS

Manager	Ros Ma
Laboratory	SGS Perth Environmental
Address	28 Reid Rd Perth Airport WA 6105
Telephone	(08) 9373 3500
Facsimile	(08) 9373 3556
Email	au.environmental.perth@sgs.com
SGS Reference	**PE101189 R0**
Date Received	18 Aug 2015
Date Reported	26 Aug 2015

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS Environmental Services' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document and was supplied by the Client.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Extraction Date	Total Carbon and TOC by LECO Furnace	1 item
Analysis Date	Total Carbon and TOC by LECO Furnace	1 item

SAMPLE SUMMARY

Sample counts by matrix	34 Soil	Type of documentation received	COC
Date documentation received	18/8/2015	Samples received in good order	Yes
Samples received without headspace	NA	Sample temperature upon receipt	16°C
Sample container provider	SGS	Turnaround time requested	4 Days
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice	Samples clearly labelled	Yes
Complete documentation received	Yes	Number of eskies/boxes received	1

HOLDING TIME SUMMARY

PE101189 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Total Carbon and TOC by LECO Furnace

Method: ME-(AU)-[ENV]AN203

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD1 0-0.1	PE101189.001	LB107114	11 Aug 2015	18 Aug 2015	08 Sep 2015	24 Aug 2015	08 Sep 2015	26 Aug 2015
SD1 0.15-0.25	PE101189.002	LB107114	11 Aug 2015	18 Aug 2015	08 Sep 2015	24 Aug 2015	08 Sep 2015	26 Aug 2015
SD2 0-0.1	PE101189.003	LB107114	11 Aug 2015	18 Aug 2015	08 Sep 2015	24 Aug 2015	08 Sep 2015	26 Aug 2015
SD2 0.15-0.24	PE101189.004	LB107114	11 Aug 2015	18 Aug 2015	08 Sep 2015	24 Aug 2015	08 Sep 2015	26 Aug 2015
SD3 0-0.1	PE101189.005	LB107114	11 Aug 2015	18 Aug 2015	08 Sep 2015	24 Aug 2015	08 Sep 2015	26 Aug 2015
SD3 0.25-0.32	PE101189.006	LB107114	11 Aug 2015	18 Aug 2015	08 Sep 2015	24 Aug 2015	08 Sep 2015	26 Aug 2015
SD4 0-0.8	PE101189.007	LB107114	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD4 0.15-0.25	PE101189.008	LB107114	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD5 0-0.05	PE101189.009	LB107114	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD6 0-0.1	PE101189.010	LB107114	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD6 0.15-0.25	PE101189.011	LB107114	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD7 0-0.06	PE101189.012	LB107114	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD7 0.15-0.25	PE101189.013	LB107114	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD8 0-0.1	PE101189.014	LB107114	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD8 0.15-0.25	PE101189.015	LB107114	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD9 0-0.1	PE101189.016	LB107114	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD9 0.15-0.25	PE101189.017	LB107114	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD10 0-0.12	PE101189.018	LB107114	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD10 0.14-0.26	PE101189.019	LB107114	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD11 0-0.10	PE101189.020	LB107115	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD11 0.15-0.25	PE101189.021	LB107115	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD12 0-0.5	PE101189.022	LB107115	13 Aug 2015	18 Aug 2015	10 Sep 2015	24 Aug 2015	10 Sep 2015	26 Aug 2015
SD13 0.03-0.1	PE101189.023	LB107115	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD14 0-0.1	PE101189.024	LB107115	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD14 0.15-0.25	PE101189.025	LB107115	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD15 0-0.04	PE101189.026	LB107115	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD16 0-0.1	PE101189.027	LB107115	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD16 0.15-0.25	PE101189.028	LB107115	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD17 0-0.1	PE101189.029	LB107115	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
SD17 0.15-0.25	PE101189.030	LB107115	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
QA1	PE101189.031	LB107115	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
QA3	PE101189.032	LB107115	12 Aug 2015	18 Aug 2015	09 Sep 2015	24 Aug 2015	09 Sep 2015	26 Aug 2015
QA5	PE101189.033	LB107115	13 Aug 2015	18 Aug 2015	10 Sep 2015	24 Aug 2015	10 Sep 2015	26 Aug 2015
Trip Blank	PE101189.034	LB107115	08 Jul 2015	18 Aug 2015	05 Aug 2015	24 Aug 2015†	05 Aug 2015	26 Aug 2015†

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No surrogates were required for this job.

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Total Carbon and TOC by LECO Furnace

Method: ME-(AU)-[ENV]AN203

Sample Number	Parameter	Units	LOR	Result
LB107114.001	Total Organic Carbon (TOC)	%w/w	0.02	<0.02
LB107115.001	Total Organic Carbon (TOC)	%w/w	0.02	<0.02

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Carbon and TOC by LECO Furnace

Method: ME-(AU)-[ENV]AN203

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
PE101189.002	LB107114.005	Total Organic Carbon (TOC)	%w/w	0.02	11	11	30	1
PE101189.013	LB107114.017	Total Organic Carbon (TOC)	%w/w	0.02	24	24	30	2
PE101189.024	LB107115.011	Total Organic Carbon (TOC)	%w/w	0.02	1.1	1.1	32	1
PE101189.033	LB107115.021	Total Organic Carbon (TOC)	%w/w	0.02	5.7	5.7	30	1

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Total Carbon and TOC by LECO Furnace

Method: ME-(AU)-[ENV]AN203

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB107114.002	Total Organic Carbon (TOC)	%w/w	0.02	1.0	1	80 - 120	103
LB107114.024	Total Organic Carbon (TOC)	%w/w	0.02	1.0	1	80 - 120	102
LB107115.002	Total Organic Carbon (TOC)	%w/w	0.02	0.94	1	80 - 120	94
LB107115.023	Total Organic Carbon (TOC)	%w/w	0.02	1.1	1	80 - 120	108

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spikes were required for this job.

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here:
http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

*	NATA accreditation does not cover tthe performance of this service .
-	Sample not analysed for this analyte.
^	Analysis performed by external laboratory.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.
①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Low surrogate recovery due to the sample emulsifying during extraction.
†	Refer to Analytical Report comments for further information.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS		LABORATORY DETAILS	
Contact	Ryan Wells	Manager	Huong Crawford
Client	ENVIRONMENTAL STRATEGIES PTY LIMITED	Laboratory	SGS Alexandria Environmental
Address	Suite 15201, Locomotive Workshop 2 Locomotive Street NSW 2015	Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	02 9690 2555 / 0408 649 917	Telephone	+61 2 8594 0400
Facsimile	(Not specified)	Facsimile	+61 2 8594 0499
Email	ryanwells@environmentalstrategies.com.au	Email	au.environmental.sydney@sgs.com
Project	**15106**	SGS Reference	**SE142588 R1**
Order Number	(Not specified)	Date Received	18/8/2015
Samples	72	Date Reported	13/11/2015

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

PRIVILEGED AND CONFIDENTIAL
`Not to be distributed or disclosed to any person other than Environmental Strategies'
TOC(Combustion) subcontracted to SGS Perth Environmental, 28 Reid Rd Perth Airport WA, NATA Accreditation Number 2562, Site Number 898.B_50_ESSD01 only one 500mL A/B received. No jarred samples received.
PAH - The Limit of Reporting (LOR) has been raised due to interferences from the sample matrix.
Ion Chromatography - The Limit of Reporting (LOR) has been raised due to high conductivity of the sample requiring dilution.

This report cancels and supersedes the report No.SE142588 R0 issued by SGS Environmental Services due to a revised calibration spike concentration for customer specific VOC LCS scheme.

SIGNATORIES

Andy Sutton
Senior Organic Chemist

Dong Liang
Metals/Inorganics Team Leader

Kamrul Ahsan
Senior Chemist

Ly Kim Ha
Organic Section Head

VOC's in Soil [AN433/AN434] Tested: 19/8/2015

PARAMETER	UOM	LOR	SD13 0-0.2 SEDIMENT - 15/8/2015 SE142588.001	SD18 0-0.18 SEDIMENT - 14/8/2015 SE142588.002	DS18 0.15-0.25 SEDIMENT - 14/8/2015 SE142588.003	SD19 0-0.01 SEDIMENT - 14/8/2015 SE142588.004	SD19 0.02-0.09 SEDIMENT - 14/8/2015 SE142588.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	<1	<1
Chloromethane	mg/kg	1	<1	<1	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	<1	<1	<1	<1	<1
Chloroethane	mg/kg	1	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	<10	<10
Iodomethane	mg/kg	5	<5	<5	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	<10	<10	<10	<10	<10
MEK (2-butanone)	mg/kg	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	<10	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1

VOC's in Soil [AN433/AN434] Tested: 19/8/2015 (continued)

PARAMETER	UOM	LOR	SD13 0-0.2 SEDIMENT - 15/8/2015 SE142588.001	SD18 0-0.18 SEDIMENT - 14/8/2015 SE142588.002	DS18 0.15-0.25 SEDIMENT - 14/8/2015 SE142588.003	SD19 0-0.01 SEDIMENT - 14/8/2015 SE142588.004	SD19 0.02-0.09 SEDIMENT - 14/8/2015 SE142588.005
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 19/8/2015 (continued)

PARAMETER	UOM	LOR	SD20 0-0.02 SEDIMENT - 14/8/2015 SE142588.006	SD21 0-0.03 SEDIMENT - 14/8/2015 SE142588.007	SD22 0-0.05 SEDIMENT - 14/8/2015 SE142588.008	SD23 0-0.1 SEDIMENT - 14/8/2015 SE142588.009	SD23 0.15-0.21 SEDIMENT - 14/8/2015 SE142588.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	<1	<1
Chloromethane	mg/kg	1	<1	<1	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	<1	<1	<1	<1	<1
Chloroethane	mg/kg	1	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	<10	<10
Iodomethane	mg/kg	5	<5	<5	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	<10	<10	<10	<10	<10
MEK (2-butanone)	mg/kg	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	<10	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1

VOC's in Soil [AN433/AN434] Tested: 19/8/2015 (continued)

PARAMETER	UOM	LOR	SD20 0-0.02 SEDIMENT - 14/8/2015 SE142588.006	SD21 0-0.03 SEDIMENT - 14/8/2015 SE142588.007	SD22 0-0.05 SEDIMENT - 14/8/2015 SE142588.008	SD23 0-0.1 SEDIMENT - 14/8/2015 SE142588.009	SD23 0.15-0.21 SEDIMENT - 14/8/2015 SE142588.010
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 19/8/2015 (continued)

			SD24 0-0.04	SD24 0.1-0.2	SD25 0-0.1	SD25 0.15-0.25	SD25 0.4-0.5
			SEDIMENT - 14/8/2015	SOIL - 14/8/2015	SOIL - 15/8/2015	SEDIMENT - 15/8/2015	SEDIMENT - 15/8/2015
PARAMETER	UOM	LOR	SE142588.011	SE142588.012	SE142588.013	SE142588.014	SE142588.015
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	<1	<1
Chloromethane	mg/kg	1	<1	<1	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	<1	<1	<1	<1	<1
Chloroethane	mg/kg	1	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	<10	<10
Iodomethane	mg/kg	5	<5	<5	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	<10	<10	<10	<10	<10
MEK (2-butanone)	mg/kg	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	<10	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1

VOC's in Soil [AN433/AN434] Tested: 19/8/2015 (continued)

PARAMETER	UOM	LOR	SD24 0-0.04 SEDIMENT - 14/8/2015 SE142588.011	SD24 0.1-0.2 SOIL - 14/8/2015 SE142588.012	SD25 0-0.1 SOIL - 15/8/2015 SE142588.013	SD25 0.15-0.25 SEDIMENT - 15/8/2015 SE142588.014	SD25 0.4-0.5 SEDIMENT - 15/8/2015 SE142588.015
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 19/8/2015 (continued)

PARAMETER	UOM	LOR	SD26 0-0.05 SEDIMENT - 15/8/2015 SE142588.016	SD27 0-0.04 SEDIMENT - 15/8/2015 SE142588.017	SD28 0-0.02 SEDIMENT - 15/8/2015 SE142588.018	Trip Spike SOIL - 11/8/2015 SE142588.066
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	[103%]
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	[102%]
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	[97%]
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	[96%]
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	[95%]
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	-
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	-
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	-
Chloromethane	mg/kg	1	<1	<1	<1	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	-
Bromomethane	mg/kg	1	<1	<1	<1	-
Chloroethane	mg/kg	1	<1	<1	<1	-
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	-
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	-
Iodomethane	mg/kg	5	<5	<5	<5	-
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	-
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	-
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	-
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	-
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	-
Vinyl acetate	mg/kg	10	<10	<10	<10	-
MEK (2-butanone)	mg/kg	10	<10	<10	<10	-
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	-
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	-
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	-
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	-
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	-
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	-
2-nitropropane	mg/kg	10	<10	<10	<10	-
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	-
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	-
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	-
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	-
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	-
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	-
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	-
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	-
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	-
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	-

VOC's in Soil [AN433/AN434] Tested: 19/8/2015 (continued)

PARAMETER	UOM	LOR	SD26 0-0.05 SEDIMENT - 15/8/2015 SE142588.016	SD27 0-0.04 SEDIMENT - 15/8/2015 SE142588.017	SD28 0-0.02 SEDIMENT - 15/8/2015 SE142588.018	Trip Spike SOIL - 11/8/2015 SE142588.066
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	-
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	-
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	-
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	-
Total VOC*	mg/kg	24	-	-	-	-

Volatile Petroleum Hydrocarbons in Soil [AN433/AN434/AN410] Tested: 19/8/2015

PARAMETER	UOM	LOR	SD13 0-0.2 SEDIMENT - 15/8/2015 SE142588.001	SD18 0-0.18 SEDIMENT - 14/8/2015 SE142588.002	DS18 0.15-0.25 SEDIMENT - 14/8/2015 SE142588.003	SD19 0-0.01 SEDIMENT - 14/8/2015 SE142588.004	SD19 0.02-0.09 SEDIMENT - 14/8/2015 SE142588.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SD20 0-0.02 SEDIMENT - 14/8/2015 SE142588.006	SD21 0-0.03 SEDIMENT - 14/8/2015 SE142588.007	SD22 0-0.05 SEDIMENT - 14/8/2015 SE142588.008	SD23 0-0.1 SEDIMENT - 14/8/2015 SE142588.009	SD23 0.15-0.21 SEDIMENT - 14/8/2015 SE142588.010
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SD24 0-0.04 SEDIMENT - 14/8/2015 SE142588.011	SD24 0.1-0.2 SOIL - 14/8/2015 SE142588.012	SD25 0-0.1 SOIL - 15/8/2015 SE142588.013	SD25 0.15-0.25 SEDIMENT - 15/8/2015 SE142588.014	SD25 0.4-0.5 SEDIMENT - 15/8/2015 SE142588.015
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SD26 0-0.05 SEDIMENT - 15/8/2015 SE142588.016	SD27 0-0.04 SEDIMENT - 15/8/2015 SE142588.017	SD28 0-0.02 SEDIMENT - 15/8/2015 SE142588.018
TRH C6-C9	mg/kg	20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 20/8/2015

PARAMETER	UOM	LOR	SD13 0-0.2 SEDIMENT - 15/8/2015 SE142588.001	SD18 0-0.18 SEDIMENT - 14/8/2015 SE142588.002	DS18 0.15-0.25 SEDIMENT - 14/8/2015 SE142588.003	SD19 0-0.01 SEDIMENT - 14/8/2015 SE142588.004	SD19 0.02-0.09 SEDIMENT - 14/8/2015 SE142588.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	450	<45	<45	100	<45
TRH C29-C36	mg/kg	45	200	<45	<45	100	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	41	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	41	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	620	<90	<90	190	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	670	<110	<110	200	<110
TRH C10-C40 Total	mg/kg	210	670	<210	<210	<210	<210

PARAMETER	UOM	LOR	SD20 0-0.02 SEDIMENT - 14/8/2015 SE142588.006	SD21 0-0.03 SEDIMENT - 14/8/2015 SE142588.007	SD22 0-0.05 SEDIMENT - 14/8/2015 SE142588.008	SD23 0-0.1 SEDIMENT - 14/8/2015 SE142588.009	SD23 0.15-0.21 SEDIMENT - 14/8/2015 SE142588.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	91	170	200	330	<45
TRH C29-C36	mg/kg	45	54	130	110	250	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	140	300	300	570	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	150	310	310	580	<110
TRH C10-C40 Total	mg/kg	210	<210	310	310	580	<210

PARAMETER	UOM	LOR	SD24 0-0.04 SEDIMENT - 14/8/2015 SE142588.011	SD24 0.1-0.2 SOIL - 14/8/2015 SE142588.012	SD25 0-0.1 SOIL - 15/8/2015 SE142588.013	SD25 0.15-0.25 SEDIMENT - 15/8/2015 SE142588.014	SD25 0.4-0.5 SEDIMENT - 15/8/2015 SE142588.015
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	360	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	250	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	590	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	610	<110	<110	<110	<110
TRH C10-C40 Total	mg/kg	210	610	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SD26 0-0.05 SEDIMENT - 15/8/2015 SE142588.016	SD27 0-0.04 SEDIMENT - 15/8/2015 SE142588.017	SD28 0-0.02 SEDIMENT - 15/8/2015 SE142588.018
TRH C10-C14	mg/kg	20	88	<20	<20
TRH C15-C28	mg/kg	45	770	<45	51
TRH C29-C36	mg/kg	45	290	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	150	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	150	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	970	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	1100	<110	<110
TRH C10-C40 Total	mg/kg	210	1100	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 20/8/2015

PARAMETER	UOM	LOR	SD13 0-0.2 SEDIMENT - 15/8/2015 SE142588.001	SD18 0-0.18 SEDIMENT - 14/8/2015 SE142588.002	DS18 0.15-0.25 SEDIMENT - 14/8/2015 SE142588.003	SD19 0-0.01 SEDIMENT - 14/8/2015 SE142588.004	SD19 0.02-0.09 SEDIMENT - 14/8/2015 SE142588.005
Naphthalene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	0.4	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	0.3	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.9	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	1.5	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	1.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	0.7	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	0.6	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.5	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	0.4	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	0.5	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	0.4	<0.2	<0.2	<0.2	<0.2
Total PAH	mg/kg	0.8	7.4	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	SD20 0-0.02 SEDIMENT - 14/8/2015 SE142588.006	SD21 0-0.03 SEDIMENT - 14/8/2015 SE142588.007	SD22 0-0.05 SEDIMENT - 14/8/2015 SE142588.008	SD23 0-0.1 SEDIMENT - 14/8/2015 SE142588.009	SD23 0.15-0.21 SEDIMENT - 14/8/2015 SE142588.010
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	0.2	0.5	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	0.3	0.8	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	0.2	0.6	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	0.1	0.4	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	0.1	0.3	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	0.3	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	0.2	<0.2	<0.2
Total PAH	mg/kg	0.8	<0.8	1.4	3.6	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SD24 0-0.04 SEDIMENT - 14/8/2015 SE142588.011	SD24 0.1-0.2 SOIL - 14/8/2015 SE142588.012	SD25 0-0.1 SOIL - 15/8/2015 SE142588.013	SD25 0.15-0.25 SEDIMENT - 15/8/2015 SE142588.014	SD25 0.4-0.5 SEDIMENT - 15/8/2015 SE142588.015
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.3	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.4	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	0.3	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH	mg/kg	0.8	2.2	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	SD26 0-0.05 SEDIMENT - 15/8/2015 SE142588.016	SD27 0-0.04 SEDIMENT - 15/8/2015 SE142588.017	SD28 0-0.02 SEDIMENT - 15/8/2015 SE142588.018
Naphthalene	mg/kg	0.1	<0.5↑	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	0.8	0.2	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.5↑	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.5↑	<0.1	<0.1
Fluorene	mg/kg	0.1	0.5	0.1	<0.1
Phenanthrene	mg/kg	0.1	1.3	0.3	<0.1
Anthracene	mg/kg	0.1	<0.5↑	<0.1	<0.1
Fluoranthene	mg/kg	0.1	2.1	0.3	<0.1
Pyrene	mg/kg	0.1	1.6	0.3	<0.1
Benzo(a)anthracene	mg/kg	0.1	1.1	0.2	<0.1
Chrysene	mg/kg	0.1	0.8	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<1.0↑	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.5↑	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.3	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.2↑	<0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	0.2	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	<1.0↑	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<1.5↑	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<1.0↑	<0.2	<0.2
Total PAH	mg/kg	0.8	11	2.2	<0.8

Total Recoverable Metals in Soil by ICPOES [AN040/AN320] Tested: 21/8/2015

PARAMETER	UOM	LOR	SD13 0-0.2 SEDIMENT - 15/8/2015 SE142588.001	SD18 0-0.18 SEDIMENT - 14/8/2015 SE142588.002	DS18 0.15-0.25 SEDIMENT - 14/8/2015 SE142588.003	SD19 0-0.01 SEDIMENT - 14/8/2015 SE142588.004	SD19 0.02-0.09 SEDIMENT - 14/8/2015 SE142588.005
Arsenic, As	mg/kg	1	24	6	4	21	12
Cadmium, Cd	mg/kg	0.3	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	19	5.9	5.6	16	8.1
Copper, Cu	mg/kg	0.5	190	12	2.8	100	13
Nickel, Ni	mg/kg	0.5	29	7.0	2.9	32	10
Lead, Pb	mg/kg	1	14	7	7	12	11
Zinc, Zn	mg/kg	0.5	96	13	7.2	66	27
Selenium, Se	mg/kg	3	11	<3	<3	5	<3
Boron, B	mg/kg	5	9	<5	<5	10	<5

PARAMETER	UOM	LOR	SD20 0-0.02 SEDIMENT - 14/8/2015 SE142588.006	SD21 0-0.03 SEDIMENT - 14/8/2015 SE142588.007	SD22 0-0.05 SEDIMENT - 14/8/2015 SE142588.008	SD23 0-0.1 SEDIMENT - 14/8/2015 SE142588.009	SD23 0.15-0.21 SEDIMENT - 14/8/2015 SE142588.010
Arsenic, As	mg/kg	1	13	17	20	22	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	0.4	<0.3
Chromium, Cr	mg/kg	0.3	10	23	20	26	7.2
Copper, Cu	mg/kg	0.5	67	100	81	190	4.2
Nickel, Ni	mg/kg	0.5	14	25	23	41	4.4
Lead, Pb	mg/kg	1	9	13	14	18	7
Zinc, Zn	mg/kg	0.5	40	52	59	78	8.9
Selenium, Se	mg/kg	3	<3	5	4	17	<3
Boron, B	mg/kg	5	<5	8	8	16	<5

PARAMETER	UOM	LOR	SD24 0-0.04 SEDIMENT - 14/8/2015 SE142588.011	SD24 0.1-0.2 SOIL - 14/8/2015 SE142588.012	SD25 0-0.1 SOIL - 15/8/2015 SE142588.013	SD25 0.15-0.25 SEDIMENT - 15/8/2015 SE142588.014	SD25 0.4-0.5 SEDIMENT - 15/8/2015 SE142588.015
Arsenic, As	mg/kg	1	20	5	3	3	4
Cadmium, Cd	mg/kg	0.3	0.4	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	24	15	6.5	6.3	8.7
Copper, Cu	mg/kg	0.5	170	16	8.4	3.6	5.9
Nickel, Ni	mg/kg	0.5	33	8.0	7.5	5.1	4.5
Lead, Pb	mg/kg	1	17	12	7	6	9
Zinc, Zn	mg/kg	0.5	77	11	22	11	12
Selenium, Se	mg/kg	3	14	<3	<3	<3	<3
Boron, B	mg/kg	5	12	<5	<5	<5	<5

PARAMETER	UOM	LOR	SD26 0-0.05 SEDIMENT - 15/8/2015 SE142588.016	SD27 0-0.04 SEDIMENT - 15/8/2015 SE142588.017	SD28 0-0.02 SEDIMENT - 15/8/2015 SE142588.018
Arsenic, As	mg/kg	1	22	22	12
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	11	12	6.4
Copper, Cu	mg/kg	0.5	110	76	26
Nickel, Ni	mg/kg	0.5	16	18	9.6
Lead, Pb	mg/kg	1	13	13	4
Zinc, Zn	mg/kg	0.5	72	65	26
Selenium, Se	mg/kg	3	7	3	4
Boron, B	mg/kg	5	8	5	10

Mercury in Soil [AN312] Tested: 21/8/2015

PARAMETER	UOM	LOR	SD13 0-0.2 SEDIMENT - 15/8/2015 SE142588.001	SD18 0-0.18 SEDIMENT - 14/8/2015 SE142588.002	DS18 0.15-0.25 SEDIMENT - 14/8/2015 SE142588.003	SD19 0-0.01 SEDIMENT - 14/8/2015 SE142588.004	SD19 0.02-0.09 SEDIMENT - 14/8/2015 SE142588.005
Mercury	mg/kg	0.01	0.22	0.01	<0.01	0.06	0.03

PARAMETER	UOM	LOR	SD20 0-0.02 SEDIMENT - 14/8/2015 SE142588.006	SD21 0-0.03 SEDIMENT - 14/8/2015 SE142588.007	SD22 0-0.05 SEDIMENT - 14/8/2015 SE142588.008	SD23 0-0.1 SEDIMENT - 14/8/2015 SE142588.009	SD23 0.15-0.21 SEDIMENT - 14/8/2015 SE142588.010
Mercury	mg/kg	0.01	0.09	0.09	0.12	0.10	0.01

PARAMETER	UOM	LOR	SD24 0-0.04 SEDIMENT - 14/8/2015 SE142588.011	SD24 0.1-0.2 SOIL - 14/8/2015 SE142588.012	SD25 0-0.1 SOIL - 15/8/2015 SE142588.013	SD25 0.15-0.25 SEDIMENT - 15/8/2015 SE142588.014	SD25 0.4-0.5 SEDIMENT - 15/8/2015 SE142588.015
Mercury	mg/kg	0.01	0.15	0.01	0.02	0.02	<0.01

PARAMETER	UOM	LOR	SD26 0-0.05 SEDIMENT - 15/8/2015 SE142588.016	SD27 0-0.04 SEDIMENT - 15/8/2015 SE142588.017	SD28 0-0.02 SEDIMENT - 15/8/2015 SE142588.018
Mercury	mg/kg	0.01	0.57	0.09	0.02

Total Carbon and TOC by LECO Furnace [AN203] Tested: -

PARAMETER	UOM	LOR	SD13 0-0.2 SEDIMENT - 15/8/2015 SE142588.001	SD18 0-0.18 SEDIMENT - 14/8/2015 SE142588.002	DS18 0.15-0.25 SEDIMENT - 14/8/2015 SE142588.003	SD19 0-0.01 SEDIMENT - 14/8/2015 SE142588.004	SD19 0.02-0.09 SEDIMENT - 14/8/2015 SE142588.005
Total Carbon*	%w/w	0.02	-	-	-	-	-
Total Organic Carbon (TOC)*	%w/w	0.02	19	2.7	3.7	0.87	5.7

PARAMETER	UOM	LOR	SD20 0-0.02 SEDIMENT - 14/8/2015 SE142588.006	SD21 0-0.03 SEDIMENT - 14/8/2015 SE142588.007	SD22 0-0.05 SEDIMENT - 14/8/2015 SE142588.008	SD23 0-0.1 SEDIMENT - 14/8/2015 SE142588.009	SD23 0.15-0.21 SEDIMENT - 14/8/2015 SE142588.010
Total Carbon*	%w/w	0.02	-	-	-	-	-
Total Organic Carbon (TOC)*	%w/w	0.02	0.86	0.94	0.18	0.13	30

PARAMETER	UOM	LOR	SD24 0-0.04 SEDIMENT - 14/8/2015 SE142588.011	SD24 0.1-0.2 SOIL - 14/8/2015 SE142588.012	SD25 0-0.1 SOIL - 15/8/2015 SE142588.013	SD25 0.15-0.25 SEDIMENT - 15/8/2015 SE142588.014	SD25 0.4-0.5 SEDIMENT - 15/8/2015 SE142588.015
Total Carbon*	%w/w	0.02	-	-	-	-	-
Total Organic Carbon (TOC)*	%w/w	0.02	8.6	2.0	1.6	0.77	1.7

PARAMETER	UOM	LOR	SD26 0-0.05 SEDIMENT - 15/8/2015 SE142588.016	SD27 0-0.04 SEDIMENT - 15/8/2015 SE142588.017	SD28 0-0.02 SEDIMENT - 15/8/2015 SE142588.018
Total Carbon*	%w/w	0.02	-	-	-
Total Organic Carbon (TOC)*	%w/w	0.02	0.79	1.4	1.0

Moisture Content [AN002] Tested: 19/8/2015

PARAMETER	UOM	LOR	SD13 0-0.2 SEDIMENT - 15/8/2015 SE142588.001	SD18 0-0.18 SEDIMENT - 14/8/2015 SE142588.002	DS18 0.15-0.25 SEDIMENT - 14/8/2015 SE142588.003	SD19 0-0.01 SEDIMENT - 14/8/2015 SE142588.004	SD19 0.02-0.09 SEDIMENT - 14/8/2015 SE142588.005
% Moisture	%	0.5	61	27	21	57	31

PARAMETER	UOM	LOR	SD20 0-0.02 SEDIMENT - 14/8/2015 SE142588.006	SD21 0-0.03 SEDIMENT - 14/8/2015 SE142588.007	SD22 0-0.05 SEDIMENT - 14/8/2015 SE142588.008	SD23 0-0.1 SEDIMENT - 14/8/2015 SE142588.009	SD23 0.15-0.21 SEDIMENT - 14/8/2015 SE142588.010
% Moisture	%	0.5	45	58	47	79	23

PARAMETER	UOM	LOR	SD24 0-0.04 SEDIMENT - 14/8/2015 SE142588.011	SD24 0.1-0.2 SOIL - 14/8/2015 SE142588.012	SD25 0-0.1 SOIL - 15/8/2015 SE142588.013	SD25 0.15-0.25 SEDIMENT - 15/8/2015 SE142588.014	SD25 0.4-0.5 SEDIMENT - 15/8/2015 SE142588.015
% Moisture	%	0.5	74	23	22	18	15

PARAMETER	UOM	LOR	SD26 0-0.05 SEDIMENT - 15/8/2015 SE142588.016	SD27 0-0.04 SEDIMENT - 15/8/2015 SE142588.017	SD28 0-0.02 SEDIMENT - 15/8/2015 SE142588.018
% Moisture	%	0.5	52	40	35

VOCs in Water [AN433/AN434] Tested: 20/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	<5	<5	<5
Chloromethane	µg/L	5	<5	<5	<5	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Bromomethane	µg/L	10	<10	<10	<10	<10	<10
Chloroethane	µg/L	5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	µg/L	10	<10	<10	<10	<10	<10
Iodomethane	µg/L	5	<5	<5	<5	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	<4	<4	<4
Allyl chloride	µg/L	2	<2	<2	<2	<2	<2
Carbon disulfide	µg/L	2	<2	<2	<2	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	<2	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	<10	<10	<10	<10
MEK (2-butanone)	µg/L	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitropropane	µg/L	100	<100	<100	<100	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	<5	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total VOC	µg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	<5	<5	<5
Chloromethane	µg/L	5	<5	<5	<5	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Bromomethane	µg/L	10	<10	<10	<10	<10	<10
Chloroethane	µg/L	5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	µg/L	10	<10	<10	<10	<10	<10
Iodomethane	µg/L	5	<5	<5	<5	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	<4	<4	<4
Allyl chloride	µg/L	2	<2	<2	<2	<2	<2
Carbon disulfide	µg/L	2	<2	<2	<2	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	<2	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	<10	<10	<10	<10
MEK (2-butanone)	µg/L	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitropropane	µg/L	100	<100	<100	<100	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	<5	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Isopropylbenzene (Cumene)	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propylbenzene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-butylbenzene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trimethylbenzene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-butylbenzene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	μg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
p-isopropyltoluene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichlorobenzene	μg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total VOC	μg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

			SW6 3.2	SW7 1	SW8 1	SW8 5.6	SW9 1
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			15/8/2015	15/8/2015	15/8/2015	15/8/2015	15/8/2015
PARAMETER	UOM	LOR	SE142588.029	SE142588.030	SE142588.031	SE142588.032	SE142588.033
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	<5	<5	<5
Chloromethane	µg/L	5	<5	<5	<5	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Bromomethane	µg/L	10	<10	<10	<10	<10	<10
Chloroethane	µg/L	5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	µg/L	10	<10	<10	<10	<10	<10
Iodomethane	µg/L	5	<5	<5	<5	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	<4	<4	<4
Allyl chloride	µg/L	2	<2	<2	<2	<2	<2
Carbon disulfide	µg/L	2	<2	<2	<2	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	<2	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	<10	<10	<10	<10
MEK (2-butanone)	µg/L	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitropropane	µg/L	100	<100	<100	<100	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	<5	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

			SW6 3.2	SW7 1	SW8 1	SW8 5.6	SW9 1
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			15/8/2015	15/8/2015	15/8/2015	15/8/2015	15/8/2015
PARAMETER	UOM	LOR	SE142588.029	SE142588.030	SE142588.031	SE142588.032	SE142588.033
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total VOC	µg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	<5	<5	<5
Chloromethane	µg/L	5	<5	<5	<5	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Bromomethane	µg/L	10	<10	<10	<10	<10	<10
Chloroethane	µg/L	5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	µg/L	10	<10	<10	<10	<10	<10
Iodomethane	µg/L	5	<5	<5	<5	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	<4	<4	<4
Allyl chloride	µg/L	2	<2	<2	<2	<2	<2
Carbon disulfide	µg/L	2	<2	<2	<2	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	<2	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	<10	<10	<10	<10
MEK (2-butanone)	µg/L	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitropropane	µg/L	100	<100	<100	<100	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	<5	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total VOC	µg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	<5	<5	<5
Chloromethane	µg/L	5	<5	<5	<5	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Bromomethane	µg/L	10	<10	<10	<10	<10	<10
Chloroethane	µg/L	5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	µg/L	10	<10	<10	<10	<10	<10
Iodomethane	µg/L	5	<5	<5	<5	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	<4	<4	<4
Allyl chloride	µg/L	2	<2	<2	<2	<2	<2
Carbon disulfide	µg/L	2	<2	<2	<2	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	<2	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	<10	<10	<10	<10
MEK (2-butanone)	µg/L	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitropropane	µg/L	100	<100	<100	<100	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	<5	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total VOC	µg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	<5	<5	<5
Chloromethane	µg/L	5	<5	<5	<5	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Bromomethane	µg/L	10	<10	<10	<10	<10	<10
Chloroethane	µg/L	5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	µg/L	10	<10	<10	<10	<10	<10
Iodomethane	µg/L	5	<5	<5	<5	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	<4	<4	<4
Allyl chloride	µg/L	2	<2	<2	<2	<2	<2
Carbon disulfide	µg/L	2	<2	<2	<2	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	<2	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	<10	<10	<10	<10
MEK (2-butanone)	µg/L	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitropropane	µg/L	100	<100	<100	<100	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	<5	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total VOC	µg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	<5	<5	<5
Chloromethane	µg/L	5	<5	<5	<5	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Bromomethane	µg/L	10	<10	<10	<10	<10	<10
Chloroethane	µg/L	5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	µg/L	10	<10	<10	<10	<10	<10
Iodomethane	µg/L	5	<5	<5	<5	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	<4	<4	<4
Allyl chloride	µg/L	2	<2	<2	<2	<2	<2
Carbon disulfide	µg/L	2	<2	<2	<2	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	<2	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	<10	<10	<10	<10
MEK (2-butanone)	µg/L	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitropropane	µg/L	100	<100	<100	<100	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	<5	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total VOC	µg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	<5	<5	<5
Chloromethane	µg/L	5	<5	<5	<5	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Bromomethane	µg/L	10	<10	<10	<10	<10	<10
Chloroethane	µg/L	5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	µg/L	10	<10	<10	<10	<10	<10
Iodomethane	µg/L	5	<5	<5	<5	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	<4	<4	<4
Allyl chloride	µg/L	2	<2	<2	<2	<2	<2
Carbon disulfide	µg/L	2	<2	<2	<2	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	<2	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	<10	<10	<10	<10
MEK (2-butanone)	µg/L	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitropropane	µg/L	100	<100	<100	<100	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	<5	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

			SW22 9.3	SW23 1	SW23 24.4	SW24 1	SW24 19.6
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			14/8/2015	14/8/2015	14/8/2015	14/8/2015	14/8/2015
PARAMETER	UOM	LOR	SE142588.054	SE142588.055	SE142588.056	SE142588.057	SE142588.058
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total VOC	µg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	<5	<5	<5
Chloromethane	µg/L	5	<5	<5	<5	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Bromomethane	µg/L	10	<10	<10	<10	<10	<10
Chloroethane	µg/L	5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	µg/L	10	<10	<10	<10	<10	<10
Iodomethane	µg/L	5	<5	<5	<5	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	<4	<4	<4
Allyl chloride	µg/L	2	<2	<2	<2	<2	<2
Carbon disulfide	µg/L	2	<2	<2	<2	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	<2	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	<10	<10	<10	<10
MEK (2-butanone)	µg/L	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitropropane	µg/L	100	<100	<100	<100	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	<5	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

			SW25 1	SW25 21.2	SW26 1	SW26 7.9	QA1
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			15/8/2015	15/8/2015	15/8/2015	15/8/2015	15/8/2015
PARAMETER	UOM	LOR	SE142588.059	SE142588.060	SE142588.061	SE142588.062	SE142588.063
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total VOC	µg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

			QA3	QA5	Trip Spike	TBEC140815	TBEC150815
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			15/8/2015	15/8/2015	11/8/2015	14/8/2015	15/8/2015
PARAMETER	UOM	LOR	SE142588.064	SE142588.065	SE142588.067	SE142588.068	SE142588.069
Benzene	µg/L	0.5	<0.5	<0.5	[80%]	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	[100%]	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	[86%]	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	[85%]	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	[90%]	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	-	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	-	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	-	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	-	-	-
Chloromethane	µg/L	5	<5	<5	-	-	-
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	-	-	-
Bromomethane	µg/L	10	<10	<10	-	-	-
Chloroethane	µg/L	5	<5	<5	-	-	-
Trichlorofluoromethane	µg/L	1	<1	<1	-	-	-
Acetone (2-propanone)	µg/L	10	<10	<10	-	-	-
Iodomethane	µg/L	5	<5	<5	-	-	-
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	-	-	-
Acrylonitrile	µg/L	0.5	<0.5	<0.5	-	-	-
Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	-	-	-
Allyl chloride	µg/L	2	<2	<2	-	-	-
Carbon disulfide	µg/L	2	<2	<2	-	-	-
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	-	-	-
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	-	-	-
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
Vinyl acetate	µg/L	10	<10	<10	-	-	-
MEK (2-butanone)	µg/L	10	<10	<10	-	-	-
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	-	-	-
Bromochloromethane	µg/L	0.5	<0.5	<0.5	-	-	-
Chloroform (THM)	µg/L	0.5	<0.5	<0.5	-	-	-
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	-	-	-
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	-	-	-
Dibromomethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	-	-	-
2-nitropropane	µg/L	100	<100	<100	-	-	-
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	-	-	-
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	-	-	-
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	-	-	-
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	-	-	-
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	-	-	-
2-hexanone (MBK)	µg/L	5	<5	<5	-	-	-
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	-	-	-
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	-	-	-
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
Chlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	-	-	-
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	-	-	-
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	-	-	-
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	-	-	-

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

			QA3	QA5	Trip Spike	TBEC140815	TBEC150815
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			15/8/2015	15/8/2015	11/8/2015	14/8/2015	15/8/2015
PARAMETER	UOM	LOR	SE142588.064	SE142588.065	SE142588.067	SE142588.068	SE142588.069
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	-	-	-
Bromobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
n-propylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	-	-	-
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	-	-	-
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	-	-	-
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	-	-	-
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
n-butylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	-	-	-
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
Total VOC	µg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
Benzene	µg/L	0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5
Chloromethane	µg/L	5	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3
Bromomethane	µg/L	10	<10	<10
Chloroethane	µg/L	5	<5	<5
Trichlorofluoromethane	µg/L	1	<1	<1
Acetone (2-propanone)	µg/L	10	<10	<10
Iodomethane	µg/L	5	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	4	<4	<4
Allyl chloride	µg/L	2	<2	<2
Carbon disulfide	µg/L	2	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	<10
MEK (2-butanone)	µg/L	10	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	<0.5	<0.5
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5
2-nitropropane	µg/L	100	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1

VOCs in Water [AN433/AN434] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5
Bromobenzene	µg/L	0.5	<0.5	<0.5
n-propylbenzene	µg/L	0.5	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5
tert-butylbenzene	µg/L	0.5	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5
sec-butylbenzene	µg/L	0.5	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5
n-butylbenzene	µg/L	0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5
Total VOC	µg/L	10	-	-

Volatile Petroleum Hydrocarbons in Water [AN433/AN434/AN410] Tested: 20/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

Volatile Petroleum Hydrocarbons in Water [AN433/AN434/AN410] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
TRH C6-C9	µg/L	40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 20/8/2015

			SW1 1	SW1 7.1	SW2 1	SW2 2.4	SW3 1
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			15/8/2015	15/8/2015	15/8/2015	15/8/2015	15/8/2015
PARAMETER	**UOM**	**LOR**	**SE142588.019**	**SE142588.020**	**SE142588.021**	**SE142588.022**	**SE142588.023**
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650	<650

			SW4 1	SW4 2.5	SW5 1	SW5 3.1	SW6 1
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			15/8/2015	15/8/2015	15/8/2015	15/8/2015	15/8/2015
PARAMETER	**UOM**	**LOR**	**SE142588.024**	**SE142588.025**	**SE142588.026**	**SE142588.027**	**SE142588.028**
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650	<650

			SW6 3.2	SW7 1	SW8 1	SW8 5.6	SW9 1
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			15/8/2015	15/8/2015	15/8/2015	15/8/2015	15/8/2015
PARAMETER	**UOM**	**LOR**	**SE142588.029**	**SE142588.030**	**SE142588.031**	**SE142588.032**	**SE142588.033**
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650	<650

			SW9 3.1	SW10 1	SW10 11.8	SW11 1	SW11 5.1
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			15/8/2015	15/8/2015	15/8/2015	15/8/2015	15/8/2015
PARAMETER	**UOM**	**LOR**	**SE142588.034**	**SE142588.035**	**SE142588.036**	**SE142588.037**	**SE142588.038**
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650	<650

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650	<650

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650	<650

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650	<650

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650	<650

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650	<650

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
TRH C10-C14	µg/L	50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650

Low Level PAH (Poly Aromatic Hydrocarbons) in Water [AN420] Tested: 20/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Naphthalene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a&h)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carcinogenic PAHs (as BaP TEQ) - assume non detects	TEQ	0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Total PAH VIC EPA Guidelines (16)*	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Naphthalene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a&h)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carcinogenic PAHs (as BaP TEQ) - assume non detects	TEQ	0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Total PAH VIC EPA Guidelines (16)*	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Low Level PAH (Poly Aromatic Hydrocarbons) in Water [AN420] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
Naphthalene	μg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-methylnaphthalene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1-methylnaphthalene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b&j&k)fluoranthene	μg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a&h)anthracene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carcinogenic PAHs (as BaP TEQ) - assume non detects	TEQ	0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Total PAH VIC EPA Guidelines (16)*	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Naphthalene	μg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-methylnaphthalene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1-methylnaphthalene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b&j&k)fluoranthene	μg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a&h)anthracene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	μg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carcinogenic PAHs (as BaP TEQ) - assume non detects	TEQ	0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Total PAH VIC EPA Guidelines (16)*	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Low Level PAH (Poly Aromatic Hydrocarbons) in Water [AN420] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Naphthalene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a&h)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carcinogenic PAHs (as BaP TEQ) - assume non detects	TEQ	0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Total PAH VIC EPA Guidelines (16)*	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Naphthalene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a&h)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carcinogenic PAHs (as BaP TEQ) - assume non detects	TEQ	0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Total PAH VIC EPA Guidelines (16)*	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Low Level PAH (Poly Aromatic Hydrocarbons) in Water [AN420] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Naphthalene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a&h)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carcinogenic PAHs (as BaP TEQ) - assume non detects	TEQ	0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Total PAH VIC EPA Guidelines (16)*	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
Naphthalene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a&h)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carcinogenic PAHs (as BaP TEQ) - assume non detects	TEQ	0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Total PAH VIC EPA Guidelines (16)*	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Low Level PAH (Poly Aromatic Hydrocarbons) in Water [AN420] Tested: 20/8/2015 (continued)

			SW25 1	SW25 21.2	SW26 1	SW26 7.9	QA1
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			15/8/2015	15/8/2015	15/8/2015	15/8/2015	15/8/2015
PARAMETER	UOM	LOR	SE142588.059	SE142588.060	SE142588.061	SE142588.062	SE142588.063
Naphthalene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a&h)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carcinogenic PAHs (as BaP TEQ) - assume non detects	TEQ	0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Total PAH VIC EPA Guidelines (16)*	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

			QA3	QA5	RINEC140815	RINEC150815
			WATER	WATER	WATER	WATER
			-	-	-	-
			15/8/2015	15/8/2015	14/8/2015	15/8/2015
PARAMETER	UOM	LOR	SE142588.064	SE142588.065	SE142588.070	SE142588.071
Naphthalene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02
2-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
1-methylnaphthalene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a&h)anthracene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Carcinogenic PAHs (as BaP TEQ) - assume non detects	TEQ	0.012	<0.012	<0.012	<0.012	<0.012
Total PAH VIC EPA Guidelines (16)*	µg/L	0.1	<0.1	<0.1	<0.1	<0.1

pH in water [AN101] Tested: 20/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
pH**	No unit	-	8.5	8.7	8.5	8.8	8.7

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
pH**	No unit	-	8.6	8.7	8.7	8.6	8.6

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
pH**	No unit	-	8.4	8.6	8.8	8.5	8.6

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
pH**	No unit	-	8.6	8.6	8.6	8.4	8.5

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
pH**	No unit	-	8.5	8.6	8.3	8.3	8.5

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
pH**	No unit	-	8.5	8.5	8.3	8.3	5.5

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
pH**	No unit	-	8.4	8.5	8.5	8.4	8.5

pH in water [AN101] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
pH**	No unit	-	8.6	8.6	8.8	8.8	8.5

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
pH**	No unit	-	8.6	8.5	8.5	7.7	8.3

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
pH**	No unit	-	8.3	8.2	6.8	5.2

Conductivity and TDS by Calculation - Water [AN106] Tested: 20/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Conductivity @ 25 C	µS/cm	2	1600	1400	1600	1500	1600
Salinity*	mg/L	2	1100	880	1000	970	1000

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Conductivity @ 25 C	µS/cm	2	1600	1800	1800	1700	1400
Salinity*	mg/L	2	1100	1200	1100	1100	910

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
Conductivity @ 25 C	µS/cm	2	1700	1200	1600	2400	1700
Salinity*	mg/L	2	1100	780	1000	1600	1100

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Conductivity @ 25 C	µS/cm	2	1800	1800	1900	1800	2000
Salinity*	mg/L	2	1200	1200	1300	1200	1300

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Conductivity @ 25 C	µS/cm	2	1600	1500	1900	1700	2200
Salinity*	mg/L	2	1000	970	1200	1100	1400

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Conductivity @ 25 C	µS/cm	2	1600	1700	1900	1700	2000
Salinity*	mg/L	2	1000	1100	1300	1100	1300

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Conductivity @ 25 C	µS/cm	2	2200	1700	2400	2200	1400
Salinity*	mg/L	2	1400	1100	1500	1400	920

Conductivity and TDS by Calculation - Water [AN106] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
Conductivity @ 25 C	µS/cm	2	1900	1700	1500	1600	1900
Salinity*	mg/L	2	1300	1100	950	1000	1300

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
Conductivity @ 25 C	µS/cm	2	1600	1900	1800	2000	1600
Salinity*	mg/L	2	1000	1200	1200	1300	1000

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
Conductivity @ 25 C	µS/cm	2	1700	1700	<2	<2
Salinity*	mg/L	2	1100	1100	<2	<2

Anions by Ion Chromatography in Water [ME-AU-ENVAN245] Tested: 19/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005	0.007	<0.005	<0.005	0.006

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005	<0.005	<0.005	<0.010↑	<0.005

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.010↑	<0.010↑	0.013	<0.005	0.011

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005	<0.005	<0.005	0.012	<0.005

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Nitrate Nitrogen, NO3-N	mg/L	0.005	0.005	<0.005	<0.005	<0.005	0.046

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005	0.010	0.014	0.017	<0.005

Anions by Ion Chromatography in Water [ME-AU-ENVAN245] Tested: 19/8/2015 (continued)

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
Nitrate Nitrogen, NO3-N	mg/L	0.005	0.010	<0.005	0.013	0.005	0.013

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005	0.008	<0.005	<0.010↑	0.005

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005	<0.005	0.008	0.005

Nitrite in Water [AN277/WC250.312] Tested: 19/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Nitrite in Water [AN277/WC250.312] Tested: 19/8/2015 (continued)

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	<0.005	<0.005

Total Phosphorus by Kjeldahl Digestion DA in Water [AN279/AN293] Tested: 20/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	0.16	0.11	0.17	0.13	0.24

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	0.27	0.14	0.18	0.19	0.27

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	0.35	0.14	0.15	0.16	0.09

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	0.11	0.12	<0.05	0.32	0.15

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	0.09	0.35	0.30	0.43	0.40

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	0.47	0.83	0.43	0.51	0.28

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	0.72	0.46	0.72	0.50	0.51

Total Phosphorus by Kjeldahl Digestion DA in Water [AN279/AN293] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	0.59	0.62	0.52	0.58	0.67

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	0.71	0.72	0.58	0.57	0.56

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	0.51	0.26	0.20	0.21

Filterable Reactive Phosphorus (FRP) [AN278]   Tested: 20/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Filterable Reactive Phosphorus	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Filterable Reactive Phosphorus	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
Filterable Reactive Phosphorus	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Filterable Reactive Phosphorus	mg/L	0.005	0.008	0.007	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Filterable Reactive Phosphorus	mg/L	0.005	0.006	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Filterable Reactive Phosphorus	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Filterable Reactive Phosphorus	mg/L	0.005	0.008	<0.005	<0.005	<0.005	<0.005

Filterable Reactive Phosphorus (FRP) [AN278] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
Filterable Reactive Phosphorus	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
Filterable Reactive Phosphorus	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
Filterable Reactive Phosphorus	mg/L	0.005	<0.005	<0.005	<0.005	<0.005

Ammonia Nitrogen by Discrete Analyser (Aquakem) [AN291] Tested: 20/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.01	0.02	0.03	0.02	0.03

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.06	0.04	0.02	0.02	0.01

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.01	0.01	0.01	0.02	0.01

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.02	0.01	0.03	0.01	0.04

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.01	0.01	0.02	0.05	0.05

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.02	0.02	0.02	0.02	0.01

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.05	0.02	0.02	0.10	0.04

Ammonia Nitrogen by Discrete Analyser (Aquakem) [AN291] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.04	0.03	0.05	0.02	0.04

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.03	0.04	0.02	0.05	0.02

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.03	0.04	0.08	0.32

Forms of Carbon [AN190] Tested: 24/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Total Organic Carbon as NPOC	mg/L	0.2	8.7	7.4	7.1	8.0	8.0

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Total Organic Carbon as NPOC	mg/L	0.2	7.2	12	9.2	9.0	8.3

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
Total Organic Carbon as NPOC	mg/L	0.2	7.6	7.4	8.1	7.4	8.0

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Total Organic Carbon as NPOC	mg/L	0.2	11	8.5	8.5	8.6	8.6

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Total Organic Carbon as NPOC	mg/L	0.2	8.0	7.0	8.1	7.9	8.3

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Total Organic Carbon as NPOC	mg/L	0.2	8.6	7.8	8.2	7.4	7.7

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Total Organic Carbon as NPOC	mg/L	0.2	7.9	6.9	7.5	7.2	7.2

Forms of Carbon [AN190] Tested: 24/8/2015 (continued)

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
Total Organic Carbon as NPOC	mg/L	0.2	7.6	7.7	7.4	8.1	7.4

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
Total Organic Carbon as NPOC	mg/L	0.2	7.6	8.9	7.9	7.8	7.6

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
Total Organic Carbon as NPOC	mg/L	0.2	8.1	7.3	0.3	0.3

Trace Metals (Total) in Water by ICPMS [AN022/AN318]   Tested: 20/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Total Arsenic	µg/L	1	3	3	3	3	3
Total Cadmium	µg/L	0.1	0.1	0.1	0.1	0.2	0.1
Total Chromium	µg/L	1	<1	<1	<1	<1	<1
Total Copper	µg/L	1	4	4	4	5	4
Total Nickel	µg/L	1	4	5	5	4	4
Total Lead	µg/L	1	<1	<1	<1	<1	<1
Total Zinc	µg/L	5	<5	<5	50	18	<5
Total Selenium	µg/L	1	2	2	2	2	2
Total Boron	µg/L	5	870	920	950	900	940

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Total Arsenic	µg/L	1	3	3	3	3	3
Total Cadmium	µg/L	0.1	0.1	0.1	0.1	0.1	0.2
Total Chromium	µg/L	1	<1	<1	<1	<1	<1
Total Copper	µg/L	1	4	5	4	4	4
Total Nickel	µg/L	1	4	4	4	4	4
Total Lead	µg/L	1	<1	<1	<1	<1	<1
Total Zinc	µg/L	5	22	<5	<5	<5	<5
Total Selenium	µg/L	1	2	2	2	2	3
Total Boron	µg/L	5	900	930	900	970	920

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
Total Arsenic	µg/L	1	3	3	3	3	3
Total Cadmium	µg/L	0.1	0.1	0.1	0.1	0.1	0.1
Total Chromium	µg/L	1	<1	<1	<1	<1	<1
Total Copper	µg/L	1	4	4	4	4	4
Total Nickel	µg/L	1	4	4	4	4	4
Total Lead	µg/L	1	<1	<1	<1	<1	<1
Total Zinc	µg/L	5	<5	<5	<5	<5	<5
Total Selenium	µg/L	1	2	2	2	3	2
Total Boron	µg/L	5	910	920	910	980	910

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Total Arsenic	µg/L	1	3	3	3	3	3
Total Cadmium	µg/L	0.1	0.1	0.2	<0.1	0.1	0.2
Total Chromium	µg/L	1	<1	<1	<1	<1	<1
Total Copper	µg/L	1	5	4	4	5	4
Total Nickel	µg/L	1	5	4	4	4	5
Total Lead	µg/L	1	<1	<1	<1	<1	<1
Total Zinc	µg/L	5	<5	<5	<5	<5	<5
Total Selenium	µg/L	1	2	3	2	2	2
Total Boron	µg/L	5	940	930	940	930	930

Trace Metals (Total) in Water by ICPMS [AN022/AN318] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Total Arsenic	μg/L	1	3	3	3	3	3
Total Cadmium	μg/L	0.1	0.1	0.1	0.1	0.1	0.1
Total Chromium	μg/L	1	<1	<1	<1	<1	<1
Total Copper	μg/L	1	5	4	4	4	4
Total Nickel	μg/L	1	4	4	4	4	4
Total Lead	μg/L	1	<1	<1	<1	<1	<1
Total Zinc	μg/L	5	<5	<5	<5	<5	<5
Total Selenium	μg/L	1	2	2	2	2	3
Total Boron	μg/L	5	940	950	920	920	910

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Total Arsenic	μg/L	1	3	3	3	3	3
Total Cadmium	μg/L	0.1	0.1	0.1	0.1	0.1	<0.1
Total Chromium	μg/L	1	<1	<1	<1	<1	<1
Total Copper	μg/L	1	4	4	4	4	4
Total Nickel	μg/L	1	4	4	4	4	4
Total Lead	μg/L	1	<1	<1	<1	<1	<1
Total Zinc	μg/L	5	<5	<5	<5	<5	<5
Total Selenium	μg/L	1	2	2	2	2	2
Total Boron	μg/L	5	930	930	930	930	920

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Total Arsenic	μg/L	1	3	3	3	3	3
Total Cadmium	μg/L	0.1	0.1	0.1	0.1	0.1	0.1
Total Chromium	μg/L	1	<1	<1	<1	<1	<1
Total Copper	μg/L	1	4	4	4	4	4
Total Nickel	μg/L	1	4	4	4	4	4
Total Lead	μg/L	1	<1	<1	<1	<1	<1
Total Zinc	μg/L	5	<5	<5	<5	<5	<5
Total Selenium	μg/L	1	2	2	2	3	2
Total Boron	μg/L	5	910	900	940	960	930

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
Total Arsenic	μg/L	1	3	3	3	3	3
Total Cadmium	μg/L	0.1	0.1	0.1	0.1	0.1	0.1
Total Chromium	μg/L	1	<1	<1	<1	<1	<1
Total Copper	μg/L	1	4	4	4	4	4
Total Nickel	μg/L	1	4	4	4	4	4
Total Lead	μg/L	1	<1	<1	<1	<1	<1
Total Zinc	μg/L	5	<5	<5	<5	<5	<5
Total Selenium	μg/L	1	2	2	2	2	2
Total Boron	μg/L	5	930	910	950	920	910

Trace Metals (Total) in Water by ICPMS [AN022/AN318] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
Total Arsenic	µg/L	1	3	3	3	3	3
Total Cadmium	µg/L	0.1	0.1	0.1	0.1	0.1	0.1
Total Chromium	µg/L	1	<1	<1	<1	<1	<1
Total Copper	µg/L	1	4	4	5	4	4
Total Nickel	µg/L	1	4	4	4	4	4
Total Lead	µg/L	1	<1	<1	<1	<1	<1
Total Zinc	µg/L	5	<5	<5	7	<5	<5
Total Selenium	µg/L	1	2	2	2	3	2
Total Boron	µg/L	5	920	940	930	930	950

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
Total Arsenic	µg/L	1	3	4	<1	<1
Total Cadmium	µg/L	0.1	0.2	0.1	<0.1	<0.1
Total Chromium	µg/L	1	<1	<1	<1	<1
Total Copper	µg/L	1	4	6	<1	<1
Total Nickel	µg/L	1	4	5	<1	<1
Total Lead	µg/L	1	<1	<1	<1	<1
Total Zinc	µg/L	5	<5	<5	<5	<5
Total Selenium	µg/L	1	2	3	<1	<1
Total Boron	µg/L	5	960	960	<5	<5

Mercury (total) in Water [AN311/AN312] Tested: 24/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Total Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Total Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
Total Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Total Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Total Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Total Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Total Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

Mercury (total) in Water [AN311/AN312] Tested: 24/8/2015 (continued)

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
Total Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
Total Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
Total Mercury	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 20/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Arsenic, As	µg/L	1	2	2	2	2	2
Cadmium, Cd	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium, Cr	µg/L	1	<1	<1	<1	<1	<1
Copper, Cu	µg/L	1	2	2	2	2	2
Nickel, Ni	µg/L	1	3	2	3	3	2
Lead, Pb	µg/L	1	<1	<1	<1	<1	<1
Zinc, Zn	µg/L	5	<5	<5	<5	<5	<5
Selenium, Se	µg/L	1	2	2	2	2	2
Boron, B	µg/L	5	520	420	540	470	490

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Arsenic, As	µg/L	1	2	2	2	2	2
Cadmium, Cd	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium, Cr	µg/L	1	<1	<1	<1	<1	<1
Copper, Cu	µg/L	1	2	3	2	2	2
Nickel, Ni	µg/L	1	3	3	3	3	2
Lead, Pb	µg/L	1	<1	<1	<1	<1	<1
Zinc, Zn	µg/L	5	<5	<5	<5	<5	<5
Selenium, Se	µg/L	1	2	2	2	2	1
Boron, B	µg/L	5	560	630	590	640	450

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
Arsenic, As	µg/L	1	2	1	2	3	2
Cadmium, Cd	µg/L	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Chromium, Cr	µg/L	1	<1	<1	<1	<1	<1
Copper, Cu	µg/L	1	2	2	2	3	2
Nickel, Ni	µg/L	1	3	2	2	4	3
Lead, Pb	µg/L	1	<1	<1	<1	<1	<1
Zinc, Zn	µg/L	5	<5	<5	<5	<5	<5
Selenium, Se	µg/L	1	2	1	2	3	2
Boron, B	µg/L	5	580	360	520	920	590

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Arsenic, As	µg/L	1	2	2	2	2	2
Cadmium, Cd	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	0.1
Chromium, Cr	µg/L	1	<1	<1	<1	<1	<1
Copper, Cu	µg/L	1	2	3	2	3	2
Nickel, Ni	µg/L	1	3	3	3	3	3
Lead, Pb	µg/L	1	<1	<1	<1	<1	<1
Zinc, Zn	µg/L	5	<5	<5	<5	<5	<5
Selenium, Se	µg/L	1	2	2	2	2	2
Boron, B	µg/L	5	640	610	680	660	710

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Arsenic, As	μg/L	1	2	2	2	2	3
Cadmium, Cd	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium, Cr	μg/L	1	<1	<1	<1	<1	<1
Copper, Cu	μg/L	1	2	2	3	2	3
Nickel, Ni	μg/L	1	3	2	3	3	4
Lead, Pb	μg/L	1	<1	<1	<1	<1	<1
Zinc, Zn	μg/L	5	<5	<5	<5	<5	<5
Selenium, Se	μg/L	1	2	1	2	2	2
Boron, B	μg/L	5	560	500	710	630	780

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Arsenic, As	μg/L	1	2	2	2	2	2
Cadmium, Cd	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium, Cr	μg/L	1	<1	<1	<1	<1	<1
Copper, Cu	μg/L	1	2	2	2	2	36
Nickel, Ni	μg/L	1	3	3	3	3	3
Lead, Pb	μg/L	1	<1	<1	<1	<1	<1
Zinc, Zn	μg/L	5	<5	<5	<5	<5	560
Selenium, Se	μg/L	1	2	2	2	2	2
Boron, B	μg/L	5	540	600	710	640	710

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Arsenic, As	μg/L	1	3	2	3	3	2
Cadmium, Cd	μg/L	0.1	0.1	<0.1	0.1	<0.1	<0.1
Chromium, Cr	μg/L	1	<1	<1	<1	<1	<1
Copper, Cu	μg/L	1	3	2	3	2	2
Nickel, Ni	μg/L	1	4	3	4	4	2
Lead, Pb	μg/L	1	<1	<1	<1	<1	<1
Zinc, Zn	μg/L	5	<5	<5	<5	<5	<5
Selenium, Se	μg/L	1	2	2	3	2	1
Boron, B	μg/L	5	800	630	890	830	500

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
Arsenic, As	μg/L	1	2	2	2	2	2
Cadmium, Cd	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium, Cr	μg/L	1	<1	<1	<1	<1	<1
Copper, Cu	μg/L	1	2	2	2	2	2
Nickel, Ni	μg/L	1	3	3	2	3	3
Lead, Pb	μg/L	1	<1	<1	<1	<1	<1
Zinc, Zn	μg/L	5	<5	<5	<5	<5	<5
Selenium, Se	μg/L	1	2	2	1	2	2
Boron, B	μg/L	5	690	600	470	520	690

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 20/8/2015 (continued)

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
Arsenic, As	μg/L	1	2	2	2	2	2
Cadmium, Cd	μg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium, Cr	μg/L	1	<1	<1	<1	<1	<1
Copper, Cu	μg/L	1	2	2	3	3	3
Nickel, Ni	μg/L	1	2	3	3	3	3
Lead, Pb	μg/L	1	<1	<1	<1	<1	<1
Zinc, Zn	μg/L	5	<5	<5	<5	<5	<5
Selenium, Se	μg/L	1	2	2	2	2	2
Boron, B	μg/L	5	540	700	640	710	600

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
Arsenic, As	μg/L	1	2	2	<1	<1
Cadmium, Cd	μg/L	0.1	<0.1	<0.1	<0.1	<0.1
Chromium, Cr	μg/L	1	<1	<1	<1	<1
Copper, Cu	μg/L	1	2	2	<1	<1
Nickel, Ni	μg/L	1	3	3	<1	<1
Lead, Pb	μg/L	1	<1	<1	<1	<1
Zinc, Zn	μg/L	5	<5	<5	<5	<5
Selenium, Se	μg/L	1	2	2	<1	<1
Boron, B	μg/L	5	580	600	<5	<5

Mercury (dissolved) in Water [AN311/AN312] Tested: 21/8/2015

PARAMETER	UOM	LOR	SW1 1 WATER - 15/8/2015 SE142588.019	SW1 7.1 WATER - 15/8/2015 SE142588.020	SW2 1 WATER - 15/8/2015 SE142588.021	SW2 2.4 WATER - 15/8/2015 SE142588.022	SW3 1 WATER - 15/8/2015 SE142588.023
Mercury	mg/L	0.00005	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑

PARAMETER	UOM	LOR	SW4 1 WATER - 15/8/2015 SE142588.024	SW4 2.5 WATER - 15/8/2015 SE142588.025	SW5 1 WATER - 15/8/2015 SE142588.026	SW5 3.1 WATER - 15/8/2015 SE142588.027	SW6 1 WATER - 15/8/2015 SE142588.028
Mercury	mg/L	0.00005	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑

PARAMETER	UOM	LOR	SW6 3.2 WATER - 15/8/2015 SE142588.029	SW7 1 WATER - 15/8/2015 SE142588.030	SW8 1 WATER - 15/8/2015 SE142588.031	SW8 5.6 WATER - 15/8/2015 SE142588.032	SW9 1 WATER - 15/8/2015 SE142588.033
Mercury	mg/L	0.00005	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑

PARAMETER	UOM	LOR	SW9 3.1 WATER - 15/8/2015 SE142588.034	SW10 1 WATER - 15/8/2015 SE142588.035	SW10 11.8 WATER - 15/8/2015 SE142588.036	SW11 1 WATER - 15/8/2015 SE142588.037	SW11 5.1 WATER - 15/8/2015 SE142588.038
Mercury	mg/L	0.00005	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑

PARAMETER	UOM	LOR	SW12 1 WATER - 15/8/2015 SE142588.039	SW12 2.6 WATER - 15/8/2015 SE142588.040	SW13 1 WATER - 15/8/2015 SE142588.041	SW13 11 WATER - 15/8/2015 SE142588.042	SW14 1 WATER - 15/8/2015 SE142588.043
Mercury	mg/L	0.00005	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑

PARAMETER	UOM	LOR	SW14 8.2 WATER - 15/8/2015 SE142588.044	SW18 1 WATER - 14/8/2015 SE142588.045	SW18 15.6 WATER - 14/8/2015 SE142588.046	SW19 1 WATER - 14/8/2015 SE142588.047	SW19 15.8 WATER - 14/8/2015 SE142588.048
Mercury	mg/L	0.00005	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑	0.0001

PARAMETER	UOM	LOR	SW20 1 WATER - 14/8/2015 SE142588.049	SW20 11.4 WATER - 14/8/2015 SE142588.050	SW21 1 WATER - 14/8/2015 SE142588.051	SW21 15.8 WATER - 14/8/2015 SE142588.052	SW22 1 WATER - 14/8/2015 SE142588.053
Mercury	mg/L	0.00005	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑

Mercury (dissolved) in Water [AN311/AN312] Tested: 21/8/2015 (continued)

PARAMETER	UOM	LOR	SW22 9.3 WATER - 14/8/2015 SE142588.054	SW23 1 WATER - 14/8/2015 SE142588.055	SW23 24.4 WATER - 14/8/2015 SE142588.056	SW24 1 WATER - 14/8/2015 SE142588.057	SW24 19.6 WATER - 14/8/2015 SE142588.058
Mercury	mg/L	0.00005	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑	0.0001

PARAMETER	UOM	LOR	SW25 1 WATER - 15/8/2015 SE142588.059	SW25 21.2 WATER - 15/8/2015 SE142588.060	SW26 1 WATER - 15/8/2015 SE142588.061	SW26 7.9 WATER - 15/8/2015 SE142588.062	QA1 WATER - 15/8/2015 SE142588.063
Mercury	mg/L	0.00005	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑	<0.0001↑

PARAMETER	UOM	LOR	QA3 WATER - 15/8/2015 SE142588.064	QA5 WATER - 15/8/2015 SE142588.065	RINEC140815 WATER - 14/8/2015 SE142588.070	RINEC150815 WATER - 15/8/2015 SE142588.071
Mercury	mg/L	0.00005	<0.0001↑	<0.0001↑	<0.0001↑	0.0031

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN022/AN318	Following acid digestion of un filtered sample, determination of elements at trace level in waters by ICP -MS technique, in accordance with USEPA 6020A.
AN022	The water sample is digested with Nitric Acid and made up to the original volume similar to APHA3030E.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos /cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN190	TOC and DOC in Water: A homogenised micro portion of sample is injected into a heated reaction chamber packed with an oxidative catalyst that converts organic carbon to carbon dioxide. The CO2 is measured using a non-dispersive infrared detector. The process is fully automated in a commercially available analyser. If required a sugar value can be calculated from the TOC result. Reference APHA 5310 B.
AN190	Chemical oxygen demand can be calculated/estimated based on the O2/C relation as 2.67*NPOC (TOC). This is an estimate only and the factor will vary with sample matrix so results should be interpreted with caution.
AN203	The carbon in the sample is oxidised to carbon dioxide gas in a tube furnace using oxygen to aid the oxidation process. The evolved carbon dioxide is measure by an infra red cell. The infra red cell output is calibrated against the value of a known standard sample to provide the total carbon value of the unknown sample.
AN203	The sample is pre-treated with hydrochloric acid to remove inorganic carbon/carbonate. The residual non-carbonate carbon is oxidised to carbon dioxide gas in a tube furnace using oxygen to aid the oxidation process. The evolved carbon dioxide is measure by an infra red cell. The infra red cell output is calibrated against the value of a known standard sample to provide the total organic carbon value of the unknown sample.
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
AN277/WC250.312	Nitrite ions, when reacted with a reagent containing sulphanilamide and N-(1-naphthyl)-ethylenediamine dihydrochloride produce a highly coloured azo dye that is measured photometrically at 540nm.
AN278	Reactive Phosphorus by DA: Orthophosphate reacts with ammonium molybdate (Mo VI) and potassium antimonyl tartrate (Sb III) in acid medium to form an antimony-phosphomolybdate complex. This complex is subsequently reduced with ascorbic acid to form a blue colour and the absorbance is read at 880 nm. The sensitivity of the automated method is 10-20 times that of the macro method. Reference APHA 4500-P F
AN279/AN293	The sample is digested with Sulphuric acid, K2SO4 and CuSO4. All forms of phosphorus are converted into orthophosphate. The digest is cooled and placed on the discrete analyser for colorimetric analysis.
AN291	Ammonia in solution reacts with hypochlorite ions from Sodium Dichloroisocyanuate, and salicylate in the presence of Sodium Nitroprusside to form indophenol blue and measured at 670 nm by Discrete Analyser.
AN311/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500

AN318	Determination of elements at trace level in waters by ICP-MS technique, in accordance with USEPA 6020A.
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	Carcinogenic PAHs may be expressed as Benzo(a)pyrene equivalents by applying the BaP toxicity equivalence factor (NEPM 1999, June 2013, B7). These can be reported as the individual PAHs and as a sum of carcinogenic PAHs. The sum is reported three ways, the first assuming all <LOR results are zero, the second assuming all < LOR results are half the LOR and the third assuming all <LOR results are the LOR.
AN433/AN434/AN410	VOCs and C6-C9/C6-C10 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN433/AN434	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calcuated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

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.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

SGS

STATEMENT OF QA/QC PERFORMANCE

SE142588 R1

CbIENh DEhAIbS		bABORAhORY DEhAIbS	
Contact	Ryan Wells	Manager	Huong Crawford
Client	ENVIRONMENhAb ShRAhEGIES PhY bIMIhED	ba(oratory	SGS Alexandria Environmental
Address	Suite 15201, bocomotive WorksLop 2 bocomotive Street NSW 2015	Address	Unit 16, 33 Maddox St Alexandria NSW 2015
helepLone	02 9690 2555 70408 649 91F	helepLone	+61 2 8594 0400
Tacsimile	)Not specified/	Tacsimile	+61 2 8594 0499
Email	ryanwells@environmentalstrategies.com.au	Email	au.environmental.sydney@sgs.com
Project	**15106**	SGS Reference	**SE142588 R1**
Order Num(er	)Not specified/	Date Received	18 Aug 2015
Samples	F2	Date Reported	13 Nov 2015

COMMENhS

All tLe la(oratory data for eacL environmental matrix was compared to SGS Environmental Services' stated Data Quality O(jectives)DQO/. Comments arising from tLe comparison were made and are reported (elow.

hLe data relating to sampling was taken from tLe CLain of Custody document and was supplied (y tLe Client.
hLis QA7QC Statement must (e read in conjunction witL tLe referenced Analytical Report.
hLe Statement and tLe Analytical Report must not (e reproduced except in full.

All Data Quality O(jectives were met witL tLe exception of tLe following:

Extraction Date	Forms of Carbon	49 items
	Nitrite in Water	15 items
	pH in water	49 items
	VOCs in Water	1 item
Analysis Date	Forms of Carbon	49 items
	Nitrite in Water	29 items
	pH in water	49 items
Matrix Spike	Mercury in Soil	1 item
	Total Phosphorus by Kjeldahl Digestion DA in Water	1 item
	Trace Metals (Dissolved) in Water by ICPMS	1 item
	Trace Metals (Dissolved) in Water by ICPMS	2 items
	Trace Metals (Total) in Water by ICPMS	2 items
	Trace Metals (Total) in Water by ICPMS	2 items

SAMPbE SUMMARY

Sample counts (y matrix	3 Soil,16 Sediment,	hype of documentation received	COC
Date documentation received	18782015	Samples received in good order	Yes
Samples received witLout Leadspace	Yes	Sample temperature upon receipt	F.5°C
Sample container provider	SGS	hurnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling metLod	Ice	Samples clearly la(elled	Yes
Complete documentation received	Yes	Num(er of eskies7(oxes received	

HOLDING TIME SUMMARY

SE142588 R1

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS “Tield Sampling Guide for Containers and Holding hime”)ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

Ammonia Nitrogen by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN291

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW1 7.1	SE142588.020	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW2 1	SE142588.021	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW2 2.4	SE142588.022	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW3 1	SE142588.023	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW4 1	SE142588.024	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW4 2.5	SE142588.025	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW5 1	SE142588.026	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW5 3.1	SE142588.027	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW6 1	SE142588.028	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW6 3.2	SE142588.029	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW7 1	SE142588.030	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW8 1	SE142588.031	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW8 5.6	SE142588.032	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW9 1	SE142588.033	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW9 3.1	SE142588.034	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW10 1	SE142588.035	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW10 11.8	SE142588.036	LB083402	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW11 1	SE142588.037	LB083403	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW11 5.1	SE142588.038	LB083403	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW12 1	SE142588.039	LB083403	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW12 2.6	SE142588.040	LB083403	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW13 1	SE142588.041	LB083403	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW13 11	SE142588.042	LB083403	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW14 1	SE142588.043	LB083403	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW14 8.2	SE142588.044	LB083403	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW18 1	SE142588.045	LB083403	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW18 15.6	SE142588.046	LB083403	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW19 1	SE142588.047	LB083403	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW19 15.8	SE142588.048	LB083403	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW20 1	SE142588.049	LB083403	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW20 11.4	SE142588.050	LB083403	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW21 1	SE142588.051	LB083403	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW21 15.8	SE142588.052	LB083403	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW22 1	SE142588.053	LB083403	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW22 9.3	SE142588.054	LB083403	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW23 1	SE142588.055	LB083404	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW23 24.4	SE142588.056	LB083404	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW24 1	SE142588.057	LB083404	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW24 19.6	SE142588.058	LB083404	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW25 1	SE142588.059	LB083404	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW25 21.2	SE142588.060	LB083404	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW26 1	SE142588.061	LB083404	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW26 7.9	SE142588.062	LB083404	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
QA1	SE142588.063	LB083404	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
QA3	SE142588.064	LB083404	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
QA5	SE142588.065	LB083404	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
RINEC140815	SE142588.070	LB083404	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
RINEC150815	SE142588.071	LB083404	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015

Anions by Ion Chromatography in Water

Method: ME-AU-ENVAN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW1 7.1	SE142588.020	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW2 1	SE142588.021	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW2 2.4	SE142588.022	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW3 1	SE142588.023	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW4 1	SE142588.024	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW4 2.5	SE142588.025	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW5 1	SE142588.026	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS “Tield Sampling Guide for Containers and Holding hime”)ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

Anions by Ion Chromatography in Water (continued) — Method: ME-AU-ENVAN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW5 3.1	SE142588.027	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW6 1	SE142588.028	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW6 3.2	SE142588.029	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW7 1	SE142588.030	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW8 1	SE142588.031	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW8 5.6	SE142588.032	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW9 1	SE142588.033	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW9 3.1	SE142588.034	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW10 1	SE142588.035	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW10 11.8	SE142588.036	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW11 1	SE142588.037	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW11 5.1	SE142588.038	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW12 1	SE142588.039	LB083373	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW12 2.6	SE142588.040	LB083375	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW13 1	SE142588.041	LB083375	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW13 11	SE142588.042	LB083375	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW14 1	SE142588.043	LB083375	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW14 8.2	SE142588.044	LB083375	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW18 1	SE142588.045	LB083375	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW18 15.6	SE142588.046	LB083375	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW19 1	SE142588.047	LB083375	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW19 15.8	SE142588.048	LB083375	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW20 1	SE142588.049	LB083375	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW20 11.4	SE142588.050	LB083375	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW21 1	SE142588.051	LB083375	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW21 15.8	SE142588.052	LB083375	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW22 1	SE142588.053	LB083375	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW22 9.3	SE142588.054	LB083376	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW23 1	SE142588.055	LB083376	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW23 24.4	SE142588.056	LB083376	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW24 1	SE142588.057	LB083376	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW24 19.6	SE142588.058	LB083376	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
SW25 1	SE142588.059	LB083376	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW25 21.2	SE142588.060	LB083376	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW26 1	SE142588.061	LB083376	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
SW26 7.9	SE142588.062	LB083376	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
QA1	SE142588.063	LB083376	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
QA3	SE142588.064	LB083376	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
QA5	SE142588.065	LB083376	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015
RINEC140815	SE142588.070	LB083376	14 Aug 2015	18 Aug 2015	11 Sep 2015	19 Aug 2015	11 Sep 2015	25 Aug 2015
RINEC150815	SE142588.071	LB083376	15 Aug 2015	18 Aug 2015	12 Sep 2015	19 Aug 2015	12 Sep 2015	25 Aug 2015

Conductivity and TDS by Calculation - Water — Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW1 7.1	SE142588.020	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW2 1	SE142588.021	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW2 2.4	SE142588.022	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW3 1	SE142588.023	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW4 1	SE142588.024	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW4 2.5	SE142588.025	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW5 1	SE142588.026	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW5 3.1	SE142588.027	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW6 1	SE142588.028	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW6 3.2	SE142588.029	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW7 1	SE142588.030	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW8 1	SE142588.031	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW8 5.6	SE142588.032	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW9 1	SE142588.033	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW9 3.1	SE142588.034	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS “Tield Sampling Guide for Containers and Holding hime”)ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

Conductivity and TDS by Calculation - Water (continued)

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW10 1	SE142588.035	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW10 11.8	SE142588.036	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW11 1	SE142588.037	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW11 5.1	SE142588.038	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW12 1	SE142588.039	LB083442	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW12 2.6	SE142588.040	LB083443	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW13 1	SE142588.041	LB083443	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW13 11	SE142588.042	LB083443	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW14 1	SE142588.043	LB083443	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW14 8.2	SE142588.044	LB083443	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW18 1	SE142588.045	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW18 15.6	SE142588.046	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW19 1	SE142588.047	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW19 15.8	SE142588.048	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW20 1	SE142588.049	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW20 11.4	SE142588.050	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW21 1	SE142588.051	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW21 15.8	SE142588.052	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW22 1	SE142588.053	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW22 9.3	SE142588.054	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW23 1	SE142588.055	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW23 24.4	SE142588.056	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW24 1	SE142588.057	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW24 19.6	SE142588.058	LB083443	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
SW25 1	SE142588.059	LB083443	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW25 21.2	SE142588.060	LB083443	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW26 1	SE142588.061	LB083445	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
SW26 7.9	SE142588.062	LB083445	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
QA1	SE142588.063	LB083445	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
QA3	SE142588.064	LB083445	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
QA5	SE142588.065	LB083445	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015
RINEC140815	SE142588.070	LB083445	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	20 Aug 2015
RINEC150815	SE142588.071	LB083445	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	20 Aug 2015

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW1 7.1	SE142588.020	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW2 1	SE142588.021	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW2 2.4	SE142588.022	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW3 1	SE142588.023	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW4 1	SE142588.024	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW4 2.5	SE142588.025	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW5 1	SE142588.026	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW5 3.1	SE142588.027	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW6 1	SE142588.028	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW6 3.2	SE142588.029	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW7 1	SE142588.030	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW8 1	SE142588.031	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW8 5.6	SE142588.032	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW9 1	SE142588.033	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW9 3.1	SE142588.034	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW10 1	SE142588.035	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW10 11.8	SE142588.036	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW11 1	SE142588.037	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW11 5.1	SE142588.038	LB083398	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW12 1	SE142588.039	LB083399	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW12 2.6	SE142588.040	LB083399	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW13 1	SE142588.041	LB083399	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW13 11	SE142588.042	LB083399	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS “Tield Sampling Guide for Containers and Holding hime”)ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

Filterable Reactive Phosphorus (FRP) (continued)

Method: ME-(AU)-[ENV]AN278

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW14 1	SE142588.043	LB083399	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW14 8.2	SE142588.044	LB083399	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW18 1	SE142588.045	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW18 15.6	SE142588.046	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW19 1	SE142588.047	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW19 15.8	SE142588.048	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW20 1	SE142588.049	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW20 11.4	SE142588.050	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW21 1	SE142588.051	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW21 15.8	SE142588.052	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW22 1	SE142588.053	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW22 9.3	SE142588.054	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW23 1	SE142588.055	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW23 24.4	SE142588.056	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW24 1	SE142588.057	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW24 19.6	SE142588.058	LB083399	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
SW25 1	SE142588.059	LB083401	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW25 21.2	SE142588.060	LB083401	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW26 1	SE142588.061	LB083401	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
SW26 7.9	SE142588.062	LB083401	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
QA1	SE142588.063	LB083401	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
QA3	SE142588.064	LB083401	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
QA5	SE142588.065	LB083401	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015
RINEC140815	SE142588.070	LB083401	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	21 Aug 2015
RINEC150815	SE142588.071	LB083401	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	21 Aug 2015

Forms of Carbon

Method: ME-(AU)-[ENV]AN190

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW1 7.1	SE142588.020	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW2 1	SE142588.021	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW2 2.4	SE142588.022	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW3 1	SE142588.023	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW4 1	SE142588.024	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW4 2.5	SE142588.025	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW5 1	SE142588.026	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW5 3.1	SE142588.027	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW6 1	SE142588.028	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW6 3.2	SE142588.029	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW7 1	SE142588.030	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW8 1	SE142588.031	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW8 5.6	SE142588.032	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW9 1	SE142588.033	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW9 3.1	SE142588.034	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW10 1	SE142588.035	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW10 11.8	SE142588.036	LB083609	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW11 1	SE142588.037	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW11 5.1	SE142588.038	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW12 1	SE142588.039	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW12 2.6	SE142588.040	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW13 1	SE142588.041	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW13 11	SE142588.042	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW14 1	SE142588.043	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW14 8.2	SE142588.044	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW18 1	SE142588.045	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
SW18 15.6	SE142588.046	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
SW19 1	SE142588.047	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
SW19 15.8	SE142588.048	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
SW20 1	SE142588.049	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
SW20 11.4	SE142588.050	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS "Tield Sampling Guide for Containers and Holding hime")ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

Forms of Carbon (continued)

Method: ME-(AU)-[ENV]AN190

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW21 1	SE142588.051	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
SW21 15.8	SE142588.052	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
SW22 1	SE142588.053	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
SW22 9.3	SE142588.054	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
SW23 1	SE142588.055	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
SW23 24.4	SE142588.056	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
SW24 1	SE142588.057	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
SW24 19.6	SE142588.058	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
SW25 1	SE142588.059	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW25 21.2	SE142588.060	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW26 1	SE142588.061	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
SW26 7.9	SE142588.062	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
QA1	SE142588.063	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
QA3	SE142588.064	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
QA5	SE142588.065	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†
RINEC140815	SE142588.070	LB083610	14 Aug 2015	18 Aug 2015	21 Aug 2015	24 Aug 2015†	21 Aug 2015	24 Aug 2015†
RINEC150815	SE142588.071	LB083610	15 Aug 2015	18 Aug 2015	22 Aug 2015	24 Aug 2015†	22 Aug 2015	24 Aug 2015†

Low Level PAH (Poly Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW1 7.1	SE142588.020	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW2 1	SE142588.021	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW2 2.4	SE142588.022	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW3 1	SE142588.023	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW4 1	SE142588.024	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW4 2.5	SE142588.025	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW5 1	SE142588.026	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW5 3.1	SE142588.027	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW6 1	SE142588.028	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW6 3.2	SE142588.029	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW7 1	SE142588.030	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW8 1	SE142588.031	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW8 5.6	SE142588.032	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW9 1	SE142588.033	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW9 3.1	SE142588.034	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW10 1	SE142588.035	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW10 11.8	SE142588.036	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW11 1	SE142588.037	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW11 5.1	SE142588.038	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW12 1	SE142588.039	LB083383	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW12 2.6	SE142588.040	LB083383	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW13 1	SE142588.041	LB083383	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW13 11	SE142588.042	LB083383	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW14 1	SE142588.043	LB083383	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW14 8.2	SE142588.044	LB083383	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW18 1	SE142588.045	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW18 15.6	SE142588.046	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW19 1	SE142588.047	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW19 15.8	SE142588.048	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW20 1	SE142588.049	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW20 11.4	SE142588.050	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW21 1	SE142588.051	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW21 15.8	SE142588.052	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW22 1	SE142588.053	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW22 9.3	SE142588.054	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW23 1	SE142588.055	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW23 24.4	SE142588.056	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW24 1	SE142588.057	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW24 19.6	SE142588.058	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS “Tield Sampling Guide for Containers and Holding hime”)ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

Low Level PAH (Poly Aromatic Hydrocarbons) in Water (continued)

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW25 1	SE142588.059	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW25 21.2	SE142588.060	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW26 1	SE142588.061	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW26 7.9	SE142588.062	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
QA1	SE142588.063	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
QA3	SE142588.064	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
QA5	SE142588.065	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
RINEC140815	SE142588.070	LB083384	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
RINEC150815	SE142588.071	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083512	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	21 Aug 2015
SW1 7.1	SE142588.020	LB083512	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	21 Aug 2015
SW2 1	SE142588.021	LB083512	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	21 Aug 2015
SW2 2.4	SE142588.022	LB083512	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	21 Aug 2015
SW3 1	SE142588.023	LB083512	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	21 Aug 2015
SW4 1	SE142588.024	LB083512	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	21 Aug 2015
SW4 2.5	SE142588.025	LB083512	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	21 Aug 2015
SW5 1	SE142588.026	LB083512	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	21 Aug 2015
SW5 3.1	SE142588.027	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW6 1	SE142588.028	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW6 3.2	SE142588.029	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW7 1	SE142588.030	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW8 1	SE142588.031	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW8 5.6	SE142588.032	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW9 1	SE142588.033	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW9 3.1	SE142588.034	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW10 1	SE142588.035	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW10 11.8	SE142588.036	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW11 1	SE142588.037	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW11 5.1	SE142588.038	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW12 1	SE142588.039	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW12 2.6	SE142588.040	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW13 1	SE142588.041	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW13 11	SE142588.042	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW14 1	SE142588.043	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW14 8.2	SE142588.044	LB083640	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW18 1	SE142588.045	LB083640	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW18 15.6	SE142588.046	LB083641	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW19 1	SE142588.047	LB083641	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW19 15.8	SE142588.048	LB083641	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW20 1	SE142588.049	LB083641	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW20 11.4	SE142588.050	LB083641	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW21 1	SE142588.051	LB083641	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW21 15.8	SE142588.052	LB083641	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW22 1	SE142588.053	LB083641	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW22 9.3	SE142588.054	LB083641	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW23 1	SE142588.055	LB083641	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW23 24.4	SE142588.056	LB083641	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW24 1	SE142588.057	LB083641	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW24 19.6	SE142588.058	LB083641	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	25 Aug 2015
SW25 1	SE142588.059	LB083641	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW25 21.2	SE142588.060	LB083641	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW26 1	SE142588.061	LB083641	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
SW26 7.9	SE142588.062	LB083641	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
QA1	SE142588.063	LB083641	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
QA3	SE142588.064	LB083641	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	25 Aug 2015
QA5	SE142588.065	LB083728	15 Aug 2015	18 Aug 2015	12 Sep 2015	25 Aug 2015	12 Sep 2015	25 Aug 2015
RINEC140815	SE142588.070	LB083728	14 Aug 2015	18 Aug 2015	11 Sep 2015	25 Aug 2015	11 Sep 2015	25 Aug 2015

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS “Tield Sampling Guide for Containers and Holding hime”)ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

Mercury (dissolved) in Water (continued) — Method: ME-(AU)-[ENV]AN311/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINEC150815	SE142588.071	LB083728	15 Aug 2015	18 Aug 2015	12 Sep 2015	25 Aug 2015	12 Sep 2015	25 Aug 2015

Mercury (total) in Water — Method: ME-(AU)-[ENV]AN311/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW1 7.1	SE142588.020	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW2 1	SE142588.021	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW2 2.4	SE142588.022	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW3 1	SE142588.023	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW4 1	SE142588.024	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW4 2.5	SE142588.025	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW5 1	SE142588.026	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW5 3.1	SE142588.027	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW6 1	SE142588.028	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW6 3.2	SE142588.029	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW7 1	SE142588.030	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW8 1	SE142588.031	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW8 5.6	SE142588.032	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW9 1	SE142588.033	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW9 3.1	SE142588.034	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW10 1	SE142588.035	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW10 11.8	SE142588.036	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW11 1	SE142588.037	LB083645	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW11 5.1	SE142588.038	LB083646	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW12 1	SE142588.039	LB083646	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW12 2.6	SE142588.040	LB083646	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW13 1	SE142588.041	LB083646	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW13 11	SE142588.042	LB083646	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW14 1	SE142588.043	LB083646	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW14 8.2	SE142588.044	LB083646	15 Aug 2015	18 Aug 2015	12 Sep 2015	24 Aug 2015	12 Sep 2015	24 Aug 2015
SW18 1	SE142588.045	LB083646	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	24 Aug 2015
SW18 15.6	SE142588.046	LB083646	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	24 Aug 2015
SW19 1	SE142588.047	LB083646	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	24 Aug 2015
SW19 15.8	SE142588.048	LB083646	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	24 Aug 2015
SW20 1	SE142588.049	LB083646	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	24 Aug 2015
SW20 11.4	SE142588.050	LB083646	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	24 Aug 2015
SW21 1	SE142588.051	LB083646	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	24 Aug 2015
SW21 15.8	SE142588.052	LB083646	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	24 Aug 2015
SW22 1	SE142588.053	LB083646	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	24 Aug 2015
SW22 9.3	SE142588.054	LB083646	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	24 Aug 2015
SW23 1	SE142588.055	LB083646	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	24 Aug 2015
SW23 24.4	SE142588.056	LB083646	14 Aug 2015	18 Aug 2015	11 Sep 2015	24 Aug 2015	11 Sep 2015	24 Aug 2015
SW24 1	SE142588.057	LB083729	14 Aug 2015	18 Aug 2015	11 Sep 2015	25 Aug 2015	11 Sep 2015	25 Aug 2015
SW24 19.6	SE142588.058	LB083729	14 Aug 2015	18 Aug 2015	11 Sep 2015	25 Aug 2015	11 Sep 2015	25 Aug 2015
SW25 1	SE142588.059	LB083729	15 Aug 2015	18 Aug 2015	12 Sep 2015	25 Aug 2015	12 Sep 2015	25 Aug 2015
SW25 21.2	SE142588.060	LB083729	15 Aug 2015	18 Aug 2015	12 Sep 2015	25 Aug 2015	12 Sep 2015	25 Aug 2015
SW26 1	SE142588.061	LB083729	15 Aug 2015	18 Aug 2015	12 Sep 2015	25 Aug 2015	12 Sep 2015	25 Aug 2015
SW26 7.9	SE142588.062	LB083729	15 Aug 2015	18 Aug 2015	12 Sep 2015	25 Aug 2015	12 Sep 2015	25 Aug 2015
QA1	SE142588.063	LB083729	15 Aug 2015	18 Aug 2015	12 Sep 2015	25 Aug 2015	12 Sep 2015	25 Aug 2015
QA3	SE142588.064	LB083729	15 Aug 2015	18 Aug 2015	12 Sep 2015	25 Aug 2015	12 Sep 2015	25 Aug 2015
QA5	SE142588.065	LB083729	15 Aug 2015	18 Aug 2015	12 Sep 2015	25 Aug 2015	12 Sep 2015	25 Aug 2015
RINEC140815	SE142588.070	LB083729	14 Aug 2015	18 Aug 2015	11 Sep 2015	25 Aug 2015	11 Sep 2015	25 Aug 2015
RINEC150815	SE142588.071	LB083729	15 Aug 2015	18 Aug 2015	12 Sep 2015	25 Aug 2015	12 Sep 2015	25 Aug 2015

Mercury in Soil — Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD13 0-0.2	SE142588.001	LB083537	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015
SD18 0-0.18	SE142588.002	LB083537	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
DS18 0.15-0.25	SE142588.003	LB083537	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SD19 0-0.01	SE142588.004	LB083537	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SD19 0.02-0.09	SE142588.005	LB083537	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS "Tield Sampling Guide for Containers and Holding hime")ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

Mercury in Soil (continued)

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD20 0-0.02	SE142588.006	LB083537	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SD21 0-0.03	SE142588.007	LB083537	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SD22 0-0.05	SE142588.008	LB083537	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SD23 0-0.1	SE142588.009	LB083537	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SD23 0.15-0.21	SE142588.010	LB083537	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SD24 0-0.04	SE142588.011	LB083537	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SD24 0.1-0.2	SE142588.012	LB083537	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SD25 0-0.1	SE142588.013	LB083537	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015
SD25 0.15-0.25	SE142588.014	LB083537	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015
SD25 0.4-0.5	SE142588.015	LB083537	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015
SD26 0-0.05	SE142588.016	LB083537	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015
SD27 0-0.04	SE142588.017	LB083537	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015
SD28 0-0.02	SE142588.018	LB083537	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD13 0-0.2	SE142588.001	LB083363	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD18 0-0.18	SE142588.002	LB083363	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
DS18 0.15-0.25	SE142588.003	LB083363	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD19 0-0.01	SE142588.004	LB083363	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD19 0.02-0.09	SE142588.005	LB083363	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD20 0-0.02	SE142588.006	LB083363	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD21 0-0.03	SE142588.007	LB083363	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD22 0-0.05	SE142588.008	LB083363	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD23 0-0.1	SE142588.009	LB083363	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD23 0.15-0.21	SE142588.010	LB083363	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD24 0-0.04	SE142588.011	LB083363	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD24 0.1-0.2	SE142588.012	LB083363	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD25 0-0.1	SE142588.013	LB083363	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD25 0.15-0.25	SE142588.014	LB083363	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD25 0.4-0.5	SE142588.015	LB083363	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD26 0-0.05	SE142588.016	LB083363	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD27 0-0.04	SE142588.017	LB083363	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015
SD28 0-0.02	SE142588.018	LB083363	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	24 Aug 2015	21 Aug 2015

Nitrite in Water

Method: ME-(AU)-[ENV]AN277/WC250.312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW1 7.1	SE142588.020	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW2 1	SE142588.021	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW2 2.4	SE142588.022	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW3 1	SE142588.023	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW4 1	SE142588.024	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW4 2.5	SE142588.025	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW5 1	SE142588.026	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW5 3.1	SE142588.027	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW6 1	SE142588.028	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW6 3.2	SE142588.029	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW7 1	SE142588.030	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW8 1	SE142588.031	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW8 5.6	SE142588.032	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW9 1	SE142588.033	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW9 3.1	SE142588.034	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW10 1	SE142588.035	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW10 11.8	SE142588.036	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW11 1	SE142588.037	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW11 5.1	SE142588.038	LB083374	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015
SW12 1	SE142588.039	LB083378	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†
SW12 2.6	SE142588.040	LB083378	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†
SW13 1	SE142588.041	LB083378	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†
SW13 11	SE142588.042	LB083378	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS “Tield Sampling Guide for Containers and Holding hime”)ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

Nitrite in Water (continued)

Method: ME-(AU)-[ENV]AN277/WC250.312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW14 1	SE142588.043	LB083378	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†
SW14 8.2	SE142588.044	LB083378	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†
SW18 1	SE142588.045	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW18 15.6	SE142588.046	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW19 1	SE142588.047	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW19 15.8	SE142588.048	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW20 1	SE142588.049	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW20 11.4	SE142588.050	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW21 1	SE142588.051	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW21 15.8	SE142588.052	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW22 1	SE142588.053	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW22 9.3	SE142588.054	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW23 1	SE142588.055	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW23 24.4	SE142588.056	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW24 1	SE142588.057	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW24 19.6	SE142588.058	LB083378	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
SW25 1	SE142588.059	LB083379	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†
SW25 21.2	SE142588.060	LB083379	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†
SW26 1	SE142588.061	LB083379	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†
SW26 7.9	SE142588.062	LB083379	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†
QA1	SE142588.063	LB083379	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†
QA3	SE142588.064	LB083379	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†
QA5	SE142588.065	LB083379	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†
RINEC140815	SE142588.070	LB083379	14 Aug 2015	18 Aug 2015	18 Aug 2015	19 Aug 2015†	18 Aug 2015	20 Aug 2015†
RINEC150815	SE142588.071	LB083379	15 Aug 2015	18 Aug 2015	19 Aug 2015	19 Aug 2015	19 Aug 2015	20 Aug 2015†

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD13 0-0.2	SE142588.001	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD18 0-0.18	SE142588.002	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
DS18 0.15-0.25	SE142588.003	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD19 0-0.01	SE142588.004	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD19 0.02-0.09	SE142588.005	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD20 0-0.02	SE142588.006	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD21 0-0.03	SE142588.007	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD22 0-0.05	SE142588.008	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD23 0-0.1	SE142588.009	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD23 0.15-0.21	SE142588.010	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD24 0-0.04	SE142588.011	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD24 0.1-0.2	SE142588.012	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD25 0-0.1	SE142588.013	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD25 0.15-0.25	SE142588.014	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD25 0.4-0.5	SE142588.015	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD26 0-0.05	SE142588.016	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD27 0-0.04	SE142588.017	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015
SD28 0-0.02	SE142588.018	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	21 Aug 2015

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW1 7.1	SE142588.020	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW2 1	SE142588.021	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW2 2.4	SE142588.022	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW3 1	SE142588.023	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW4 1	SE142588.024	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW4 2.5	SE142588.025	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW5 1	SE142588.026	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW5 3.1	SE142588.027	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW6 1	SE142588.028	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW6 3.2	SE142588.029	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW7 1	SE142588.030	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS “Tield Sampling Guide for Containers and Holding hime”)ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

pH in water (continued) — Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW8 1	SE142588.031	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW8 5.6	SE142588.032	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW9 1	SE142588.033	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW9 3.1	SE142588.034	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW10 1	SE142588.035	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW10 11.8	SE142588.036	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW11 1	SE142588.037	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW11 5.1	SE142588.038	LB083438	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW12 1	SE142588.039	LB083439	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW12 2.6	SE142588.040	LB083439	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW13 1	SE142588.041	LB083439	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW13 11	SE142588.042	LB083439	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW14 1	SE142588.043	LB083439	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW14 8.2	SE142588.044	LB083439	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW18 1	SE142588.045	LB083439	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW18 15.6	SE142588.046	LB083439	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW19 1	SE142588.047	LB083439	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW19 15.8	SE142588.048	LB083439	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW20 1	SE142588.049	LB083439	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW20 11.4	SE142588.050	LB083439	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW21 1	SE142588.051	LB083439	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW21 15.8	SE142588.052	LB083439	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW22 1	SE142588.053	LB083439	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW22 9.3	SE142588.054	LB083439	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW23 1	SE142588.055	LB083439	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW23 24.4	SE142588.056	LB083439	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW24 1	SE142588.057	LB083439	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW24 19.6	SE142588.058	LB083440	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
SW25 1	SE142588.059	LB083440	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW25 21.2	SE142588.060	LB083440	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW26 1	SE142588.061	LB083440	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
SW26 7.9	SE142588.062	LB083440	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
QA1	SE142588.063	LB083440	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
QA3	SE142588.064	LB083440	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
QA5	SE142588.065	LB083440	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†
RINEC140815	SE142588.070	LB083440	14 Aug 2015	18 Aug 2015	15 Aug 2015	20 Aug 2015†	15 Aug 2015	20 Aug 2015†
RINEC150815	SE142588.071	LB083440	15 Aug 2015	18 Aug 2015	16 Aug 2015	20 Aug 2015†	16 Aug 2015	20 Aug 2015†

Total Phosphorus by Kjeldahl Digestion DA in Water — Method: ME-(AU)-[ENV]AN279/AN293

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW1 7.1	SE142588.020	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW2 1	SE142588.021	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW2 2.4	SE142588.022	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW3 1	SE142588.023	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW4 1	SE142588.024	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW4 2.5	SE142588.025	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW5 1	SE142588.026	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW5 3.1	SE142588.027	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW6 1	SE142588.028	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW6 3.2	SE142588.029	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW7 1	SE142588.030	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW8 1	SE142588.031	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW8 5.6	SE142588.032	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW9 1	SE142588.033	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW9 3.1	SE142588.034	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW10 1	SE142588.035	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW10 11.8	SE142588.036	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW11 1	SE142588.037	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW11 5.1	SE142588.038	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015

HOLDING TIME SUMMARY

SE142588 R1

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS "Tield Sampling Guide for Containers and Holding hime")ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

Total Phosphorus by Kjeldahl Digestion DA in Water (continued)

Method: ME-(AU)-[ENV]AN279/AN293

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW12 1	SE142588.039	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW12 2.6	SE142588.040	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW13 1	SE142588.041	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW13 11	SE142588.042	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW14 1	SE142588.043	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW14 8.2	SE142588.044	LB083395	15 Aug 2015	18 Aug 2015	12 Sep 2015	20 Aug 2015	12 Sep 2015	24 Aug 2015
SW18 1	SE142588.045	LB083395	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	24 Aug 2015
SW18 15.6	SE142588.046	LB083395	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	24 Aug 2015
SW19 1	SE142588.047	LB083395	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	24 Aug 2015
SW19 15.8	SE142588.048	LB083395	14 Aug 2015	18 Aug 2015	11 Sep 2015	20 Aug 2015	11 Sep 2015	24 Aug 2015
SW20 1	SE142588.049	LB083510	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SW20 11.4	SE142588.050	LB083510	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SW21 1	SE142588.051	LB083510	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SW21 15.8	SE142588.052	LB083510	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SW22 1	SE142588.053	LB083510	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SW22 9.3	SE142588.054	LB083510	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SW23 1	SE142588.055	LB083510	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SW23 24.4	SE142588.056	LB083510	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SW24 1	SE142588.057	LB083510	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SW24 19.6	SE142588.058	LB083510	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
SW25 1	SE142588.059	LB083510	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015
SW25 21.2	SE142588.060	LB083510	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015
SW26 1	SE142588.061	LB083510	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015
SW26 7.9	SE142588.062	LB083510	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015
QA1	SE142588.063	LB083510	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015
QA3	SE142588.064	LB083510	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015
QA5	SE142588.065	LB083510	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015
RINEC140815	SE142588.070	LB083510	14 Aug 2015	18 Aug 2015	11 Sep 2015	21 Aug 2015	11 Sep 2015	24 Aug 2015
RINEC150815	SE142588.071	LB083510	15 Aug 2015	18 Aug 2015	12 Sep 2015	21 Aug 2015	12 Sep 2015	24 Aug 2015

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD13 0-0.2	SE142588.001	LB083552	15 Aug 2015	18 Aug 2015	11 Feb 2016	21 Aug 2015	11 Feb 2016	25 Aug 2015
SD18 0-0.18	SE142588.002	LB083552	14 Aug 2015	18 Aug 2015	10 Feb 2016	21 Aug 2015	10 Feb 2016	25 Aug 2015
DS18 0.15-0.25	SE142588.003	LB083552	14 Aug 2015	18 Aug 2015	10 Feb 2016	21 Aug 2015	10 Feb 2016	25 Aug 2015
SD19 0-0.01	SE142588.004	LB083553	14 Aug 2015	18 Aug 2015	10 Feb 2016	21 Aug 2015	10 Feb 2016	25 Aug 2015
SD19 0.02-0.09	SE142588.005	LB083553	14 Aug 2015	18 Aug 2015	10 Feb 2016	21 Aug 2015	10 Feb 2016	25 Aug 2015
SD20 0-0.02	SE142588.006	LB083553	14 Aug 2015	18 Aug 2015	10 Feb 2016	21 Aug 2015	10 Feb 2016	25 Aug 2015
SD21 0-0.03	SE142588.007	LB083553	14 Aug 2015	18 Aug 2015	10 Feb 2016	21 Aug 2015	10 Feb 2016	25 Aug 2015
SD22 0-0.05	SE142588.008	LB083553	14 Aug 2015	18 Aug 2015	10 Feb 2016	21 Aug 2015	10 Feb 2016	25 Aug 2015
SD23 0-0.1	SE142588.009	LB083553	14 Aug 2015	18 Aug 2015	10 Feb 2016	21 Aug 2015	10 Feb 2016	25 Aug 2015
SD23 0.15-0.21	SE142588.010	LB083553	14 Aug 2015	18 Aug 2015	10 Feb 2016	21 Aug 2015	10 Feb 2016	25 Aug 2015
SD24 0-0.04	SE142588.011	LB083553	14 Aug 2015	18 Aug 2015	10 Feb 2016	21 Aug 2015	10 Feb 2016	25 Aug 2015
SD24 0.1-0.2	SE142588.012	LB083553	14 Aug 2015	18 Aug 2015	10 Feb 2016	21 Aug 2015	10 Feb 2016	25 Aug 2015
SD25 0-0.1	SE142588.013	LB083553	15 Aug 2015	18 Aug 2015	11 Feb 2016	21 Aug 2015	11 Feb 2016	25 Aug 2015
SD25 0.15-0.25	SE142588.014	LB083553	15 Aug 2015	18 Aug 2015	11 Feb 2016	21 Aug 2015	11 Feb 2016	25 Aug 2015
SD25 0.4-0.5	SE142588.015	LB083553	15 Aug 2015	18 Aug 2015	11 Feb 2016	21 Aug 2015	11 Feb 2016	25 Aug 2015
SD26 0-0.05	SE142588.016	LB083553	15 Aug 2015	18 Aug 2015	11 Feb 2016	21 Aug 2015	11 Feb 2016	25 Aug 2015
SD27 0-0.04	SE142588.017	LB083553	15 Aug 2015	18 Aug 2015	11 Feb 2016	21 Aug 2015	11 Feb 2016	25 Aug 2015
SD28 0-0.02	SE142588.018	LB083553	15 Aug 2015	18 Aug 2015	11 Feb 2016	21 Aug 2015	11 Feb 2016	25 Aug 2015

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW1 7.1	SE142588.020	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW2 1	SE142588.021	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW2 2.4	SE142588.022	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW3 1	SE142588.023	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW4 1	SE142588.024	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW4 2.5	SE142588.025	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW5 1	SE142588.026	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS "Tield Sampling Guide for Containers and Holding hime")ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

Trace Metals (Dissolved) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW5 3.1	SE142588.027	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW6 1	SE142588.028	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW6 3.2	SE142588.029	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW7 1	SE142588.030	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW8 1	SE142588.031	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW8 5.6	SE142588.032	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW9 1	SE142588.033	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW9 3.1	SE142588.034	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW10 1	SE142588.035	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW10 11.8	SE142588.036	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW11 1	SE142588.037	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW11 5.1	SE142588.038	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW12 1	SE142588.039	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW12 2.6	SE142588.040	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW13 1	SE142588.041	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW13 11	SE142588.042	LB083422	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW14 1	SE142588.043	LB083423	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW14 8.2	SE142588.044	LB083423	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW18 1	SE142588.045	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW18 15.6	SE142588.046	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW19 1	SE142588.047	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW19 15.8	SE142588.048	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW20 1	SE142588.049	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW20 11.4	SE142588.050	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW21 1	SE142588.051	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW21 15.8	SE142588.052	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW22 1	SE142588.053	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW22 9.3	SE142588.054	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW23 1	SE142588.055	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW23 24.4	SE142588.056	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW24 1	SE142588.057	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW24 19.6	SE142588.058	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW25 1	SE142588.059	LB083423	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW25 21.2	SE142588.060	LB083423	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW26 1	SE142588.061	LB083423	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW26 7.9	SE142588.062	LB083423	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
QA1	SE142588.063	LB083423	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
QA3	SE142588.064	LB083423	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
QA5	SE142588.065	LB083423	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
RINEC140815	SE142588.070	LB083423	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
RINEC150815	SE142588.071	LB083423	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW1 7.1	SE142588.020	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW2 1	SE142588.021	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW2 2.4	SE142588.022	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW3 1	SE142588.023	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW4 1	SE142588.024	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW4 2.5	SE142588.025	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW5 1	SE142588.026	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW5 3.1	SE142588.027	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW6 1	SE142588.028	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW6 3.2	SE142588.029	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW7 1	SE142588.030	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW8 1	SE142588.031	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW8 5.6	SE142588.032	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW9 1	SE142588.033	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW9 3.1	SE142588.034	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS “Tield Sampling Guide for Containers and Holding hime”)ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

Trace Metals (Total) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN022/AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW10 1	SE142588.035	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW10 11.8	SE142588.036	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW11 1	SE142588.037	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW11 5.1	SE142588.038	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW12 1	SE142588.039	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW12 2.6	SE142588.040	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW13 1	SE142588.041	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW13 11	SE142588.042	LB083420	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW14 1	SE142588.043	LB083421	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW14 8.2	SE142588.044	LB083421	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW18 1	SE142588.045	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW18 15.6	SE142588.046	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW19 1	SE142588.047	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW19 15.8	SE142588.048	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW20 1	SE142588.049	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW20 11.4	SE142588.050	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW21 1	SE142588.051	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW21 15.8	SE142588.052	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW22 1	SE142588.053	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW22 9.3	SE142588.054	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW23 1	SE142588.055	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW23 24.4	SE142588.056	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW24 1	SE142588.057	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW24 19.6	SE142588.058	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
SW25 1	SE142588.059	LB083421	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW25 21.2	SE142588.060	LB083421	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW26 1	SE142588.061	LB083421	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
SW26 7.9	SE142588.062	LB083421	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
QA1	SE142588.063	LB083421	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
QA3	SE142588.064	LB083421	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
QA5	SE142588.065	LB083421	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015
RINEC140815	SE142588.070	LB083421	14 Aug 2015	18 Aug 2015	10 Feb 2016	20 Aug 2015	10 Feb 2016	21 Aug 2015
RINEC150815	SE142588.071	LB083421	15 Aug 2015	18 Aug 2015	11 Feb 2016	20 Aug 2015	11 Feb 2016	21 Aug 2015

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD13 0-0.2	SE142588.001	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD18 0-0.18	SE142588.002	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
DS18 0.15-0.25	SE142588.003	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD19 0-0.01	SE142588.004	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD19 0.02-0.09	SE142588.005	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD20 0-0.02	SE142588.006	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD21 0-0.03	SE142588.007	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD22 0-0.05	SE142588.008	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD23 0-0.1	SE142588.009	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD23 0.15-0.21	SE142588.010	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD24 0-0.04	SE142588.011	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD24 0.1-0.2	SE142588.012	LB083400	14 Aug 2015	18 Aug 2015	28 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD25 0-0.1	SE142588.013	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD25 0.15-0.25	SE142588.014	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD25 0.4-0.5	SE142588.015	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD26 0-0.05	SE142588.016	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD27 0-0.04	SE142588.017	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SD28 0-0.02	SE142588.018	LB083400	15 Aug 2015	18 Aug 2015	29 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW1 7.1	SE142588.020	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW2 1	SE142588.021	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW2 2.4	SE142588.022	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS “Tield Sampling Guide for Containers and Holding hime”)ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

TRH (Total Recoverable Hydrocarbons) in Water (continued) — Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW3 1	SE142588.023	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW4 1	SE142588.024	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW4 2.5	SE142588.025	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW5 1	SE142588.026	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW5 3.1	SE142588.027	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW6 1	SE142588.028	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW6 3.2	SE142588.029	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW7 1	SE142588.030	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW8 1	SE142588.031	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW8 5.6	SE142588.032	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW9 1	SE142588.033	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW9 3.1	SE142588.034	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW10 1	SE142588.035	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW10 11.8	SE142588.036	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW11 1	SE142588.037	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW11 5.1	SE142588.038	LB083382	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW12 1	SE142588.039	LB083383	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW12 2.6	SE142588.040	LB083383	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW13 1	SE142588.041	LB083383	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW13 11	SE142588.042	LB083383	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW14 1	SE142588.043	LB083383	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW14 8.2	SE142588.044	LB083383	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW18 1	SE142588.045	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW18 15.6	SE142588.046	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW19 1	SE142588.047	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW19 15.8	SE142588.048	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW20 1	SE142588.049	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW20 11.4	SE142588.050	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW21 1	SE142588.051	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW21 15.8	SE142588.052	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW22 1	SE142588.053	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW22 9.3	SE142588.054	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW23 1	SE142588.055	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW23 24.4	SE142588.056	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW24 1	SE142588.057	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW24 19.6	SE142588.058	LB083383	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW25 1	SE142588.059	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW25 21.2	SE142588.060	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW26 1	SE142588.061	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW26 7.9	SE142588.062	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
QA1	SE142588.063	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
QA3	SE142588.064	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
QA5	SE142588.065	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
RINEC140815	SE142588.070	LB083384	14 Aug 2015	18 Aug 2015	21 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
RINEC150815	SE142588.071	LB083384	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015

VOC's in Soil — Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD13 0-0.2	SE142588.001	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD18 0-0.18	SE142588.002	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
DS18 0.15-0.25	SE142588.003	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD19 0-0.01	SE142588.004	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD19 0.02-0.09	SE142588.005	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD20 0-0.02	SE142588.006	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD21 0-0.03	SE142588.007	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD22 0-0.05	SE142588.008	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD23 0-0.1	SE142588.009	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD23 0.15-0.21	SE142588.010	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD24 0-0.04	SE142588.011	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD24 0.1-0.2	SE142588.012	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS “Tield Sampling Guide for Containers and Holding hime”)ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD25 0-0.1	SE142588.013	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD25 0.15-0.25	SE142588.014	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD25 0.4-0.5	SE142588.015	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD26 0-0.05	SE142588.016	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD27 0-0.04	SE142588.017	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD28 0-0.02	SE142588.018	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
Trip Spike	SE142588.066	LB083362	11 Aug 2015	18 Aug 2015	25 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW1 7.1	SE142588.020	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW2 1	SE142588.021	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW2 2.4	SE142588.022	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW3 1	SE142588.023	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW4 1	SE142588.024	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW4 2.5	SE142588.025	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW5 1	SE142588.026	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW5 3.1	SE142588.027	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW6 1	SE142588.028	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW6 3.2	SE142588.029	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW7 1	SE142588.030	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW8 1	SE142588.031	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW8 5.6	SE142588.032	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW9 1	SE142588.033	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW9 3.1	SE142588.034	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW10 1	SE142588.035	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW10 11.8	SE142588.036	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW11 1	SE142588.037	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW11 5.1	SE142588.038	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW12 1	SE142588.039	LB083543	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW12 2.6	SE142588.040	LB083543	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW13 1	SE142588.041	LB083543	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW13 11	SE142588.042	LB083543	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW14 1	SE142588.043	LB083543	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW14 8.2	SE142588.044	LB083543	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW18 1	SE142588.045	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW18 15.6	SE142588.046	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW19 1	SE142588.047	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW19 15.8	SE142588.048	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW20 1	SE142588.049	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW20 11.4	SE142588.050	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW21 1	SE142588.051	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW21 15.8	SE142588.052	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW22 1	SE142588.053	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW22 9.3	SE142588.054	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW23 1	SE142588.055	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW23 24.4	SE142588.056	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW24 1	SE142588.057	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW24 19.6	SE142588.058	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW25 1	SE142588.059	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW25 21.2	SE142588.060	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW26 1	SE142588.061	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW26 7.9	SE142588.062	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
QA1	SE142588.063	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
QA3	SE142588.064	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
QA5	SE142588.065	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
Trip Spike	SE142588.067	LB083544	11 Aug 2015	18 Aug 2015	18 Aug 2015	21 Aug 2015†	30 Sep 2015	25 Aug 2015
TBEC140815	SE142588.068	LB083544	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
TBEC150815	SE142588.069	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS “Tield Sampling Guide for Containers and Holding hime”)ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINEC140815	SE142588.070	LB083544	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
RINEC150815	SE142588.071	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD13 0-0.2	SE142588.001	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD18 0-0.18	SE142588.002	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
DS18 0.15-0.25	SE142588.003	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD19 0-0.01	SE142588.004	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD19 0.02-0.09	SE142588.005	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD20 0-0.02	SE142588.006	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD21 0-0.03	SE142588.007	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD22 0-0.05	SE142588.008	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD23 0-0.1	SE142588.009	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD23 0.15-0.21	SE142588.010	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD24 0-0.04	SE142588.011	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD24 0.1-0.2	SE142588.012	LB083362	14 Aug 2015	18 Aug 2015	28 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD25 0-0.1	SE142588.013	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD25 0.15-0.25	SE142588.014	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD25 0.4-0.5	SE142588.015	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD26 0-0.05	SE142588.016	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD27 0-0.04	SE142588.017	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
SD28 0-0.02	SE142588.018	LB083362	15 Aug 2015	18 Aug 2015	29 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015
Trip Spike	SE142588.066	LB083362	11 Aug 2015	18 Aug 2015	25 Aug 2015	19 Aug 2015	28 Sep 2015	25 Aug 2015

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW1 1	SE142588.019	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW1 7.1	SE142588.020	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW2 1	SE142588.021	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW2 2.4	SE142588.022	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW3 1	SE142588.023	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW4 1	SE142588.024	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW4 2.5	SE142588.025	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW5 1	SE142588.026	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW5 3.1	SE142588.027	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW6 1	SE142588.028	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW6 3.2	SE142588.029	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW7 1	SE142588.030	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW8 1	SE142588.031	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW8 5.6	SE142588.032	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW9 1	SE142588.033	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW9 3.1	SE142588.034	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW10 1	SE142588.035	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW10 11.8	SE142588.036	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW11 1	SE142588.037	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW11 5.1	SE142588.038	LB083444	15 Aug 2015	18 Aug 2015	22 Aug 2015	20 Aug 2015	29 Sep 2015	25 Aug 2015
SW12 1	SE142588.039	LB083543	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW12 2.6	SE142588.040	LB083543	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW13 1	SE142588.041	LB083543	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW13 11	SE142588.042	LB083543	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW14 1	SE142588.043	LB083543	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW14 8.2	SE142588.044	LB083543	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW18 1	SE142588.045	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW18 15.6	SE142588.046	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW19 1	SE142588.047	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW19 15.8	SE142588.048	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW20 1	SE142588.049	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW20 11.4	SE142588.050	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW21 1	SE142588.051	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW21 15.8	SE142588.052	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015

SGS Lolding time criteria are drawn from current regulations and are LigLly dependent on sample container preservation as specified in tLe SGS “Tield Sampling Guide for Containers and Holding hime”)ref: GU-)AU/-ENV.001/. Soil samples guidelines are derived from NEPM "ScLedule B)3/ Guideline on ba(oratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS7NZS 566F.1 : 1998 Water Quality - sampling part 1" and APHA "Standard MetLods for tLe Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis Lolding time due dates listed are calculated from tLe date sampled, altLougL Lolding times may (e extended after la(oratory extraction for some analytes. hLe due dates are tLe suggested dates tLat samples may (e Leld (efore extraction or analysis and still (e considered valid.

Extraction and analysis dates are sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria. If tLe sampled date is not supplied tLen compliance witL criteria cannot (e determined. If tLe received date is after one or (otL due dates tLen Lolding time will fail (y default.

Volatile Petroleum Hydrocarbons in Water (continued) Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SW22 1	SE142588.053	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW22 9.3	SE142588.054	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW23 1	SE142588.055	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW23 24.4	SE142588.056	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW24 1	SE142588.057	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW24 19.6	SE142588.058	LB083543	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW25 1	SE142588.059	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW25 21.2	SE142588.060	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW26 1	SE142588.061	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
SW26 7.9	SE142588.062	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
QA1	SE142588.063	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
QA3	SE142588.064	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
QA5	SE142588.065	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
Trip Spike	SE142588.067	LB083544	11 Aug 2015	18 Aug 2015	18 Aug 2015	21 Aug 2015†	30 Sep 2015	25 Aug 2015
TBEC140815	SE142588.068	LB083544	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
TBEC150815	SE142588.069	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
RINEC140815	SE142588.070	LB083544	14 Aug 2015	18 Aug 2015	21 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015
RINEC150815	SE142588.071	LB083544	15 Aug 2015	18 Aug 2015	22 Aug 2015	21 Aug 2015	30 Sep 2015	25 Aug 2015

Surrogate results are evaluated against upper and lower limit criteria esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. At least two of tLree routine level soil sample surrogate spike recoveries for BhEX7VOC are to (e witLin F0-130% wLere control cLarts Lave not (een developed and witLin tLe esta(lisLed control limits for cLarted surrogates. Matrix effects may void tLis as an acceptance criterion. Water sample surrogate spike recoveries are to (e witLin 40-130%. hLe presence of emulsions, surfactants and particulates may void tLis as an acceptance criterion.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Low Level PAH (Poly Aromatic Hydrocarbons) in Water — Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	SW1 1	SE142588.019	%	40 - 130%	NA
	SW1 7.1	SE142588.020	%	40 - 130%	NA
	SW2 1	SE142588.021	%	40 - 130%	NA
	SW2 2.4	SE142588.022	%	40 - 130%	NA
	SW3 1	SE142588.023	%	40 - 130%	NA
	SW4 1	SE142588.024	%	40 - 130%	NA
	SW4 2.5	SE142588.025	%	40 - 130%	NA
	SW5 1	SE142588.026	%	40 - 130%	NA
	SW5 3.1	SE142588.027	%	40 - 130%	NA
	SW6 1	SE142588.028	%	40 - 130%	NA
	SW6 3.2	SE142588.029	%	40 - 130%	NA
	SW7 1	SE142588.030	%	40 - 130%	NA
	SW8 1	SE142588.031	%	40 - 130%	NA
	SW8 5.6	SE142588.032	%	40 - 130%	NA
	SW9 1	SE142588.033	%	40 - 130%	NA
	SW9 3.1	SE142588.034	%	40 - 130%	NA
	SW10 1	SE142588.035	%	40 - 130%	NA
	SW10 11.8	SE142588.036	%	40 - 130%	NA
	SW11 1	SE142588.037	%	40 - 130%	NA
	SW11 5.1	SE142588.038	%	40 - 130%	NA
	SW12 1	SE142588.039	%	40 - 130%	NA
	SW12 2.6	SE142588.040	%	40 - 130%	NA
	SW13 1	SE142588.041	%	40 - 130%	NA
	SW13 11	SE142588.042	%	40 - 130%	NA
	SW14 1	SE142588.043	%	40 - 130%	NA
	SW14 8.2	SE142588.044	%	40 - 130%	NA
	SW18 1	SE142588.045	%	40 - 130%	NA
	SW18 15.6	SE142588.046	%	40 - 130%	NA
	SW19 1	SE142588.047	%	40 - 130%	NA
	SW19 15.8	SE142588.048	%	40 - 130%	NA
	SW20 1	SE142588.049	%	40 - 130%	NA
	SW20 11.4	SE142588.050	%	40 - 130%	NA
	SW21 1	SE142588.051	%	40 - 130%	NA
	SW21 15.8	SE142588.052	%	40 - 130%	NA
	SW22 1	SE142588.053	%	40 - 130%	NA
	SW22 9.3	SE142588.054	%	40 - 130%	NA
	SW23 1	SE142588.055	%	40 - 130%	NA
	SW23 24.4	SE142588.056	%	40 - 130%	NA
	SW24 1	SE142588.057	%	40 - 130%	NA
	SW24 19.6	SE142588.058	%	40 - 130%	NA
	SW25 1	SE142588.059	%	40 - 130%	NA
	SW25 21.2	SE142588.060	%	40 - 130%	NA
	SW26 1	SE142588.061	%	40 - 130%	NA
	SW26 7.9	SE142588.062	%	40 - 130%	NA
	QA1	SE142588.063	%	40 - 130%	NA
	QA3	SE142588.064	%	40 - 130%	NA
	QA5	SE142588.065	%	40 - 130%	NA
	RINEC140815	SE142588.070	%	40 - 130%	NA
	RINEC150815	SE142588.071	%	40 - 130%	NA
d14-p-terphenyl (Surrogate)	SW1 1	SE142588.019	%	40 - 130%	51
	SW1 7.1	SE142588.020	%	40 - 130%	55
	SW2 1	SE142588.021	%	40 - 130%	60
	SW2 2.4	SE142588.022	%	40 - 130%	54
	SW3 1	SE142588.023	%	40 - 130%	54
	SW4 1	SE142588.024	%	40 - 130%	53
	SW4 2.5	SE142588.025	%	40 - 130%	57
	SW5 1	SE142588.026	%	40 - 130%	48
	SW5 3.1	SE142588.027	%	40 - 130%	53
	SW6 1	SE142588.028	%	40 - 130%	46
	SW6 3.2	SE142588.029	%	40 - 130%	52
	SW7 1	SE142588.030	%	40 - 130%	43

Surrogate results are evaluated against upper and lower limit criteria esta(lisLed in tLe SGS QA7QC plan)Ref: MP-)AU/-[ENV]QU-022/. At least two of tLree routine level soil sample surrogate spike recoveries for BhEX7VOC are to (e witLin F0-130% wLere control cLarts Lave not (een developed and witLin tLe esta(lisLed control limits for cLarted surrogates. Matrix effects may void tLis as an acceptance criterion. Water sample surrogate spike recoveries are to (e witLin 40-130%. hLe presence of emulsions, surfactants and particulates may void tLis as an acceptance criterion.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Low Level PAH (Poly Aromatic Hydrocarbons) in Water (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d14-p-terphenyl (Surrogate)	SW8 1	SE142588.031	%	40 - 130%	43
	SW8 5.6	SE142588.032	%	40 - 130%	47
	SW9 1	SE142588.033	%	40 - 130%	58
	SW9 3.1	SE142588.034	%	40 - 130%	51
	SW10 1	SE142588.035	%	40 - 130%	46
	SW10 11.8	SE142588.036	%	40 - 130%	41
	SW11 1	SE142588.037	%	40 - 130%	45
	SW11 5.1	SE142588.038	%	40 - 130%	43
	SW12 1	SE142588.039	%	40 - 130%	46
	SW12 2.6	SE142588.040	%	40 - 130%	50
	SW13 1	SE142588.041	%	40 - 130%	46
	SW13 11	SE142588.042	%	40 - 130%	41
	SW14 1	SE142588.043	%	40 - 130%	42
	SW14 8.2	SE142588.044	%	40 - 130%	41
	SW18 1	SE142588.045	%	40 - 130%	41
	SW18 15.6	SE142588.046	%	40 - 130%	62
	SW19 1	SE142588.047	%	40 - 130%	68
	SW19 15.8	SE142588.048	%	40 - 130%	48
	SW20 1	SE142588.049	%	40 - 130%	69
	SW20 11.4	SE142588.050	%	40 - 130%	61
	SW21 1	SE142588.051	%	40 - 130%	41
	SW21 15.8	SE142588.052	%	40 - 130%	54
	SW22 1	SE142588.053	%	40 - 130%	41
	SW22 9.3	SE142588.054	%	40 - 130%	59
	SW23 1	SE142588.055	%	40 - 130%	41
	SW23 24.4	SE142588.056	%	40 - 130%	54
	SW24 1	SE142588.057	%	40 - 130%	48
	SW24 19.6	SE142588.058	%	40 - 130%	51
	SW25 1	SE142588.059	%	40 - 130%	41
	SW25 21.2	SE142588.060	%	40 - 130%	42
	SW26 1	SE142588.061	%	40 - 130%	43
	SW26 7.9	SE142588.062	%	40 - 130%	46
	QA1	SE142588.063	%	40 - 130%	42
	QA3	SE142588.064	%	40 - 130%	51
	QA5	SE142588.065	%	40 - 130%	45
	RINEC140815	SE142588.070	%	40 - 130%	47
	RINEC150815	SE142588.071	%	40 - 130%	44
d5-nitrobenzene (Surrogate)	SW1 1	SE142588.019	%	40 - 130%	NA
	SW1 7.1	SE142588.020	%	40 - 130%	NA
	SW2 1	SE142588.021	%	40 - 130%	NA
	SW2 2.4	SE142588.022	%	40 - 130%	NA
	SW3 1	SE142588.023	%	40 - 130%	NA
	SW4 1	SE142588.024	%	40 - 130%	NA
	SW4 2.5	SE142588.025	%	40 - 130%	NA
	SW5 1	SE142588.026	%	40 - 130%	NA
	SW5 3.1	SE142588.027	%	40 - 130%	NA
	SW6 1	SE142588.028	%	40 - 130%	NA
	SW6 3.2	SE142588.029	%	40 - 130%	NA
	SW7 1	SE142588.030	%	40 - 130%	NA
	SW8 1	SE142588.031	%	40 - 130%	NA
	SW8 5.6	SE142588.032	%	40 - 130%	NA
	SW9 1	SE142588.033	%	40 - 130%	NA
	SW9 3.1	SE142588.034	%	40 - 130%	NA
	SW10 1	SE142588.035	%	40 - 130%	NA
	SW10 11.8	SE142588.036	%	40 - 130%	NA
	SW11 1	SE142588.037	%	40 - 130%	NA
	SW11 5.1	SE142588.038	%	40 - 130%	NA
	SW12 1	SE142588.039	%	40 - 130%	NA
	SW12 2.6	SE142588.040	%	40 - 130%	NA
	SW13 1	SE142588.041	%	40 - 130%	NA
	SW13 11	SE142588.042	%	40 - 130%	NA

Surrogate results are evaluated against upper and lower limit criteria esta(lisLed in tLe SGS QA7QC plan)Ref: MP-)AU/-[ENV]QU-022/. At least two of tLree routine level soil sample surrogate spike recoveries for BhEX7VOC are to (e witLin F0-130% wLere control cLarts Lave not (een developed and witLin tLe esta(lisLed control limits for cLarted surrogates. Matrix effects may void tLis as an acceptance criterion. Water sample surrogate spike recoveries are to (e witLin 40-130%. hLe presence of emulsions, surfactants and particulates may void tLis as an acceptance criterion.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Low Level PAH (Poly Aromatic Hydrocarbons) in Water (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	SW14 1	SE142588.043	%	40 - 130%	NA
	SW14 8.2	SE142588.044	%	40 - 130%	NA
	SW18 1	SE142588.045	%	40 - 130%	NA
	SW18 15.6	SE142588.046	%	40 - 130%	NA
	SW19 1	SE142588.047	%	40 - 130%	NA
	SW19 15.8	SE142588.048	%	40 - 130%	NA
	SW20 1	SE142588.049	%	40 - 130%	NA
	SW20 11.4	SE142588.050	%	40 - 130%	NA
	SW21 1	SE142588.051	%	40 - 130%	NA
	SW21 15.8	SE142588.052	%	40 - 130%	NA
	SW22 1	SE142588.053	%	40 - 130%	NA
	SW22 9.3	SE142588.054	%	40 - 130%	NA
	SW23 1	SE142588.055	%	40 - 130%	NA
	SW23 24.4	SE142588.056	%	40 - 130%	NA
	SW24 1	SE142588.057	%	40 - 130%	NA
	SW24 19.6	SE142588.058	%	40 - 130%	NA
	SW25 1	SE142588.059	%	40 - 130%	NA
	SW25 21.2	SE142588.060	%	40 - 130%	NA
	SW26 1	SE142588.061	%	40 - 130%	NA
	SW26 7.9	SE142588.062	%	40 - 130%	NA
	QA1	SE142588.063	%	40 - 130%	NA
	QA3	SE142588.064	%	40 - 130%	NA
	QA5	SE142588.065	%	40 - 130%	NA
	RINEC140815	SE142588.070	%	40 - 130%	NA
	RINEC150815	SE142588.071	%	40 - 130%	NA

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	SD13 0-0.2	SE142588.001	%	70 - 130%	84
	SD18 0-0.18	SE142588.002	%	70 - 130%	74
	DS18 0.15-0.25	SE142588.003	%	70 - 130%	72
	SD19 0-0.01	SE142588.004	%	70 - 130%	76
	SD19 0.02-0.09	SE142588.005	%	70 - 130%	76
	SD20 0-0.02	SE142588.006	%	70 - 130%	74
	SD21 0-0.03	SE142588.007	%	70 - 130%	80
	SD22 0-0.05	SE142588.008	%	70 - 130%	80
	SD23 0-0.1	SE142588.009	%	70 - 130%	80
	SD23 0.15-0.21	SE142588.010	%	70 - 130%	70
	SD24 0-0.04	SE142588.011	%	70 - 130%	78
	SD24 0.1-0.2	SE142588.012	%	70 - 130%	76
	SD25 0-0.1	SE142588.013	%	70 - 130%	74
	SD25 0.15-0.25	SE142588.014	%	70 - 130%	70
	SD25 0.4-0.5	SE142588.015	%	70 - 130%	72
	SD26 0-0.05	SE142588.016	%	70 - 130%	80
	SD27 0-0.04	SE142588.017	%	70 - 130%	82
	SD28 0-0.02	SE142588.018	%	70 - 130%	76
d14-p-terphenyl (Surrogate)	SD13 0-0.2	SE142588.001	%	70 - 130%	96
	SD18 0-0.18	SE142588.002	%	70 - 130%	108
	DS18 0.15-0.25	SE142588.003	%	70 - 130%	112
	SD19 0-0.01	SE142588.004	%	70 - 130%	100
	SD19 0.02-0.09	SE142588.005	%	70 - 130%	104
	SD20 0-0.02	SE142588.006	%	70 - 130%	94
	SD21 0-0.03	SE142588.007	%	70 - 130%	98
	SD22 0-0.05	SE142588.008	%	70 - 130%	98
	SD23 0-0.1	SE142588.009	%	70 - 130%	100
	SD23 0.15-0.21	SE142588.010	%	70 - 130%	102
	SD24 0-0.04	SE142588.011	%	70 - 130%	98
	SD24 0.1-0.2	SE142588.012	%	70 - 130%	110
	SD25 0-0.1	SE142588.013	%	70 - 130%	102
	SD25 0.15-0.25	SE142588.014	%	70 - 130%	106
	SD25 0.4-0.5	SE142588.015	%	70 - 130%	112

Surrogate results are evaluated against upper and lower limit criteria esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. At least two of tLree routine level soil sample surrogate spike recoveries for BhEX7VOC are to (e witLin F0-130% wLere control cLarts Lave not (een developed and witLin tLe esta(lisLed control limits for cLarted surrogates. Matrix effects may void tLis as an acceptance criterion. Water sample surrogate spike recoveries are to (e witLin 40-130%. hLe presence of emulsions, surfactants and particulates may void tLis as an acceptance criterion.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d14-p-terphenyl (Surrogate)	SD26 0-0.05	SE142588.016	%	70 - 130%	90
	SD27 0-0.04	SE142588.017	%	70 - 130%	100
	SD28 0-0.02	SE142588.018	%	70 - 130%	102
d5-nitrobenzene (Surrogate)	SD13 0-0.2	SE142588.001	%	70 - 130%	100
	SD18 0-0.18	SE142588.002	%	70 - 130%	92
	DS18 0.15-0.25	SE142588.003	%	70 - 130%	90
	SD19 0-0.01	SE142588.004	%	70 - 130%	90
	SD19 0.02-0.09	SE142588.005	%	70 - 130%	94
	SD20 0-0.02	SE142588.006	%	70 - 130%	90
	SD21 0-0.03	SE142588.007	%	70 - 130%	100
	SD22 0-0.05	SE142588.008	%	70 - 130%	98
	SD23 0-0.1	SE142588.009	%	70 - 130%	100
	SD23 0.15-0.21	SE142588.010	%	70 - 130%	86
	SD24 0-0.04	SE142588.011	%	70 - 130%	94
	SD24 0.1-0.2	SE142588.012	%	70 - 130%	92
	SD25 0-0.1	SE142588.013	%	70 - 130%	94
	SD25 0.15-0.25	SE142588.014	%	70 - 130%	90
	SD25 0.4-0.5	SE142588.015	%	70 - 130%	90
	SD26 0-0.05	SE142588.016	%	70 - 130%	96
	SD27 0-0.04	SE142588.017	%	70 - 130%	100
	SD28 0-0.02	SE142588.018	%	70 - 130%	94

VOC's in Soil — Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SD13 0-0.2	SE142588.001	%	60 - 130%	89
	SD18 0-0.18	SE142588.002	%	60 - 130%	127
	DS18 0.15-0.25	SE142588.003	%	60 - 130%	114
	SD19 0-0.01	SE142588.004	%	60 - 130%	107
	SD19 0.02-0.09	SE142588.005	%	60 - 130%	117
	SD20 0-0.02	SE142588.006	%	60 - 130%	113
	SD21 0-0.03	SE142588.007	%	60 - 130%	103
	SD22 0-0.05	SE142588.008	%	60 - 130%	105
	SD23 0-0.1	SE142588.009	%	60 - 130%	92
	SD23 0.15-0.21	SE142588.010	%	60 - 130%	114
	SD24 0-0.04	SE142588.011	%	60 - 130%	109
	SD24 0.1-0.2	SE142588.012	%	60 - 130%	119
	SD25 0-0.1	SE142588.013	%	60 - 130%	117
	SD25 0.15-0.25	SE142588.014	%	60 - 130%	127
	SD25 0.4-0.5	SE142588.015	%	60 - 130%	115
	SD26 0-0.05	SE142588.016	%	60 - 130%	105
	SD27 0-0.04	SE142588.017	%	60 - 130%	113
	SD28 0-0.02	SE142588.018	%	60 - 130%	128
	Trip Spike	SE142588.066	%	60 - 130%	103
d4-1,2-dichloroethane (Surrogate)	SD13 0-0.2	SE142588.001	%	60 - 130%	98
	SD18 0-0.18	SE142588.002	%	60 - 130%	125
	DS18 0.15-0.25	SE142588.003	%	60 - 130%	116
	SD19 0-0.01	SE142588.004	%	60 - 130%	106
	SD19 0.02-0.09	SE142588.005	%	60 - 130%	113
	SD20 0-0.02	SE142588.006	%	60 - 130%	116
	SD21 0-0.03	SE142588.007	%	60 - 130%	106
	SD22 0-0.05	SE142588.008	%	60 - 130%	110
	SD23 0-0.1	SE142588.009	%	60 - 130%	94
	SD23 0.15-0.21	SE142588.010	%	60 - 130%	119
	SD24 0-0.04	SE142588.011	%	60 - 130%	92
	SD24 0.1-0.2	SE142588.012	%	60 - 130%	117
	SD25 0-0.1	SE142588.013	%	60 - 130%	104
	SD25 0.15-0.25	SE142588.014	%	60 - 130%	111
	SD25 0.4-0.5	SE142588.015	%	60 - 130%	97
	SD26 0-0.05	SE142588.016	%	60 - 130%	96
	SD27 0-0.04	SE142588.017	%	60 - 130%	99
	SD28 0-0.02	SE142588.018	%	60 - 130%	114

Surrogate results are evaluated against upper and lower limit criteria esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. At least two of tLree routine level soil sample surrogate spike recoveries for BhEX7VOC are to (e witLin F0-130% wLere control cLarts Lave not (een developed and witLin tLe esta(lisLed control limits for cLarted surrogates. Matrix effects may void tLis as an acceptance criterion. Water sample surrogate spike recoveries are to (e witLin 40-130%. hLe presence of emulsions, surfactants and particulates may void tLis as an acceptance criterion.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

VOC's in Soil (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	Trip Spike	SE142588.066	%	60 - 130%	116
d8-toluene (Surrogate)	SD13 0-0.2	SE142588.001	%	60 - 130%	107
	SD18 0-0.18	SE142588.002	%	60 - 130%	121
	DS18 0.15-0.25	SE142588.003	%	60 - 130%	110
	SD19 0-0.01	SE142588.004	%	60 - 130%	126
	SD19 0.02-0.09	SE142588.005	%	60 - 130%	120
	SD20 0-0.02	SE142588.006	%	60 - 130%	122
	SD21 0-0.03	SE142588.007	%	60 - 130%	121
	SD22 0-0.05	SE142588.008	%	60 - 130%	119
	SD23 0-0.1	SE142588.009	%	60 - 130%	103
	SD23 0.15-0.21	SE142588.010	%	60 - 130%	124
	SD24 0-0.04	SE142588.011	%	60 - 130%	121
	SD24 0.1-0.2	SE142588.012	%	60 - 130%	113
	SD25 0-0.1	SE142588.013	%	60 - 130%	105
	SD25 0.15-0.25	SE142588.014	%	60 - 130%	114
	SD25 0.4-0.5	SE142588.015	%	60 - 130%	107
	SD26 0-0.05	SE142588.016	%	60 - 130%	125
	SD27 0-0.04	SE142588.017	%	60 - 130%	105
	SD28 0-0.02	SE142588.018	%	60 - 130%	102
	Trip Spike	SE142588.066	%	60 - 130%	128
Dibromofluoromethane (Surrogate)	SD13 0-0.2	SE142588.001	%	60 - 130%	102
	SD18 0-0.18	SE142588.002	%	60 - 130%	124
	DS18 0.15-0.25	SE142588.003	%	60 - 130%	117
	SD19 0-0.01	SE142588.004	%	60 - 130%	106
	SD19 0.02-0.09	SE142588.005	%	60 - 130%	112
	SD20 0-0.02	SE142588.006	%	60 - 130%	117
	SD21 0-0.03	SE142588.007	%	60 - 130%	107
	SD22 0-0.05	SE142588.008	%	60 - 130%	112
	SD23 0-0.1	SE142588.009	%	60 - 130%	95
	SD23 0.15-0.21	SE142588.010	%	60 - 130%	121
	SD24 0-0.04	SE142588.011	%	60 - 130%	87
	SD24 0.1-0.2	SE142588.012	%	60 - 130%	112
	SD25 0-0.1	SE142588.013	%	60 - 130%	97
	SD25 0.15-0.25	SE142588.014	%	60 - 130%	103
	SD25 0.4-0.5	SE142588.015	%	60 - 130%	91
	SD26 0-0.05	SE142588.016	%	60 - 130%	92
	SD27 0-0.04	SE142588.017	%	60 - 130%	91
	SD28 0-0.02	SE142588.018	%	60 - 130%	104
	Trip Spike	SE142588.066	%	60 - 130%	118

VOCs in Water — Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SW1 1	SE142588.019	%	40 - 130%	88
	SW1 7.1	SE142588.020	%	40 - 130%	89
	SW2 1	SE142588.021	%	40 - 130%	88
	SW2 2.4	SE142588.022	%	40 - 130%	89
	SW3 1	SE142588.023	%	40 - 130%	86
	SW4 1	SE142588.024	%	40 - 130%	85
	SW4 2.5	SE142588.025	%	40 - 130%	84
	SW5 1	SE142588.026	%	40 - 130%	86
	SW5 3.1	SE142588.027	%	40 - 130%	87
	SW6 1	SE142588.028	%	40 - 130%	87
	SW6 3.2	SE142588.029	%	40 - 130%	86
	SW7 1	SE142588.030	%	40 - 130%	87
	SW8 1	SE142588.031	%	40 - 130%	87
	SW8 5.6	SE142588.032	%	40 - 130%	88
	SW9 1	SE142588.033	%	40 - 130%	88
	SW9 3.1	SE142588.034	%	40 - 130%	88
	SW10 1	SE142588.035	%	40 - 130%	86
	SW10 11.8	SE142588.036	%	40 - 130%	86
	SW11 1	SE142588.037	%	40 - 130%	87

Surrogate results are evaluated against upper and lower limit criteria esta(lisLed in tLe SGS QA7QC plan)Ref: MP-)AU/-[ENV]QU-022/. At least two of tLree routine level soil sample surrogate spike recoveries for BhEX7VOC are to (e witLin F0-130% wLere control cLarts Lave not (een developed and witLin tLe esta(lisLed control limits for cLarted surrogates. Matrix effects may void tLis as an acceptance criterion. Water sample surrogate spike recoveries are to (e witLin 40-130%. hLe presence of emulsions, surfactants and particulates may void tLis as an acceptance criterion.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

VOCs in Water (continued) Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SW11 5.1	SE142588.038	%	40 - 130%	89
	SW12 1	SE142588.039	%	40 - 130%	86
	SW12 2.6	SE142588.040	%	40 - 130%	90
	SW13 1	SE142588.041	%	40 - 130%	87
	SW13 11	SE142588.042	%	40 - 130%	88
	SW14 1	SE142588.043	%	40 - 130%	88
	SW14 8.2	SE142588.044	%	40 - 130%	86
	SW18 1	SE142588.045	%	40 - 130%	89
	SW18 15.6	SE142588.046	%	40 - 130%	89
	SW19 1	SE142588.047	%	40 - 130%	88
	SW19 15.8	SE142588.048	%	40 - 130%	87
	SW20 1	SE142588.049	%	40 - 130%	88
	SW20 11.4	SE142588.050	%	40 - 130%	87
	SW21 1	SE142588.051	%	40 - 130%	89
	SW21 15.8	SE142588.052	%	40 - 130%	88
	SW22 1	SE142588.053	%	40 - 130%	86
	SW22 9.3	SE142588.054	%	40 - 130%	89
	SW23 1	SE142588.055	%	40 - 130%	89
	SW23 24.4	SE142588.056	%	40 - 130%	90
	SW24 1	SE142588.057	%	40 - 130%	86
	SW24 19.6	SE142588.058	%	40 - 130%	90
	SW25 1	SE142588.059	%	40 - 130%	89
	SW25 21.2	SE142588.060	%	40 - 130%	86
	SW26 1	SE142588.061	%	40 - 130%	88
	SW26 7.9	SE142588.062	%	40 - 130%	88
	QA1	SE142588.063	%	40 - 130%	87
	QA3	SE142588.064	%	40 - 130%	88
	QA5	SE142588.065	%	40 - 130%	90
	Trip Spike	SE142588.067	%	40 - 130%	109
	TBEC140815	SE142588.068	%	40 - 130%	83
	TBEC150815	SE142588.069	%	40 - 130%	82
	RINEC140815	SE142588.070	%	40 - 130%	88
	RINEC150815	SE142588.071	%	40 - 130%	90
d4-1,2-dichloroethane (Surrogate)	SW1 1	SE142588.019	%	40 - 130%	78
	SW1 7.1	SE142588.020	%	40 - 130%	81
	SW2 1	SE142588.021	%	40 - 130%	84
	SW2 2.4	SE142588.022	%	40 - 130%	84
	SW3 1	SE142588.023	%	40 - 130%	86
	SW4 1	SE142588.024	%	40 - 130%	86
	SW4 2.5	SE142588.025	%	40 - 130%	83
	SW5 1	SE142588.026	%	40 - 130%	87
	SW5 3.1	SE142588.027	%	40 - 130%	88
	SW6 1	SE142588.028	%	40 - 130%	88
	SW6 3.2	SE142588.029	%	40 - 130%	87
	SW7 1	SE142588.030	%	40 - 130%	87
	SW8 1	SE142588.031	%	40 - 130%	88
	SW8 5.6	SE142588.032	%	40 - 130%	92
	SW9 1	SE142588.033	%	40 - 130%	92
	SW9 3.1	SE142588.034	%	40 - 130%	89
	SW10 1	SE142588.035	%	40 - 130%	92
	SW10 11.8	SE142588.036	%	40 - 130%	89
	SW11 1	SE142588.037	%	40 - 130%	92
	SW11 5.1	SE142588.038	%	40 - 130%	92
	SW12 1	SE142588.039	%	40 - 130%	94
	SW12 2.6	SE142588.040	%	40 - 130%	94
	SW13 1	SE142588.041	%	40 - 130%	93
	SW13 11	SE142588.042	%	40 - 130%	95
	SW14 1	SE142588.043	%	40 - 130%	96
	SW14 8.2	SE142588.044	%	40 - 130%	96
	SW18 1	SE142588.045	%	40 - 130%	96
	SW18 15.6	SE142588.046	%	40 - 130%	95

Surrogate results are evaluated against upper and lower limit criteria esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. At least two of tLree routine level soil sample surrogate spike recoveries for BhEX7VOC are to (e witLin F0-130% wLere control cLarts Lave not (een developed and witLin tLe esta(lisLed control limits for cLarted surrogates. Matrix effects may void tLis as an acceptance criterion. Water sample surrogate spike recoveries are to (e witLin 40-130%. hLe presence of emulsions, surfactants and particulates may void tLis as an acceptance criterion.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

VOCs in Water (continued) Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	SW19 1	SE142588.047	%	40 - 130%	96
	SW19 15.8	SE142588.048	%	40 - 130%	92
	SW20 1	SE142588.049	%	40 - 130%	95
	SW20 11.4	SE142588.050	%	40 - 130%	97
	SW21 1	SE142588.051	%	40 - 130%	97
	SW21 15.8	SE142588.052	%	40 - 130%	97
	SW22 1	SE142588.053	%	40 - 130%	96
	SW22 9.3	SE142588.054	%	40 - 130%	96
	SW23 1	SE142588.055	%	40 - 130%	101
	SW23 24.4	SE142588.056	%	40 - 130%	96
	SW24 1	SE142588.057	%	40 - 130%	102
	SW24 19.6	SE142588.058	%	40 - 130%	96
	SW25 1	SE142588.059	%	40 - 130%	100
	SW25 21.2	SE142588.060	%	40 - 130%	98
	SW26 1	SE142588.061	%	40 - 130%	101
	SW26 7.9	SE142588.062	%	40 - 130%	99
	QA1	SE142588.063	%	40 - 130%	99
	QA3	SE142588.064	%	40 - 130%	101
	QA5	SE142588.065	%	40 - 130%	100
	Trip Spike	SE142588.067	%	40 - 130%	100
	TBEC140815	SE142588.068	%	40 - 130%	113
	TBEC150815	SE142588.069	%	40 - 130%	114
	RINEC140815	SE142588.070	%	40 - 130%	97
	RINEC150815	SE142588.071	%	40 - 130%	101
d8-toluene (Surrogate)	SW1 1	SE142588.019	%	40 - 130%	103
	SW1 7.1	SE142588.020	%	40 - 130%	103
	SW2 1	SE142588.021	%	40 - 130%	101
	SW2 2.4	SE142588.022	%	40 - 130%	103
	SW3 1	SE142588.023	%	40 - 130%	101
	SW4 1	SE142588.024	%	40 - 130%	100
	SW4 2.5	SE142588.025	%	40 - 130%	99
	SW5 1	SE142588.026	%	40 - 130%	101
	SW5 3.1	SE142588.027	%	40 - 130%	99
	SW6 1	SE142588.028	%	40 - 130%	99
	SW6 3.2	SE142588.029	%	40 - 130%	99
	SW7 1	SE142588.030	%	40 - 130%	98
	SW8 1	SE142588.031	%	40 - 130%	99
	SW8 5.6	SE142588.032	%	40 - 130%	97
	SW9 1	SE142588.033	%	40 - 130%	98
	SW9 3.1	SE142588.034	%	40 - 130%	96
	SW10 1	SE142588.035	%	40 - 130%	98
	SW10 11.8	SE142588.036	%	40 - 130%	96
	SW11 1	SE142588.037	%	40 - 130%	97
	SW11 5.1	SE142588.038	%	40 - 130%	96
	SW12 1	SE142588.039	%	40 - 130%	97
	SW12 2.6	SE142588.040	%	40 - 130%	97
	SW13 1	SE142588.041	%	40 - 130%	95
	SW13 11	SE142588.042	%	40 - 130%	95
	SW14 1	SE142588.043	%	40 - 130%	97
	SW14 8.2	SE142588.044	%	40 - 130%	97
	SW18 1	SE142588.045	%	40 - 130%	97
	SW18 15.6	SE142588.046	%	40 - 130%	98
	SW19 1	SE142588.047	%	40 - 130%	96
	SW19 15.8	SE142588.048	%	40 - 130%	97
	SW20 1	SE142588.049	%	40 - 130%	99
	SW20 11.4	SE142588.050	%	40 - 130%	97
	SW21 1	SE142588.051	%	40 - 130%	99
	SW21 15.8	SE142588.052	%	40 - 130%	95
	SW22 1	SE142588.053	%	40 - 130%	96
	SW22 9.3	SE142588.054	%	40 - 130%	98
	SW23 1	SE142588.055	%	40 - 130%	98

Surrogate results are evaluated against upper and lower limit criteria esta(lisLed in tLe SGS QA7QC plan)Ref: MP-)AU/-[ENV]QU-022/. At least two of tLree routine level soil sample surrogate spike recoveries for BhEX7VOC are to (e witLin F0-130% wLere control cLarts Lave not (een developed and witLin tLe esta(lisLed control limits for cLarted surrogates. Matrix effects may void tLis as an acceptance criterion. Water sample surrogate spike recoveries are to (e witLin 40-130%. hLe presence of emulsions, surfactants and particulates may void tLis as an acceptance criterion.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	SW23 24.4	SE142588.056	%	40 - 130%	97
	SW24 1	SE142588.057	%	40 - 130%	97
	SW24 19.6	SE142588.058	%	40 - 130%	97
	SW25 1	SE142588.059	%	40 - 130%	96
	SW25 21.2	SE142588.060	%	40 - 130%	97
	SW26 1	SE142588.061	%	40 - 130%	97
	SW26 7.9	SE142588.062	%	40 - 130%	98
	QA1	SE142588.063	%	40 - 130%	96
	QA3	SE142588.064	%	40 - 130%	96
	QA5	SE142588.065	%	40 - 130%	98
	Trip Spike	SE142588.067	%	40 - 130%	108
	TBEC140815	SE142588.068	%	40 - 130%	89
	TBEC150815	SE142588.069	%	40 - 130%	89
	RINEC140815	SE142588.070	%	40 - 130%	97
	RINEC150815	SE142588.071	%	40 - 130%	97
Dibromofluoromethane (Surrogate)	SW1 1	SE142588.019	%	40 - 130%	72
	SW1 7.1	SE142588.020	%	40 - 130%	76
	SW2 1	SE142588.021	%	40 - 130%	76
	SW2 2.4	SE142588.022	%	40 - 130%	78
	SW3 1	SE142588.023	%	40 - 130%	78
	SW4 1	SE142588.024	%	40 - 130%	80
	SW4 2.5	SE142588.025	%	40 - 130%	79
	SW5 1	SE142588.026	%	40 - 130%	80
	SW5 3.1	SE142588.027	%	40 - 130%	82
	SW6 1	SE142588.028	%	40 - 130%	82
	SW6 3.2	SE142588.029	%	40 - 130%	80
	SW7 1	SE142588.030	%	40 - 130%	81
	SW8 1	SE142588.031	%	40 - 130%	81
	SW8 5.6	SE142588.032	%	40 - 130%	84
	SW9 1	SE142588.033	%	40 - 130%	85
	SW9 3.1	SE142588.034	%	40 - 130%	81
	SW10 1	SE142588.035	%	40 - 130%	84
	SW10 11.8	SE142588.036	%	40 - 130%	86
	SW11 1	SE142588.037	%	40 - 130%	84
	SW11 5.1	SE142588.038	%	40 - 130%	88
	SW12 1	SE142588.039	%	40 - 130%	90
	SW12 2.6	SE142588.040	%	40 - 130%	90
	SW13 1	SE142588.041	%	40 - 130%	90
	SW13 11	SE142588.042	%	40 - 130%	93
	SW14 1	SE142588.043	%	40 - 130%	90
	SW14 8.2	SE142588.044	%	40 - 130%	93
	SW18 1	SE142588.045	%	40 - 130%	91
	SW18 15.6	SE142588.046	%	40 - 130%	92
	SW19 1	SE142588.047	%	40 - 130%	92
	SW19 15.8	SE142588.048	%	40 - 130%	92
	SW20 1	SE142588.049	%	40 - 130%	91
	SW20 11.4	SE142588.050	%	40 - 130%	93
	SW21 1	SE142588.051	%	40 - 130%	94
	SW21 15.8	SE142588.052	%	40 - 130%	95
	SW22 1	SE142588.053	%	40 - 130%	91
	SW22 9.3	SE142588.054	%	40 - 130%	93
	SW23 1	SE142588.055	%	40 - 130%	96
	SW23 24.4	SE142588.056	%	40 - 130%	95
	SW24 1	SE142588.057	%	40 - 130%	97
	SW24 19.6	SE142588.058	%	40 - 130%	96
	SW25 1	SE142588.059	%	40 - 130%	96
	SW25 21.2	SE142588.060	%	40 - 130%	94
	SW26 1	SE142588.061	%	40 - 130%	95
	SW26 7.9	SE142588.062	%	40 - 130%	100
	QA1	SE142588.063	%	40 - 130%	95
	QA3	SE142588.064	%	40 - 130%	96

Surrogate results are evaluated against upper and lower limit criteria esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. At least two of tLree routine level soil sample surrogate spike recoveries for BhEX7VOC are to (e witLin F0-130% wLere control cLarts Lave not (een developed and witLin tLe esta(lisLed control limits for cLarted surrogates. Matrix effects may void tLis as an acceptance criterion. Water sample surrogate spike recoveries are to (e witLin 40-130%. hLe presence of emulsions, surfactants and particulates may void tLis as an acceptance criterion.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

VOCs in Water (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Dibromofluoromethane (Surrogate)	QA5	SE142588.065	%	40 - 130%	94
	Trip Spike	SE142588.067	%	40 - 130%	94
	TBEC140815	SE142588.068	%	40 - 130%	114
	TBEC150815	SE142588.069	%	40 - 130%	113
	RINEC140815	SE142588.070	%	40 - 130%	103
	RINEC150815	SE142588.071	%	40 - 130%	107

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SD13 0-0.2	SE142588.001	%	60 - 130%	77
	SD18 0-0.18	SE142588.002	%	60 - 130%	115
	DS18 0.15-0.25	SE142588.003	%	60 - 130%	101
	SD19 0-0.01	SE142588.004	%	60 - 130%	95
	SD19 0.02-0.09	SE142588.005	%	60 - 130%	104
	SD20 0-0.02	SE142588.006	%	60 - 130%	100
	SD21 0-0.03	SE142588.007	%	60 - 130%	89
	SD22 0-0.05	SE142588.008	%	60 - 130%	92
	SD23 0-0.1	SE142588.009	%	60 - 130%	79
	SD23 0.15-0.21	SE142588.010	%	60 - 130%	101
	SD24 0-0.04	SE142588.011	%	60 - 130%	115
	SD24 0.1-0.2	SE142588.012	%	60 - 130%	122
	SD25 0-0.1	SE142588.013	%	60 - 130%	111
	SD25 0.15-0.25	SE142588.014	%	60 - 130%	112
	SD25 0.4-0.5	SE142588.015	%	60 - 130%	112
	SD26 0-0.05	SE142588.016	%	60 - 130%	113
	SD27 0-0.04	SE142588.017	%	60 - 130%	124
	SD28 0-0.02	SE142588.018	%	60 - 130%	112
d4-1,2-dichloroethane (Surrogate)	SD13 0-0.2	SE142588.001	%	60 - 130%	106
	SD18 0-0.18	SE142588.002	%	60 - 130%	98
	DS18 0.15-0.25	SE142588.003	%	60 - 130%	126
	SD19 0-0.01	SE142588.004	%	60 - 130%	115
	SD19 0.02-0.09	SE142588.005	%	60 - 130%	122
	SD20 0-0.02	SE142588.006	%	60 - 130%	126
	SD21 0-0.03	SE142588.007	%	60 - 130%	115
	SD22 0-0.05	SE142588.008	%	60 - 130%	120
	SD23 0-0.1	SE142588.009	%	60 - 130%	103
	SD23 0.15-0.21	SE142588.010	%	60 - 130%	130
	SD24 0-0.04	SE142588.011	%	60 - 130%	101
	SD24 0.1-0.2	SE142588.012	%	60 - 130%	98
	SD25 0-0.1	SE142588.013	%	60 - 130%	114
	SD25 0.15-0.25	SE142588.014	%	60 - 130%	122
	SD25 0.4-0.5	SE142588.015	%	60 - 130%	106
	SD26 0-0.05	SE142588.016	%	60 - 130%	105
	SD27 0-0.04	SE142588.017	%	60 - 130%	109
	SD28 0-0.02	SE142588.018	%	60 - 130%	124
d8-toluene (Surrogate)	SD13 0-0.2	SE142588.001	%	60 - 130%	107
	SD18 0-0.18	SE142588.002	%	60 - 130%	111
	DS18 0.15-0.25	SE142588.003	%	60 - 130%	122
	SD19 0-0.01	SE142588.004	%	60 - 130%	124
	SD19 0.02-0.09	SE142588.005	%	60 - 130%	109
	SD20 0-0.02	SE142588.006	%	60 - 130%	114
	SD21 0-0.03	SE142588.007	%	60 - 130%	123
	SD22 0-0.05	SE142588.008	%	60 - 130%	110
	SD23 0-0.1	SE142588.009	%	60 - 130%	105
	SD23 0.15-0.21	SE142588.010	%	60 - 130%	117
	SD24 0-0.04	SE142588.011	%	60 - 130%	125
	SD24 0.1-0.2	SE142588.012	%	60 - 130%	111
	SD25 0-0.1	SE142588.013	%	60 - 130%	114
	SD25 0.15-0.25	SE142588.014	%	60 - 130%	122
	SD25 0.4-0.5	SE142588.015	%	60 - 130%	118
	SD26 0-0.05	SE142588.016	%	60 - 130%	124

Surrogate results are evaluated against upper and lower limit criteria esta(lisLed in tLe SGS QA7QC plan)Ref: MP-)AU/-[ENV]QU-022/. At least two of tLree routine level soil sample surrogate spike recoveries for BhEX7VOC are to (e witLin F0-130% wLere control cLarts Lave not (een developed and witLin tLe esta(lisLed control limits for cLarted surrogates. Matrix effects may void tLis as an acceptance criterion. Water sample surrogate spike recoveries are to (e witLin 40-130%. hLe presence of emulsions, surfactants and particulates may void tLis as an acceptance criterion.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued) — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	SD27 0-0.04	SE142588.017	%	60 - 130%	128
	SD28 0-0.02	SE142588.018	%	60 - 130%	116
Dibromofluoromethane (Surrogate)	SD13 0-0.2	SE142588.001	%	60 - 130%	109
	SD18 0-0.18	SE142588.002	%	60 - 130%	93
	DS18 0.15-0.25	SE142588.003	%	60 - 130%	124
	SD19 0-0.01	SE142588.004	%	60 - 130%	113
	SD19 0.02-0.09	SE142588.005	%	60 - 130%	119
	SD20 0-0.02	SE142588.006	%	60 - 130%	124
	SD21 0-0.03	SE142588.007	%	60 - 130%	113
	SD22 0-0.05	SE142588.008	%	60 - 130%	119
	SD23 0-0.1	SE142588.009	%	60 - 130%	101
	SD23 0.15-0.21	SE142588.010	%	60 - 130%	129
	SD24 0-0.04	SE142588.011	%	60 - 130%	94
	SD24 0.1-0.2	SE142588.012	%	60 - 130%	120
	SD25 0-0.1	SE142588.013	%	60 - 130%	103
	SD25 0.15-0.25	SE142588.014	%	60 - 130%	111
	SD25 0.4-0.5	SE142588.015	%	60 - 130%	97
	SD26 0-0.05	SE142588.016	%	60 - 130%	99
	SD27 0-0.04	SE142588.017	%	60 - 130%	98
	SD28 0-0.02	SE142588.018	%	60 - 130%	111

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SW1 1	SE142588.019	%	40 - 130%	90
	SW1 7.1	SE142588.020	%	40 - 130%	91
	SW2 1	SE142588.021	%	40 - 130%	93
	SW2 2.4	SE142588.022	%	40 - 130%	91
	SW3 1	SE142588.023	%	40 - 130%	86
	SW4 1	SE142588.024	%	40 - 130%	86
	SW4 2.5	SE142588.025	%	40 - 130%	87
	SW5 1	SE142588.026	%	40 - 130%	88
	SW5 3.1	SE142588.027	%	40 - 130%	88
	SW6 1	SE142588.028	%	40 - 130%	86
	SW6 3.2	SE142588.029	%	40 - 130%	84
	SW7 1	SE142588.030	%	40 - 130%	83
	SW8 1	SE142588.031	%	40 - 130%	84
	SW8 5.6	SE142588.032	%	40 - 130%	85
	SW9 1	SE142588.033	%	40 - 130%	89
	SW9 3.1	SE142588.034	%	40 - 130%	86
	SW10 1	SE142588.035	%	40 - 130%	84
	SW10 11.8	SE142588.036	%	40 - 130%	84
	SW11 1	SE142588.037	%	40 - 130%	82
	SW11 5.1	SE142588.038	%	40 - 130%	88
	SW12 1	SE142588.039	%	40 - 130%	84
	SW12 2.6	SE142588.040	%	40 - 130%	83
	SW13 1	SE142588.041	%	40 - 130%	86
	SW13 11	SE142588.042	%	40 - 130%	85
	SW14 1	SE142588.043	%	40 - 130%	84
	SW14 8.2	SE142588.044	%	40 - 130%	86
	SW18 1	SE142588.045	%	40 - 130%	86
	SW18 15.6	SE142588.046	%	40 - 130%	85
	SW19 1	SE142588.047	%	40 - 130%	85
	SW19 15.8	SE142588.048	%	40 - 130%	87
	SW20 1	SE142588.049	%	40 - 130%	82
	SW20 11.4	SE142588.050	%	40 - 130%	83
	SW21 1	SE142588.051	%	40 - 130%	89
	SW21 15.8	SE142588.052	%	40 - 130%	85
	SW22 1	SE142588.053	%	40 - 130%	83
	SW22 9.3	SE142588.054	%	40 - 130%	84
	SW23 1	SE142588.055	%	40 - 130%	83
	SW23 24.4	SE142588.056	%	40 - 130%	85

Surrogate results are evaluated against upper and lower limit criteria esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. At least two of tLree routine level soil sample surrogate spike recoveries for BhEX7VOC are to (e witLin F0-130% wLere control cLarts Lave not (een developed and witLin tLe esta(lisLed control limits for cLarted surrogates. Matrix effects may void tLis as an acceptance criterion. Water sample surrogate spike recoveries are to (e witLin 40-130%. hLe presence of emulsions, surfactants and particulates may void tLis as an acceptance criterion.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Volatile Petroleum Hydrocarbons in Water (continued) Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SW24 1	SE142588.057	%	40 - 130%	84
	SW24 19.6	SE142588.058	%	40 - 130%	84
	SW25 1	SE142588.059	%	40 - 130%	84
	SW25 21.2	SE142588.060	%	40 - 130%	84
	SW26 1	SE142588.061	%	40 - 130%	83
	SW26 7.9	SE142588.062	%	40 - 130%	82
	QA1	SE142588.063	%	40 - 130%	82
	QA3	SE142588.064	%	40 - 130%	83
	QA5	SE142588.065	%	40 - 130%	80
	RINEC140815	SE142588.070	%	40 - 130%	82
	RINEC150815	SE142588.071	%	40 - 130%	82
d4-1,2-dichloroethane (Surrogate)	SW1 1	SE142588.019	%	60 - 130%	90
	SW1 7.1	SE142588.020	%	60 - 130%	93
	SW2 1	SE142588.021	%	60 - 130%	95
	SW2 2.4	SE142588.022	%	60 - 130%	96
	SW3 1	SE142588.023	%	60 - 130%	98
	SW4 1	SE142588.024	%	60 - 130%	98
	SW4 2.5	SE142588.025	%	60 - 130%	96
	SW5 1	SE142588.026	%	60 - 130%	99
	SW5 3.1	SE142588.027	%	60 - 130%	102
	SW6 1	SE142588.028	%	60 - 130%	101
	SW6 3.2	SE142588.029	%	60 - 130%	99
	SW7 1	SE142588.030	%	60 - 130%	100
	SW8 1	SE142588.031	%	60 - 130%	100
	SW8 5.6	SE142588.032	%	60 - 130%	105
	SW9 1	SE142588.033	%	60 - 130%	105
	SW9 3.1	SE142588.034	%	60 - 130%	101
	SW10 1	SE142588.035	%	60 - 130%	104
	SW10 11.8	SE142588.036	%	60 - 130%	102
	SW11 1	SE142588.037	%	60 - 130%	105
	SW11 5.1	SE142588.038	%	60 - 130%	106
	SW12 1	SE142588.039	%	60 - 130%	107
	SW12 2.6	SE142588.040	%	60 - 130%	107
	SW13 1	SE142588.041	%	60 - 130%	107
	SW13 11	SE142588.042	%	60 - 130%	108
	SW14 1	SE142588.043	%	60 - 130%	109
	SW14 8.2	SE142588.044	%	60 - 130%	110
	SW18 1	SE142588.045	%	60 - 130%	109
	SW18 15.6	SE142588.046	%	60 - 130%	109
	SW19 1	SE142588.047	%	60 - 130%	110
	SW19 15.8	SE142588.048	%	60 - 130%	107
	SW20 1	SE142588.049	%	60 - 130%	109
	SW20 11.4	SE142588.050	%	60 - 130%	111
	SW21 1	SE142588.051	%	60 - 130%	111
	SW21 15.8	SE142588.052	%	60 - 130%	111
	SW22 1	SE142588.053	%	60 - 130%	110
	SW22 9.3	SE142588.054	%	60 - 130%	110
	SW23 1	SE142588.055	%	60 - 130%	115
	SW23 24.4	SE142588.056	%	60 - 130%	110
	SW24 1	SE142588.057	%	60 - 130%	116
	SW24 19.6	SE142588.058	%	60 - 130%	109
	SW25 1	SE142588.059	%	60 - 130%	113
	SW25 21.2	SE142588.060	%	60 - 130%	113
	SW26 1	SE142588.061	%	60 - 130%	115
	SW26 7.9	SE142588.062	%	60 - 130%	112
	QA1	SE142588.063	%	60 - 130%	114
	QA3	SE142588.064	%	60 - 130%	116
	QA5	SE142588.065	%	60 - 130%	114
	RINEC140815	SE142588.070	%	60 - 130%	111
	RINEC150815	SE142588.071	%	60 - 130%	115
d8-toluene (Surrogate)	SW1 1	SE142588.019	%	40 - 130%	92

Surrogate results are evaluated against upper and lower limit criteria esta(lisLed in tLe SGS QA7QC plan)Ref: MP-)AU/-[ENV]QU-022/. At least two of tLree routine level soil sample surrogate spike recoveries for BhEX7VOC are to (e witLin F0-130% wLere control cLarts Lave not (een developed and witLin tLe esta(lisLed control limits for cLarted surrogates. Matrix effects may void tLis as an acceptance criterion. Water sample surrogate spike recoveries are to (e witLin 40-130%. hLe presence of emulsions, surfactants and particulates may void tLis as an acceptance criterion.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Volatile Petroleum Hydrocarbons in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	SW1 7.1	SE142588.020	%	40 - 130%	91
	SW2 1	SE142588.021	%	40 - 130%	92
	SW2 2.4	SE142588.022	%	40 - 130%	91
	SW3 1	SE142588.023	%	40 - 130%	93
	SW4 1	SE142588.024	%	40 - 130%	91
	SW4 2.5	SE142588.025	%	40 - 130%	90
	SW5 1	SE142588.026	%	40 - 130%	90
	SW5 3.1	SE142588.027	%	40 - 130%	89
	SW6 1	SE142588.028	%	40 - 130%	89
	SW6 3.2	SE142588.029	%	40 - 130%	88
	SW7 1	SE142588.030	%	40 - 130%	88
	SW8 1	SE142588.031	%	40 - 130%	88
	SW8 5.6	SE142588.032	%	40 - 130%	91
	SW9 1	SE142588.033	%	40 - 130%	89
	SW9 3.1	SE142588.034	%	40 - 130%	85
	SW10 1	SE142588.035	%	40 - 130%	87
	SW10 11.8	SE142588.036	%	40 - 130%	86
	SW11 1	SE142588.037	%	40 - 130%	88
	SW11 5.1	SE142588.038	%	40 - 130%	85
	SW12 1	SE142588.039	%	40 - 130%	88
	SW12 2.6	SE142588.040	%	40 - 130%	90
	SW13 1	SE142588.041	%	40 - 130%	85
	SW13 11	SE142588.042	%	40 - 130%	88
	SW14 1	SE142588.043	%	40 - 130%	88
	SW14 8.2	SE142588.044	%	40 - 130%	90
	SW18 1	SE142588.045	%	40 - 130%	88
	SW18 15.6	SE142588.046	%	40 - 130%	87
	SW19 1	SE142588.047	%	40 - 130%	88
	SW19 15.8	SE142588.048	%	40 - 130%	87
	SW20 1	SE142588.049	%	40 - 130%	88
	SW20 11.4	SE142588.050	%	40 - 130%	89
	SW21 1	SE142588.051	%	40 - 130%	89
	SW21 15.8	SE142588.052	%	40 - 130%	89
	SW22 1	SE142588.053	%	40 - 130%	89
	SW22 9.3	SE142588.054	%	40 - 130%	89
	SW23 1	SE142588.055	%	40 - 130%	92
	SW23 24.4	SE142588.056	%	40 - 130%	88
	SW24 1	SE142588.057	%	40 - 130%	90
	SW24 19.6	SE142588.058	%	40 - 130%	89
	SW25 1	SE142588.059	%	40 - 130%	91
	SW25 21.2	SE142588.060	%	40 - 130%	87
	SW26 1	SE142588.061	%	40 - 130%	92
	SW26 7.9	SE142588.062	%	40 - 130%	91
	QA1	SE142588.063	%	40 - 130%	90
	QA3	SE142588.064	%	40 - 130%	91
	QA5	SE142588.065	%	40 - 130%	89
	RINEC140815	SE142588.070	%	40 - 130%	89
	RINEC150815	SE142588.071	%	40 - 130%	91
Dibromofluoromethane (Surrogate)	SW1 1	SE142588.019	%	40 - 130%	79
	SW1 7.1	SE142588.020	%	40 - 130%	83
	SW2 1	SE142588.021	%	40 - 130%	83
	SW2 2.4	SE142588.022	%	40 - 130%	85
	SW3 1	SE142588.023	%	40 - 130%	86
	SW4 1	SE142588.024	%	40 - 130%	88
	SW4 2.5	SE142588.025	%	40 - 130%	87
	SW5 1	SE142588.026	%	40 - 130%	87
	SW5 3.1	SE142588.027	%	40 - 130%	90
	SW6 1	SE142588.028	%	40 - 130%	89
	SW6 3.2	SE142588.029	%	40 - 130%	87
	SW7 1	SE142588.030	%	40 - 130%	88
	SW8 1	SE142588.031	%	40 - 130%	89

Surrogate results are evaluated against upper and lower limit criteria esta(lisLed in tLe SGS QA7QC plan)Ref: MP-)AU/-[ENV]QU-022/. At least two of tLree routine level soil sample surrogate spike recoveries for BhEX7VOC are to (e witLin F0-130% wLere control cLarts Lave not (een developed and witLin tLe esta(lisLed control limits for cLarted surrogates. Matrix effects may void tLis as an acceptance criterion. Water sample surrogate spike recoveries are to (e witLin 40-130%. hLe presence of emulsions, surfactants and particulates may void tLis as an acceptance criterion.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Volatile Petroleum Hydrocarbons in Water (continued) — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Dibromofluoromethane (Surrogate)	SW8 5.6	SE142588.032	%	40 - 130%	92
	SW9 1	SE142588.033	%	40 - 130%	92
	SW9 3.1	SE142588.034	%	40 - 130%	88
	SW10 1	SE142588.035	%	40 - 130%	92
	SW10 11.8	SE142588.036	%	40 - 130%	94
	SW11 1	SE142588.037	%	40 - 130%	92
	SW11 5.1	SE142588.038	%	40 - 130%	96
	SW12 1	SE142588.039	%	40 - 130%	99
	SW12 2.6	SE142588.040	%	40 - 130%	98
	SW13 1	SE142588.041	%	40 - 130%	98
	SW13 11	SE142588.042	%	40 - 130%	103
	SW14 1	SE142588.043	%	40 - 130%	98
	SW14 8.2	SE142588.044	%	40 - 130%	101
	SW18 1	SE142588.045	%	40 - 130%	100
	SW18 15.6	SE142588.046	%	40 - 130%	100
	SW19 1	SE142588.047	%	40 - 130%	101
	SW19 15.8	SE142588.048	%	40 - 130%	101
	SW20 1	SE142588.049	%	40 - 130%	100
	SW20 11.4	SE142588.050	%	40 - 130%	102
	SW21 1	SE142588.051	%	40 - 130%	102
	SW21 15.8	SE142588.052	%	40 - 130%	105
	SW22 1	SE142588.053	%	40 - 130%	99
	SW22 9.3	SE142588.054	%	40 - 130%	102
	SW23 1	SE142588.055	%	40 - 130%	105
	SW23 24.4	SE142588.056	%	40 - 130%	103
	SW24 1	SE142588.057	%	40 - 130%	105
	SW24 19.6	SE142588.058	%	40 - 130%	105
	SW25 1	SE142588.059	%	40 - 130%	105
	SW25 21.2	SE142588.060	%	40 - 130%	102
	SW26 1	SE142588.061	%	40 - 130%	105
	SW26 7.9	SE142588.062	%	40 - 130%	110
	QA1	SE142588.063	%	40 - 130%	105
	QA3	SE142588.064	%	40 - 130%	105
	QA5	SE142588.065	%	40 - 130%	103
	RINEC140815	SE142588.070	%	40 - 130%	112
	RINEC150815	SE142588.071	%	40 - 130%	116

Blank results are evaluated against tLe limit of reporting)bOR/, for tLe cLosen metLod and its associated instrumentation, typically 2.5 times tLe statistically determined metLod detection limit)MDb/.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

Ammonia Nitrogen by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN291

Sample Number	Parameter	Units	LOR	Result
LB083402.001	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.01
LB083403.001	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.01
LB083403.026	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.01
LB083404.001	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.01

Anions by Ion Chromatography in Water

Method: ME-AU-ENVAN245

Sample Number	Parameter	Units	LOR	Result
LB083373.001	Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005
LB083373.026	Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005
LB083375.001	Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005
LB083376.001	Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB083442.001	Conductivity @ 25 C	µS/cm	2	<2
	Salinity*	mg/L	2	<2
LB083443.001	Conductivity @ 25 C	µS/cm	2	<2
	Salinity*	mg/L	2	<2
LB083445.001	Conductivity @ 25 C	µS/cm	2	<2
	Salinity*	mg/L	2	<2

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Number	Parameter	Units	LOR	Result
LB083398.001	Filterable Reactive Phosphorus	mg/L	0.005	<0.005
LB083398.025	Filterable Reactive Phosphorus	mg/L	0.005	<0.005
LB083399.001	Filterable Reactive Phosphorus	mg/L	0.005	<0.005
LB083399.025	Filterable Reactive Phosphorus	mg/L	0.005	<0.005
LB083401.001	Filterable Reactive Phosphorus	mg/L	0.005	<0.005

Forms of Carbon

Method: ME-(AU)-[ENV]AN190

Sample Number	Parameter	Units	LOR	Result
LB083609.001	Total Organic Carbon as NPOC	mg/L	0.2	0.2
LB083610.001	Total Organic Carbon as NPOC	mg/L	0.2	0.2
LB083610.025	Total Organic Carbon as NPOC	mg/L	0.2	0.2

Low Level PAH (Poly Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB083382.001		Naphthalene	µg/L	0.02	<0.02
		2-methylnaphthalene	µg/L	0.01	<0.01
		1-methylnaphthalene	µg/L	0.01	<0.01
		Acenaphthylene	µg/L	0.01	<0.01
		Acenaphthene	µg/L	0.01	<0.01
		Fluorene	µg/L	0.01	<0.01
		Phenanthrene	µg/L	0.01	<0.01
		Anthracene	µg/L	0.01	<0.01
		Fluoranthene	µg/L	0.01	<0.01
		Pyrene	µg/L	0.01	<0.01
		Benzo(a)anthracene	µg/L	0.01	<0.01
		Chrysene	µg/L	0.01	<0.01
		Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02
		Benzo(a)pyrene	µg/L	0.01	<0.01
		Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01
		Dibenzo(a&h)anthracene	µg/L	0.01	<0.01
		Benzo(ghi)perylene	µg/L	0.01	<0.01
	Surrogates	d14-p-terphenyl (Surrogate)	%	-	44
LB083383.001		Naphthalene	µg/L	0.02	<0.02
		2-methylnaphthalene	µg/L	0.01	<0.01
		1-methylnaphthalene	µg/L	0.01	<0.01
		Acenaphthylene	µg/L	0.01	<0.01
		Acenaphthene	µg/L	0.01	<0.01
		Fluorene	µg/L	0.01	<0.01
		Phenanthrene	µg/L	0.01	<0.01
		Anthracene	µg/L	0.01	<0.01

Blank results are evaluated against tLe limit of reporting)bOR/, for tLe cLosen metLod and its associated instrumentation, typically 2.5 times tLe statistically determined metLod detection limit)MDb/.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

Low Level PAH (Poly Aromatic Hydrocarbons) in Water (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB083383.001		Fluoranthene	µg/L	0.01	<0.01
		Pyrene	µg/L	0.01	<0.01
		Benzo(a)anthracene	µg/L	0.01	<0.01
		Chrysene	µg/L	0.01	<0.01
		Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02
		Benzo(a)pyrene	µg/L	0.01	<0.01
		Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01
		Dibenzo(a&h)anthracene	µg/L	0.01	<0.01
		Benzo(ghi)perylene	µg/L	0.01	<0.01
	Surrogates	d14-p-terphenyl (Surrogate)	%	-	50
LB083384.001		Naphthalene	µg/L	0.02	<0.02
		2-methylnaphthalene	µg/L	0.01	<0.01
		1-methylnaphthalene	µg/L	0.01	<0.01
		Acenaphthylene	µg/L	0.01	<0.01
		Acenaphthene	µg/L	0.01	<0.01
		Fluorene	µg/L	0.01	<0.01
		Phenanthrene	µg/L	0.01	<0.01
		Anthracene	µg/L	0.01	<0.01
		Fluoranthene	µg/L	0.01	<0.01
		Pyrene	µg/L	0.01	<0.01
		Benzo(a)anthracene	µg/L	0.01	<0.01
		Chrysene	µg/L	0.01	<0.01
		Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02
		Benzo(a)pyrene	µg/L	0.01	<0.01
		Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01
		Dibenzo(a&h)anthracene	µg/L	0.01	<0.01
		Benzo(ghi)perylene	µg/L	0.01	<0.01
	Surrogates	d14-p-terphenyl (Surrogate)	%	-	44

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Sample Number	Parameter	Units	LOR	Result
LB083512.001	Mercury	mg/L	0.00005	0.0000
LB083640.001	Mercury	mg/L	0.00005	<0.0001
LB083641.001	Mercury	mg/L	0.00005	0.0000
LB083728.001	Mercury	mg/L	0.00005	0.0000

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB083537.001	Mercury	mg/kg	0.01	<0.01

Nitrite in Water

Method: ME-(AU)-[ENV]AN277/WC250.312

Sample Number	Parameter	Units	LOR	Result
LB083374.001	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005
LB083374.025	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005
LB083378.001	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005
LB083378.025	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005
LB083379.001	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB083400.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1

Blank results are evaluated against tLe limit of reporting)bOR/, for tLe cLosen metLod and its associated instrumentation, typically 2.5 times tLe statistically determined metLod detection limit)MDb/.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB083400.001		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	92
		2-fluorobiphenyl (Surrogate)	%	-	76
		d14-p-terphenyl (Surrogate)	%	-	106

Total Phosphorus by Kjeldahl Digestion DA in Water — Method: ME-(AU)-[ENV]AN279/AN293

Sample Number	Parameter	Units	LOR	Result
LB083395.001	Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	<0.05
LB083395.023	Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	<0.05
LB083510.001	Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	<0.05

Total Recoverable Metals in Soil by ICPOES — Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB083552.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	0.5	<0.5
	Selenium, Se	mg/kg	3	<3
LB083553.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	0.5	<0.5
	Selenium, Se	mg/kg	3	<3

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB083422.001	Arsenic, As	µg/L	1	<1
	Boron, B	µg/L	5	<5
	Cadmium, Cd	µg/L	0.1	<0.1
	Chromium, Cr	µg/L	1	<1
	Copper, Cu	µg/L	1	<1
	Lead, Pb	µg/L	1	<1
	Nickel, Ni	µg/L	1	<1
	Selenium, Se	µg/L	1	<1
	Zinc, Zn	µg/L	5	<5
LB083423.001	Arsenic, As	µg/L	1	<1
	Boron, B	µg/L	5	<5
	Cadmium, Cd	µg/L	0.1	<0.1
	Chromium, Cr	µg/L	1	<1
	Copper, Cu	µg/L	1	<1
	Lead, Pb	µg/L	1	<1
	Nickel, Ni	µg/L	1	<1
	Selenium, Se	µg/L	1	<1
	Zinc, Zn	µg/L	5	<5

Trace Metals (Total) in Water by ICPMS — Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB083420.001	Total Arsenic	µg/L	1	<1
	Total Boron	µg/L	5	<5
	Total Cadmium	µg/L	0.1	<0.1
	Total Chromium	µg/L	1	<1
	Total Copper	µg/L	1	<1

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Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

Trace Metals (Total) in Water by ICPMS (continued) — Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB083420.001	Total Lead	µg/L	1	<1
	Total Nickel	µg/L	1	<1
	Total Selenium	µg/L	1	<1
	Total Zinc	µg/L	5	<5
LB083421.001	Total Arsenic	µg/L	1	<1
	Total Boron	µg/L	5	<5
	Total Cadmium	µg/L	0.1	<0.1
	Total Chromium	µg/L	1	<1
	Total Copper	µg/L	1	<1
	Total Lead	µg/L	1	<1
	Total Nickel	µg/L	1	<1
	Total Selenium	µg/L	1	<1
	Total Zinc	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB083400.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

TRH (Total Recoverable Hydrocarbons) in Water — Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB083382.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200
LB083383.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200
LB083384.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200

VOC's in Soil — Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB083362.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1

Blank results are evaluated against tLe limit of reporting)bOR/, for tLe cLosen metLod and its associated instrumentation, typically 2.5 times tLe statistically determined metLod detection limit)MDb/.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

VOC's in Soil (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB083362.001	Halogenated Aliphatics	Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	107
		d4-1,2-dichloroethane (Surrogate)	%	-	112
		d8-toluene (Surrogate)	%	-	122
		Bromofluorobenzene (Surrogate)	%	-	108
	Totals	Total BTEX*	mg/kg	0.6	<0.6
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1

VOCs in Water — Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB083444.001	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5
		1,2-dichloropropane	µg/L	0.5	<0.5
		cis-1,3-dichloropropene	µg/L	0.5	<0.5
		trans-1,3-dichloropropene	µg/L	0.5	<0.5

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Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB083444.001	Fumigants	1,2-dibromoethane (EDB)	µg/L	0.5	<0.5
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5
		Chloromethane	µg/L	5	<5
		Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3
		Bromomethane	µg/L	10	<10
		Chloroethane	µg/L	5	<5
		Trichlorofluoromethane	µg/L	1	<1
		Iodomethane	µg/L	5	<5
		1,1-dichloroethene	µg/L	0.5	<0.5
		Dichloromethane (Methylene chloride)	µg/L	4	<4
		Allyl chloride	µg/L	2	<2
		trans-1,2-dichloroethene	µg/L	0.5	<0.5
		1,1-dichloroethane	µg/L	0.5	<0.5
		cis-1,2-dichloroethene	µg/L	0.5	<0.5
		Bromochloromethane	µg/L	0.5	<0.5
		1,2-dichloroethane	µg/L	0.5	<0.5
		1,1,1-trichloroethane	µg/L	0.5	<0.5
		1,1-dichloropropene	µg/L	0.5	<0.5
		Carbon tetrachloride	µg/L	0.5	<0.5
		Dibromomethane	µg/L	0.5	<0.5
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5
		1,1,2-trichloroethane	µg/L	0.5	<0.5
		1,3-dichloropropane	µg/L	0.5	<0.5
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5
		1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5
		cis-1,4-dichloro-2-butene	µg/L	1	<1
		1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5
		1,2,3-trichloropropane	µg/L	0.5	<0.5
		trans-1,4-dichloro-2-butene	µg/L	1	<1
		1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5
		Hexachlorobutadiene	µg/L	0.5	<0.5
	Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5
		Bromobenzene	µg/L	0.5	<0.5
		2-chlorotoluene	µg/L	0.5	<0.5
		4-chlorotoluene	µg/L	0.5	<0.5
		1,3-dichlorobenzene	µg/L	0.5	<0.5
		1,4-dichlorobenzene	µg/L	0.3	<0.3
		1,2-dichlorobenzene	µg/L	0.5	<0.5
		1,2,4-trichlorobenzene	µg/L	0.5	<0.5
		1,2,3-trichlorobenzene	µg/L	0.5	<0.5
	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5	<0.5
		Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1
		o-xylene	µg/L	0.5	<0.5
		Styrene (Vinyl benzene)	µg/L	0.5	<0.5
		Isopropylbenzene (Cumene)	µg/L	0.5	<0.5
		n-propylbenzene	µg/L	0.5	<0.5
		1,3,5-trimethylbenzene	µg/L	0.5	<0.5
		tert-butylbenzene	µg/L	0.5	<0.5
		1,2,4-trimethylbenzene	µg/L	0.5	<0.5
		sec-butylbenzene	µg/L	0.5	<0.5
		p-isopropyltoluene	µg/L	0.5	<0.5
		n-butylbenzene	µg/L	0.5	<0.5
	Nitrogenous Compounds	Acrylonitrile	µg/L	0.5	<0.5
	Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	<10
		MtBE (Methyl-tert-butyl ether)	µg/L	2	<2
		Vinyl acetate	µg/L	10	<10
		MEK (2-butanone)	µg/L	10	<10
		MIBK (4-methyl-2-pentanone)	µg/L	5	<5
		2-hexanone (MBK)	µg/L	5	<5

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Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB083444.001	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5
	Sulphonated	Carbon disulfide	µg/L	2	<2
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	72
		d4-1,2-dichloroethane (Surrogate)	%	-	73
		d8-toluene (Surrogate)	%	-	108
		Bromofluorobenzene (Surrogate)	%	-	90
	Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5
		Bromodichloromethane (THM)	µg/L	0.5	<0.5
		Dibromochloromethane (THM)	µg/L	0.5	<0.5
		Bromoform (THM)	µg/L	0.5	<0.5
LB083543.001	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5
		1,2-dichloropropane	µg/L	0.5	<0.5
		cis-1,3-dichloropropene	µg/L	0.5	<0.5
		trans-1,3-dichloropropene	µg/L	0.5	<0.5
		1,2-dibromoethane (EDB)	µg/L	0.5	<0.5
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5
		Chloromethane	µg/L	5	<5
		Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3
		Bromomethane	µg/L	10	<10
		Chloroethane	µg/L	5	<5
		Trichlorofluoromethane	µg/L	1	<1
		Iodomethane	µg/L	5	<5
		1,1-dichloroethene	µg/L	0.5	<0.5
		Dichloromethane (Methylene chloride)	µg/L	4	<4
		Allyl chloride	µg/L	2	<2
		trans-1,2-dichloroethene	µg/L	0.5	<0.5
		1,1-dichloroethane	µg/L	0.5	<0.5
		cis-1,2-dichloroethene	µg/L	0.5	<0.5
		Bromochloromethane	µg/L	0.5	<0.5
		1,2-dichloroethane	µg/L	0.5	<0.5
		1,1,1-trichloroethane	µg/L	0.5	<0.5
		1,1-dichloropropene	µg/L	0.5	<0.5
		Carbon tetrachloride	µg/L	0.5	<0.5
		Dibromomethane	µg/L	0.5	<0.5
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5
		1,1,2-trichloroethane	µg/L	0.5	<0.5
		1,3-dichloropropane	µg/L	0.5	<0.5
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5
		1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5
		cis-1,4-dichloro-2-butene	µg/L	1	<1
		1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5
		1,2,3-trichloropropane	µg/L	0.5	<0.5
		trans-1,4-dichloro-2-butene	µg/L	1	<1
		1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5
		Hexachlorobutadiene	µg/L	0.5	<0.5
	Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5
		Bromobenzene	µg/L	0.5	<0.5
		2-chlorotoluene	µg/L	0.5	<0.5
		4-chlorotoluene	µg/L	0.5	<0.5
		1,3-dichlorobenzene	µg/L	0.5	<0.5
		1,4-dichlorobenzene	µg/L	0.3	<0.3
		1,2-dichlorobenzene	µg/L	0.5	<0.5
		1,2,4-trichlorobenzene	µg/L	0.5	<0.5
		1,2,3-trichlorobenzene	µg/L	0.5	<0.5
	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5	<0.5
		Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1
		o-xylene	µg/L	0.5	<0.5
		Styrene (Vinyl benzene)	µg/L	0.5	<0.5
		Isopropylbenzene (Cumene)	µg/L	0.5	<0.5

Blank results are evaluated against tLe limit of reporting)bOR/, for tLe cLosen metLod and its associated instrumentation, typically 2.5 times tLe statistically determined metLod detection limit)MDb/.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB083543.001	Monocyclic Aromatic Hydrocarbons	n-propylbenzene	µg/L	0.5	<0.5
		1,3,5-trimethylbenzene	µg/L	0.5	<0.5
		tert-butylbenzene	µg/L	0.5	<0.5
		1,2,4-trimethylbenzene	µg/L	0.5	<0.5
		sec-butylbenzene	µg/L	0.5	<0.5
		p-isopropyltoluene	µg/L	0.5	<0.5
		n-butylbenzene	µg/L	0.5	<0.5
	Nitrogenous Compounds	Acrylonitrile	µg/L	0.5	<0.5
	Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	<10
		MtBE (Methyl-tert-butyl ether)	µg/L	2	<2
		Vinyl acetate	µg/L	10	<10
		MEK (2-butanone)	µg/L	10	<10
		MIBK (4-methyl-2-pentanone)	µg/L	5	<5
		2-hexanone (MBK)	µg/L	5	<5
	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5
	Sulphonated	Carbon disulfide	µg/L	2	<2
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	95
		d4-1,2-dichloroethane (Surrogate)	%	-	90
		d8-toluene (Surrogate)	%	-	97
		Bromofluorobenzene (Surrogate)	%	-	87
	Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5
		Bromodichloromethane (THM)	µg/L	0.5	<0.5
		Dibromochloromethane (THM)	µg/L	0.5	<0.5
		Bromoform (THM)	µg/L	0.5	<0.5
LB083544.001	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5
		1,2-dichloropropane	µg/L	0.5	<0.5
		cis-1,3-dichloropropene	µg/L	0.5	<0.5
		trans-1,3-dichloropropene	µg/L	0.5	<0.5
		1,2-dibromoethane (EDB)	µg/L	0.5	<0.5
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5
		Chloromethane	µg/L	5	<5
		Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3
		Bromomethane	µg/L	10	<10
		Chloroethane	µg/L	5	<5
		Trichlorofluoromethane	µg/L	1	<1
		Iodomethane	µg/L	5	<5
		1,1-dichloroethene	µg/L	0.5	<0.5
		Dichloromethane (Methylene chloride)	µg/L	4	<4
		Allyl chloride	µg/L	2	<2
		trans-1,2-dichloroethene	µg/L	0.5	<0.5
		1,1-dichloroethane	µg/L	0.5	<0.5
		cis-1,2-dichloroethene	µg/L	0.5	<0.5
		Bromochloromethane	µg/L	0.5	<0.5
		1,2-dichloroethane	µg/L	0.5	<0.5
		1,1,1-trichloroethane	µg/L	0.5	<0.5
		1,1-dichloropropene	µg/L	0.5	<0.5
		Carbon tetrachloride	µg/L	0.5	<0.5
		Dibromomethane	µg/L	0.5	<0.5
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5
		1,1,2-trichloroethane	µg/L	0.5	<0.5
		1,3-dichloropropane	µg/L	0.5	<0.5
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5
		1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5
		cis-1,4-dichloro-2-butene	µg/L	1	<1
		1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5
		1,2,3-trichloropropane	µg/L	0.5	<0.5
		trans-1,4-dichloro-2-butene	µg/L	1	<1
		1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5
		Hexachlorobutadiene	µg/L	0.5	<0.5
	Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5
		Bromobenzene	µg/L	0.5	<0.5

Blank results are evaluated against tLe limit of reporting)bOR/, for tLe cLosen metLod and its associated instrumentation, typically 2.5 times tLe statistically determined metLod detection limit)MDb/.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

VOCs in Water (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB083544.001	Halogenated Aromatics	2-chlorotoluene	µg/L	0.5	<0.5
		4-chlorotoluene	µg/L	0.5	<0.5
		1,3-dichlorobenzene	µg/L	0.5	<0.5
		1,4-dichlorobenzene	µg/L	0.3	<0.3
		1,2-dichlorobenzene	µg/L	0.5	<0.5
		1,2,4-trichlorobenzene	µg/L	0.5	<0.5
		1,2,3-trichlorobenzene	µg/L	0.5	<0.5
	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5	<0.5
		Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1
		o-xylene	µg/L	0.5	<0.5
		Styrene (Vinyl benzene)	µg/L	0.5	<0.5
		Isopropylbenzene (Cumene)	µg/L	0.5	<0.5
		n-propylbenzene	µg/L	0.5	<0.5
		1,3,5-trimethylbenzene	µg/L	0.5	<0.5
		tert-butylbenzene	µg/L	0.5	<0.5
		1,2,4-trimethylbenzene	µg/L	0.5	<0.5
		sec-butylbenzene	µg/L	0.5	<0.5
		p-isopropyltoluene	µg/L	0.5	<0.5
		n-butylbenzene	µg/L	0.5	<0.5
	Nitrogenous Compounds	Acrylonitrile	µg/L	0.5	<0.5
	Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	<10
		MtBE (Methyl-tert-butyl ether)	µg/L	2	<2
		Vinyl acetate	µg/L	10	<10
		MEK (2-butanone)	µg/L	10	<10
		MIBK (4-methyl-2-pentanone)	µg/L	5	<5
		2-hexanone (MBK)	µg/L	5	<5
	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5
	Sulphonated	Carbon disulfide	µg/L	2	<2
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	105
		d4-1,2-dichloroethane (Surrogate)	%	-	96
		d8-toluene (Surrogate)	%	-	97
		Bromofluorobenzene (Surrogate)	%	-	87
	Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5
		Bromodichloromethane (THM)	µg/L	0.5	<0.5
		Dibromochloromethane (THM)	µg/L	0.5	<0.5
		Bromoform (THM)	µg/L	0.5	<0.5

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result
LB083362.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	109
		d4-1,2-dichloroethane (Surrogate)	%	-	117
		d8-toluene (Surrogate)	%	-	124

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result
LB083444.001		TRH C6-C9	µg/L	40	<40
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	78
		d4-1,2-dichloroethane (Surrogate)	%	-	83
		d8-toluene (Surrogate)	%	-	93
		Bromofluorobenzene (Surrogate)	%	-	97
LB083543.001		TRH C6-C9	µg/L	40	<40
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	103
		d4-1,2-dichloroethane (Surrogate)	%	-	103
		d8-toluene (Surrogate)	%	-	87
		Bromofluorobenzene (Surrogate)	%	-	84
LB083544.001		TRH C6-C9	µg/L	40	<40
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	116
		d4-1,2-dichloroethane (Surrogate)	%	-	112
		d8-toluene (Surrogate)	%	-	90

Blank results are evaluated against tLe limit of reporting)bOR/, for tLe cLosen metLod and its associated instrumentation, typically 2.5 times tLe statistically determined metLod detection limit)MDb/.

Result is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

Volatile Petroleum Hydrocarbons in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result
LB083544.001	Surrogates	Bromofluorobenzene (Surrogate)	%	-	82

SGS

DUPLICATES

Duplicates are calculated as Relative Percentage Difference)RPD/ using tLe formula: RPD = | OriginalResult - ReplicateResult | x 100 7Mean

hLe RPD is evaluated against tLe Maximum Allowa(le Difference)MAD/ criteria and can (e grapLically represented (y a curve calculated from tLe Statistical Detection bimit)SDb/ and bimiting Repeata(ility)bR/ using tLe formula: MAD = 100 x SDb 7Mean + bR

WLere tLe Maximum Allowa(le Difference evaluates to a num(er larger tLan 200 it is displayed as 200.

RPD is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Ammonia Nitrogen by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN291

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.028	LB083402.015	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.01	0.01	96	25
SE142588.038	LB083403.008	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.04	0.04	40	3
SE142588.048	LB083403.020	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.01	0.01	97	27

Anions by Ion Chromatography in Water

Method: ME-AU-ENVAN245

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.030	LB083373.016	Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005	<0.005	200	0
SE142588.051	LB083375.016	Nitrate Nitrogen, NO3-N	mg/L	0.005	0.014	0.012	53	15
SE142588.061	LB083376.011	Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005	<0.005	200	0

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.028	LB083442.013	Conductivity @ 25 C	µS/cm	2	1400	1400	15	0
		Salinity*	mg/L	2	910	920	15	0
SE142588.038	LB083442.026	Conductivity @ 25 C	µS/cm	2	2000	2000	15	0
		Salinity*	mg/L	2	1300	1300	15	0
SE142588.048	LB083443.012	Conductivity @ 25 C	µS/cm	2	2000	2000	15	0
		Salinity*	mg/L	2	1300	1300	15	0
SE142588.057	LB083443.022	Conductivity @ 25 C	µS/cm	2	1600	1600	15	0
		Salinity*	mg/L	2	1000	1000	15	0

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.028	LB083398.014	Filterable Reactive Phosphorus	mg/L	0.005	<0.005	<0.005	200	0
SE142588.038	LB083398.027	Filterable Reactive Phosphorus	mg/L	0.005	<0.005	<0.005	200	0
SE142588.048	LB083399.014	Filterable Reactive Phosphorus	mg/L	0.005	<0.005	<0.005	200	0
SE142588.058	LB083399.027	Filterable Reactive Phosphorus	mg/L	0.005	<0.005	<0.005	200	0
SE142611A.002	LB083401.014	Filterable Reactive Phosphorus	mg/L	0.005	<0.005	0.013	94	86

Forms of Carbon

Method: ME-(AU)-[ENV]AN190

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.026	LB083609.013	Total Organic Carbon as NPOC	mg/L	0.2	9.2	9.1	17	0
SE142588.036	LB083609.024	Total Organic Carbon as NPOC	mg/L	0.2	8.5	8.2	17	3
SE142588.046	LB083610.013	Total Organic Carbon as NPOC	mg/L	0.2	8.2	7.8	17	5
SE142588.056	LB083610.024	Total Organic Carbon as NPOC	mg/L	0.2	7.4	7.7	18	4
SE142588.070	LB083610.037	Total Organic Carbon as NPOC	mg/L	0.2	0.3	0.3	78	9

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.019	LB083512.015	Mercury	µg/L	0.00005	<0.0001	0.0000	200	13
SE142588.036	LB083640.014	Mercury	µg/L	0.00005	<0.0001	0.0000	200	33
SE142588.045	LB083640.024	Mercury	µg/L	0.00005	<0.0001	0.0000	178	21
SE142588.055	LB083641.014	Mercury	µg/L	0.00005	<0.0001	0.0000	160	2
SE142588.064	LB083641.024	Mercury	µg/L	0.00005	<0.0001	0.0000	139	35
SE142619.002	LB083728.014	Mercury	µg/L	0.00005	<0.0001	0.0000	200	40
SE142631.005	LB083728.024	Mercury	µg/L	0.00005	<0.0001	0.0000	200	2
SE142654.018	LB083512.024	Mercury	µg/L	0.00005	<0.0001	0.0000	200	58

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.028	LB083645.014	Total Mercury	µg/L	0.00005	<0.00005	<0.00005	200	0
SE142588.037	LB083645.024	Total Mercury	µg/L	0.00005	<0.00005	<0.00005	200	0
SE142588.047	LB083646.014	Total Mercury	µg/L	0.00005	<0.00005	0.00000	200	67
SE142588.056	LB083646.024	Total Mercury	µg/L	0.00005	<0.00005	0.00000	200	111
SE142588.065	LB083729.014	Total Mercury	µg/L	0.00005	<0.00005	0.00002	200	2
SE142701.007	LB083729.024	Total Mercury	µg/L	0.00005	<0.0001	0.0000	200	33

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.010	LB083537.014	Mercury	mg/kg	0.01	0.01	0.01	200	0
SE142588.018	LB083537.023	Mercury	mg/kg	0.01	0.02	0.01	200	0

Duplicates are calculated as Relative Percentage Difference)RPD/ using tLe formula: RPD = | OriginalResult - ReplicateResult | x 100 7Mean

hLe RPD is evaluated against tLe Maximum Allowa(le Difference)MAD/ criteria and can (e grapLically represented (y a curve calculated from tLe Statistical Detection bimit)SDb/ and bimiting Repeata(ility)bR/ using tLe formula: MAD = 100 x SDb 7Mean + bR

WLere tLe Maximum Allowa(le Difference evaluates to a num(er larger tLan 200 it is displayed as 200.

RPD is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.010	LB083363.011	% Moisture	%w/w	0.5	23	23	34	1
SE142588.018	LB083363.020	% Moisture	%	0.5	35	37	33	6

Nitrite in Water

Method: ME-(AU)-[ENV]AN277/WC250.312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.028	LB083374.014	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	200	0
SE142588.038	LB083374.028	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	0.006	133	11
SE142588.048	LB083378.014	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	200	0
SE142588.058	LB083378.028	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	158	0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.011	LB083400.018		Naphthalene	mg/kg	0.1	<0.1	<0.1	197	0
			2-methylnaphthalene	mg/kg	0.1	0.1	0.1	113	17
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	184	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	0.1	0.1	121	0
			Phenanthrene	mg/kg	0.1	0.3	0.3	68	11
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	0.4	0.4	55	10
			Pyrene	mg/kg	0.1	0.3	0.3	60	6
			Benzo(a)anthracene	mg/kg	0.1	0.2	0.2	79	15
			Chrysene	mg/kg	0.1	0.2	0.2	89	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.1	0.2	97	27
			Benzo(k)fluoranthene	mg/kg	0.1	0.1	<0.1	163	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	184	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	128	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	144	0
			Total PAH	mg/kg	0.8	2.2	2.3	66	6
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	3
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
SE142588.018	LB083400.026		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	2

Duplicates are calculated as Relative Percentage Difference)RPD/ using tLe formula: RPD = | OriginalResult - ReplicateResult | x 100 7Mean

hLe RPD is evaluated against tLe Maximum Allowa(le Difference)MAD/ criteria and can (e grapLically represented (y a curve calculated from tLe Statistical Detection bimit)SDb/ and bimiting Repeata(ility)bR/ using tLe formula: MAD = 100 x SDb 7Mean + bR

WLere tLe Maximum Allowa(le Difference evaluates to a num(er larger tLan 200 it is displayed as 200.

RPD is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.018	LB083400.026	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4

pH in water — Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.028	LB083438.012	pH**	pH Units	-	8.6	8.6	16	0
SE142588.038	LB083438.024	pH**	pH Units	-	8.5	8.5	16	0
SE142588.048	LB083439.012	pH**	pH Units	-	5.5	5.5	17	0
SE142588.057	LB083439.022	pH**	pH Units	-	8.8	8.8	16	0
SE142588.071	LB083440.012	pH**	pH Units	-	5.2	5.2	17	0

Total Recoverable Metals in Soil by ICPOES — Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142574.005	LB083552.014	Arsenic, As	mg/kg	1	6	7	46	19
		Cadmium, Cd	mg/kg	0.3	0.4	0.5	99	11
		Chromium, Cr	mg/kg	0.3	9.9	11	35	11
		Copper, Cu	mg/kg	0.5	32	34	32	5
		Nickel, Ni	mg/kg	0.5	17	19	33	6
		Lead, Pb	mg/kg	1	18	19	35	10
		Zinc, Zn	mg/kg	0.5	78	84	32	6
SE142588.003	LB083552.024	Arsenic, As	mg/kg	1	4	3	59	26
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	5.6	5.3	39	6
		Copper, Cu	mg/kg	0.5	2.8	2.8	48	1
		Nickel, Ni	mg/kg	0.5	2.9	3.0	47	3
		Lead, Pb	mg/kg	1	7	7	45	7
		Zinc, Zn	mg/kg	0.5	7.2	7.1	58	2
		Selenium, Se	mg/kg	3	<3	<3	200	0
		Boron, B	mg/kg	5	<5	<5	200	0
SE142588.013	LB083553.014	Arsenic, As	mg/kg	1	3	3	63	10
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	6.5	6.7	38	3
		Copper, Cu	mg/kg	0.5	8.4	8.9	36	5
		Nickel, Ni	mg/kg	0.5	7.5	7.8	37	3
		Lead, Pb	mg/kg	1	7	7	44	5
		Zinc, Zn	mg/kg	0.5	22	21	39	4
		Selenium, Se	mg/kg	3	<3	<3	200	0
		Boron, B	mg/kg	5	<5	<5	200	0
SE142623.004	LB083553.024	Arsenic, As	mg/kg	1	<3	<3	110	7
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	5.5	5.5	39	0
		Copper, Cu	mg/kg	0.5	1.3	1.2	70	13
		Nickel, Ni	mg/kg	0.5	<0.5	<0.5	181	0
		Lead, Pb	mg/kg	1	9	9	41	0
		Zinc, Zn	mg/kg	0.5	6.7	6.8	60	1

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.028	LB083422.014	Arsenic, As	μg/L	1	2	2	76	1
		Boron, B	μg/L	5	450	450	16	1
		Cadmium, Cd	μg/L	0.1	<0.1	<0.1	167	0
		Chromium, Cr	μg/L	1	<1	<1	200	0
		Copper, Cu	μg/L	1	2	2	69	1
		Lead, Pb	μg/L	1	<1	<1	200	0
		Nickel, Ni	μg/L	1	2	2	59	2
		Selenium, Se	μg/L	1	1	1	84	2
		Zinc, Zn	μg/L	5	<5	<5	200	0
SE142588.038	LB083422.028	Arsenic, As	μg/L	1	2	2	57	6
		Boron, B	μg/L	5	710	700	16	1
		Cadmium, Cd	μg/L	0.1	0.1	<0.1	120	19
		Chromium, Cr	μg/L	1	<1	<1	200	0
		Copper, Cu	μg/L	1	2	2	59	12

Duplicates are calculated as Relative Percentage Difference)RPD/ using tLe formula: RPD = | OriginalResult - ReplicateResult | x 100 7Mean

hLe RPD is evaluated against tLe Maximum Allowa(le Difference)MAD/ criteria and can (e grapLically represented (y a curve calculated from tLe Statistical Detection bimit)SDb/ and bimiting Repeata(ility)bR/ using tLe formula: MAD = 100 x SDb 7Mean + bR

WLere tLe Maximum Allowa(le Difference evaluates to a num(er larger tLan 200 it is displayed as 200.

RPD is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Trace Metals (Dissolved) in Water by ICPMS (continued) — Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.038	LB083422.028	Lead, Pb	μg/L	1	<1	<1	200	0
		Nickel, Ni	μg/L	1	3	3	44	2
		Selenium, Se	μg/L	1	2	2	68	20
		Zinc, Zn	μg/L	5	<5	<5	200	0
SE142588.042	LB083422.033	Arsenic, As	μg/L	1	2	2	65	0
		Boron, B	μg/L	5	630	630	16	1
		Cadmium, Cd	μg/L	0.1	<0.1	<0.1	157	0
		Chromium, Cr	μg/L	1	<1	<1	200	0
		Copper, Cu	μg/L	1	2	2	72	2
		Lead, Pb	μg/L	1	<1	<1	200	0
		Nickel, Ni	μg/L	1	3	3	51	2
		Selenium, Se	μg/L	1	2	2	77	8
		Zinc, Zn	μg/L	5	<5	<5	200	0
SE142588.052	LB083423.014	Arsenic, As	μg/L	1	3	3	53	8
		Boron, B	μg/L	5	830	840	16	1
		Cadmium, Cd	μg/L	0.1	<0.1	0.1	124	6
		Chromium, Cr	μg/L	1	<1	<1	200	0
		Copper, Cu	μg/L	1	2	2	58	3
		Lead, Pb	μg/L	1	<1	<1	200	0
		Nickel, Ni	μg/L	1	4	4	42	4
		Selenium, Se	μg/L	1	2	2	61	12
		Zinc, Zn	μg/L	5	<5	<5	169	0
SE142588.062	LB083423.028	Arsenic, As	μg/L	1	2	3	54	5
		Boron, B	μg/L	5	710	700	16	2
		Cadmium, Cd	μg/L	0.1	<0.1	<0.1	126	0
		Chromium, Cr	μg/L	1	<1	<1	200	0
		Copper, Cu	μg/L	1	3	3	52	3
		Lead, Pb	μg/L	1	<1	<1	200	0
		Nickel, Ni	μg/L	1	3	3	45	0
		Selenium, Se	μg/L	1	2	2	64	3
		Zinc, Zn	μg/L	5	<5	<5	146	0
SE142588.071	LB083423.034	Arsenic, As	μg/L	1	<1	<1	200	0
		Boron, B	μg/L	5	<5	<5	200	0
		Cadmium, Cd	μg/L	0.1	<0.1	<0.1	200	0
		Chromium, Cr	μg/L	1	<1	<1	200	0
		Copper, Cu	μg/L	1	<1	<1	200	0
		Lead, Pb	μg/L	1	<1	<1	200	0
		Nickel, Ni	μg/L	1	<1	<1	200	0
		Selenium, Se	μg/L	1	<1	<1	200	0
		Zinc, Zn	μg/L	5	<5	<5	200	0

Trace Metals (Total) in Water by ICPMS — Method: ME-(AU)-[ENV]AN022/AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.028	LB083420.014	Total Arsenic	μg/L	1	3	3	49	6
		Total Boron	μg/L	5	920	950	16	3
		Total Cadmium	μg/L	0.1	0.2	0.1	84	19
		Total Chromium	μg/L	1	<1	<1	200	0
		Total Copper	μg/L	1	4	4	41	1
		Total Lead	μg/L	1	<1	<1	200	0
		Total Nickel	μg/L	1	4	4	39	4
		Total Selenium	μg/L	1	3	3	53	3
		Total Zinc	μg/L	5	<5	<5	200	0
SE142588.038	LB083420.028	Total Arsenic	μg/L	1	3	3	46	4
		Total Boron	μg/L	5	930	950	16	1
		Total Cadmium	μg/L	0.1	0.2	0.1	79	56
		Total Chromium	μg/L	1	<1	<1	200	0
		Total Copper	μg/L	1	4	4	39	0
		Total Lead	μg/L	1	<1	<1	200	0
		Total Nickel	μg/L	1	5	4	37	3
		Total Selenium	μg/L	1	2	2	64	7
		Total Zinc	μg/L	5	<5	<5	199	0

Duplicates are calculated as Relative Percentage Difference)RPD/ using tLe formula: RPD = | OriginalResult - ReplicateResult | x 100 7Mean

hLe RPD is evaluated against tLe Maximum Allowa(le Difference)MAD/ criteria and can (e grapLically represented (y a curve calculated from tLe Statistical Detection bimit)SDb/ and limiting Repeata(ility)bR/ using tLe formula: MAD = 100 x SDb 7Mean + bR

WLere tLe Maximum Allowa(le Difference evaluates to a num(er larger tLan 200 it is displayed as 200.

RPD is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Trace Metals (Total) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN022/AN318

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.042	LB083420.033		Total Arsenic	μg/L	1	3	3	47	0
			Total Boron	μg/L	5	920	940	16	1
			Total Cadmium	μg/L	0.1	0.1	0.1	95	1
			Total Chromium	μg/L	1	<1	<1	200	0
			Total Copper	μg/L	1	4	4	43	1
			Total Lead	μg/L	1	<1	<1	200	0
			Total Nickel	μg/L	1	4	4	38	1
			Total Selenium	μg/L	1	2	3	57	28
			Total Zinc	μg/L	5	<5	<5	200	0
SE142588.062	LB083421.028		Total Arsenic	μg/L	1	3	3	46	2
			Total Boron	μg/L	5	930	960	16	4
			Total Cadmium	μg/L	0.1	0.1	0.1	97	13
			Total Chromium	μg/L	1	<1	<1	200	0
			Total Copper	μg/L	1	4	4	41	1
			Total Lead	μg/L	1	<1	<1	200	0
			Total Nickel	μg/L	1	4	4	39	2
			Total Selenium	μg/L	1	3	2	57	15
			Total Zinc	μg/L	5	<5	<5	200	0
SE142588.071	LB083421.034		Total Arsenic	μg/L	1	<1	<1	200	0
			Total Boron	μg/L	5	<5	<5	200	0
			Total Cadmium	μg/L	0.1	<0.1	<0.1	200	0
			Total Chromium	μg/L	1	<1	<1	200	0
			Total Copper	μg/L	1	<1	<1	200	0
			Total Lead	μg/L	1	<1	<1	200	0
			Total Nickel	μg/L	1	<1	<1	200	0
			Total Selenium	μg/L	1	<1	<1	200	0
			Total Zinc	μg/L	5	<5	<5	200	0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.011	LB083400.016		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	360	380	42	6
			TRH C29-C36	mg/kg	45	250	300	46	16
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	610	680	47	10
			TRH C10-C40 Total	mg/kg	210	610	680	62	10
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	590	650	45	10
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE142588.018	LB083400.024		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	51	59	112	15
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	97	133	7
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.011	LB083362.026	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
			Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromomethane	mg/kg	1	<1	<1	200	0

Duplicates are calculated as Relative Percentage Difference)RPD/ using tLe formula: RPD = | OriginalResult - ReplicateResult | x 100 7Mean

hLe RPD is evaluated against tLe Maximum Allowa(le Difference)MAD/ criteria and can (e grapLically represented (y a curve calculated from tLe Statistical Detection bimit)SDb/ and bimiting Repeata(ility)bR/ using tLe formula: MAD = 100 x SDb 7Mean + bR

WLere tLe Maximum Allowa(le Difference evaluates to a num(er larger tLan 200 it is displayed as 200.

RPD is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.011	LB083362.026	Halogenated	Chloroethane	mg/kg	1	<1	<1	200	0
		Aliphatics	Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			Iodomethane	mg/kg	5	<5	<5	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatics	Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Monocyclic	Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
		Compounds	2-nitropropane	mg/kg	10	<10	<10	200	0
		Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
		Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
			Vinyl acetate	mg/kg	10	<10	<10	200	0
			MEK (2-butanone)	mg/kg	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.3	4.6	50	5
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	4.8	50	4
			d8-toluene (Surrogate)	mg/kg	-	6.0	5.8	50	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.5	6.3	50	15
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
		Trihalomethan	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
		es	Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference)RPD/ using tLe formula: RPD = | OriginalResult - ReplicateResult | x 100 7Mean

hLe RPD is evaluated against tLe Maximum Allowa(le Difference)MAD/ criteria and can (e grapLically represented (y a curve calculated from tLe Statistical Detection bimit)SDb/ and bimiting Repeata(ility)bR/ using tLe formula: MAD = 100 x SDb 7Mean + bR

WLere tLe Maximum Allowa(le Difference evaluates to a num(er larger tLan 200 it is displayed as 200.

RPD is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.011	LB083362.026	Trihalomethan	Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
		es	Bromoform	mg/kg	0.1	<0.1	<0.1	200	0
SE142588.018	LB083362.025	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
		Aliphatics	Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromomethane	mg/kg	1	<1	<1	200	0
			Chloroethane	mg/kg	1	<1	<1	200	0
			Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			Iodomethane	mg/kg	5	<5	<5	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatics	Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Monocyclic	Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
		Compounds	2-nitropropane	mg/kg	10	<10	<10	200	0
		Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
		Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
			Vinyl acetate	mg/kg	10	<10	<10	200	0
			MEK (2-butanone)	mg/kg	10	<10	<10	200	0

Duplicates are calculated as Relative Percentage Difference)RPD/ using tLe formula: RPD = | OriginalResult - ReplicateResult | x 100 7Mean

hLe RPD is evaluated against tLe Maximum Allowa(le Difference)MAD/ criteria and can (e grapLically represented (y a curve calculated from tLe Statistical Detection bimit)SDb/ and bimiting Repeata(ility)bR/ using tLe formula: MAD = 100 x SDb 7Mean + bR

WLere tLe Maximum Allowa(le Difference evaluates to a num(er larger tLan 200 it is displayed as 200.

RPD is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

VOC's in Soil (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.018	LB083362.025	Oxygenated Compounds	MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.2	4.8	50	8
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.7	5.3	50	8
			d8-toluene (Surrogate)	mg/kg	-	5.1	6.4	50	21
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.4	5.9	50	9
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
		Trihalomethanes	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
			Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	<0.1	<0.1	200	0

VOCs in Water — Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.030	LB083444.023	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	200	0
		Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	200	0
			Chloromethane	µg/L	5	<5	<5	200	0
			Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	200	0
			Bromomethane	µg/L	10	<10	<10	200	0
			Chloroethane	µg/L	5	<5	<5	200	0
			Trichlorofluoromethane	µg/L	1	<1	<1	200	0
			Iodomethane	µg/L	5	<5	<5	200	0
			1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	200	0
			Allyl chloride	µg/L	2	<2	<2	200	0
			trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			Bromochloromethane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	200	0
			Dibromomethane	µg/L	0.5	<0.5	<0.5	200	0
			Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	200	0
			1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	200	0
			1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	200	0
			Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	200	0
		Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			Bromobenzene	µg/L	0.5	<0.5	<0.5	200	0
			2-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			4-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	200	0
			1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
		Monocyclic	Benzene	µg/L	0.5	<0.5	<0.5	200	0

Duplicates are calculated as Relative Percentage Difference)RPD/ using tLe formula: RPD = | OriginalResult - ReplicateResult | x 100 7Mean

hLe RPD is evaluated against tLe Maximum Allowa(le Difference)MAD/ criteria and can (e grapLically represented (y a curve calculated from tLe Statistical Detection bimit)SDb/ and bimiting Repeata(ility)bR/ using tLe formula: MAD = 100 x SDb 7Mean + bR

WLere tLe Maximum Allowa(le Difference evaluates to a num(er larger tLan 200 it is displayed as 200.

RPD is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.030	LB083444.023	Monocyclic	Toluene	µg/L	0.5	<0.5	<0.5	200	0
		Aromatic	Ethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			m/p-xylene	µg/L	1	<1	<1	200	0
			o-xylene	µg/L	0.5	<0.5	<0.5	200	0
			Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	200	0
			Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	200	0
			n-propylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			tert-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			sec-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	200	0
			n-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
		Nitrogenous	Acrylonitrile	µg/L	0.5	<0.5	<0.5	200	0
		Oxygenated	Acetone (2-propanone)	µg/L	10	<10	<10	200	0
		Compounds	MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	200	0
			Vinyl acetate	µg/L	10	<10	<10	200	0
			MEK (2-butanone)	µg/L	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	200	0
			2-hexanone (MBK)	µg/L	5	<5	<5	200	0
		Polycyclic	Naphthalene	µg/L	0.5	<0.5	<0.5	200	0
		Sulphonated	Carbon disulfide	µg/L	2	<2	<2	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.0	4.2	30	3
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	4.4	4.5	30	4
			d8-toluene (Surrogate)	µg/L	-	4.9	4.9	30	1
			Bromofluorobenzene (Surrogate)	µg/L	-	4.3	4.5	30	3
		Trihalomethan	Chloroform (THM)	µg/L	0.5	<0.5	<0.5	200	0
		es	Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Bromoform (THM)	µg/L	0.5	<0.5	<0.5	200	0
SE142588.050	LB083543.024	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	200	0
		Halogenated	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	200	0
		Aliphatics	Chloromethane	µg/L	5	<5	<5	200	0
			Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	200	0
			Bromomethane	µg/L	10	<10	<10	200	0
			Chloroethane	µg/L	5	<5	<5	200	0
			Trichlorofluoromethane	µg/L	1	<1	<1	200	0
			Iodomethane	µg/L	5	<5	<5	200	0
			1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	200	0
			Allyl chloride	µg/L	2	<2	<2	200	0
			trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			Bromochloromethane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	200	0
			Dibromomethane	µg/L	0.5	<0.5	<0.5	200	0
			Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	200	0
			1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	200	0
			1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0

Duplicates are calculated as Relative Percentage Difference)RPD/ using tLe formula: RPD = | OriginalResult - ReplicateResult | x 100 7Mean

hLe RPD is evaluated against tLe Maximum Allowa(le Difference)MAD/ criteria and can (e grapLically represented (y a curve calculated from tLe Statistical Detection bimit)SDb/ and bimiting Repeata(ility)bR/ using tLe formula: MAD = 100 x SDb 7Mean + bR

WLere tLe Maximum Allowa(le Difference evaluates to a num(er larger tLan 200 it is displayed as 200.

RPD is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

VOCs in Water (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.050	LB083543.024	Halogenated Aliphatics	1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	200	0
			Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	200	0
		Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			Bromobenzene	µg/L	0.5	<0.5	<0.5	200	0
			2-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			4-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	200	0
			1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
		Monocyclic Aromatic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
			Toluene	µg/L	0.5	<0.5	<0.5	200	0
			Ethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			m/p-xylene	µg/L	1	<1	<1	200	0
			o-xylene	µg/L	0.5	<0.5	<0.5	200	0
			Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	200	0
			Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	200	0
			n-propylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			tert-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			sec-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	200	0
			n-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
		Nitrogenous	Acrylonitrile	µg/L	0.5	<0.5	<0.5	200	0
		Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	<10	<10	200	0
			MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	200	0
			Vinyl acetate	µg/L	10	<10	<10	200	0
			MEK (2-butanone)	µg/L	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	200	0
			2-hexanone (MBK)	µg/L	5	<5	<5	200	0
		Polycyclic	Naphthalene	µg/L	0.5	<0.5	<0.5	200	0
		Sulphonated	Carbon disulfide	µg/L	2	<2	<2	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.6	4.5	30	2
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	4.8	4.7	30	4
			d8-toluene (Surrogate)	µg/L	-	4.9	4.9	30	0
			Bromofluorobenzene (Surrogate)	µg/L	-	4.4	4.3	30	2
		Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Bromoform (THM)	µg/L	0.5	<0.5	<0.5	200	0
SE142588.065	LB083544.011	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	200	0
		Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	200	0
			Chloromethane	µg/L	5	<5	<5	200	0
			Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	200	0
			Bromomethane	µg/L	10	<10	<10	200	0
			Chloroethane	µg/L	5	<5	<5	200	0
			Trichlorofluoromethane	µg/L	1	<1	<1	200	0
			Iodomethane	µg/L	5	<5	<5	200	0
			1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			Dichloromethane (Methylene chloride)	µg/L	4	<4	<4	200	0
			Allyl chloride	µg/L	2	<2	<2	200	0
			trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0

Duplicates are calculated as Relative Percentage Difference)RPD/ using tLe formula: RPD = | OriginalResult - ReplicateResult | x 100 7Mean

hLe RPD is evaluated against tLe Maximum Allowa(le Difference)MAD/ criteria and can (e grapLically represented (y a curve calculated from tLe Statistical Detection bimit)SDb/ and bimiting Repeata(ility)bR/ using tLe formula: MAD = 100 x SDb 7Mean + bR

WLere tLe Maximum Allowa(le Difference evaluates to a num(er larger tLan 200 it is displayed as 200.

RPD is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.065	LB083544.011	Halogenated	cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
		Aliphatics	Bromochloromethane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	200	0
			Dibromomethane	µg/L	0.5	<0.5	<0.5	200	0
			Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	200	0
			1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	200	0
			1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	200	0
			Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	200	0
		Halogenated	Chlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
		Aromatics	Bromobenzene	µg/L	0.5	<0.5	<0.5	200	0
			2-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			4-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	200	0
			1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
		Monocyclic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
		Aromatic	Toluene	µg/L	0.5	<0.5	<0.5	200	0
			Ethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			m/p-xylene	µg/L	1	<1	<1	200	0
			o-xylene	µg/L	0.5	<0.5	<0.5	200	0
			Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	200	0
			Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	200	0
			n-propylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			tert-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			sec-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	200	0
			n-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
		Nitrogenous	Acrylonitrile	µg/L	0.5	<0.5	<0.5	200	0
		Oxygenated	Acetone (2-propanone)	µg/L	10	<10	<10	200	0
		Compounds	MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	200	0
			Vinyl acetate	µg/L	10	<10	<10	200	0
			MEK (2-butanone)	µg/L	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	200	0
			2-hexanone (MBK)	µg/L	5	<5	<5	200	0
		Polycyclic	Naphthalene	µg/L	0.5	<0.5	<0.5	200	0
		Sulphonated	Carbon disulfide	µg/L	2	<2	<2	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.7	4.7	30	1
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.0	4.9	30	2
			d8-toluene (Surrogate)	µg/L	-	4.9	4.9	30	0
			Bromofluorobenzene (Surrogate)	µg/L	-	4.5	4.5	30	1
		Trihalomethan	Chloroform (THM)	µg/L	0.5	<0.5	<0.5	200	0
		es	Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Bromoform (THM)	µg/L	0.5	<0.5	<0.5	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate	Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference)RPD/ using tLe formula: RPD = | OriginalResult - ReplicateResult | x 100 7Mean

hLe RPD is evaluated against tLe Maximum Allowa(le Difference)MAD/ criteria and can (e grapLically represented (y a curve calculated from tLe Statistical Detection bimit)SDb/ and bimiting Repeata(ility)bR/ using tLe formula: MAD = 100 x SDb 7Mean + bR

WLere tLe Maximum Allowa(le Difference evaluates to a num(er larger tLan 200 it is displayed as 200.

RPD is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued) — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.011	LB083362.026		TRH C6-C9	mg/kg	20	<20	<20	200	0
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE142588.018	LB083362.025		TRH C6-C9	mg/kg	20	<20	<20	200	0
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE142588.030	LB083444.023		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.4	4.6	30	4
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.0	5.2	30	4
			d8-toluene (Surrogate)	µg/L	-	4.4	4.4	30	0
			Bromofluorobenzene (Surrogate)	µg/L	-	4.1	4.3	30	4
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0
SE142588.050	LB083543.023		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.1	4.9	30	3
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.6	5.3	30	4
			d8-toluene (Surrogate)	µg/L	-	4.5	4.3	30	3
			Bromofluorobenzene (Surrogate)	µg/L	-	4.2	4.2	30	2
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0
SE142588.065	LB083544.010		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.1	5.2	30	1
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.7	5.6	30	1
			d8-toluene (Surrogate)	µg/L	-	4.4	4.5	30	1
			Bromofluorobenzene (Surrogate)	µg/L	-	4.0	4.1	30	2
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0

ba(oratory Control Standard)bCS/ results are evaluated against an expected result, typically tLe concentration of analyte spiked into tLe control during tLe sample preparation stage, producing a percentage recovery. hLe criteria applied to tLe percentage recovery is esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. Tor more information refer to tLe footnotes in tLe concluding page of tLis report.

Recovery is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

Ammonia Nitrogen by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN291

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083402.002	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	2.4	2.5	80 - 120	95
LB083403.002	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	2.4	2.5	80 - 120	95
LB083403.027	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	2.5	2.5	80 - 120	99
LB083404.002	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	2.4	2.5	80 - 120	95

Anions by Ion Chromatography in Water

Method: ME-AU-ENVAN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083373.002	Nitrate Nitrogen, NO3-N	mg/L	0.005	2.1	2	80 - 120	106
LB083373.027	Nitrate Nitrogen, NO3-N	mg/L	0.005	2.2	2	80 - 120	108
LB083375.002	Nitrate Nitrogen, NO3-N	mg/L	0.005	2.2	2	80 - 120	108
LB083376.002	Nitrate Nitrogen, NO3-N	mg/L	0.005	2.2	2	80 - 120	108

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083442.002	Conductivity @ 25 C	µS/cm	2	310	303	90 - 110	104
LB083443.002	Conductivity @ 25 C	µS/cm	2	330	303	90 - 110	109
LB083445.002	Conductivity @ 25 C	µS/cm	2	310	303	90 - 110	102

Filterable Reactive Phosphorus (FRP)

Method: ME-(AU)-[ENV]AN278

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083398.002	Filterable Reactive Phosphorus	mg/L	0.005	0.099	0.1	80 - 120	99
LB083398.026	Filterable Reactive Phosphorus	mg/L	0.005	0.10	0.1	80 - 120	103
LB083399.002	Filterable Reactive Phosphorus	mg/L	0.005	0.099	0.1	80 - 120	99
LB083399.026	Filterable Reactive Phosphorus	mg/L	0.005	0.10	0.1	80 - 120	103
LB083401.002	Filterable Reactive Phosphorus	mg/L	0.005	0.099	0.1	80 - 120	99

Forms of Carbon

Method: ME-(AU)-[ENV]AN190

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083609.002	Total Organic Carbon as NPOC	mg/L	0.2	19	20	80 - 120	93
LB083610.002	Total Organic Carbon as NPOC	mg/L	0.2	19	20	80 - 120	93
LB083610.026	Total Organic Carbon as NPOC	mg/L	0.2	19	20	80 - 120	93

Low Level PAH (Poly Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083382.002	Naphthalene	µg/L	0.02	27	40	60 - 140	67
	2-methylnaphthalene	µg/L	0.01	28	40	60 - 140	71
	1-methylnaphthalene	µg/L	0.01	27	40	60 - 140	69
	Acenaphthylene	µg/L	0.01	28	40	60 - 140	70
	Acenaphthene	µg/L	0.01	29	40	60 - 140	73
	Fluorene	µg/L	0.01	31	40	60 - 140	77
	Phenanthrene	µg/L	0.01	30	40	60 - 140	74
	Anthracene	µg/L	0.01	28	40	60 - 140	71
	Fluoranthene	µg/L	0.01	30	40	60 - 140	74
	Pyrene	µg/L	0.01	30	40	60 - 140	76
	Benzo(a)anthracene	µg/L	0.01	29	40	60 - 140	71
	Chrysene	µg/L	0.01	32	40	60 - 140	80
	Benzo(b&j&k)fluoranthene	µg/L	0.02	59	80	60 - 140	74
	Benzo(a)pyrene	µg/L	0.01	28	40	60 - 140	71
	Indeno(1,2,3-cd)pyrene	µg/L	0.01	32	40	60 - 140	79
	Dibenzo(a&h)anthracene	µg/L	0.01	30	40	60 - 140	74
	Benzo(ghi)perylene	µg/L	0.01	27	40	60 - 140	69
LB083383.002	Naphthalene	µg/L	0.02	25	40	60 - 140	62
	2-methylnaphthalene	µg/L	0.01	27	40	60 - 140	67
	1-methylnaphthalene	µg/L	0.01	25	40	60 - 140	63
	Acenaphthylene	µg/L	0.01	29	40	60 - 140	73
	Acenaphthene	µg/L	0.01	26	40	60 - 140	65
	Fluorene	µg/L	0.01	29	40	60 - 140	72
	Phenanthrene	µg/L	0.01	27	40	60 - 140	69
	Anthracene	µg/L	0.01	25	40	60 - 140	62
	Fluoranthene	µg/L	0.01	25	40	60 - 140	63
	Pyrene	µg/L	0.01	27	40	60 - 140	69
	Benzo(a)anthracene	µg/L	0.01	30	40	60 - 140	76
	Chrysene	µg/L	0.01	27	40	60 - 140	68

ba(oratory Control Standard)bCS/ results are evaluated against an expected result, typically tLe concentration of analyte spiked into tLe control during tLe sample preparation stage, producing a percentage recovery. hLe criteria applied to tLe percentage recovery is esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. Tor more information refer to tLe footnotes in tLe concluding page of tLis report.

Recovery is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

Low Level PAH (Poly Aromatic Hydrocarbons) in Water (continued) — Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083383.002	Benzo(b&j&k)fluoranthene	µg/L	0.02	58	80	60 - 140	73
	Benzo(a)pyrene	µg/L	0.01	27	40	60 - 140	68
	Indeno(1,2,3-cd)pyrene	µg/L	0.01	30	40	60 - 140	76
	Dibenzo(a&h)anthracene	µg/L	0.01	28	40	60 - 140	70
	Benzo(ghi)perylene	µg/L	0.01	28	40	60 - 140	69
LB083384.002	Naphthalene	µg/L	0.02	28	40	60 - 140	71
	2-methylnaphthalene	µg/L	0.01	26	40	60 - 140	66
	1-methylnaphthalene	µg/L	0.01	25	40	60 - 140	63
	Acenaphthylene	µg/L	0.01	27	40	60 - 140	67
	Acenaphthene	µg/L	0.01	29	40	60 - 140	73
	Fluorene	µg/L	0.01	30	40	60 - 140	74
	Phenanthrene	µg/L	0.01	27	40	60 - 140	67
	Anthracene	µg/L	0.01	28	40	60 - 140	71
	Fluoranthene	µg/L	0.01	26	40	60 - 140	65
	Pyrene	µg/L	0.01	27	40	60 - 140	68
	Benzo(a)anthracene	µg/L	0.01	26	40	60 - 140	66
	Chrysene	µg/L	0.01	27	40	60 - 140	67
	Benzo(b&j&k)fluoranthene	µg/L	0.02	55	80	60 - 140	68
	Benzo(a)pyrene	µg/L	0.01	28	40	60 - 140	70
	Indeno(1,2,3-cd)pyrene	µg/L	0.01	28	40	60 - 140	71
	Dibenzo(a&h)anthracene	µg/L	0.01	28	40	60 - 140	70
	Benzo(ghi)perylene	µg/L	0.01	24	40	60 - 140	61

Mercury in Soil — Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083537.002	Mercury	mg/kg	0.01	0.22	0.2	70 - 130	111

Nitrite in Water — Method: ME-(AU)-[ENV]AN277/WC250.312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083374.002	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.20	0.2	85 - 115	98
LB083374.026	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.20	0.2	85 - 115	99
LB083378.002	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.20	0.2	85 - 115	98
LB083378.026	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.20	0.2	85 - 115	99
LB083379.002	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.20	0.2	85 - 115	98

PAH (Polynuclear Aromatic Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083400.003		Naphthalene	mg/kg	0.1	3.5	4	60 - 140	87
		2-methylnaphthalene	mg/kg	0.1	3.2	4	60 - 140	81
		1-methylnaphthalene	mg/kg	0.1	3.5	4	60 - 140	87
		Acenaphthylene	mg/kg	0.1	3.9	4	60 - 140	98
		Acenaphthene	mg/kg	0.1	3.6	4	60 - 140	90
		Fluorene	mg/kg	0.1	3.5	4	60 - 140	88
		Phenanthrene	mg/kg	0.1	3.5	4	60 - 140	87
		Anthracene	mg/kg	0.1	3.5	4	60 - 140	87
		Fluoranthene	mg/kg	0.1	3.4	4	60 - 140	85
		Pyrene	mg/kg	0.1	3.6	4	60 - 140	90
		Benzo(a)anthracene	mg/kg	0.1	3.4	4	60 - 140	86
		Chrysene	mg/kg	0.1	3.5	4	60 - 140	89
		Benzo(b&j)fluoranthene	mg/kg	0.1	3.2	4	60 - 140	81
		Benzo(k)fluoranthene	mg/kg	0.1	3.3	4	60 - 140	83
		Benzo(a)pyrene	mg/kg	0.1	3.3	4	60 - 140	81
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	3.8	4	60 - 140	95
		Dibenzo(a&h)anthracene	mg/kg	0.1	3.0	4	60 - 140	75
		Benzo(ghi)perylene	mg/kg	0.1	3.0	4	60 - 140	75
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	74
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94

pH in water — Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR

ba(oratory Control Standard)bCS/ results are evaluated against an expected result, typically tLe concentration of analyte spiked into tLe control during tLe sample preparation stage, producing a percentage recovery. hLe criteria applied to tLe percentage recovery is esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. Tor more information refer to tLe footnotes in tLe concluding page of tLis report.

Recovery is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

pH in water (continued) — Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083438.001	pH**	No unit	-	7.4	7.415	98 - 102	99
LB083439.001	pH**	No unit	-	7.4	7.415	98 - 102	100
LB083440.001	pH**	No unit	-	7.4	7.415	98 - 102	100

Total Phosphorus by Kjeldahl Digestion DA in Water — Method: ME-(AU)-[ENV]AN279/AN293

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083395.002	Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	0.97	1	80 - 120	97
LB083395.024	Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	1.1	1	80 - 120	109
LB083510.002	Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	0.99	1	80 - 120	99

Total Recoverable Metals in Soil by ICPOES — Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083552.002	Arsenic, As	mg/kg	1	53	50	80 - 120	105
	Cadmium, Cd	mg/kg	0.3	54	50	80 - 120	108
	Chromium, Cr	mg/kg	0.3	52	50	80 - 120	105
	Copper, Cu	mg/kg	0.5	54	50	80 - 120	108
	Nickel, Ni	mg/kg	0.5	53	50	80 - 120	105
	Lead, Pb	mg/kg	1	52	50	80 - 120	105
	Zinc, Zn	mg/kg	0.5	54	50	80 - 120	108
	Selenium, Se	mg/kg	3	51	50	80 - 120	101
	Boron, B	mg/kg	5	50	50	80 - 120	100
LB083553.002	Arsenic, As	mg/kg	1	53	50	80 - 120	106
	Cadmium, Cd	mg/kg	0.3	54	50	80 - 120	108
	Chromium, Cr	mg/kg	0.3	53	50	80 - 120	106
	Copper, Cu	mg/kg	0.5	54	50	80 - 120	108
	Nickel, Ni	mg/kg	0.5	53	50	80 - 120	106
	Lead, Pb	mg/kg	1	53	50	80 - 120	106
	Zinc, Zn	mg/kg	0.5	54	50	80 - 120	108
	Selenium, Se	mg/kg	3	51	50	80 - 120	103
	Boron, B	mg/kg	5	50	50	80 - 120	101

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083422.002	Arsenic, As	µg/L	1	20	20	80 - 120	98
	Boron, B	µg/L	5	17	20	80 - 120	84
	Cadmium, Cd	µg/L	0.1	20	20	80 - 120	99
	Chromium, Cr	µg/L	1	20	20	80 - 120	101
	Copper, Cu	µg/L	1	20	20	80 - 120	99
	Lead, Pb	µg/L	1	20	20	80 - 120	99
	Nickel, Ni	µg/L	1	20	20	80 - 120	100
	Selenium, Se	µg/L	1	18	20	80 - 120	92
	Zinc, Zn	µg/L	5	20	20	80 - 120	101
LB083423.002	Arsenic, As	µg/L	1	19	20	80 - 120	96
	Boron, B	µg/L	5	17	20	80 - 120	84
	Cadmium, Cd	µg/L	0.1	19	20	80 - 120	97
	Chromium, Cr	µg/L	1	20	20	80 - 120	98
	Copper, Cu	µg/L	1	19	20	80 - 120	93
	Lead, Pb	µg/L	1	19	20	80 - 120	96
	Nickel, Ni	µg/L	1	19	20	80 - 120	96
	Selenium, Se	µg/L	1	19	20	80 - 120	95
	Zinc, Zn	µg/L	5	19	20	80 - 120	97

Trace Metals (Total) in Water by ICPMS — Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083420.002	Total Arsenic	µg/L	1	19	20	80 - 120	96
	Total Boron	µg/L	5	19	20	80 - 120	96
	Total Cadmium	µg/L	0.1	19	20	80 - 120	96
	Total Chromium	µg/L	1	20	20	80 - 120	99
	Total Copper	µg/L	1	19	20	80 - 120	93
	Total Lead	µg/L	1	19	20	80 - 120	94
	Total Nickel	µg/L	1	19	20	80 - 120	97
	Total Selenium	µg/L	1	19	20	80 - 120	93
	Total Zinc	µg/L	5	19	20	80 - 120	94

ba(oratory Control Standard)bCS/ results are evaluated against an expected result, typically tLe concentration of analyte spiked into tLe control during tLe sample preparation stage, producing a percentage recovery. hLe criteria applied to tLe percentage recovery is esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. Tor more information refer to tLe footnotes in tLe concluding page of tLis report.

Recovery is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

Trace Metals (Total) in Water by ICPMS (continued) — Method: ME-(AU)-[ENV]AN022/AN318

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083421.002		Total Arsenic	µg/L	1	19	20	80 - 120	96
		Total Boron	µg/L	5	19	20	80 - 120	96
		Total Cadmium	µg/L	0.1	19	20	80 - 120	95
		Total Chromium	µg/L	1	20	20	80 - 120	98
		Total Copper	µg/L	1	19	20	80 - 120	94
		Total Lead	µg/L	1	19	20	80 - 120	97
		Total Nickel	µg/L	1	19	20	80 - 120	96
		Total Selenium	µg/L	1	17	20	80 - 120	86
		Total Zinc	µg/L	5	23	20	80 - 120	114

TRH (Total Recoverable Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083400.002		TRH C10-C14	mg/kg	20	35	40	60 - 140	88
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	83
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	83
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	34	40	60 - 140	85
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	80
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	90

TRH (Total Recoverable Hydrocarbons) in Water — Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083382.002		TRH C10-C14	µg/L	50	1100	1200	60 - 140	90
		TRH C15-C28	µg/L	200	1200	1200	60 - 140	97
		TRH C29-C36	µg/L	200	1100	1200	60 - 140	95
	TRH F Bands	TRH >C10-C16 (F2)	µg/L	60	1100	1200	60 - 140	95
		TRH >C16-C34 (F3)	µg/L	500	1200	1200	60 - 140	96
		TRH >C34-C40 (F4)	µg/L	500	560	600	60 - 140	93
LB083383.002		TRH C10-C14	µg/L	50	970	1200	60 - 140	81
		TRH C15-C28	µg/L	200	1100	1200	60 - 140	95
		TRH C29-C36	µg/L	200	1100	1200	60 - 140	96
	TRH F Bands	TRH >C10-C16 (F2)	µg/L	60	1100	1200	60 - 140	88
		TRH >C16-C34 (F3)	µg/L	500	1100	1200	60 - 140	96
		TRH >C34-C40 (F4)	µg/L	500	600	600	60 - 140	100
LB083384.002		TRH C10-C14	µg/L	50	970	1200	60 - 140	81
		TRH C15-C28	µg/L	200	1100	1200	60 - 140	95
		TRH C29-C36	µg/L	200	1100	1200	60 - 140	95
	TRH F Bands	TRH >C10-C16 (F2)	µg/L	60	1100	1200	60 - 140	89
		TRH >C16-C34 (F3)	µg/L	500	1200	1200	60 - 140	96
		TRH >C34-C40 (F4)	µg/L	500	570	600	60 - 140	94

VOC's in Soil — Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083362.002	Fumigants	2,2-dichloropropane	mg/kg	0.1	0.5	0.5	60 - 140	108
		1,2-dichloropropane	mg/kg	0.1	0.5	0.5	60 - 140	104
		cis-1,3-dichloropropene	mg/kg	0.1	0.5	0.5	60 - 140	94
		trans-1,3-dichloropropene	mg/kg	0.1	0.4	0.5	60 - 140	86
		1,2-dibromoethane (EDB)	mg/kg	0.1	0.5	0.5	60 - 140	100
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	0.5	60 - 140	112
		Chloromethane	mg/kg	1	<1	0.5	60 - 140	82
		Vinyl chloride (Chloroethene)	mg/kg	0.1	0.4	0.5	60 - 140	80
		Bromomethane	mg/kg	1	<1	0.5	60 - 140	94
		Chloroethane	mg/kg	1	<1	0.5	60 - 140	96
		Trichlorofluoromethane	mg/kg	1	<1	0.5	60 - 140	78
		Iodomethane	mg/kg	5	<5	0.5	60 - 140	72
		1,1-dichloroethene	mg/kg	0.1	1.9	2.56	60 - 140	75
		Dichloromethane (Methylene chloride)	mg/kg	0.5	0.5	0.5	60 - 140	106
		Allyl chloride	mg/kg	0.1	0.4	0.5	60 - 140	82
		trans-1,2-dichloroethene	mg/kg	0.1	0.5	0.5	60 - 140	92
		1,1-dichloroethane	mg/kg	0.1	0.5	0.5	60 - 140	92
		cis-1,2-dichloroethene	mg/kg	0.1	0.4	0.5	60 - 140	88
		Bromochloromethane	mg/kg	0.1	0.4	0.5	60 - 140	80
		1,2-dichloroethane	mg/kg	0.1	1.9	2.56	60 - 140	73

ba(oratory Control Standard)bCS/ results are evaluated against an expected result, typically tLe concentration of analyte spiked into tLe control during tLe sample preparation stage, producing a percentage recovery. hLe criteria applied to tLe percentage recovery is esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. Tor more information refer to tLe footnotes in tLe concluding page of tLis report.

Recovery is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083362.002	Halogenated	1,1,1-trichloroethane	mg/kg	0.1	0.4	0.5	60 - 140	84
	Aliphatics	1,1-dichloropropene	mg/kg	0.1	0.4	0.5	60 - 140	80
		Carbon tetrachloride	mg/kg	0.1	0.4	0.5	60 - 140	74
		Dibromomethane	mg/kg	0.1	0.5	0.5	60 - 140	106
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	2.0	2.56	60 - 140	77
		1,1,2-trichloroethane	mg/kg	0.1	0.5	0.5	60 - 140	108
		1,3-dichloropropane	mg/kg	0.1	0.5	0.5	60 - 140	102
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	0.6	0.5	60 - 140	110
		1,1,1,2-tetrachloroethane	mg/kg	0.1	0.5	0.5	60 - 140	94
		cis-1,4-dichloro-2-butene	mg/kg	1	<1	0.5	60 - 140	98
		1,1,2,2-tetrachloroethane	mg/kg	0.1	0.5	0.5	60 - 140	92
		1,2,3-trichloropropane	mg/kg	0.1	0.4	0.5	60 - 140	78
		trans-1,4-dichloro-2-butene	mg/kg	1	<1	0.5	60 - 140	84
		1,2-dibromo-3-chloropropane	mg/kg	0.1	0.4	0.5	60 - 140	72
		Hexachlorobutadiene	mg/kg	0.1	0.5	0.5	60 - 140	94
	Halogenated	Chlorobenzene	mg/kg	0.1	2.7	2.56	60 - 140	105
	Aromatics	Bromobenzene	mg/kg	0.1	0.4	0.5	60 - 140	74
		2-chlorotoluene	mg/kg	0.1	0.4	0.5	60 - 140	82
		4-chlorotoluene	mg/kg	0.1	0.4	0.5	60 - 140	72
		1,3-dichlorobenzene	mg/kg	0.1	0.4	0.5	60 - 140	86
		1,4-dichlorobenzene	mg/kg	0.1	0.5	0.5	60 - 140	92
		1,2-dichlorobenzene	mg/kg	0.1	0.5	0.5	60 - 140	98
		1,2,4-trichlorobenzene	mg/kg	0.1	0.4	0.5	60 - 140	74
		1,2,3-trichlorobenzene	mg/kg	0.1	0.4	0.5	60 - 140	76
	Monocyclic	Benzene	mg/kg	0.1	3.2	2.9	60 - 140	111
	Aromatic	Toluene	mg/kg	0.1	2.9	2.9	60 - 140	100
		Ethylbenzene	mg/kg	0.1	2.6	2.9	60 - 140	90
		m/p-xylene	mg/kg	0.2	5.4	5.9	60 - 140	91
		o-xylene	mg/kg	0.1	2.6	2.9	60 - 140	89
		Styrene (Vinyl benzene)	mg/kg	0.1	0.4	0.5	60 - 140	70
		Isopropylbenzene (Cumene)	mg/kg	0.1	0.4	0.5	60 - 140	80
		n-propylbenzene	mg/kg	0.1	0.5	0.5	60 - 140	90
		1,3,5-trimethylbenzene	mg/kg	0.1	0.5	0.5	60 - 140	96
		tert-butylbenzene	mg/kg	0.1	0.4	0.5	60 - 140	78
		1,2,4-trimethylbenzene	mg/kg	0.1	0.5	0.5	60 - 140	100
		sec-butylbenzene	mg/kg	0.1	0.4	0.5	60 - 140	74
		p-isopropyltoluene	mg/kg	0.1	0.5	0.5	60 - 140	98
		n-butylbenzene	mg/kg	0.1	0.4	0.5	60 - 140	86
	Nitrogenous	Acrylonitrile	mg/kg	0.1	0.5	0.5	60 - 140	102
	Compounds	2-nitropropane	mg/kg	10	<10	0.5	60 - 140	90
	Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	0.5	60 - 140	106
	Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	0.5	0.5	60 - 140	108
		Vinyl acetate	mg/kg	10	<10	0.5	60 - 140	112
		MEK (2-butanone)	mg/kg	10	<10	2.5	60 - 140	110
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	0.5	60 - 140	88
		2-hexanone (MBK)	mg/kg	5	<5	0.5	60 - 140	94
	Polycyclic	Naphthalene	mg/kg	0.1	0.4	0.5	60 - 140	80
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	0.5	60 - 140	82
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.8	5	60 - 140	115
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.9	5	60 - 140	117
		d8-toluene (Surrogate)	mg/kg	-	4.9	5	60 - 140	98
		Bromofluorobenzene (Surrogate)	mg/kg	-	6.2	5	60 - 140	124
	Trihalomethan	Chloroform	mg/kg	0.1	2.0	2.56	60 - 140	78
	es	Bromodichloromethane	mg/kg	0.1	0.5	0.5	60 - 140	94
		Chlorodibromomethane	mg/kg	0.1	0.4	0.5	60 - 140	82
		Bromoform	mg/kg	0.1	0.5	0.5	60 - 140	96

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number	Parameter	Units	LOR

ba(oratory Control Standard)bCS/ results are evaluated against an expected result, typically tLe concentration of analyte spiked into tLe control during tLe sample preparation stage, producing a percentage recovery. hLe criteria applied to tLe percentage recovery is esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. Tor more information refer to tLe footnotes in tLe concluding page of tLis report.

Recovery is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083444.002	Halogenated	1,1-dichloroethene	µg/L	0.5	50	45.45	60 - 140	111
	Aliphatics	1,2-dichloroethane	µg/L	0.5	46	45.45	60 - 140	102
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	43	45.45	60 - 140	95
	Halogenated	Chlorobenzene	µg/L	0.5	43	45.45	60 - 140	94
	Monocyclic	Benzene	µg/L	0.5	48	45.45	60 - 140	105
	Aromatic	Toluene	µg/L	0.5	48	45.45	60 - 140	105
		Ethylbenzene	µg/L	0.5	48	45.45	60 - 140	106
		m/p-xylene	µg/L	1	95	90.9	60 - 140	104
		o-xylene	µg/L	0.5	44	45.45	60 - 140	97
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.0	5	60 - 140	81
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	4.1	5	60 - 140	82
		d8-toluene (Surrogate)	µg/L	-	5.4	5	60 - 140	108
		Bromofluorobenzene (Surrogate)	µg/L	-	5.3	5	60 - 140	107
	Trihalomethan	Chloroform (THM)	µg/L	0.5	43	45.45	60 - 140	95
LB083543.003	Fumigants	2,2-dichloropropane	µg/L	0.5	9.0	10	60 - 140	90
		1,2-dichloropropane	µg/L	0.5	12	10	60 - 140	122
		cis-1,3-dichloropropene	µg/L	0.5	8.4	10	60 - 140	84
		trans-1,3-dichloropropene	µg/L	0.5	8.9	10	60 - 140	89
		1,2-dibromoethane (EDB)	µg/L	0.5	12	10	60 - 140	118
	Halogenated	Dichlorodifluoromethane (CFC-12)	µg/L	5	8	10	60 - 140	75
	Aliphatics	Chloromethane	µg/L	5	10	10	60 - 140	98
		Vinyl chloride (Chloroethene)	µg/L	0.3	10	10	60 - 140	103
		Bromomethane	µg/L	10	11	10	60 - 140	108
		Chloroethane	µg/L	5	12	10	60 - 140	124
		Trichlorofluoromethane	µg/L	1	10	10	60 - 140	101
		Iodomethane	µg/L	5	7	10	60 - 140	73
		1,1-dichloroethene	µg/L	0.5	9.3	10	60 - 140	93
		Dichloromethane (Methylene chloride)	µg/L	4	11	10	60 - 140	106
		Allyl chloride	µg/L	2	8	10	60 - 140	79
		trans-1,2-dichloroethene	µg/L	0.5	9.2	10	60 - 140	92
		1,1-dichloroethane	µg/L	0.5	11	10	60 - 140	105
		cis-1,2-dichloroethene	µg/L	0.5	9.3	10	60 - 140	93
		Bromochloromethane	µg/L	0.5	11	10	60 - 140	110
		1,2-dichloroethane	µg/L	0.5	11	10	60 - 140	110
		1,1,1-trichloroethane	µg/L	0.5	9.9	10	60 - 140	99
		1,1-dichloropropene	µg/L	0.5	8.0	10	60 - 140	80
		Carbon tetrachloride	µg/L	0.5	13	10	60 - 140	126
		Dibromomethane	µg/L	0.5	9.6	10	60 - 140	96
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	10	10	60 - 140	103
		1,1,2-trichloroethane	µg/L	0.5	12	10	60 - 140	120
		1,3-dichloropropane	µg/L	0.5	12	10	60 - 140	120
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	11	10	60 - 140	108
		1,1,1,2-tetrachloroethane	µg/L	0.5	12	10	60 - 140	118
		cis-1,4-dichloro-2-butene	µg/L	1	8	10	60 - 140	79
		1,1,2,2-tetrachloroethane	µg/L	0.5	12	10	60 - 140	115
		1,2,3-trichloropropane	µg/L	0.5	11	10	60 - 140	106
		trans-1,4-dichloro-2-butene	µg/L	1	8	10	60 - 140	77
		1,2-dibromo-3-chloropropane	µg/L	0.5	10	10	60 - 140	100
		Hexachlorobutadiene	µg/L	0.5	8.2	10	60 - 140	82
	Halogenated	Chlorobenzene	µg/L	0.5	11	10	60 - 140	109
	Aromatics	Bromobenzene	µg/L	0.5	9.4	10	60 - 140	94
		2-chlorotoluene	µg/L	0.5	8.6	10	60 - 140	86
		4-chlorotoluene	µg/L	0.5	8.6	10	60 - 140	86
		1,3-dichlorobenzene	µg/L	0.5	9.9	10	60 - 140	99
		1,4-dichlorobenzene	µg/L	0.3	10	10	60 - 140	103
		1,2-dichlorobenzene	µg/L	0.5	10	10	60 - 140	101
		1,2,4-trichlorobenzene	µg/L	0.5	7.2	10	60 - 140	72
		1,2,3-trichlorobenzene	µg/L	0.5	7.6	10	60 - 140	76
	Monocyclic	Benzene	µg/L	0.5	9.6	10	60 - 140	96
	Aromatic	Toluene	µg/L	0.5	9.8	10	60 - 140	98
		Ethylbenzene	µg/L	0.5	9.2	10	60 - 140	92

ba(oratory Control Standard)bCS/ results are evaluated against an expected result, typically tLe concentration of analyte spiked into tLe control during tLe sample preparation stage, producing a percentage recovery. hLe criteria applied to tLe percentage recovery is esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. Tor more information refer to tLe footnotes in tLe concluding page of tLis report.

Recovery is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083543.003	Monocyclic	m/p-xylene	µg/L	1	19	20	60 - 140	93
	Aromatic	o-xylene	µg/L	0.5	10	10	60 - 140	104
		Styrene (Vinyl benzene)	µg/L	0.5	7.7	10	60 - 140	77
		Isopropylbenzene (Cumene)	µg/L	0.5	7.3	10	60 - 140	73
		n-propylbenzene	µg/L	0.5	7.2	10	60 - 140	72
		1,3,5-trimethylbenzene	µg/L	0.5	7.7	10	60 - 140	77
		tert-butylbenzene	µg/L	0.5	7.8	10	60 - 140	78
		1,2,4-trimethylbenzene	µg/L	0.5	7.2	10	60 - 140	72
		sec-butylbenzene	µg/L	0.5	7.4	10	60 - 140	74
		p-isopropyltoluene	µg/L	0.5	8.5	10	60 - 140	85
		n-butylbenzene	µg/L	0.5	7.4	10	60 - 140	74
	Nitrogenous	Acrylonitrile	µg/L	0.5	11	10	60 - 140	108
	Oxygenated	Acetone (2-propanone)	µg/L	10	12	10	60 - 140	116
	Compounds	MtBE (Methyl-tert-butyl ether)	µg/L	2	8	10	60 - 140	81
		Vinyl acetate	µg/L	10	11	10	60 - 140	109
		MEK (2-butanone)	µg/L	10	46	50	60 - 140	92
		MIBK (4-methyl-2-pentanone)	µg/L	5	9	10	60 - 140	86
		2-hexanone (MBK)	µg/L	5	8	10	60 - 140	84
	Polycyclic	Naphthalene	µg/L	0.5	8.2	10	60 - 140	82
	Sulphonated	Carbon disulfide	µg/L	2	10	10	60 - 140	102
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.8	5	60 - 140	96
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	4.8	5	60 - 140	97
		d8-toluene (Surrogate)	µg/L	-	4.9	5	60 - 140	99
		Bromofluorobenzene (Surrogate)	µg/L	-	5.1	5	60 - 140	102
	Trihalomethan	Chloroform (THM)	µg/L	0.5	11	10	60 - 140	108
	es	Bromodichloromethane (THM)	µg/L	0.5	12	10	60 - 140	117
		Dibromochloromethane (THM)	µg/L	0.5	12	10	60 - 140	123
		Bromoform (THM)	µg/L	0.5	13	10	60 - 140	125
LB083544.003	Fumigants	2,2-dichloropropane	µg/L	0.5	8.7	10	60 - 140	87
		1,2-dichloropropane	µg/L	0.5	12	10	60 - 140	115
		cis-1,3-dichloropropene	µg/L	0.5	7.1	10	60 - 140	71
		trans-1,3-dichloropropene	µg/L	0.5	8.4	10	60 - 140	84
		1,2-dibromoethane (EDB)	µg/L	0.5	11	10	60 - 140	110
	Halogenated	Dichlorodifluoromethane (CFC-12)	µg/L	5	7	10	60 - 140	71
	Aliphatics	Chloromethane	µg/L	5	11	10	60 - 140	107
		Vinyl chloride (Chloroethene)	µg/L	0.3	11	10	60 - 140	111
		Bromomethane	µg/L	10	11	10	60 - 140	108
		Chloroethane	µg/L	5	12	10	60 - 140	122
		Trichlorofluoromethane	µg/L	1	10	10	60 - 140	99
		Iodomethane	µg/L	5	8	10	60 - 140	78
		1,1-dichloroethene	µg/L	0.5	8.8	10	60 - 140	88
		Dichloromethane (Methylene chloride)	µg/L	4	10	10	60 - 140	104
		Allyl chloride	µg/L	2	7	10	60 - 140	74
		trans-1,2-dichloroethene	µg/L	0.5	8.7	10	60 - 140	87
		1,1-dichloroethane	µg/L	0.5	10	10	60 - 140	101
		cis-1,2-dichloroethene	µg/L	0.5	8.9	10	60 - 140	89
		Bromochloromethane	µg/L	0.5	11	10	60 - 140	107
		1,2-dichloroethane	µg/L	0.5	10	10	60 - 140	105
		1,1,1-trichloroethane	µg/L	0.5	9.5	10	60 - 140	95
		1,1-dichloropropene	µg/L	0.5	7.5	10	60 - 140	75
		Carbon tetrachloride	µg/L	0.5	11	10	60 - 140	112
		Dibromomethane	µg/L	0.5	9.0	10	60 - 140	90
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	10	10	60 - 140	103
		1,1,2-trichloroethane	µg/L	0.5	11	10	60 - 140	114
		1,3-dichloropropane	µg/L	0.5	12	10	60 - 140	117
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	13	10	60 - 140	127
		1,1,1,2-tetrachloroethane	µg/L	0.5	11	10	60 - 140	113
		cis-1,4-dichloro-2-butene	µg/L	1	8	10	60 - 140	76
		1,1,2,2-tetrachloroethane	µg/L	0.5	12	10	60 - 140	121
		1,2,3-trichloropropane	µg/L	0.5	9.4	10	60 - 140	94
		trans-1,4-dichloro-2-butene	µg/L	1	8	10	60 - 140	78

ba(oratory Control Standard)bCS/ results are evaluated against an expected result, typically tLe concentration of analyte spiked into tLe control during tLe sample preparation stage, producing a percentage recovery. hLe criteria applied to tLe percentage recovery is esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. Tor more information refer to tLe footnotes in tLe concluding page of tLis report.

Recovery is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

VOCs in Water (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083544.003	Halogenated	1,2-dibromo-3-chloropropane	µg/L	0.5	9.9	10	60 - 140	99
	Aliphatics	Hexachlorobutadiene	µg/L	0.5	7.3	10	60 - 140	73
	Halogenated	Chlorobenzene	µg/L	0.5	10	10	60 - 140	101
	Aromatics	Bromobenzene	µg/L	0.5	9.0	10	60 - 140	90
		2-chlorotoluene	µg/L	0.5	8.0	10	60 - 140	80
		4-chlorotoluene	µg/L	0.5	7.8	10	60 - 140	78
		1,3-dichlorobenzene	µg/L	0.5	9.5	10	60 - 140	95
		1,4-dichlorobenzene	µg/L	0.3	9.7	10	60 - 140	97
		1,2-dichlorobenzene	µg/L	0.5	9.6	10	60 - 140	96
		1,2,4-trichlorobenzene	µg/L	0.5	11	10	60 - 140	112
		1,2,3-trichlorobenzene	µg/L	0.5	7.0	10	60 - 140	70
	Monocyclic	Benzene	µg/L	0.5	9.0	10	60 - 140	90
	Aromatic	Toluene	µg/L	0.5	9.0	10	60 - 140	90
		Ethylbenzene	µg/L	0.5	8.2	10	60 - 140	82
		m/p-xylene	µg/L	1	17	20	60 - 140	86
		o-xylene	µg/L	0.5	9.4	10	60 - 140	94
		Styrene (Vinyl benzene)	µg/L	0.5	7.4	10	60 - 140	74
		Isopropylbenzene (Cumene)	µg/L	0.5	7.1	10	60 - 140	71
		n-propylbenzene	µg/L	0.5	8.2	10	60 - 140	82
		1,3,5-trimethylbenzene	µg/L	0.5	7.5	10	60 - 140	75
		tert-butylbenzene	µg/L	0.5	7.9	10	60 - 140	79
		1,2,4-trimethylbenzene	µg/L	0.5	7.6	10	60 - 140	76
		sec-butylbenzene	µg/L	0.5	7.3	10	60 - 140	73
		p-isopropyltoluene	µg/L	0.5	8.6	10	60 - 140	86
		n-butylbenzene	µg/L	0.5	8.2	10	60 - 140	82
	Nitrogenous	Acrylonitrile	µg/L	0.5	10	10	60 - 140	104
	Oxygenated	Acetone (2-propanone)	µg/L	10	11	10	60 - 140	115
	Compounds	MtBE (Methyl-tert-butyl ether)	µg/L	2	8	10	60 - 140	80
		Vinyl acetate	µg/L	10	<10	10	60 - 140	97
		MEK (2-butanone)	µg/L	10	44	50	60 - 140	89
		MIBK (4-methyl-2-pentanone)	µg/L	5	8	10	60 - 140	78
		2-hexanone (MBK)	µg/L	5	8	10	60 - 140	82
	Polycyclic	Naphthalene	µg/L	0.5	7.4	10	60 - 140	74
	Sulphonated	Carbon disulfide	µg/L	2	10	10	60 - 140	96
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.2	5	60 - 140	103
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.2	5	60 - 140	104
		d8-toluene (Surrogate)	µg/L	-	4.9	5	60 - 140	99
		Bromofluorobenzene (Surrogate)	µg/L	-	5.2	5	60 - 140	104
	Trihalomethan	Chloroform (THM)	µg/L	0.5	11	10	60 - 140	105
	es	Bromodichloromethane (THM)	µg/L	0.5	12	10	60 - 140	122
		Dibromochloromethane (THM)	µg/L	0.5	12	10	60 - 140	116
		Bromoform (THM)	µg/L	0.5	11	10	60 - 140	110

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083362.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	98
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	82
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.0	5	60 - 140	100
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.6	5	60 - 140	112
		d8-toluene (Surrogate)	mg/kg	-	6.3	5	60 - 140	126
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.4	5	60 - 140	108
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	104

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083444.002		TRH C6-C10	µg/L	50	930	946.63	60 - 140	98
		TRH C6-C9	µg/L	40	710	818.71	60 - 140	86
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.8	5	60 - 140	96
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	4.6	5	60 - 140	92
		d8-toluene (Surrogate)	µg/L	-	5.1	5	60 - 140	102
		Bromofluorobenzene (Surrogate)	µg/L	-	5.2	5	60 - 140	103
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	610	639.67	60 - 140	96

ba(oratory Control Standard)bCS/ results are evaluated against an expected result, typically tLe concentration of analyte spiked into tLe control during tLe sample preparation stage, producing a percentage recovery. hLe criteria applied to tLe percentage recovery is esta(lisLed in tLe SGS QA 7QC plan)Ref: MP-)AU/-[ENV]QU-022/. Tor more information refer to tLe footnotes in tLe concluding page of tLis report.

Recovery is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended dagger sym(ol)†/ wLen outside suggested criteria.

Volatile Petroleum Hydrocarbons in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB083543.002		TRH C6-C10	µg/L	50	1000	946.63	60 - 140	109
		TRH C6-C9	µg/L	40	680	818.71	60 - 140	83
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.4	5	60 - 140	87
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.3	5	60 - 140	106
		d8-toluene (Surrogate)	µg/L	-	5.8	5	60 - 140	116
		Bromofluorobenzene (Surrogate)	µg/L	-	6.1	5	60 - 140	121
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	750	639.67	60 - 140	117
LB083544.002		TRH C6-C10	µg/L	50	1000	946.63	60 - 140	108
		TRH C6-C9	µg/L	40	680	818.71	60 - 140	83
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.0	5	60 - 140	100
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.3	5	60 - 140	106
		d8-toluene (Surrogate)	µg/L	-	6.1	5	60 - 140	121
		Bromofluorobenzene (Surrogate)	µg/L	-	6.1	5	60 - 140	121
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	730	639.67	60 - 140	115

Matrix Spike)MS/ results are evaluated as tLe percentage recovery of an expected result, typically tLe concentration of analyte spiked into a field su(-sample during tLe sample preparation stage. hLe original sample's result is su(tracted from tLe su(-sample result (efore determining tLe percentage recovery. hLe criteria applied to tLe percentage recovery is esta(lisLed in tLe SGS QA7QC plan)ref: MP-)AU/-[ENV]QU-022/. Tor more information refer to tLe footnotes in tLe concluding page of tLis report.

Recovery is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Ammonia Nitrogen by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN291

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142588.019	LB083402.004	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	2.3	0.01	2.5	90
SE142588.059	LB083404.009	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	2.2	0.03	2.5	85

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142467.001	LB083512.004	Mercury	mg/L	0.00005	0.0083	<0.0001	0.008	103
SE142588.027	LB083640.004	Mercury	mg/L	0.00005	0.0092	<0.0001	0.008	114
SE142588.046	LB083641.004	Mercury	mg/L	0.00005	0.0090	<0.0001	0.008	113
SE142588.065	LB083728.004	Mercury	mg/L	0.00005	0.0080	<0.0001	0.008	100

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142264.002	LB083729.004	Total Mercury	mg/L	0.00005	0.0080	<0.0001	-	-
SE142588.019	LB083645.004	Total Mercury	mg/L	0.00005	0.0089	<0.00005	-	-
SE142588.038	LB083646.004	Total Mercury	mg/L	0.00005	0.0088	<0.00005	-	-

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142588.001	LB083537.004	Mercury	mg/kg	0.01	0.25	0.22	0.2	18 ④

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142588.002	LB083400.007		Naphthalene	mg/kg	0.1	4.6	<0.1	4	114
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	4.9	<0.1	4	124
			Acenaphthene	mg/kg	0.1	4.9	<0.1	4	122
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	5.0	<0.1	4	125
			Anthracene	mg/kg	0.1	4.0	<0.1	4	100
			Fluoranthene	mg/kg	0.1	4.9	<0.1	4	124
			Pyrene	mg/kg	0.1	4.7	<0.1	4	119
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	5.0	<0.1	4	124
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
			Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	5.0	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	5.1	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	5.0	<0.2	-	-
			Total PAH	mg/kg	0.8	38	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	-	86
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	74
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	92

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142588.048	LB083395.035	Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	1.5	0.28	1	117
SE142588.071	LB083510.022	Total Phosphorus (Kjeldahl Digestion)	mg/L	0.05	0.21	0.21	1	1 ④

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142573.023	LB083552.004	Zinc, Zn	mg/kg	0.5	70	18	50	105

Matrix Spike)MS/ results are evaluated as tLe percentage recovery of an expected result, typically tLe concentration of analyte spiked into a field su(-sample during tLe sample preparation stage. hLe original sample's result is su(tracted from tLe su(-sample result (efore determining tLe percentage recovery. hLe criteria applied to tLe percentage recovery is esta(lisLed in tLe SGS QA7QC plan)ref: MP-)AU/-[ENV]QU-022/. Tor more information refer to tLe footnotes in tLe concluding page of tLis report.

Recovery is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142588.019	LB083422.004	Arsenic, As	µg/L	1	22	2	20	98
		Boron, B	µg/L	5	540	520	20	125
		Cadmium, Cd	µg/L	0.1	20	<0.1	20	100
		Chromium, Cr	µg/L	1	20	<1	20	98
		Copper, Cu	µg/L	1	21	2	20	93
		Lead, Pb	µg/L	1	19	<1	20	96
		Nickel, Ni	µg/L	1	22	3	20	95
		Selenium, Se	µg/L	1	22	2	20	101
		Zinc, Zn	µg/L	5	21	<5	20	96
SE142588.040	LB083422.030	Arsenic, As	µg/L	1	21	2	20	99
		Boron, B	µg/L	5	520	500	20	63 ④
		Cadmium, Cd	µg/L	0.1	20	<0.1	20	102
		Chromium, Cr	µg/L	1	20	<1	20	98
		Copper, Cu	µg/L	1	20	2	20	92
		Lead, Pb	µg/L	1	19	<1	20	97
		Nickel, Ni	µg/L	1	21	2	20	95
		Selenium, Se	µg/L	1	21	1	20	97
		Zinc, Zn	µg/L	5	20	<5	20	96
SE142588.043	LB083423.004	Arsenic, As	µg/L	1	22	3	20	98
		Boron, B	µg/L	5	810	780	20	179 ④
		Cadmium, Cd	µg/L	0.1	20	<0.1	20	101
		Chromium, Cr	µg/L	1	20	<1	20	97
		Copper, Cu	µg/L	1	21	3	20	91
		Lead, Pb	µg/L	1	19	<1	20	95
		Nickel, Ni	µg/L	1	22	4	20	92
		Selenium, Se	µg/L	1	21	2	20	94
		Zinc, Zn	µg/L	5	23	<5	20	98
SE142588.064	LB083423.030	Arsenic, As	µg/L	1	22	2	20	99
		Boron, B	µg/L	5	590	580	20	36 ④
		Cadmium, Cd	µg/L	0.1	20	<0.1	20	99
		Chromium, Cr	µg/L	1	20	<1	20	98
		Copper, Cu	µg/L	1	21	2	20	91
		Lead, Pb	µg/L	1	19	<1	20	96
		Nickel, Ni	µg/L	1	22	3	20	94
		Selenium, Se	µg/L	1	20	2	20	92
		Zinc, Zn	µg/L	5	21	<5	20	93

Trace Metals (Total) in Water by ICPMS — Method: ME-(AU)-[ENV]AN022/AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142588.019	LB083420.004	Total Arsenic	µg/L	1	23	3	20	105
		Total Boron	µg/L	5	950	870	20	430 ④
		Total Cadmium	µg/L	0.1	20	0.1	20	104
		Total Chromium	µg/L	1	20	<1	20	105
		Total Copper	µg/L	1	23	4	20	98
		Total Lead	µg/L	1	20	<1	20	107
		Total Nickel	µg/L	1	23	4	20	99
		Total Selenium	µg/L	1	21	2	20	100
		Total Zinc	µg/L	5	21	<5	20	99
SE142588.040	LB083420.030	Total Arsenic	µg/L	1	23	3	20	106
		Total Boron	µg/L	5	960	950	20	52 ④
		Total Cadmium	µg/L	0.1	21	0.1	20	110
		Total Chromium	µg/L	1	20	<1	20	106
		Total Copper	µg/L	1	23	4	20	97
		Total Lead	µg/L	1	20	<1	20	107
		Total Nickel	µg/L	1	23	4	20	99
		Total Selenium	µg/L	1	22	2	20	103
		Total Zinc	µg/L	5	22	<5	20	100
SE142588.043	LB083421.004	Total Arsenic	µg/L	1	23	3	20	107
		Total Boron	µg/L	5	930	910	20	125
		Total Cadmium	µg/L	0.1	20	0.1	20	107
		Total Chromium	µg/L	1	20	<1	20	106

Matrix Spike)MS/ results are evaluated as tLe percentage recovery of an expected result, typically tLe concentration of analyte spiked into a field su(-sample during tLe sample preparation stage. hLe original sample's result is su(tracted from tLe su(-sample result (efore determining tLe percentage recovery. hLe criteria applied to tLe percentage recovery is esta(lisLed in tLe SGS QA7QC plan)ref: MP-)AU/-[ENV]QU-022/. Tor more information refer to tLe footnotes in tLe concluding page of tLis report.

Recovery is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

Trace Metals (Total) in Water by ICPMS (continued) — Method: ME-(AU)-[ENV]AN022/AN318

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142588.043	LB083421.004		Total Copper	µg/L	1	22	4	20	98
			Total Lead	µg/L	1	20	<1	20	103
			Total Nickel	µg/L	1	23	4	20	99
			Total Selenium	µg/L	1	22	3	20	103
			Total Zinc	µg/L	5	29	<5	20	137 ④
SE142588.064	LB083421.030		Total Arsenic	µg/L	1	24	3	20	110
			Total Boron	µg/L	5	960	960	20	2 ④
			Total Cadmium	µg/L	0.1	21	0.2	20	111
			Total Chromium	µg/L	1	21	<1	20	110
			Total Copper	µg/L	1	23	4	20	100
			Total Lead	µg/L	1	21	<1	20	111
			Total Nickel	µg/L	1	24	4	20	103
			Total Selenium	µg/L	1	23	2	20	107
			Total Zinc	µg/L	5	27	<5	20	130

VOC's in Soil — Method: ME-(AU)-[ENV]AN433/AN434

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142588.001	LB083362.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	2.1	<0.1	2.9	70
			Toluene	mg/kg	0.1	1.8	<0.1	2.9	62
			Ethylbenzene	mg/kg	0.1	1.8	<0.1	2.9	61
			m/p-xylene	mg/kg	0.2	3.8	<0.2	5.8	65
			o-xylene	mg/kg	0.1	1.8	<0.1	2.9	62
		Totals	Total Xylenes*	mg/kg	0.3	5.6	<0.3	-	-
			Total BTEX*	mg/kg	0.6	11	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433/AN434/AN410

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE142588.001	LB083362.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	83
			TRH C6-C9	mg/kg	20	<20	<20	23.2	77
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.4	5.4	-	107
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.4	5.3	-	108
			d8-toluene (Surrogate)	mg/kg	-	5.7	5.4	-	114
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.1	3.8	-	101
		VPH F Bands	Benzene (F0)	mg/kg	0.1	2.1	<0.1	-	-
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	126

Matrix spike duplicates are calculated as Relative Percent Difference)RPD/ using tLe formula: RPD = | OriginalResult - ReplicateResult | x 100 7Mean

hLe original result is tLe analyte concentration of tLe matrix spike. hLe Duplicate result is tLe analyte concentration of tLe matrix spike duplicate.

hLe RPD is evaluated against tLe Maximum Allowa(le Difference)MAD/ criteria and can (e grapLically represented (y a curve calculated from tLe Statistical Detection bimit)SDb/ and bimiting Repeata(ility)bR/ using tLe formula: MAD = 100 x SDb 7Mean + bR

WLere tLe Maximum Allowa(le Difference evaluates to a num(er larger tLan 200 it is displayed as 200.

RPD is sLown in **Green** wLen witLin suggested criteria or **Red** witL an appended reason identifer wLen outside suggested criteria. Refer to tLe footnotes section at tLe end of tLis report for failure reasons.

No matrix spike duplicates were required for tLis jo(.

Samples analysed as received.

Solid samples expressed on a dry weigLt (asis.

QC criteria are su(ject to internal review according to tLe SGS QA7QC plan and may (e provided on request or alternatively can (e found Lere:
Lttp:77www.sgs.com.au7~7media7bocal7Australia7Documents7hecLnical%20Documents7MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

*	NAhA accreditation does not cover ttLe performance of tLis service.
-	Sample not analysed for tLis analyte.
IS	Insufficient sample for analysis.
bNR	Sample listed, (ut not received.
bOR	bimit of reporting.
QTH	QC result is a(ove tLe upper tolerance.
QTb	QC result is (elow tLe lower tolerance.

①	At least 2 of 3 surrogates are witLin acceptance criteria.
②	RPD failed acceptance criteria due to sample Leterogeneity.
③	Results less tLan 5 times bOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to tLe presence of significant concentration of analyte)i.e. tLe concentration of analyte exceeds tLe spike level/.
⑥	bOR was raised due to sample matrix interference.
⑦	bOR was raised due to dilution of significantly LigL concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample Leterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample Leterogeneity.
⑩	bOR was raised due to LigL conductivity of tLe sample)required dilution/.
†	Refer to Analytical Report comments for furtLer information.

SGS

CHAIN OF CUSTODY

es **Environmental**Strategies
PROVIDING BENEFITS

Client: Environmental Strategies		**Client Project Number**	15106
Contact Person: Ryan Wells			
Project Mgr: Ryan Wells		**PO No.:**	
Sampler: RH		**SGS Quote No. :**	SY150422-1IS (revised with LOR's)
Address: Suite 15201, 2 Locomotive Street Eveleigh NSW 2065		**Date results required:**	5 day TAT (standard)
Phone: (02) 9690 2555	**Mob:** 0434 657 155	**Report format:** Esdat	
Email:	ryanwells@environmentalstrategies.com.au (COC, SRN, Lab Report) accounts@environmentalstrategies.com.au (invoice) natashapasley@environmentalstrategies.com.au (COC, SRN, Lab Report) david.burns@sustain450.com.au (COC, SRN, Lab Report)	**Lab Comments:**	
		Cooling Method: Crushed ICE Metals (M10): As, Cd, Cr (total), Cu, Ni, Pb, Hg, Zn, Se, B. Nutrients: pH, TP, P, NO2, NO3, NH3.	

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2. Please see attached document which outlines the required LOR's for analytes
3. Please ensure the QA/QC frequency stipulated in SGS quotation SY150422-1-IS satified across the entire project sample matrix type.
4. All samples to be NATA Accredited unless otherwise stipulated in SGS quotation SY150422-1-IS, or subsequent revisions.
5. 'X' means the sample is to be tested by the laboratory for the relevant analytical method (where LOR's are specified in SGS Quotation SY150422-1-IS, including most recent revision).
6. All triplicate samples to be sent to Envirolab

					Tests Required											Bottles Used							Comments
SGS Lab ID	Client Sample ID or information	Depth (m)	Date Sampled	Type of sample	Metals (M10)	PAHs	TRH	BTEX	VOCs	PCBs	Nutrients	Salinity	TOC (combustion)	Grain Size Analysis	Hold	40ml VOA Amber Glass Vials	Red Metal Plastic (Field Filtered)	Red Metal Plastic (Total)	Glass Amber 500ml	Green Plastic (non preserved)	Bag	Jar	Provide as much information about the sample as you can
1	SD13	0-0.02	15/08/2015	Sediment	X	X	X	X	X				X	X								2	**For all sediment samples please only**
2	SD18	0-0.18	14/08/2015	Sediment	X	X	X	X	X				X								1	2	**analyse one 250ml jar, and place the**
3	DS18	0.15-0.25	14/08/2015	Sediment	X	X	X	X	X				X								1	2	**other 250ml jar and the 500ml**
	DS18	0.3-0.35	14/08/2015	Sediment											X						1	2	**amber bottle on hold for possible**
4	SD19	0-0.01	14/08/2015	Sediment	X	X	X	X	X				X								1	2	**elutriate analysis - To be advised.**
5	SD19	0.02-0.09	14/08/2015	Sediment	X	X	X	X	X				X									1	
6	SD20	0-0.02	14/08/2015	Sediment	X	X	X	X	X				X									2	
7	SD21	0-0.03	14/08/2015	Sediment	X	X	X	X	X				X								1	2	
	SD21	0.04-0.11	14/08/2015	Soil											X							1	
8	SD22	0-0.05	14/08/2015	Sediment	X	X	X	X	X				X								1	2	
9	SD23	0-0.1	14/08/2015	Sediment	X	X	X	X	X				X								1	2	
10	SD23	0.15-0.21	14/08/2015	Sediment	X	X	X	X	X				X									1	
11	SD24	0-0.04	14/08/2015	Sediment	X	X	X	X	X				X									2	
12	SD24	0.1-0.2	14/08/2015	Soil	X	X	X	X	X				X									1	
13	SD25	0-0.1	15/08/2015	Soil	X	X	X	X	X				X									2	
14	SD25	0.15-0.25	15/08/2015	Sediment	X	X	X	X	X				X									2	
15	SD25	0.4-0.5	15/08/2015	Sediment	X	X	X	X	X				X										

Relinquished by: Environmental Strategies	**Received & Relinquished by (SGS Muswellbrook or Courier):**	**Lab Use Only:**
Print Name: Ryan stewart	**Print Name:**	
Date & Time: 1600 18/08/2015	**Receipt Date & Time:** 1600 **Relinquished Date & Time:** 18.8.15	**Lab Report Number:**
Signature	**Signature**	**Samples received:** Cool or Ambient (circle one)
Received by (primary lab): SGS Sydney	**Received by (secondary lab): ELS**	**Temperature Received at:** (if applicable) 1°C
Print Name:	**Print Name:**	**Transported by: Hand delievered/courier**
Date & Time: 18/8/15 7.20	**Date & Time:**	**Security Seal Applied and Intact? (Yes/No)**
Signature	**Signature**	**Refer to Laboratory SRN for additional sample receipt/integrity details**

SGS Alexandria Environmental

SE142588 COC

Received: 18 – Aug – 2015

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Environmental Strategies
PROVIDING BENEFITS

Client: Environmental Strategies	**Client Project Number** 15106
Contact Person: Ryan Wells	
Project Mgr: Ryan Wells	**PO No.:**
Sampler: RH	**SGS Quote No. :** SY150422-1IS (revised with LOR's)
Address: Suite 15201, 2 Locomotive Street Eveleigh NSW 2065	**Date results required:** 5 day TAT (standard)
Phone: (02) 9690 2555 **Mob:** 0434 657 155	**Report format:** Esdat
Email: ryanwells@environmentalstrategies.com.au (COC, SRN, Lab Report) accounts@environmentalstrategies.com.au (invoice) natashapasley@environmentalstrategies.com.au (COC, SRN, Lab Report) david.burns@sustain450.com.au (COC, SRN, Lab Report)	**Lab Comments:** **Cooling Method:** Crushed ICE Metals (M10): As, Cd, Cr (total), Cu, Ni, Pb, Hg, Zn, Se, B. Nutrients: pH, TP, P, NO2, NO3, NH3.

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5. 'X' means the sample is to be tested by the laboratory for the relevant analytical method (where LOR's are specified in SGS Quotation SY150422-1-IS, including most recent revision).
6. All triplicate samples to be sent to Envirolab

					Tests Required											Bottles Used							Comments
SGS Lab ID	Client Sample ID or information	Depth (m)	Date Sampled	Type of sample	Metals (M10)	PAHs	TRH	BTEX	VOCs	PCBs	Nutrients	Salinity	TOC (combustion)	Grain Size Analysis	Hold	40ml VOA Amber Glass Vials	Red Metal Plastic (Field Filtered)	Red Metal Plastic (Total)	Glass Amber 500ml	Green Plastic (non preserved)	Bag	Jar	Provide as much information about the sample as you can
16	SD26	0-0.05	15/08/2015	Sediment	X	X	X	X	X				X									2	For all sediment samples please only
17	SD27	0-0.04	15/08/2015	Sediment	X	X	X	X	X				X									2	analyse one 250ml jar, and place the
18	SD28	0-0.02	15/08/2015	Sediment	X	X	X	X	X				X									2	other 250ml jar and the 500ml
19	SW1	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			amber bottle on hold for possible
20	SW1	7.1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			elutriate analysis - To be advised.
21	SW2	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
22	SW2	2.4	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			If only one sediment jar provided
23	SW3	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			please ignore the above comment.
24	SW4	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
25	SW4	2.5	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
26	SW5	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			Nutrient samples were frozen within 24 hours
27	SW5	3.1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
28	SW6	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
29	SW6	3.2	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
30	SW7	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
31	SW8	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
32	SW8	5.6	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			

Relinquished by: Environmental Strategies	**Received & Reliquished by (SGS Muswellbrook or Courier):**	**Lab Use Only:**
Print Name: Ryan stewart	**Print Name:** [illegible]	
Date & Time: 1600 18/08/2015	**Receipt Date & Time:** 1600 **Relinquished Date & Time:** 18.8.15	**Lab Report Number:**
Signature	**Signature**	**Samples received: Cool or Ambient** (circle one)
Received by (primary lab): SGS Sydney	**Received by (secondary lab): ELS**	**Temperature Received at:** (if applicable) 1°C
Print Name: [illegible]	**Print Name:**	**Transported by: Hand delievered/courier**
Date & Time: 19/8/15 1.20pm	**Date & Time:**	**Security Seal Applied and Intact? (Yes/No)**
Signature	**Signature**	**Refer to Laboratory SRN for additional sample receipt/integrity details**

CHAIN OF CUSTODY

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Environmental Strategies
PROVIDING BENEFITS

Client: Environmental Strategies	**Client Project Number** 15106
Contact Person: Ryan Wells	
Project Mgr: Ryan Wells	**PO No.:**
Sampler: RH	**SGS Quote No. :** SY150422-1IS (revised with LOR's)
Address: Suite 15201, 2 Locomotive Street Eveleigh NSW 2065	**Date results required:** 5 day TAT (standard)
Phone: (02) 9690 2555 **Mob:** 0434 657 155	**Report format:** Esdat
Email: ryanwells@environmentalstrategies.com.au (COC, SRN, Lab Report) accounts@environmentalstrategies.com.au (invoice) natashapasley@environmentalstrategies.com.au (COC, SRN, Lab Report) david.burns@sustain450.com.au (COC, SRN, Lab Report)	**Lab Comments:** **Cooling Method:** Crushed ICE Metals (M10): As, Cd, Cr (total), Cu, Ni, Pb, Hg, Zn, Se, B. Nutrients: pH, TP, P, NO2, NO3, NH3.

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6. All triplicate samples to be sent to Envirolab

					Tests Required											Bottles Used							Comments
SGS Lab ID	Client Sample ID or information	Depth (m)	Date Sampled	Type of sample	Metals (M10)	PAHs	TRH	BTEX	VOCs	PCBs	Nutrients	Salinity	TOC (combustion)	Grain Size Analysis	Hold	40ml VOA Amber Glass Vials	Red Metal Plastic (Field Filtered)	Red Metal Plastic (Total)	Glass Amber 500ml	Green Plastic (non preserved)	Bag	Jar	Provide as much information about the sample as you can
33	SW9	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
34	SW9	3.1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			Nutrient samples were frozen within 24 hours
35	SW10	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
36	SW10	11.8	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
37	SW11	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
38	SW11	5.1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
39	SW12	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
40	SW12	2.6	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
41	SW13	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
42	SW13	11	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
43	SW14	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
44	SW14	8.2	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
45	SW18	1	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
46	SW18	15.6	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
47	SW19	1	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
48	SW19	15.8	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
49	SW20	1	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			

Relinquished by: Environmental Strategies	**Received & Relinquished by (SGS Muswellbrook or Courier):**	**Lab Use Only:**
Print Name: Ryan stewart	**Print Name:**	
Date & Time: 1600 18/08/2015	**Receipt Date & Time:** 1600 **Relinquished Date & Time:** 18.8.15	**Lab Report Number:**
Signature	**Signature**	**Samples received:** Cool or Ambient (circle one)
Received by (primary lab): SGS Sydney	**Received by (secondary lab): ELS**	**Temperature Received at:** (if applicable) 1°C
Print Name:	**Print Name:**	**Transported by: Hand delievered/courier**
Date & Time: 18/8/15 7.20pm	**Date & Time:**	**Security Seal Applied and Intact? (Yes/No)**
Signature	**Signature**	**Refer to Laboratory SRN for additional sample receipt/integrity details**

CHAIN OF CUSTODY

SGS — Page 4/5

Environmental Strategies — PROVIDING BENEFITS

Client: Environmental Strategies	**Client Project Number** 15106
Contact Person: Ryan Wells	
Project Mgr: Ryan Wells	**PO No.:**
Sampler: RH	**SGS Quote No. :** SY150422-1IS (revised with LOR's)
Address: Suite 15201, 2 Locomotive Street Eveleigh NSW 2065	**Date results required:** 5 day TAT (standard)
Phone: (02) 9690 2555 **Mob:** 0434 657 155	**Report format:** Esdat
Email: ryanwells@environmentalstrategies.com.au (COC, SRN, Lab Report) accounts@environmentalstrategies.com.au (invoice) natashapasley@environmentalstrategies.com.au (COC, SRN, Lab Report) david.burns@sustain450.com.au (COC, SRN, Lab Report)	**Lab Comments:** **Cooling Method:** Crushed ICE Metals (M10): As, Cd, Cr (total), Cu, Ni, Pb, Hg, Zn, Se, B. Nutrients: pH, TP, P, NO2, NO3, NH3.

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6. All triplicate samples to be sent to Envirolab

					Tests Required											Bottles Used							Comments
SGS Lab ID	Client Sample ID or information	Depth (m)	Date Sampled	Type of sample	Metals (M10)	PAHs	TRH	BTEX	VOCs	PCBs	Nutrients	Salinity	TOC (combustion)	Grain Size Analysis	Hold	40ml VOA Amber Glass Vials	Red Metal Plastic (Field Filtered)	Red Metal Plastic (Total)	Glass Amber 500ml	Green Plastic (non preserved)	Bag	Jar	Provide as much information about the sample as you can
50	SW20	11.4	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
51	SW21	1	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			Nutrient samples were frozen within 24 hours
52	SW21	15.8	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
53	SW22	1	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
54	SW22	9.3	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
55	SW23	1	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
56	SW23	24.4	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
57	SW24	1	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
58	SW24	19.6	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
59	SW25	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
60	SW25	21.2	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
61	SW26	1	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
62	SW26	7.9	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
63	QA1	-	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
64	QA3	-	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
65	QA5	-	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
66	Trip Spike	-	11/08/2015	Soil				X														1	

Relinquished by: Environmental Strategies	Received & Relinquished by (SGS Muswellbrook or Courier):	Lab Use Only:
Print Name: Ryan stewart	Print Name:	
Date & Time: 1600 18/08/2015	Receipt Date & Time: 1600 Relinquished Date & Time: 18·8·15	Lab Report Number:
Signature	Signature	Samples received: Cool or Ambient (circle one)
Received by (primary lab): SGS Sydney	Received by (secondary lab): ELS	Temperature Received at: (if applicable) 1°C
Print Name:	Print Name:	Transported by: Hand delievered/courier
Date & Time: 18/8/15 7.20pm	Date & Time:	Security Seal Applied and Intact? (Yes/No)
Signature	Signature	Refer to Laboratory SRN for additional sample receipt/integrity details

SGS

CHAIN OF CUSTODY

Environmental Strategies
PROVIDING BENEFITS

Client: Environmental Strategies
Contact Person: Ryan Wells
Project Mgr: Ryan Wells
Sampler: RH
Address: Suite 15201, 2 Locomotive Street
Eveleigh NSW 2065

Phone: (02) 9690 2555 **Mob:** 0434 657 155

Email: ryanwells@environmentalstrategies.com.au (COC, SRN, Lab Report)
accounts@environmentalstrategies.com.au (invoice)
natashapasley@environmentalstrategies.com.au (COC, SRN, Lab Report)
david.burns@sustain450.com.au (COC, SRN, Lab Report)

Client Project Number 15106
PO No.:
SGS Quote No. : SY150422-1IS (revised with LOR's)
Date results required: 5 day TAT (standard)
Report format: Esdat
Lab Comments:
Cooling Method: Crushed ICE
Metals (M10): As, Cd, Cr (total), Cu, Ni, Pb, Hg, Zn, Se, B.
Nutrients: pH, TP, P, NO2, NO3, NH3.

This COC is 'Privileged & Confidential' and is not to be distributed or disclosed to any person other than Environmental Strategies authorised personnel.

1. Ensure that all extracts are held in an appropriately refrigerated area for 40 days
2. Please see attached document which outlines the required LOR's for analytes
3. Please ensure the QA/QC frequency stipulated in SGS quotation SY150422-1-IS satified across the entire project sample matrix type.
4. All samples to be NATA Accredited unless otherwise stipulated in SGS quotation SY150422-1-IS, or subsequent revisions.
5. 'X' means the sample is to be tested by the laboratory for the relevant analytical method (where LOR's are specified in SGS Quotation SY150422-1-IS, including most recent revision).
6. All triplicate samples to be sent to Envirolab

					Tests Required											Bottles Used							Comments
SGS Lab ID	Client Sample ID or information	Depth (m)	Date Sampled	Type of sample	Metals (M10)	PAHs	TRH	BTEX	VOCs	PCBs	Nutrients	Salinity	TOC (combustion)	Grain Size Analysis	Hold	40ml VOA Amber Glass Vials	Red Metal Plastic (Field Filtered)	Red Metal Plastic (Total)	Glass Amber 500ml	Green Plastic (non preserved)	25L container	Jar	Provide as much information about the sample as you can
67	Trip Spike	-	11/08/2015	Water				X								2							
68	TBEC140815	-	14/08/2015	Water				X								2							Nutrient samples were frozen within 24 hours
69	TBEC150815	-	15/08/2015	Water				X								2							
70	RINEC140815	-	14/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
71	RINEC150815	-	15/08/2015	Water	X	X	X	X	X		X	X	X			2		1	1	1			
72	Elutrient Water	-	15/08/2015	Water											X						2		

Relinquished by: Environmental Strategies
Print Name: Ryan stewart
Date & Time: 1600 18/08/2015
Signature
Received by (primary lab): SGS Sydney
Print Name:
Date & Time: 18/8/15 7.20pm
Signature

Received & Relinquished by (SGS Muswellbrook or Courier):
Print Name:
Receipt Date & Time: 1600 **Relinquished Date & Time:** 18.8.15
Signature
Received by (secondary lab): ELS
Print Name:
Date & Time:
Signature

Lab Use Only:
Lab Report Number:
Samples received: Cool or Ambient (circle one)
Temperature Received at: (if applicable) 1°C
Transported by: Hand delievered/courier
Security Seal Applied and Intact? (Yes/No)
Refer to Laboratory SRN for additional sample receipt/integrity details

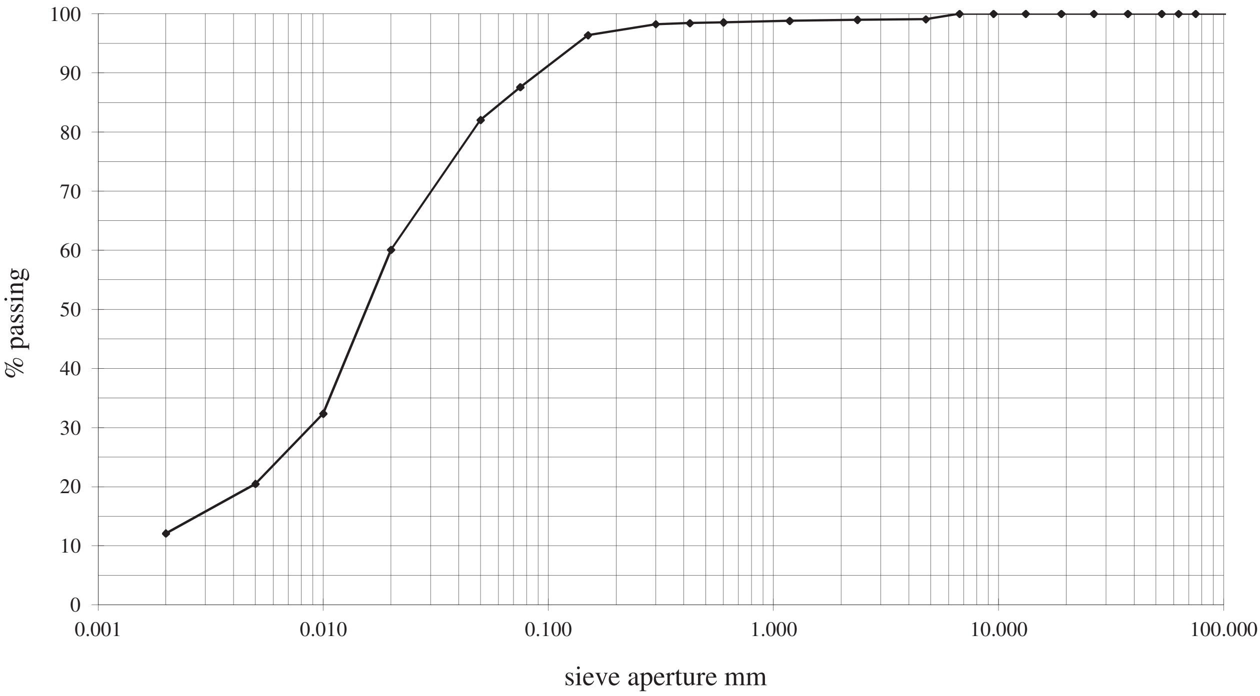
TEST CERTIFICATE

ABN 44 000 964 278
ph: +61 (0)2 8594 0481
fax: +61 (0)2 8594 0499

SGS Australia Pty Ltd
Unit 15, 33 Maddox Street
(PO Box 6432)
Alexandria NSW 2015
Australia

PARTICLE SIZE DISTRIBUTION

Client: **ENVIRONMENTAL STRATEGIES PTY LIMITED**
Address: **Suite 152012 Locomotive StreetEveleigh NSW 2015**
Project: **SE142588**
Location:
Test Method: **AS 1289 3.6.1 / 3**
Job Number: 15-32-256
Lab Number: 15-AC-1861
Sample Source: SD13 0-0.2
Date Tested: 9/09/2015
Sampled By: Client
Checked By: ME



Clay	Silt	Sand	Gravel

Sample Description: SILT:Black

Sieve Size (mm)	% Passing	Sieve Size (mm)	% Passing
150.0		1.18	**99**
75.0		0.600	**99**
63.0		0.425	**98**
53.0		0.300	**98**
37.5		0.150	**96**
26.5		0.075	**88**
19.0		0.050	**82**
13.2		0.020	**60**
9.5		0.010	**32**
6.7	**100**	0.005	**20**
4.75	**99**	0.002	**12**
2.36	**99**		

Hydrometer Type: **ASTM 152H**
Dispersant Type: **Sodium Hexametaphosphate**
Pretreatment: **None**
Loss on Pretreatment: **None**
Remarks:

Approved Signatory: Aaron Lacey Date: 9/09/2015

Accredited for Compliance with ISO/IEC 17025

Accreditation No. 2418

SAMPLE RECEIPT ADVICE

SE142588

CLIENT DETAILS

Contact	Ryan Wells
Client	ENVIRONMENTAL STRATEGIES PTY LIMITED
Address	Suite 15201, Locomotive Workshop 2 Locomotive Street Eveleigh NSW 2015
Telephone	02 6460 2555 / 0708 476 619
Facsimile	(Not specified)
Email	ryanwells@environmentalstrategies.com.au
Project	**15106**
Order Number	(Not specified)
Samples	92

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 14, 33 Maddox St Alexandria NSW 2015
Telephone	+41 2 8567 0700
Facsimile	+41 2 8567 0766
Email	au.environmental.sydney@sgs.com
Samples Received	Tue 18/8/2015
Report Due	Wed 24/8/2015
SGS Reference	**SE142588**

SUBMISSION DETAILS

This is to confirm that 92 samples were received on Tuesday 18/8/2015. Results are expected to be ready by Wednesday 24/8/2015. Please quote SGS reference SE172588 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	3 Soil,14 Sediment,53 Wat	Type of documentation received	COC
Date documentation received	18/8/2015	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	9.5°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice	Samples clearly labelled	Yes
Complete documentation received	Yes	Number of eskies/boxes received	

Samples will be held for one month for water samples and two months for soil samples from date of report, unless otherwise instructed.

COMMENTS

PRIVILEGED AND CONFIDENTIAL
`Not to be distributed or disclosed to any person other than Environmental Strategies'
TOC(Combustion) subcontracted to SGS Perth Environmental, 28 Reid Rd Perth Airport WA, NATA Accreditation Number 2542, Site Number 868.B_50_ESSD01.
Grain Size Analysis subcontracted to SGS CMT Division-Unit 15, 33 Maddox Street Alexandria NSW 2015, NATA Accreditation Number: 2718.
Samples received at 18/8/15@9.20pm. The project was not registered until the next business day.

3 samples have been placed on hold.

SAMPLE RECEIPT ADVICE

SE142588

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED   Project 15104

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Metals in Soil by ICPOES	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	SD13 0-0.2	1	25	6	10	98	8
002	SD18 0-0.18	1	25	6	10	98	8
003	DS18 0.15-0.25	1	25	6	10	98	8
007	SD16 0-0.01	1	25	6	10	98	8
005	SD16 0.02-0.06	1	25	6	10	98	8
004	SD20 0-0.02	1	25	6	10	98	8
009	SD21 0-0.03	1	25	6	10	98	8
008	SD22 0-0.05	1	25	6	10	98	8
006	SD23 0-0.1	1	25	6	10	98	8
010	SD23 0.15-0.21	1	25	6	10	98	8
011	SD27 0-0.07	1	25	6	10	98	8
012	SD27 0.1-0.2	1	25	6	10	98	8
013	SD25 0-0.1	1	25	6	10	98	8
017	SD25 0.15-0.25	1	25	6	10	98	8
015	SD25 0.7-0.5	1	25	6	10	98	8
014	SD24 0-0.05	1	25	6	10	98	8
019	SD29 0-0.07	1	25	6	10	98	8
018	SD28 0-0.02	1	25	6	10	98	8

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE142588

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED

Project 15104

SUMMARY OF ANALYSIS

No.	Sample ID	VOC's in Soil
044	Trip Spike	10

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE142588

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED Project 15104

SUMMARY OF ANALYSIS

No.	Sample ID	Low Level PAH (Poly Aromatic Hydrocarbons) in	Moisture Content	Particle sizing of soils by sieving	pH in water	Total Carbon and TOC by LECO Furnace	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	SD13 0-0.2	-	1	58	-	2	-	-	-
002	SD18 0-0.18	-	1	-	-	2	-	-	-
003	DS18 0.15-0.25	-	1	-	-	2	-	-	-
007	SD16 0-0.01	-	1	-	-	2	-	-	-
005	SD16 0.02-0.06	-	1	-	-	2	-	-	-
004	SD20 0-0.02	-	1	-	-	2	-	-	-
009	SD21 0-0.03	-	1	-	-	2	-	-	-
008	SD22 0-0.05	-	1	-	-	2	-	-	-
006	SD23 0-0.1	-	1	-	-	2	-	-	-
010	SD23 0.15-0.21	-	1	-	-	2	-	-	-
011	SD27 0-0.07	-	1	-	-	2	-	-	-
012	SD27 0.1-0.2	-	1	-	-	2	-	-	-
013	SD25 0-0.1	-	1	-	-	2	-	-	-
017	SD25 0.15-0.25	-	1	-	-	2	-	-	-
015	SD25 0.7-0.5	-	1	-	-	2	-	-	-
014	SD24 0-0.05	-	1	-	-	2	-	-	-
019	SD29 0-0.07	-	1	-	-	2	-	-	-
018	SD28 0-0.02	-	1	-	-	2	-	-	-
016	SW1 1	22	-	-	1	-	6	98	8
020	SW1 9.1	22	-	-	1	-	6	98	8
021	SW2 1	22	-	-	1	-	6	98	8
022	SW2 2.7	22	-	-	1	-	6	98	8
023	SW3 1	22	-	-	1	-	6	98	8
027	SW7 1	22	-	-	1	-	6	98	8

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE142588

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED Project 15104

SUMMARY OF ANALYSIS

No.	Sample ID	Low Level PAH (Poly Aromatic Hydrocarbons) in	pH in water	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
025	SW7 2.5	22	1	6	98	8
024	SW5 1	22	1	6	98	8
029	SW5 3.1	22	1	6	98	8
028	SW4 1	22	1	6	98	8
026	SW4 3.2	22	1	6	98	8
030	SW9 1	22	1	6	98	8
031	SW8 1	22	1	6	98	8
032	SW8 5.4	22	1	6	98	8
033	SW6 1	22	1	6	98	8
037	SW6 3.1	22	1	6	98	8
035	SW10 1	22	1	6	98	8
034	SW10 11.8	22	1	6	98	8
039	SW11 1	22	1	6	98	8
038	SW11 5.1	22	1	6	98	8
036	SW12 1	22	1	6	98	8
070	SW12 2.4	22	1	6	98	8
071	SW13 1	22	1	6	98	8
072	SW13 11	22	1	6	98	8
073	SW17 1	22	1	6	98	8
077	SW17 8.2	22	1	6	98	8
075	SW18 1	22	1	6	98	8
074	SW18 15.4	22	1	6	98	8
079	SW16 1	22	1	6	98	8
078	SW16 15.8	22	1	6	98	8

CONTINUED OVERLEAF

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CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED Project 15104

SUMMARY OF ANALYSIS

No.	Sample ID	Low Level PAH (Poly Aromatic Hydrocarbons) in Water	pH in water	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
076	SW20 1	22	1	6	98	8
050	SW20 11.7	22	1	6	98	8
051	SW21 1	22	1	6	98	8
052	SW21 15.8	22	1	6	98	8
053	SW22 1	22	1	6	98	8
057	SW22 6.3	22	1	6	98	8
055	SW23 1	22	1	6	98	8
054	SW23 27.7	22	1	6	98	8
059	SW27 1	22	1	6	98	8
058	SW27 16.4	22	1	6	98	8
056	SW25 1	22	1	6	98	8
040	SW25 21.2	22	1	6	98	8
041	SW24 1	22	1	6	98	8
042	SW24 9.6	22	1	6	98	8
043	QA1	22	1	6	98	8
047	QA3	22	1	6	98	8
045	QA5	22	1	6	98	8
049	Trip Spike	-	-	-	10	-
048	TBEC170815	-	-	-	12	-
046	TBEC150815	-	-	-	12	-
090	RINEC170815	22	1	6	98	8
091	RINEC150815	22	1	6	98	8

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE142588

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED Project 15104

SUMMARY OF ANALYSIS

No.	Sample ID	Ammonia Nitrogen by Discrete Analyser	Anions by Ion Chromatography in Water	Conductivity and TDS by Calculation - Water	Filterable Reactive Phosphorus (FRP)	Forms of Carbon	Mercury (total) in Water	Nitrite in Water	Total Phosphorus by Kjeldahl Digestion DA in	Trace Metals (Total) in Water by ICPMS
016	SW1 1	1	1	2	1	1	1	1	1	6
020	SW1 9.1	1	1	2	1	1	1	1	1	6
021	SW2 1	1	1	2	1	1	1	1	1	6
022	SW2 2.7	1	1	2	1	1	1	1	1	6
023	SW3 1	1	1	2	1	1	1	1	1	6
027	SW7 1	1	1	2	1	1	1	1	1	6

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED Project 15104

SUMMARY OF ANALYSIS

No.	Sample ID	Ammonia Nitrogen by Discrete Analyser	Anions by Ion Chromatography in Water	Conductivity and TDS by Calculation - Water	Filterable Reactive Phosphorus (FRP)	Forms of Carbon	Mercury (total) in Water	Nitrite in Water	Total Phosphorus by Kjeldahl Digestion DA in	Trace Metals (Total) in Water by ICPMS
025	SW7 2.5	1	1	2	1	1	1	1	1	6
024	SW5 1	1	1	2	1	1	1	1	1	6
029	SW5 3.1	1	1	2	1	1	1	1	1	6
028	SW4 1	1	1	2	1	1	1	1	1	6
026	SW4 3.2	1	1	2	1	1	1	1	1	6
030	SW9 1	1	1	2	1	1	1	1	1	6
031	SW8 1	1	1	2	1	1	1	1	1	6
032	SW8 5.4	1	1	2	1	1	1	1	1	6
033	SW6 1	1	1	2	1	1	1	1	1	6
037	SW6 3.1	1	1	2	1	1	1	1	1	6
035	SW10 1	1	1	2	1	1	1	1	1	6
034	SW10 11.8	1	1	2	1	1	1	1	1	6
039	SW11 1	1	1	2	1	1	1	1	1	6
038	SW11 5.1	1	1	2	1	1	1	1	1	6
036	SW12 1	1	1	2	1	1	1	1	1	6
070	SW12 2.4	1	1	2	1	1	1	1	1	6
071	SW13 1	1	1	2	1	1	1	1	1	6
072	SW13 11	1	1	2	1	1	1	1	1	6
073	SW17 1	1	1	2	1	1	1	1	1	6
077	SW17 8.2	1	1	2	1	1	1	1	1	6
075	SW18 1	1	1	2	1	1	1	1	1	6
074	SW18 15.4	1	1	2	1	1	1	1	1	6
079	SW16 1	1	1	2	1	1	1	1	1	6
078	SW16 15.8	1	1	2	1	1	1	1	1	6

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE142588

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED

Project 15104

SUMMARY OF ANALYSIS

No.	Sample ID	Ammonia Nitrogen by Discrete Analyser	Anions by Ion Chromatography in Water	Conductivity and TDS by Calculation - Water	Filterable Reactive Phosphorus (FRP)	Forms of Carbon	Mercury (total) in Water	Nitrite in Water	Total Phosphorus by Kjeldahl Digestion DA in	Trace Metals (Total) in Water by ICPMS
076	SW20 1	1	1	2	1	1	1	1	1	6
050	SW20 11.7	1	1	2	1	1	1	1	1	6
051	SW21 1	1	1	2	1	1	1	1	1	6
052	SW21 15.8	1	1	2	1	1	1	1	1	6
053	SW22 1	1	1	2	1	1	1	1	1	6
057	SW22 6.3	1	1	2	1	1	1	1	1	6
055	SW23 1	1	1	2	1	1	1	1	1	6
054	SW23 27.7	1	1	2	1	1	1	1	1	6
059	SW27 1	1	1	2	1	1	1	1	1	6
058	SW27 16.4	1	1	2	1	1	1	1	1	6
056	SW25 1	1	1	2	1	1	1	1	1	6
040	SW25 21.2	1	1	2	1	1	1	1	1	6
041	SW24 1	1	1	2	1	1	1	1	1	6
042	SW24 9.6	1	1	2	1	1	1	1	1	6
043	QA1	1	1	2	1	1	1	1	1	6
047	QA3	1	1	2	1	1	1	1	1	6
045	QA5	1	1	2	1	1	1	1	1	6
090	RINEC170815	1	1	2	1	1	1	1	1	6
091	RINEC150815	1	1	2	1	1	1	1	1	6

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE142588

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED   Project 15104

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Trace Metals (Dissolved) in Water by ICPMS
016	SW1 1	1	6
020	SW1 9.1	1	6
021	SW2 1	1	6
022	SW2 2.7	1	6
023	SW3 1	1	6
027	SW7 1	1	6

CONTINUED OVERLEAF

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE142588

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED Project 15104

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Trace Metals (Dissolved) in Water by ICPMS
025	SW7 2.5	1	6
024	SW5 1	1	6
029	SW5 3.1	1	6
028	SW4 1	1	6
026	SW4 3.2	1	6
030	SW9 1	1	6
031	SW8 1	1	6
032	SW8 5.4	1	6
033	SW6 1	1	6
037	SW6 3.1	1	6
035	SW10 1	1	6
034	SW10 11.8	1	6
039	SW11 1	1	6
038	SW11 5.1	1	6
036	SW12 1	1	6
070	SW12 2.4	1	6
071	SW13 1	1	6
072	SW13 11	1	6
073	SW17 1	1	6
077	SW17 8.2	1	6
075	SW18 1	1	6
074	SW18 15.4	1	6
079	SW16 1	1	6
078	SW16 15.8	1	6

CONTINUED OVERLEAF

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
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Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE142588

CLIENT DETAILS

Client ENVIRONMENTAL STRATEGIES PTY LIMITED Project 15104

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Trace Metals (Dissolved) in Water by ICPMS
076	SW20 1	1	6
050	SW20 11.7	1	6
051	SW21 1	1	6
052	SW21 15.8	1	6
053	SW22 1	1	6
057	SW22 6.3	1	6
055	SW23 1	1	6
054	SW23 27.7	1	6
059	SW27 1	1	6
058	SW27 16.4	1	6
056	SW25 1	1	6
040	SW25 21.2	1	6
041	SW24 1	1	6
042	SW24 9.6	1	6
043	QA1	1	6
047	QA3	1	6
045	QA5	1	6
090	RINEC170815	1	6
091	RINEC150815	1	6

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS		LABORATORY DETAILS	
Contact	Ryan Wells	Manager	Huong Crawford
Client	ENVIRONMENTAL STRATEGIES PTY LIMITED	Laboratory	SGS Alexandria Environmental
Address	Suite 15201, Locomotive Workshop 2 Locomotive Street NSW 2015	Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	02 9690 2555 / 0408 649 917	Telephone	+61 2 8594 0400
Facsimile	(Not specified)	Facsimile	+61 2 8594 0499
Email	ryanwells@environmentalstrategies.com.au	Email	au.environmental.sydney@sgs.com
Project	**15105**	SGS Reference	**SE148233 R0**
Order Number	**SY150422-1IS**	Date Received	20/1/2016
Samples	28	Date Reported	9/2/2016

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

PRIVILEGED AND CONFIDENTIAL
`Not to be distributed or disclosed to any person other than Environmental Strategies'

PFOS/PFOA subcontracted to SGS Leeder Consulting, 4-5/18 Redland Drive, Mitcham VIC, NATA Accreditation Number 2562, Site number 14420.

SIGNATORIES

Huong Crawford
Production Manager

Kamrul Ahsan
Senior Chemist

Ly Kim Ha
Organic Section Head

Snezana Kostoska
2IC Inorganics Chemist

VOC's in Soil [AN433/AN434] Tested: 19/8/1280

PARAMETER	UOM	LOR	LAW_76_ESSD03 SEDIMENT - 18/1/2016 SE148233.001	LAW_76_ESSD04 SEDIMENT - 18/1/2016 SE148233.002	LAW_99_ESSD04 0-0.15 SEDIMENT - 18/1/2016 SE148233.005	LAW_99_ESSD05 SEDIMENT - 18/1/2016 SE148233.006	LAW_99_ESSD06 SEDIMENT - 18/1/2016 SE148233.007
5enBene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
Tol<ene	z m/gm	2k8	2k1	. 2k8	. 2k8	. 2k8	. 2k8
utEhlyenBene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
z /bp-hlene	z m/gm	2k1	. 2k1	. 2k1	. 2k1	. 2k1	. 2k1
op-hlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
Totxl ahlenesX	z m/gm	2k3	. 2k3	. 2k3	. 2k3	. 2k3	. 2k3
Totxl 5Tua	z m/gm	2k0	. 2k0	. 2k0	. 2k0	. 2k0	. 2k0
NxbEtExlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
* i6EloDodid<oDoz etExne rCf Cp81(	z m/gm	8	. 8	. 8	p	p	p
CEloDoz etExne	z m/gm	8	. 8	. 8	p	p	p
Vinhl 6EloDde rCEloDoetEene(	z m/gm	2k8	. 2k8	. 2k8	p	p	p
5Doz oz etExne	z m/gm	8	. 8	. 8	p	p	p
CEloDoetExne	z m/gm	8	. 8	. 8	p	p	p
TD6EloDod<oDoz etExne	z m/gm	8	. 8	. 8	p	p	p
A6etone r1pbDobxnone(	z m/gm	82	. 82	. 82	p	p	p
Fodoz etExne	z m/gm	9	. 9	. 9	p	p	p
8)8pdi6EloDoetEene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
A6DhlonitDle	z m/gm	2k8	. 2k8	. 2k8	p	p	p
* i6EloDoz etExne rl etEhlene 6EloDde(	z m/gm	2k9	. 2k9	. 2k9	p	p	p
Allhl 6EloDde	z m/gm	2k8	. 2k8	. 2k8	p	p	p
CxDyon dis<lcide	z m/gm	2k9	. 2k9	. 2k9	p	p	p
tDxnsp8)1pdi6EloDoetEene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
I t5u rl etEhlpteDpy<thl etEeD(	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)8pdi6EloDoetExne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
Vinhl x6etxte	z m/gm	82	. 82	. 82	p	p	p
I u, r1py<txnone(	z m/gm	82	. 82	. 82	p	p	p
6isp8)1pdi6EloDoetEene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
5Doz o6EloDoz etExne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
CEloDocoDz	z m/gm	2k8	. 2k8	. 2k8	p	p	p
1)1pdi6EloDobDobxne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)1pdi6EloDoetExne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)8)8ptD6EloDoetExne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)8pdi6EloDobDobene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
CxDyon tetDx6EloDde	z m/gm	2k8	. 2k8	. 2k8	p	p	p
* iyDoz oz etExne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)1pdi6EloDobDobxne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
TD6EloDoetEene rTD6EloDoetEhlene pTCu (	z m/gm	2k8	. 2k8	. 2k8	p	p	p
1pnitDobDobxne	z m/gm	82	. 82	. 82	p	p	p
5Doz odi6EloDoz etExne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
I F5, r4pz etEhlp1pbentxnone(	z m/gm	8	. 8	. 8	p	p	p
6isp8)3pdi6EloDobDobene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
tDxnsp8)3pdi6EloDobDobene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)8)1ptD6EloDoetExne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)3pdi6EloDobDobxne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
CEloDodiyDoz oz etExne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
1pEe-xnone rl 5, (	z m/gm	9	. 9	. 9	p	p	p
8)1pdiyDoz oetExne ru* 5(	z m/gm	2k8	. 2k8	. 2k8	p	p	p
TetDx6EloDoetEene rMeD6EloDoetEhlene)MCu (	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)8)8)1ptetDx6EloDoetExne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
CEloDoyenBene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
5Doz ocoDz	z m/gm	2k8	. 2k8	. 2k8	p	p	p
6isp8)4pdi6EloDop1py<tene	z m/gm	8	. 8	. 8	p	p	p
SthDene rVinhl yenBene(	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)8)1)1ptetDx6EloDoetExne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)1)3ptD6EloDobDobxne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
tDxnsp8)4pdi6EloDop1py<tene	z m/gm	8	. 8	. 8	p	p	p

VOC's in Soil [AN433/AN434] Tested: 19/8/1280 r6ontin<ed(

PARAMETER	UOM	LOR	LAW_76_ESSD03 SEDIMENT - 18/1/2016 SE148233.001	LAW_76_ESSD04 SEDIMENT - 18/1/2016 SE148233.002	LAW_99_ESSD04 0-0.15 SEDIMENT - 18/1/2016 SE148233.005	LAW_99_ESSD05 SEDIMENT - 18/1/2016 SE148233.006	LAW_99_ESSD06 SEDIMENT - 18/1/2016 SE148233.007
FsobDobhlyenBene rC<z ene(	z m/gm	2k8	. 2k8	. 2k8	p	p	p
5Doz oyenBene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
npbDobhlyenBene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
1p6EloDotol<ene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
4p6EloDotol<ene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)3)9ptDz etEhlyenBene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
teDpy<thlyenBene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)1)4ptDz etEhlyenBene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
se6py<thlyenBene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)3pdi6EloDoyenBene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)4pdi6EloDoyenBene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
bpisobDobhltol<ene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)1pdi6EloDoyenBene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
npy<thlyenBene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)1pdiyDoz op3p6EloDobDobxne	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)1)4ptD6EloDoyenBene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
Ke-x6EloDoy<txdiene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
8)1)3ptD6EloDoyenBene	z m/gm	2k8	. 2k8	. 2k8	p	p	p
Totxl VOCX	z m/gm	14	p	p	p	p	p

VOC's in Soil [AN433/AN434] Tested: 19/8/1280 r6ontin<ed(

PARAMETER	UOM	LOR	LAW_LL_ESSD03 SEDIMENT - 18/1/2016 SE148233.011	LAW_LL_ESSD04 SEDIMENT - 18/1/2016 SE148233.012	DUPGS180116 SEDIMENT - 18/1/2016 SE148233.017	DUPGSA180116 SEDIMENT - 18/1/2016 SE148233.018	LAW_LL_ESSD01 SEDIMENT - 19/1/2016 SE148233.019
5enBene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
Tol<ene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
utEhlyenBene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
z /bp-hlene	z m/gm	2k1	. 2k1	. 2k1	. 2k1	. 2k1	. 2k1
op-hlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
Totxl ahlenesX	z m/gm	2k3	. 2k3	. 2k3	. 2k3	. 2k3	. 2k3
Totxl 5Tua	z m/gm	2k0	. 2k0	. 2k0	. 2k0	. 2k0	. 2k0
NxbEtExlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
* i6EloDodid<oDoz etExne rCf Cp81(	z m/gm	8	p	p	p	p	p
CEloDoz etExne	z m/gm	8	p	p	p	p	p
Vinhl 6EloDde rCEloDoetEene(	z m/gm	2k8	p	p	p	p	p
5Doz oz etExne	z m/gm	8	p	p	p	p	p
CEloDoetExne	z m/gm	8	p	p	p	p	p
TD6EloDod<oDoz etExne	z m/gm	8	p	p	p	p	p
A6etone r1pbDobxnone(	z m/gm	82	p	p	p	p	p
Fodoz etExne	z m/gm	9	p	p	p	p	p
8)8pdi6EloDoetEene	z m/gm	2k8	p	p	p	p	p
A6DhlonitDle	z m/gm	2k8	p	p	p	p	p
* i6EloDoz etExne rl etEhlene 6EloDde(	z m/gm	2k9	p	p	p	p	p
Allhl 6EloDde	z m/gm	2k8	p	p	p	p	p
CxDyon dis<lcide	z m/gm	2k9	p	p	p	p	p
tDxnsp8)1pdi6EloDoetEene	z m/gm	2k8	p	p	p	p	p
I t5u rl etEhlpteDpy<thl etEeD(	z m/gm	2k8	p	p	p	p	p
8)8pdi6EloDoetExne	z m/gm	2k8	p	p	p	p	p
Vinhl x6etxte	z m/gm	82	p	p	p	p	p
I u, r1py<txnone(	z m/gm	82	p	p	p	p	p
6isp8)1pdi6EloDoetEene	z m/gm	2k8	p	p	p	p	p
5Doz o6EloDoz etExne	z m/gm	2k8	p	p	p	p	p
CEloDocoDz	z m/gm	2k8	p	p	p	p	p
1)1pdi6EloDobDobxne	z m/gm	2k8	p	p	p	p	p
8)1pdi6EloDoetExne	z m/gm	2k8	p	p	p	p	p
8)8)8ptD6EloDoetExne	z m/gm	2k8	p	p	p	p	p
8)8pdi6EloDobDobene	z m/gm	2k8	p	p	p	p	p
CxDyon tetDx6EloDde	z m/gm	2k8	p	p	p	p	p
* iyDoz oz etExne	z m/gm	2k8	p	p	p	p	p
8)1pdi6EloDobDobxne	z m/gm	2k8	p	p	p	p	p
TD6EloDoetEene rTD6EloDoetEhlene pTCu (	z m/gm	2k8	p	p	p	p	p
1pnitDobDobxne	z m/gm	82	p	p	p	p	p
5Doz odi6EloDoz etExne	z m/gm	2k8	p	p	p	p	p
I F5, r4pz etEhlp1pbentxnone(	z m/gm	8	p	p	p	p	p
6isp8)3pdi6EloDobDobene	z m/gm	2k8	p	p	p	p	p
tDxnsp8)3pdi6EloDobDobene	z m/gm	2k8	p	p	p	p	p
8)8)1ptD6EloDoetExne	z m/gm	2k8	p	p	p	p	p
8)3pdi6EloDobDobxne	z m/gm	2k8	p	p	p	p	p
CEloDodiyDoz oz etExne	z m/gm	2k8	p	p	p	p	p
1pEe-xnone rl 5, (	z m/gm	9	p	p	p	p	p
8)1pdiyDoz oetExne ru* 5(	z m/gm	2k8	p	p	p	p	p
TetDx6EloDoetEene rMeD6EloDoetEhlene)MCu (	z m/gm	2k8	p	p	p	p	p
8)8)8)1ptetDx6EloDoetExne	z m/gm	2k8	p	p	p	p	p
CEloDoyenBene	z m/gm	2k8	p	p	p	p	p
5Doz ocoDz	z m/gm	2k8	p	p	p	p	p
6isp8)4pdi6EloDop1py<tene	z m/gm	8	p	p	p	p	p
SthDene rVinhl yenBene(	z m/gm	2k8	p	p	p	p	p
8)8)1)1ptetDx6EloDoetExne	z m/gm	2k8	p	p	p	p	p
8)1)3ptD6EloDobDobxne	z m/gm	2k8	p	p	p	p	p
tDxnsp8)4pdi6EloDop1py<tene	z m/gm	8	p	p	p	p	p

VOC's in Soil [AN433/AN434] Tested: 19/8/1280 r6ontin<ed(

PARAMETER	UOM	LOR	LAW_LL_ESSD03 SEDIMENT - 18/1/2016 SE148233.011	LAW_LL_ESSD04 SEDIMENT - 18/1/2016 SE148233.012	DUPGS180116 SEDIMENT - 18/1/2016 SE148233.017	DUPGSA180116 SEDIMENT - 18/1/2016 SE148233.018	LAW_LL_ESSD01 SEDIMENT - 19/1/2016 SE148233.019
FsobDobhlyenBene rC<z ene(	z m/gm	2k8	p	p	p	p	p
5Doz oyenBene	z m/gm	2k8	p	p	p	p	p
npbDobhlyenBene	z m/gm	2k8	p	p	p	p	p
1p6EloDotol<ene	z m/gm	2k8	p	p	p	p	p
4p6EloDotol<ene	z m/gm	2k8	p	p	p	p	p
8)3)9ptDz etEhlyenBene	z m/gm	2k8	p	p	p	p	p
teDtpy<thlyenBene	z m/gm	2k8	p	p	p	p	p
8)1)4ptDz etEhlyenBene	z m/gm	2k8	p	p	p	p	p
se6py<thlyenBene	z m/gm	2k8	p	p	p	p	p
8)3pdi6EloDoyenBene	z m/gm	2k8	p	p	p	p	p
8)4pdi6EloDoyenBene	z m/gm	2k8	p	p	p	p	p
bpisobDobhltol<ene	z m/gm	2k8	p	p	p	p	p
8)1pdi6EloDoyenBene	z m/gm	2k8	p	p	p	p	p
npy<thlyenBene	z m/gm	2k8	p	p	p	p	p
8)1pdiyDoz op3p6EloDobDobxne	z m/gm	2k8	p	p	p	p	p
8)1)4ptD6EloDoyenBene	z m/gm	2k8	p	p	p	p	p
Ke-x6EloDoy<txdiene	z m/gm	2k8	p	p	p	p	p
8)1)3ptD6EloDoyenBene	z m/gm	2k8	p	p	p	p	p
Totxl VOCX	z m/gm	14	p	p	p	p	p

VOC's in Soil [AN433/AN434] Tested: 19/8/1280 r6ontin<ed(

			LAW_LL_ESSD02	LAW_LL_ESSD05	LAW_LL_ESSD06
			SEDIMENT	SEDIMENT	SEDIMENT
			-	-	-
			19/1/2016	19/1/2016	19/1/2016
PARAMETER	UOM	LOR	SE148233.020	SE148233.021	SE148233.022
5enBene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
Tol<ene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
utEhlyenBene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
z /bp-hlene	z m/gm	2k1	. 2k1	. 2k1	. 2k1
op-hlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
Totxl ahlenesX	z m/gm	2k3	. 2k3	. 2k3	. 2k3
Totxl 5Tua	z m/gm	2k0	. 2k0	. 2k0	. 2k0
NxbEtExlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
* i6EloDodid<oDoz etExne rCf Cp81(	z m/gm	8	p	p	p
CEloDoz etExne	z m/gm	8	p	p	p
Vinhl 6EloDde rCEloDoetEene(	z m/gm	2k8	p	p	p
5Doz oz etExne	z m/gm	8	p	p	p
CEloDoetExne	z m/gm	8	p	p	p
TD6EloDod<oDoz etExne	z m/gm	8	p	p	p
A6etone r1pbDobxnone(	z m/gm	82	p	p	p
Fodoz etExne	z m/gm	9	p	p	p
8)8pdi6EloDoetEene	z m/gm	2k8	p	p	p
A6DhlonitDle	z m/gm	2k8	p	p	p
* i6EloDoz etExne rl etEhlene 6EloDde(	z m/gm	2k9	p	p	p
Allhl 6EloDde	z m/gm	2k8	p	p	p
CxDyon dis<lcide	z m/gm	2k9	p	p	p
tDxnsp8)1pdi6EloDoetEene	z m/gm	2k8	p	p	p
I t5u rl etEhlpteDpy<thl etEeD(	z m/gm	2k8	p	p	p
8)8pdi6EloDoetExne	z m/gm	2k8	p	p	p
Vinhl x6etxte	z m/gm	82	p	p	p
I u, r1py<txnone(	z m/gm	82	p	p	p
6isp8)1pdi6EloDoetEene	z m/gm	2k8	p	p	p
5Doz o6EloDoz etExne	z m/gm	2k8	p	p	p
CEloDooDz	z m/gm	2k8	p	p	p
1)1pdi6EloDobDobxne	z m/gm	2k8	p	p	p
8)1pdi6EloDoetExne	z m/gm	2k8	p	p	p
8)8)8ptD6EloDoetExne	z m/gm	2k8	p	p	p
8)8pdi6EloDobDobene	z m/gm	2k8	p	p	p
CxDyon tetDx6EloDde	z m/gm	2k8	p	p	p
* iyDoz oz etExne	z m/gm	2k8	p	p	p
8)1pdi6EloDobDobxne	z m/gm	2k8	p	p	p
TD6EloDoetEene rTD6EloDoetEhlene pTCu(	z m/gm	2k8	p	p	p
1pnitDobDobxne	z m/gm	82	p	p	p
5Doz odi6EloDoz etExne	z m/gm	2k8	p	p	p
I F5, r4pz etEhlp1pbentxnone(	z m/gm	8	p	p	p
6isp8)3pdi6EloDobDobene	z m/gm	2k8	p	p	p
tDxnsp8)3pdi6EloDobDobene	z m/gm	2k8	p	p	p
8)8)1ptD6EloDoetExne	z m/gm	2k8	p	p	p
8)3pdi6EloDobDobxne	z m/gm	2k8	p	p	p
CEloDodiyDoz oz etExne	z m/gm	2k8	p	p	p
1pEe-xnone rl 5, (	z m/gm	9	p	p	p
8)1pdiyDoz oetExne ru* 5(	z m/gm	2k8	p	p	p
TetDx6EloDoetEene rMeD6EloDoetEhlene)MCu(	z m/gm	2k8	p	p	p
8)8)8)1ptetDx6EloDoetExne	z m/gm	2k8	p	p	p
CEloDoyenBene	z m/gm	2k8	p	p	p
5Doz ooDz	z m/gm	2k8	p	p	p
6isp8)4pdi6EloDop1py<tene	z m/gm	8	p	p	p
SthDene rVinhl yenBene(	z m/gm	2k8	p	p	p
8)8)1)1ptetDx6EloDoetExne	z m/gm	2k8	p	p	p
8)1)3ptD6EloDobDobxne	z m/gm	2k8	p	p	p
tDxnsp8)4pdi6EloDop1py<tene	z m/gm	8	p	p	p

VOC's in Soil [AN433/AN434] Tested: 19/8/1280 r6ontin<ed(

PARAMETER	UOM	LOR	LAW_LL_ESSD02 SEDIMENT - 19/1/2016 SE148233.020	LAW_LL_ESSD05 SEDIMENT - 19/1/2016 SE148233.021	LAW_LL_ESSD06 SEDIMENT - 19/1/2016 SE148233.022
FsobDobhlyenBene rC<z ene(	z m/gm	2k8	p	p	p
5Doz oyenBene	z m/gm	2k8	p	p	p
npbDobhlyenBene	z m/gm	2k8	p	p	p
1p6EloDotol<ene	z m/gm	2k8	p	p	p
4p6EloDotol<ene	z m/gm	2k8	p	p	p
8)3)9ptDz etEhlyenBene	z m/gm	2k8	p	p	p
teDpy<thlyenBene	z m/gm	2k8	p	p	p
8)1)4ptDz etEhlyenBene	z m/gm	2k8	p	p	p
se6py<thlyenBene	z m/gm	2k8	p	p	p
8)3pdi6EloDoyenBene	z m/gm	2k8	p	p	p
8)4pdi6EloDoyenBene	z m/gm	2k8	p	p	p
bpisobDobhltol<ene	z m/gm	2k8	p	p	p
8)1pdi6EloDoyenBene	z m/gm	2k8	p	p	p
npy<thlyenBene	z m/gm	2k8	p	p	p
8)1pdiyDoz op3p6EloDobDobxne	z m/gm	2k8	p	p	p
8)1)4ptD6EloDoyenBene	z m/gm	2k8	p	p	p
Ke-x6EloDoy<txdiene	z m/gm	2k8	p	p	p
8)1)3ptD6EloDoyenBene	z m/gm	2k8	p	p	p
Totxl VOCX	z m/gm	14	p	p	p

Volxtile MetDole<z KhdDo6xDyons in Soil [AN433/AN434/AN482] Tested: 19/8/1280

PARAMETER	UOM	LOR	LAW_76_ESSD03 SEDIMENT - 18/1/2016 SE148233.001	LAW_76_ESSD04 SEDIMENT - 18/1/2016 SE148233.002	LAW_99_ESSD04 0-0.15 SEDIMENT - 18/1/2016 SE148233.005	LAW_99_ESSD05 SEDIMENT - 18/1/2016 SE148233.006	LAW_99_ESSD06 SEDIMENT - 18/1/2016 SE148233.007
TPK C0pCH	z m/gm	12	. 12	. 12	. 12	. 12	. 12
5enBene rf 2(	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
TPK C0pC82	z m/gm	19	. 19	. 19	. 19	. 19	. 19
TPK C0pC82 z in<s 5Tua rf 8(	z m/gm	19	. 19	. 19	. 19	. 19	. 19

PARAMETER	UOM	LOR	LAW_LL_ESSD03 SEDIMENT - 18/1/2016 SE148233.011	LAW_LL_ESSD04 SEDIMENT - 18/1/2016 SE148233.012	DUPGS180116 SEDIMENT - 18/1/2016 SE148233.017	DUPGSA180116 SEDIMENT - 18/1/2016 SE148233.018	LAW_LL_ESSD01 SEDIMENT - 19/1/2016 SE148233.019
TPK C0pCH	z m/gm	12	. 12	. 12	. 12	. 12	. 12
5enBene rf 2(	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
TPK C0pC82	z m/gm	19	. 19	. 19	. 19	. 19	. 19
TPK C0pC82 z in<s 5Tua rf 8(	z m/gm	19	. 19	. 19	. 19	. 19	. 19

PARAMETER	UOM	LOR	LAW_LL_ESSD02 SEDIMENT - 19/1/2016 SE148233.020	LAW_LL_ESSD05 SEDIMENT - 19/1/2016 SE148233.021	LAW_LL_ESSD06 SEDIMENT - 19/1/2016 SE148233.022
TPK C0pCH	z m/gm	12	. 12	. 12	. 12
5enBene rf 2(	z m/gm	2k8	. 2k8	. 2k8	. 2k8
TPK C0pC82	z m/gm	19	. 19	. 19	. 19
TPK C0pC82 z in<s 5Tua rf 8(	z m/gm	19	. 19	. 19	. 19

TPK rTotxl Pe6o%eDxyle KhdDo6xDyons(in Soil [AN423] Tested: 19/8/1280

PARAMETER	UOM	LOR	LAW_76_ESSD03 SEDIMENT - 18/1/2016 SE148233.001	LAW_76_ESSD04 SEDIMENT - 18/1/2016 SE148233.002	LAW_99_ESSD04 0-0.15 SEDIMENT - 18/1/2016 SE148233.005	LAW_99_ESSD05 SEDIMENT - 18/1/2016 SE148233.006	LAW_99_ESSD06 SEDIMENT - 18/1/2016 SE148233.007
TPK C82pC84	z m/gm	12	. 12	. 12	. 12	. 12	. 12
TPK C89pC17	z m/gm	49	082	4R	. 49	. 49	. 49
TPK C1HpC30	z m/gm	49	982	. 49	. 49	. 49	. 49
TPK C3RpC42	z m/gm	822	. 822	. 822	. 822	. 822	. 822
TPK vC82pC80 rf 1(	z m/gm	19	. 19	. 19	. 19	. 19	. 19
TPK vC82pC80 rf 1(pNxbEtExlene	z m/gm	19	. 19	. 19	. 19	. 19	. 19
TPK vC80pC34 rf 3(	z m/gm	H2	8222	. H2	. H2	. H2	. H2
TPK vC34pC42 rf 4(	z m/gm	812	. 812	. 812	. 812	. 812	. 812
TPK C82pC30 Totxl	z m/gm	882	8822	. 882	. 882	. 882	. 882
TPK C82pC42 Totxl	z m/gm	182	8822	. 182	. 182	. 182	. 182

PARAMETER	UOM	LOR	LAW_LL_ESSD03 SEDIMENT - 18/1/2016 SE148233.011	LAW_LL_ESSD04 SEDIMENT - 18/1/2016 SE148233.012	DUPGS180116 SEDIMENT - 18/1/2016 SE148233.017	DUPGSA180116 SEDIMENT - 18/1/2016 SE148233.018	LAW_LL_ESSD01 SEDIMENT - 19/1/2016 SE148233.019
TPK C82pC84	z m/gm	12	. 12	. 12	. 12	. 12	. 12
TPK C89pC17	z m/gm	49	. 49	. 49	. 49	. 49	. 49
TPK C1HpC30	z m/gm	49	. 49	. 49	. 49	. 49	. 49
TPK C3RpC42	z m/gm	822	. 822	. 822	. 822	. 822	. 822
TPK vC82pC80 rf 1(	z m/gm	19	. 19	. 19	. 19	. 19	. 19
TPK vC82pC80 rf 1(pNxbEtExlene	z m/gm	19	. 19	. 19	. 19	. 19	. 19
TPK vC80pC34 rf 3(	z m/gm	H2	. H2	. H2	. H2	. H2	. H2
TPK vC34pC42 rf 4(	z m/gm	812	. 812	. 812	. 812	. 812	. 812
TPK C82pC30 Totxl	z m/gm	882	. 882	. 882	. 882	. 882	. 882
TPK C82pC42 Totxl	z m/gm	182	. 182	. 182	. 182	. 182	. 182

PARAMETER	UOM	LOR	LAW_LL_ESSD02 SEDIMENT - 19/1/2016 SE148233.020	LAW_LL_ESSD05 SEDIMENT - 19/1/2016 SE148233.021	LAW_LL_ESSD06 SEDIMENT - 19/1/2016 SE148233.022
TPK C82pC84	z m/gm	12	. 12	. 12	. 12
TPK C89pC17	z m/gm	49	. 49	. 49	. 49
TPK C1HpC30	z m/gm	49	. 49	. 49	. 49
TPK C3RpC42	z m/gm	822	. 822	. 822	. 822
TPK vC82pC80 rf 1(	z m/gm	19	. 19	. 19	. 19
TPK vC82pC80 rf 1(pNxbEtExlene	z m/gm	19	. 19	. 19	. 19
TPK vC80pC34 rf 3(	z m/gm	H2	. H2	. H2	. H2
TPK vC34pC42 rf 4(	z m/gm	812	. 812	. 812	. 812
TPK C82pC30 Totxl	z m/gm	882	. 882	. 882	. 882
TPK C82pC42 Totxl	z m/gm	182	. 182	. 182	. 182

MAK rMolhn<6lexDADoz xti6 KhdDo6xDyons(in Soil [AN412] Tested: 19/8/1280

			LAW_76_ESSD03	LAW_76_ESSD04	LAW_99_ESSD04 0-0.15	LAW_99_ESSD05	LAW_99_ESSD06
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
			-	-	-	-	-
			18/1/2016	18/1/2016	18/1/2016	18/1/2016	18/1/2016
PARAMETER	UOM	LOR	SE148233.001	SE148233.002	SE148233.005	SE148233.006	SE148233.007
NxbEtExlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
1pz etEhlnxbEtExlene	z m/gm	2k8	**2k1**	**2k1**	. 2k8	. 2k8	. 2k8
8pz etEhlnxbEtExlene	z m/gm	2k8	**2k8**	. 2k8	. 2k8	. 2k8	. 2k8
A6enxbEtEhlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
A6enxbEtEene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
f l<oDene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
MEenxntEDene	z m/gm	2k8	**2k8**	**2k8**	. 2k8	. 2k8	. 2k8
AntEDx6ene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
f l<oDxntEene	z m/gm	2k8	**2k8**	**2k8**	. 2k8	. 2k8	. 2k8
MhDene	z m/gm	2k8	. 2k8	**2k8**	. 2k8	. 2k8	. 2k8
5enBorx(xntEDx6ene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
CEDhsene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
5enBory>&d<oDxntEene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
5enBorg(d<oDxntEene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
5enBorx(bhDene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
Fndenor8)1)3p6d(bhDene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
* iyenBorx>E(xntEDx6ene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
5enBormEi(beDhlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
CxD6inomeni6 MAKs) 5xMTuj . QOPL2	Tuj	2k1	. 2k1	. 2k1	. 2k1	. 2k1	. 2k1
CxD6inomeni6 MAKs) 5xMTuj . QOPLQOP	Tuj rz m/gm(	2k3	. 2k3	. 2k3	. 2k3	. 2k3	. 2k3
CxD6inomeni6 MAKs) 5xMTuj . QOPLQOP/1	Tuj rz m/gm(	2k1	. 2k1	. 2k1	. 2k1	. 2k1	. 2k1
Totxl MAK r87(	z m/gm	2k7	. 2k7	. 2k7	. 2k7	. 2k7	. 2k7

			LAW_LL_ESSD03	LAW_LL_ESSD04	DUPGS180116	DUPGSA180116	LAW_LL_ESSD01
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
			-	-	-	-	-
			18/1/2016	18/1/2016	18/1/2016	18/1/2016	19/1/2016
PARAMETER	UOM	LOR	SE148233.011	SE148233.012	SE148233.017	SE148233.018	SE148233.019
NxbEtExlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
1pz etEhlnxbEtExlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
8pz etEhlnxbEtExlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
A6enxbEtEhlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
A6enxbEtEene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
f l<oDene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
MEenxntEDene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
AntEDx6ene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
f l<oDxntEene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
MhDene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
5enBorx(xntEDx6ene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
CEDhsene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
5enBory>&d<oDxntEene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
5enBorg(d<oDxntEene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
5enBorx(bhDene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
Fndenor8)1)3p6d(bhDene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
* iyenBorx>E(xntEDx6ene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
5enBormEi(beDhlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
CxD6inomeni6 MAKs) 5xMTuj . QOPL2	Tuj	2k1	. 2k1	. 2k1	. 2k1	. 2k1	. 2k1
CxD6inomeni6 MAKs) 5xMTuj . QOPLQOP	Tuj rz m/gm(	2k3	. 2k3	. 2k3	. 2k3	. 2k3	. 2k3
CxD6inomeni6 MAKs) 5xMTuj . QOPLQOP/1	Tuj rz m/gm(	2k1	. 2k1	. 2k1	. 2k1	. 2k1	. 2k1
Totxl MAK r87(	z m/gm	2k7	. 2k7	. 2k7	. 2k7	. 2k7	. 2k7

MAK rMolhn<6lexDADoz xti6 KhdDo6xDyons(in Soil [AN412] Tested: 19/8/1280 r6ontin<ed(

PARAMETER	UOM	LOR	LAW_LL_ESSD02 SEDIMENT - 19/1/2016 SE148233.020	LAW_LL_ESSD05 SEDIMENT - 19/1/2016 SE148233.021	LAW_LL_ESSD06 SEDIMENT - 19/1/2016 SE148233.022
NxbEtExlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
1pz etEhlnxbEtExlene	z m/gm	2k8	. 2k8	2k8	. 2k8
8pz etEhlnxbEtExlene	z m/gm	2k8	. 2k8	2k8	. 2k8
A6enxbEtEhlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
A6enxbEtEene	z m/gm	2k8	. 2k8	2k3	. 2k8
f l<oDene	z m/gm	2k8	. 2k8	2k8	. 2k8
MEenxntEDene	z m/gm	2k8	. 2k8	2k3	. 2k8
AntEDx6ene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
f l<oDxntEene	z m/gm	2k8	. 2k8	2k1	. 2k8
MhDene	z m/gm	2k8	. 2k8	2k1	. 2k8
5enBorx(xntEDx6ene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
CEDhsene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
5enBory>&d<oDxntEene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
5enBorg(d<oDxntEene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
5enBorx(bhDene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
Fndenor8)1)3p6d(bhDene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
* iyenBorx>E(xntEDx6ene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
5enBormEi(beDhlene	z m/gm	2k8	. 2k8	. 2k8	. 2k8
CxD6inomeni6 MAKs) 5xM Tuj . QOPL2	Tuj	2k1	. 2k1	. 2k1	. 2k1
CxD6inomeni6 MAKs) 5xM Tuj . QOPLQOP	Tuj rz m/gm(	2k3	. 2k3	. 2k3	. 2k3
CxD6inomeni6 MAKs) 5xM Tuj . QOPLQOP/1	Tuj rz m/gm(	2k1	. 2k1	. 2k1	. 2k1
Totxl MAK r87(	z m/gm	2k7	. 2k7	8k1	. 2k7

MC5s in Soil [AN422/AN412] Tested: 19/8/1280

PARAMETER	UOM	LOR	LAW_76_ESSD03 SEDIMENT - 18/1/2016 SE148233.001	LAW_76_ESSD04 SEDIMENT - 18/1/2016 SE148233.002	LAW_99_ESSD04 0-0.15 SEDIMENT - 18/1/2016 SE148233.005	LAW_99_ESSD05 SEDIMENT - 18/1/2016 SE148233.006	LAW_99_ESSD06 SEDIMENT - 18/1/2016 SE148233.007
ADo6EloD8280	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8118	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8131	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8141	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8147	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8194	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8102	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8101	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8107	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
Totxl MC5s rADo6EloDs(	z m/gm	8	. 8	. 8	. 8	. 8	. 8

PARAMETER	UOM	LOR	LAW_LL_ESSD03 SEDIMENT - 18/1/2016 SE148233.011	LAW_LL_ESSD04 SEDIMENT - 18/1/2016 SE148233.012	DUPGS180116 SEDIMENT - 18/1/2016 SE148233.017	DUPGSA180116 SEDIMENT - 18/1/2016 SE148233.018	LAW_LL_ESSD01 SEDIMENT - 19/1/2016 SE148233.019
ADo6EloD8280	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8118	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8131	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8141	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8147	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8194	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8102	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8101	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8107	z m/gm	2kl	. 2kl	. 2kl	. 2kl	. 2kl	. 2kl
Totxl MC5s rADo6EloDs(	z m/gm	8	. 8	. 8	. 8	. 8	. 8

PARAMETER	UOM	LOR	LAW_LL_ESSD02 SEDIMENT - 19/1/2016 SE148233.020	LAW_LL_ESSD05 SEDIMENT - 19/1/2016 SE148233.021	LAW_LL_ESSD06 SEDIMENT - 19/1/2016 SE148233.022
ADo6EloD8280	z m/gm	2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8118	z m/gm	2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8131	z m/gm	2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8141	z m/gm	2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8147	z m/gm	2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8194	z m/gm	2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8102	z m/gm	2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8101	z m/gm	2kl	. 2kl	. 2kl	. 2kl
ADo6EloD8107	z m/gm	2kl	. 2kl	. 2kl	. 2kl
Totxl MC5s rADo6EloDs(	z m/gm	8	. 8	. 8	. 8

bK in soil r8:9([AN828] Tested: 19/8/1280

PARAMETER	UOM	LOR	LAW_LL_ESSD03 SEDIMENT - 18/1/2016 SE148233.011	LAW_LL_ESSD04 SEDIMENT - 18/1/2016 SE148233.012	DUPGSA180116 SEDIMENT - 18/1/2016 SE148233.018	LAW_LL_ESSD01 SEDIMENT - 19/1/2016 SE148233.019	LAW_LL_ESSD02 SEDIMENT - 19/1/2016 SE148233.020
bK	bK =nits	p	Rk7	RkR	Hk1	7k0	Hk8

PARAMETER	UOM	LOR	LAW_LL_ESSD05 SEDIMENT - 19/1/2016 SE148233.021	LAW_LL_ESSD06 SEDIMENT - 19/1/2016 SE148233.022
bK	bK =nits	p	7k3	7k7

TOC in Soil [AN877] Tested: 17/8/1280

PARAMETER	UOM	LOR	LAW_76_ESSD03 SEDIMENT - 18/1/2016 SE148233.001	LAW_76_ESSD04 SEDIMENT - 18/1/2016 SE148233.002	LAW_99_ESSD04 0-0.15 SEDIMENT - 18/1/2016 SE148233.005	LAW_99_ESSD05 SEDIMENT - 18/1/2016 SE148233.006	LAW_99_ESSD06 SEDIMENT - 18/1/2016 SE148233.007
Totxl ODrxni6 CxDyon	↑ Z/Z	2k29	7k1	0k7	2k03	2k40	2k32
ODrxni6 I xtteDr6xl6(X	↑ Z/Z	2k8	84	81	8k8	2k7	2k9

PARAMETER	UOM	LOR	LAW_LL_ESSD03 SEDIMENT - 18/1/2016 SE148233.011	LAW_LL_ESSD04 SEDIMENT - 18/1/2016 SE148233.012	DUPGS180116 SEDIMENT - 18/1/2016 SE148233.017	DUPGSA180116 SEDIMENT - 18/1/2016 SE148233.018	LAW_LL_ESSD01 SEDIMENT - 19/1/2016 SE148233.019
Totxl ODrxni6 CxDyon	↑ Z/Z	2k29	2k83	2kH8	2k1R	2k80	2k94
ODrxni6 I xtteDr6xl6(X	↑ Z/Z	2k8	2k1	8k0	2k9	2k3	2kH

PARAMETER	UOM	LOR	LAW_LL_ESSD02 SEDIMENT - 19/1/2016 SE148233.020	LAW_LL_ESSD05 SEDIMENT - 19/1/2016 SE148233.021	LAW_LL_ESSD06 SEDIMENT - 19/1/2016 SE148233.022
Totxl ODrxni6 CxDyon	↑ Z/Z	2k29	2kR8	2k3R	2k87
ODrxni6 I xtteDr6xl6(X	↑ Z/Z	2k8	8k1	2k0	2k3

Az z onix NitDomen rsol<yle(in Soil [AN1H8] Tested: 1H/8/1280

PARAMETER	UOM	LOR	LAW_LL_ESSD03 SEDIMENT - 18/1/2016 SE148233.011	LAW_LL_ESSD04 SEDIMENT - 18/1/2016 SE148233.012	DUPGSA180116 SEDIMENT - 18/1/2016 SE148233.018	LAW_LL_ESSD01 SEDIMENT - 19/1/2016 SE148233.019	LAW_LL_ESSD02 SEDIMENT - 19/1/2016 SE148233.020
Az z onix NitDomen) NKwxs N	z m/gm	2kl	10	8k7	80	8k3	8k2

PARAMETER	UOM	LOR	LAW_LL_ESSD05 SEDIMENT - 19/1/2016 SE148233.021	LAW_LL_ESSD06 SEDIMENT - 19/1/2016 SE148233.022
Az z onix NitDomen) NKwxs N	z m/gm	2kl	8k9	3k4

Sol<yle Anions r8:9(in Soil yh Fon CEDoz xtomDxbEh [AN149] Tested: 1R/8/1280

PARAMETER	UOM	LOR	LAW_LL_ESSD03 SEDIMENT - 18/1/2016 SE148233.011	LAW_LL_ESSD04 SEDIMENT - 18/1/2016 SE148233.012	DUPGSA180116 SEDIMENT - 18/1/2016 SE148233.018	LAW_LL_ESSD01 SEDIMENT - 19/1/2016 SE148233.019	LAW_LL_ESSD02 SEDIMENT - 19/1/2016 SE148233.020
CEloDde	z m/gm	2k19	102	132	872	832	71
S<lbExte	z m/gm	9	H92	092	942	342	842

PARAMETER	UOM	LOR	LAW_LL_ESSD05 SEDIMENT - 19/1/2016 SE148233.021	LAW_LL_ESSD06 SEDIMENT - 19/1/2016 SE148233.022
CEloDde	z m/gm	2k19	74	0R
S<lbExte	z m/gm	9	842	812

Algxlinith in Soil [AN221/AN839] Tested: 1R/8/1280

PARAMETER	UOM	LOR	LAW_LL_ESSD03 SEDIMENT - 18/1/2016 SE148233.011	LAW_LL_ESSD04 SEDIMENT - 18/1/2016 SE148233.012	DUPGSA180116 SEDIMENT - 18/1/2016 SE148233.018	LAW_LL_ESSD01 SEDIMENT - 19/1/2016 SE148233.019	LAW_LL_ESSD02 SEDIMENT - 19/1/2016 SE148233.020
5i6xDyonxte Algxlinith xs KCO3 in SoilX	z m/gm	19	132	492	192	432	122
CxDyonxte Algxlinith xs CO3 in SoilX	z m/gm	19	. 19	. 19	47	. 19	. 19
KhdDo- ide Algxlinith xs OK in SoilX	z m/gm	19	. 19	. 19	. 19	. 19	. 19
Totxl Algxlinith xs CxCO3 in SoilX	z m/gm	19	8H2	3R2	172	392	122

PARAMETER	UOM	LOR	LAW_LL_ESSD05 SEDIMENT - 19/1/2016 SE148233.021	LAW_LL_ESSD06 SEDIMENT - 19/1/2016 SE148233.022
5i6xDyonxte Algxlinith xs KCO3 in SoilX	z m/gm	19	8H2	372
CxDyonxte Algxlinith xs CO3 in SoilX	z m/gm	19	. 19	. 19
KhdDo- ide Algxlinith xs OK in SoilX	z m/gm	19	. 19	. 19
Totxl Algxlinith xs CxCO3 in SoilX	z m/gm	19	892	382

Totxl Pe6o%eDxyle I etxls in Soil yh FCMOuS [AN242/AN312] Tested: 17/8/1280

PARAMETER	UOM	LOR	LAW_76_ESSD03 SEDIMENT - 18/1/2016 SE148233.001	LAW_76_ESSD04 SEDIMENT - 18/1/2016 SE148233.002	LAW_99_ESSD04 0-0.15 SEDIMENT - 18/1/2016 SE148233.005	LAW_99_ESSD05 SEDIMENT - 18/1/2016 SE148233.006	LAW_99_ESSD06 SEDIMENT - 18/1/2016 SE148233.007
ADseni6) As	z m/gm	3	9	0	0	88	7
Cxdz i<z) Cd	z m/gm	2k3	. 2k3	. 2k3	2k4	. 2k3	. 2k3
CEDoz i<z) CD	z m/gm	2k3	84	89	82	83	81
CobbeD) C<	z m/gm	2k9	7kR	83	91	89	8R
Qexd) My	z m/gm	8	82	80	83	8R	83
Ni6gel) Ni	z m/gm	2k9	Rk7	84	84	13	81
Win6) Wh	z m/gm	2k9	33	0H	R8	98	44
Seleni<z) Se	z m/gm	3	. 3	. 3	. 3	. 3	. 3
5oDon) 5	z m/gm	9	. 9	. 9	. 9	. 9	. 9
Cxl6i<z) Cx	z m/gm	9	p	p	p	p	p
I xmesi<z) I m	z m/gm	82	p	p	p	p	p
Motxssi<z) ,	z m/gm	82	p	p	p	p	p
Sodi<z) Nx	z m/gm	82	p	p	p	p	p

PARAMETER	UOM	LOR	LAW_LL_ESSD03 SEDIMENT - 18/1/2016 SE148233.011	LAW_LL_ESSD04 SEDIMENT - 18/1/2016 SE148233.012	DUPGS180116 SEDIMENT - 18/1/2016 SE148233.017	DUPGSA180116 SEDIMENT - 18/1/2016 SE148233.018	LAW_LL_ESSD01 SEDIMENT - 19/1/2016 SE148233.019
ADseni6) As	z m/gm	3	81	81	0	83	81
Cxdz i<z) Cd	z m/gm	2k3	. 2k3	. 2k3	. 2k3	. 2k3	. 2k3
CEDoz i<z) CD	z m/gm	2k3	4k7	0k1	Rk7	9k4	82
CobbeD) C<	z m/gm	2k9	7k7	81	84	Hk3	81
Qexd) My	z m/gm	8	03	R	81	79	89
Ni6gel) Ni	z m/gm	2k9	82	88	Rk4	Hk7	89
Win6) Wh	z m/gm	2k9	34	34	19	38	97
Seleni<z) Se	z m/gm	3	. 3	. 3	. 3	. 3	. 3
5oDon) 5	z m/gm	9	. 9	. 9	. 9	. 9	. 9
Cxl6i<z) Cx	z m/gm	9	1322	4222	p	4822	0222
I xmesi<z) I m	z m/gm	82	H22	8222	p	HH2	8722
Motxssi<z) ,	z m/gm	82	372	412	p	402	0R2
Sodi<z) Nx	z m/gm	82	902	172	p	9H2	142

PARAMETER	UOM	LOR	LAW_LL_ESSD02 SEDIMENT - 19/1/2016 SE148233.020	LAW_LL_ESSD05 SEDIMENT - 19/1/2016 SE148233.021	LAW_LL_ESSD06 SEDIMENT - 19/1/2016 SE148233.022
ADseni6) As	z m/gm	3	0	88	R
Cxdz i<z) Cd	z m/gm	2k3	. 2k3	2k9	. 2k3
CEDoz i<z) CD	z m/gm	2k3	1k3	12	88
CobbeD) C<	z m/gm	2k9	1k7	9H	80
Qexd) My	z m/gm	8	12	71	82
Ni6gel) Ni	z m/gm	2k9	3k8	89	8R
Win6) Wh	z m/gm	2k9	81	HR2	3R
Seleni<z) Se	z m/gm	3	. 3	. 3	. 3
5oDon) 5	z m/gm	9	. 9	. 9	. 9
Cxl6i<z) Cx	z m/gm	9	1R222	4322	9322
I xmesi<z) I m	z m/gm	82	082	1122	1722
Motxssi<z) ,	z m/gm	82	1R2	782	R42
Sodi<z) Nx	z m/gm	82	832	322	342

I eD6<Dh in Soil [AN381] Tested: 17/8/1280

PARAMETER	UOM	LOR	LAW_76_ESSD03 SEDIMENT - 18/1/2016 SE148233.001	LAW_76_ESSD04 SEDIMENT - 18/1/2016 SE148233.002	LAW_99_ESSD04 0-0.15 SEDIMENT - 18/1/2016 SE148233.005	LAW_99_ESSD05 SEDIMENT - 18/1/2016 SE148233.006	LAW_99_ESSD06 SEDIMENT - 18/1/2016 SE148233.007
I eD6<Dh	z m/gm	2k28	2k29	2k23	2k1R	2k24	2k29

PARAMETER	UOM	LOR	LAW_LL_ESSD03 SEDIMENT - 18/1/2016 SE148233.011	LAW_LL_ESSD04 SEDIMENT - 18/1/2016 SE148233.012	DUPGS180116 SEDIMENT - 18/1/2016 SE148233.017	DUPGSA180116 SEDIMENT - 18/1/2016 SE148233.018	LAW_LL_ESSD01 SEDIMENT - 19/1/2016 SE148233.019
I eD6<Dh	z m/gm	2k28	2k21	2k28	2k20	2k21	2k21

PARAMETER	UOM	LOR	LAW_LL_ESSD02 SEDIMENT - 19/1/2016 SE148233.020	LAW_LL_ESSD05 SEDIMENT - 19/1/2016 SE148233.021	LAW_LL_ESSD06 SEDIMENT - 19/1/2016 SE148233.022
I eD6<Dh	z m/gm	2k28	2k2R	. 2k28	. 2k28

I oist<De Content [AN221] Tested: 19/8/1280

PARAMETER	UOM	LOR	LAW_76_ESSD03 SEDIMENT - 18/1/2016 SE148233.001	LAW_76_ESSD04 SEDIMENT - 18/1/2016 SE148233.002	LAW_99_ESSD04 0-0.15 SEDIMENT - 18/1/2016 SE148233.005	LAW_99_ESSD05 SEDIMENT - 18/1/2016 SE148233.006	LAW_99_ESSD06 SEDIMENT - 18/1/2016 SE148233.007
↑ I oist<De	↑ Z/Z	2k9	32	31	17	19	32

PARAMETER	UOM	LOR	LAW_LL_ESSD03 SEDIMENT - 18/1/2016 SE148233.011	LAW_LL_ESSD04 SEDIMENT - 18/1/2016 SE148233.012	DUPGS180116 SEDIMENT - 18/1/2016 SE148233.017	DUPGSA180116 SEDIMENT - 18/1/2016 SE148233.018	LAW_LL_ESSD01 SEDIMENT - 19/1/2016 SE148233.019
↑ I oist<De	↑ Z/Z	2k9	14	38	19	19	11

PARAMETER	UOM	LOR	LAW_LL_ESSD02 SEDIMENT - 19/1/2016 SE148233.020	LAW_LL_ESSD05 SEDIMENT - 19/1/2016 SE148233.021	LAW_LL_ESSD06 SEDIMENT - 19/1/2016 SE148233.022
↑ I oist<De	↑ Z/Z	2k9	10	13	18

VOCs in µ xteD[AN433/AN434] Tested: 1R/8/1280

PARAMETER	UOM	LOR	LAW_95_ESSW04 WATER - 18/1/2016 SE148233.003	LAW_95_ESSW05 WATER - 18/1/2016 SE148233.004	LAW_99_ESSW04 WATER - 18/1/2016 SE148233.008	LAW_99_ESSW05 WATER - 18/1/2016 SE148233.009	LAW_99_ESSW06 WATER - 18/1/2016 SE148233.010
5enBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
Tol<ene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
utEhlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
z /bp hlene	GmlQ	8	. 8	. 8	. 8	. 8	. 8
op hlene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
Totxl ahlenes	GmlQ	8k9	. 8k9	. 8k9	. 8k9	. 8k9	. 8k9
Totxl 5Tua	GmlQ	3	. 3	. 3	. 3	. 3	. 3
NxbEtExlene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
* i6EloDodid<oDoz etExne rCf Cp81(	GmlQ	9	p	p	. 9	. 9	. 9
CEloDoz etExne	GmlQ	9	p	p	. 9	. 9	. 9
Vinhl 6EloDde rCEloDoetEene(	GmlQ	2k3	p	p	. 2k3	. 2k3	. 2k3
5Doz oz etExne	GmlQ	82	p	p	. 82	. 82	. 82
CEloDoetExne	GmlQ	9	p	p	. 9	. 9	. 9
TD6EloDod<oDoz etExne	GmlQ	8	p	p	. 8	. 8	. 8
A6etone r1pbDobxnone(	GmlQ	82	p	p	. 82	. 82	39
Fodoz etExne	GmlQ	9	p	p	. 9	. 9	. 9
8)8pdi6EloDoetEene	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
A6DhlonitDle	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
* i6EloDoz etExne rl etEhlene 6EloDde(	GmlQ	4	p	p	. 4	. 4	. 4
Allhl 6EloDde	GmlQ	1	p	p	. 1	. 1	. 1
CxDyon dis<lcide	GmlQ	1	p	p	. 1	. 1	. 1
tDxnsp8)1pdi6EloDoetEene	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
l t5u rl etEhlpteDpy<thl etEeD(	GmlQ	1	p	p	. 1	. 1	. 1
8)8pdi6EloDoetExne	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
Vinhl x6etxte	GmlQ	82	p	p	. 82	. 82	. 82
l u, r1py<txnone(	GmlQ	82	p	p	. 82	. 82	. 82
6isp8)1pdi6EloDoetEene	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
5Doz o6EloDoz etExne	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
CEloDocoDz rTKl (	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
1)1pdi6EloDobDobxne	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)1pdi6EloDoetExne	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)8)8ptD6EloDoetExne	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)8pdi6EloDobDobene	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
CxDyon tetDx6EloDde	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
* iyDoz oz etExne	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)1pdi6EloDobDobxne	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
TD6EloDoetEene rTD6EloDoetEhlene)TCu(	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
1pnitDobDobxne	GmlQ	822	p	p	. 822	. 822	. 822
5Doz odi6EloDoz etExne rTKl (	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
l F5, r4pz etEhlp1pbentxnone(	GmlQ	9	p	p	. 9	. 9	. 9
6isp8)3pdi6EloDobDobene	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
tDxnsp8)3pdi6EloDobDobene	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)8)1ptD6EloDoetExne	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)3pdi6EloDobDobxne	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
* iyDoz o6EloDoz etExne rTKl (	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
1pEe-xnone rl 5, (	GmlQ	9	p	p	. 9	. 9	. 9
8)1pdiyDoz oetExne ru* 5(	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
TetDx6EloDoetEene rMeD6EloDoetEhlene)MCu(	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)8)8)1ptetDx6EloDoetExne	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
CEloDoyenBene	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
5Doz ocoDz rTKl (	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
6isp8)4pdi6EloDop1py<tene	GmlQ	8	p	p	. 8	. 8	. 8
SthDene rVinhl yenBene(	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)8)1)1ptetDx6EloDoetExne	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)1)3ptD6EloDobDobxne	GmlQ	2k9	p	p	. 2k9	. 2k9	. 2k9
tDxnsp8)4pdi6EloDop1py<tene	GmlQ	8	p	p	. 8	. 8	. 8

VOCs in µ xteD[AN433/AN434] Tested: 1R/8/1280 r6ontin<ed(

PARAMETER	UOM	LOR	LAW_95_ESSW04 WATER - 18/1/2016 SE148233.003	LAW_95_ESSW05 WATER - 18/1/2016 SE148233.004	LAW_99_ESSW04 WATER - 18/1/2016 SE148233.008	LAW_99_ESSW05 WATER - 18/1/2016 SE148233.009	LAW_99_ESSW06 WATER - 18/1/2016 SE148233.010
FsobDobhlyenBene rC<z ene(	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
5Doz oyenBene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
npbDobhlyenBene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
1p6EloDotol<ene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
4p6EloDotol<ene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)3)9ptDz etEhlyenBene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
teDpy<thlyenBene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)1)4ptDz etEhlyenBene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
se6py<thlyenBene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)3pdi6EloDoyenBene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)4pdi6EloDoyenBene	GmQ	2k3	p	p	**2k0**	**2k4**	. 2k3
bpisobDobhltol<ene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)1pdi6EloDoyenBene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
npy<thlyenBene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)1pdiyDoz op3p6EloDobDobxne	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)1)4ptD6EloDoyenBene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
Ke- x6EloDoy<txdiene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
8)1)3ptD6EloDoyenBene	GmQ	2k9	p	p	. 2k9	. 2k9	. 2k9
Totxl VOC	GmQ	82	p	p	p	p	p

ANALYTICAL RESULTS

VOCs in μ xteD[AN433/AN434]   Tested: 1R/8/1280   r6ontin<ed(

PARAMETER	UOM	LOR	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014	DUPJO180116 WATER - 18/1/2016 SE148233.015	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023
5enBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
Tol<ene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
utEhlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
z /bp-hlene	GmlQ	8	. 8	. 8	. 8	. 8	. 8
op-hlene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
Totxl ahlenes	GmlQ	8k9	. 8k9	. 8k9	. 8k9	. 8k9	. 8k9
Totxl 5Tua	GmlQ	3	. 3	. 3	. 3	. 3	. 3
NxbEtExlene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
* i6EloDodid<oDoz etExne rCf Cp81(	GmlQ	9	. 9	. 9	. 9	. 9	. 9
CEloDoz etExne	GmlQ	9	. 9	. 9	. 9	. 9	. 9
Vinhl 6EloDde rCEloDoetEene(	GmlQ	2k3	. 2k3	. 2k3	. 2k3	. 2k3	. 2k3
5Doz oz etExne	GmlQ	82	. 82	. 82	. 82	. 82	. 82
CEloDoetExne	GmlQ	9	. 9	. 9	. 9	. 9	. 9
TD6EloDod<oDoz etExne	GmlQ	8	. 8	. 8	. 8	. 8	. 8
A6etone r1pbDobxnone(	GmlQ	82	R1	. 82	. 82	822	. 82
Fodoz etExne	GmlQ	9	. 9	. 9	. 9	. 9	. 9
8)8pdi6EloDoetEene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
A6DhlonitDle	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
* i6EloDoz etExne rl etEhlene 6EloDde(	GmlQ	4	. 4	. 4	. 4	. 4	. 4
Allhl 6EloDde	GmlQ	1	. 1	. 1	. 1	. 1	. 1
CxDyon dis<lide	GmlQ	1	. 1	. 1	. 1	. 1	. 1
tDxnsp8)1pdi6EloDoetEene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
I t5u rl etEhlpteDpy<thl etEeD(	GmlQ	1	. 1	. 1	. 1	. 1	. 1
8)8pdi6EloDoetExne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
Vinhl x6etxte	GmlQ	82	. 82	. 82	. 82	. 82	. 82
I u, r1py<txnone(	GmlQ	82	. 82	. 82	. 82	. 82	. 82
6isp8)1pdi6EloDoetEene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
5Doz o6EloDoz etExne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
CEloDocoDz rTKI (	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
1)1pdi6EloDobDobxne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)1pdi6EloDoetExne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)8)8ptD6EloDoetExne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)8pdi6EloDobDobene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
CxDyon tetDx6EloDde	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
* iyDoz oz etExne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)1pdi6EloDobDobxne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
TD6EloDoetEene rTD6EloDoetEhlene)TCu(	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
1pnitDobDobxne	GmlQ	822	. 822	. 822	. 822	. 822	. 822
5Doz odi6EloDoz etExne rTKI (	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
I F5, r4pz etEhlp1pbentxnone(	GmlQ	9	. 9	. 9	. 9	. 9	. 9
6isp8)3pdi6EloDobDobene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
tDxnsp8)3pdi6EloDobDobene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)8)1ptD6EloDoetExne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)3pdi6EloDobDobxne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
* iyDoz o6EloDoz etExne rTKI (	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
1pEe-xnone rl 5, (	GmlQ	9	. 9	. 9	. 9	. 9	. 9
8)1pdiyDoz oetExne ru* 5(	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
TetDx6EloDoetEene rMeD6EloDoetEhlene)MCu(	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)8)8)1ptetDx6EloDoetExne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
CEloDoyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
5Doz ocoDz rTKI (	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
6isp8)4pdi6EloDop1py<tene	GmlQ	8	. 8	. 8	. 8	. 8	. 8
SthDene rVinhl yenBene(	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)8)1)1ptetDx6EloDoetExne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)1)3ptD6EloDobDobxne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
tDxnsp8)4pdi6EloDop1py<tene	GmlQ	8	. 8	. 8	. 8	. 8	. 8

VOCs in µ xteD[AN433/AN434] Tested: 1R/8/1280 r6ontin<ed(

PARAMETER	UOM	LOR	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014	DUPJO180116 WATER - 18/1/2016 SE148233.015	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023
FsobDobhlyenBene rC<z ene(	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
5Doz oyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
npbDobhlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
1p6EloDotol<ene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
4p6EloDotol<ene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)3)9ptDz etEhlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
teDtpy<thlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)1)4ptDz etEhlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
se6py<thlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)3pdi6EloDoyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)4pdi6EloDoyenBene	GmlQ	2k3	. 2k3	. 2k3	. 2k3	. 2k3	. 2k3
bpisobDobhltol<ene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)1pdi6EloDoyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
npy<thlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)1pdiyDoz op3p6EloDobDobxne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)1)4ptD6EloDoyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
Ke-x6EloDoy<txdiene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
8)1)3ptD6EloDoyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
Totxl VOC	GmlQ	82	p	p	p	p	p

VOCs in µ xteD[AN433/AN434]   Tested: 1R/8/1280   r6ontin<ed(

PARAMETER	UOM	LOR	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026	LAW_95_ESMW03 WATER - 20/1/2016 SE148233.027	LAW_95_ESMW04 WATER - 20/1/2016 SE148233.028
5enBene	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
Tol<ene	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
utEhlyenBene	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
z /bp hlene	Gm/Q	8	. 8	. 8	. 8	. 8	. 8
op hlene	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
Totxl ahlenes	Gm/Q	8k9	. 8k9	. 8k9	. 8k9	. 8k9	. 8k9
Totxl 5Tua	Gm/Q	3	. 3	. 3	. 3	. 3	. 3
NxbEtExlene	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
* i6EloDodid<oDoz etExne rCf Cp81(	Gm/Q	9	. 9	. 9	. 9	p	p
CEloDoz etExne	Gm/Q	9	. 9	. 9	. 9	p	p
Vinhl 6EloDde rCEloDoetEene(	Gm/Q	2k3	. 2k3	. 2k3	. 2k3	p	p
5Doz oz etExne	Gm/Q	82	. 82	. 82	. 82	p	p
CEloDoetExne	Gm/Q	9	. 9	. 9	. 9	p	p
TD6EloDod<oDoz etExne	Gm/Q	8	. 8	. 8	. 8	p	p
A6etone r1pbDobxnone(	Gm/Q	82	. 82	. 82	. 82	p	p
Fodoz etExne	Gm/Q	9	. 9	. 9	. 9	p	p
8)8pdi6EloDoetEene	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
A6DhlonitDle	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
* i6EloDoz etExne rl etEhlene 6EloDde(	Gm/Q	4	. 4	. 4	. 4	p	p
Allhl 6EloDde	Gm/Q	1	. 1	. 1	. 1	p	p
CxDyon dis<lcide	Gm/Q	1	. 1	. 1	. 1	p	p
tDxnsp8)1pdi6EloDoetEene	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
I t5u rl etEhlpteDpy<thl etEeD(	Gm/Q	1	. 1	. 1	. 1	p	p
8)8pdi6EloDoetExne	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
Vinhl x6etxte	Gm/Q	82	. 82	. 82	. 82	p	p
I u, r1py<txnone(	Gm/Q	82	. 82	. 82	. 82	p	p
6isp8)1pdi6EloDoetEene	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
5Doz o6EloDoz etExne	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
CEloDocoDz rTKI (	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
1)1pdi6EloDobDobxne	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
8)1pdi6EloDoetExne	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
8)8)8ptD6EloDoetExne	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
8)8pdi6EloDobDobene	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
CxDyon tetDx6EloDde	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
* iyDoz oz etExne	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
8)1pdi6EloDobDobxne	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
TD6EloDoetEene rTD6EloDoetEhlene)TCu (	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
1pnitDobDobxne	Gm/Q	822	. 822	. 822	. 822	p	p
5Doz odi6EloDoz etExne rTKI (	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
I F5, r4pz etEhlp1pbentxnone(	Gm/Q	9	. 9	. 9	. 9	p	p
6isp8)3pdi6EloDobDobene	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
tDxnsp8)3pdi6EloDobDobene	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
8)8)1ptD6EloDoetExne	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
8)3pdi6EloDobDobxne	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
* iyDoz o6EloDoz etExne rTKI (	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
1pEe-xnone rl 5, (	Gm/Q	9	. 9	. 9	. 9	p	p
8)1pdiyDoz oetExne ru* 5(	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
TetDx6EloDoetEene rMeD6EloDoetEhlene)MCu (	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
8)8)8)1ptetDx6EloDoetExne	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
CEloDoyenBene	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
5Doz ocoDz rTKI (	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
6isp8)4pdi6EloDop1py<tene	Gm/Q	8	. 8	. 8	. 8	p	p
SthDene rVinhl yenBene(	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
8)8)1)1ptetDx6EloDoetExne	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
8)1)3ptD6EloDobDobxne	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	p	p
tDxnsp8)4pdi6EloDop1py<tene	Gm/Q	8	. 8	. 8	. 8	p	p

VOCs in µ xteD[AN433/AN434] Tested: 1R/8/1280 r6ontin<ed(

PARAMETER	UOM	LOR	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026	LAW_95_ESMW03 WATER - 20/1/2016 SE148233.027	LAW_95_ESMW04 WATER - 20/1/2016 SE148233.028
FsobDobhlyenBene rC<z ene(	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
5Doz oyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
npbDobhlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
1p6EloDotol<ene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
4p6EloDotol<ene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
8)3)9ptDz etEhlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
teDtpy<thlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
8)1)4ptDz etEhlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
se6py<thlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
8)3pdi6EloDoyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
8)4pdi6EloDoyenBene	GmlQ	2k3	. 2k3	. 2k3	. 2k3	p	p
bpisobDobhltol<ene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
8)1pdi6EloDoyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
npy<thlyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
8)1pdiyDoz op3p6EloDobDobxne	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
8)1)4ptD6EloDoyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
Ke-x6EloDoy<txdiene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
8)1)3ptD6EloDoyenBene	GmlQ	2k9	. 2k9	. 2k9	. 2k9	p	p
Totxl VOC	GmlQ	82	p	p	p	p	p

Volxtile MetDole<z KhdDo6xDyons in µ xteD[AN433/AN434/AN482] Tested: 1R/8/1280

PARAMETER	UOM	LOR	LAW_95_ESSW04 WATER - 18/1/2016 SE148233.003	LAW_95_ESSW05 WATER - 18/1/2016 SE148233.004	LAW_99_ESSW04 WATER - 18/1/2016 SE148233.008	LAW_99_ESSW05 WATER - 18/1/2016 SE148233.009	LAW_99_ESSW06 WATER - 18/1/2016 SE148233.010
TPK C0pCH	Gm/Q	42	. 42	. 42	. 42	. 42	. 42
5enBene rf 2(	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
TPK C0pC82	Gm/Q	92	. 92	. 92	. 92	. 92	. 92
TPK C0pC82 z in<s 5Tua rf 8(	Gm/Q	92	. 92	. 92	. 92	. 92	. 92

PARAMETER	UOM	LOR	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014	DUPJO180116 WATER - 18/1/2016 SE148233.015	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023
TPK C0pCH	Gm/Q	42	. 42	. 42	. 42	. 42	. 42
5enBene rf 2(	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
TPK C0pC82	Gm/Q	92	. 92	. 92	. 92	. 92	. 92
TPK C0pC82 z in<s 5Tua rf 8(	Gm/Q	92	. 92	. 92	. 92	. 92	. 92

PARAMETER	UOM	LOR	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026	LAW_95_ESMW03 WATER - 20/1/2016 SE148233.027	LAW_95_ESMW04 WATER - 20/1/2016 SE148233.028
TPK C0pCH	Gm/Q	42	. 42	. 42	. 42	. 42	. 42
5enBene rf 2(	Gm/Q	2k9	. 2k9	. 2k9	. 2k9	. 2k9	. 2k9
TPK C0pC82	Gm/Q	92	. 92	. 92	. 92	. 92	. 92
TPK C0pC82 z in<s 5Tua rf 8(	Gm/Q	92	. 92	. 92	. 92	. 92	. 92

TPK rTotxl Pe6o%eDxyle KhdDo6xDyons(in µ xteD[AN423]   Tested: 19/8/1280

PARAMETER	UOM	LOR	LAW_95_ESSW04 WATER - 18/1/2016 SE148233.003	LAW_95_ESSW05 WATER - 18/1/2016 SE148233.004	LAW_99_ESSW04 WATER - 18/1/2016 SE148233.008	LAW_99_ESSW05 WATER - 18/1/2016 SE148233.009	LAW_99_ESSW06 WATER - 18/1/2016 SE148233.010
TPK C82pC84	GmQ	92	. 92	. 92	. 92	. 92	. 92
TPK C89pC17	GmQ	122	. 122	. 122	. 122	. 122	. 122
TPK C1HpC30	GmQ	122	. 122	. 122	. 122	. 122	. 122
TPK C3RpC42	GmQ	122	. 122	. 122	. 122	. 122	. 122
TPK vC82pC80 rf 1(	GmQ	02	. 02	. 02	. 02	. 02	. 02
TPK vC80pC34 rf 3(	GmQ	922	. 922	. 922	. 922	. 922	. 922
TPK vC34pC42 rf 4(	GmQ	922	. 922	. 922	. 922	. 922	. 922
TPK C82pC30	GmQ	492	. 492	. 492	. 492	. 492	. 492
TPK C82pC42	GmQ	092	. 092	. 092	. 092	. 092	. 092

PARAMETER	UOM	LOR	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014	DUPJO180116 WATER - 18/1/2016 SE148233.015	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023
TPK C82pC84	GmQ	92	. 92	. 92	. 92	. 92	. 92
TPK C89pC17	GmQ	122	. 122	. 122	. 122	. 122	. 122
TPK C1HpC30	GmQ	122	. 122	. 122	. 122	. 122	. 122
TPK C3RpC42	GmQ	122	. 122	. 122	. 122	. 122	. 122
TPK vC82pC80 rf 1(	GmQ	02	. 02	. 02	. 02	. 02	. 02
TPK vC80pC34 rf 3(	GmQ	922	. 922	. 922	. 922	. 922	. 922
TPK vC34pC42 rf 4(	GmQ	922	. 922	. 922	. 922	. 922	. 922
TPK C82pC30	GmQ	492	. 492	. 492	. 492	. 492	. 492
TPK C82pC42	GmQ	092	. 092	. 092	. 092	. 092	. 092

PARAMETER	UOM	LOR	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026	LAW_95_ESMW03 WATER - 20/1/2016 SE148233.027	LAW_95_ESMW04 WATER - 20/1/2016 SE148233.028
TPK C82pC84	GmQ	92	. 92	. 92	. 92	. 92	. 92
TPK C89pC17	GmQ	122	. 122	. 122	. 122	. 122	. 122
TPK C1HpC30	GmQ	122	. 122	. 122	. 122	. 122	. 122
TPK C3RpC42	GmQ	122	. 122	. 122	. 122	. 122	. 122
TPK vC82pC80 rf 1(	GmQ	02	. 02	. 02	. 02	. 02	. 02
TPK vC80pC34 rf 3(	GmQ	922	. 922	. 922	. 922	. 922	. 922
TPK vC34pC42 rf 4(	GmQ	922	. 922	. 922	. 922	. 922	. 922
TPK C82pC30	GmQ	492	. 492	. 492	. 492	. 492	. 492
TPK C82pC42	GmQ	092	. 092	. 092	. 092	. 092	. 092

MC5s in µ xteD[AN422/AN412] Tested: 19/8/1280

PARAMETER	UOM	LOR	LAW_99_ESSW04 WATER - 18/1/2016 SE148233.008	LAW_99_ESSW05 WATER - 18/1/2016 SE148233.009	LAW_99_ESSW06 WATER - 18/1/2016 SE148233.010	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014
ADb6EloD8280	GmlQ	8	. 8	. 8	. 8	. 8	. 8
ADb6EloD8118	GmlQ	8	. 8	. 8	. 8	. 8	. 8
ADb6EloD8131	GmlQ	8	. 8	. 8	. 8	. 8	. 8
ADb6EloD8141	GmlQ	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
ADb6EloD8147	GmlQ	8	. 8	. 8	. 8	. 8	. 8
ADb6EloD8194	GmlQ	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
ADb6EloD8102	GmlQ	8	. 8	. 8	. 8	. 8	. 8
ADb6EloD8101	GmlQ	8	. 8	. 8	. 8	. 8	. 8
ADb6EloD8107	GmlQ	8	. 8	. 8	. 8	. 8	. 8
Totxl ADb6EloDsX	GmlQ	9	. 9	. 9	. 9	. 9	. 9

PARAMETER	UOM	LOR	DUPJO180116 WATER - 18/1/2016 SE148233.015	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025
ADb6EloD8280	GmlQ	8	. 8	. 8	. 8	. 8	. 8
ADb6EloD8118	GmlQ	8	. 8	. 8	. 8	. 8	. 8
ADb6EloD8131	GmlQ	8	. 8	. 8	. 8	. 8	. 8
ADb6EloD8141	GmlQ	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
ADb6EloD8147	GmlQ	8	. 8	. 8	. 8	. 8	. 8
ADb6EloD8194	GmlQ	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
ADb6EloD8102	GmlQ	8	. 8	. 8	. 8	. 8	. 8
ADb6EloD8101	GmlQ	8	. 8	. 8	. 8	. 8	. 8
ADb6EloD8107	GmlQ	8	. 8	. 8	. 8	. 8	. 8
Totxl ADb6EloDsX	GmlQ	9	. 9	. 9	. 9	. 9	. 9

PARAMETER	UOM	LOR	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026
ADb6EloD8280	GmlQ	8	. 8
ADb6EloD8118	GmlQ	8	. 8
ADb6EloD8131	GmlQ	8	. 8
ADb6EloD8141	GmlQ	2k8	. 2k8
ADb6EloD8147	GmlQ	8	. 8
ADb6EloD8194	GmlQ	2k8	. 2k8
ADb6EloD8102	GmlQ	8	. 8
ADb6EloD8101	GmlQ	8	. 8
ADb6EloD8107	GmlQ	8	. 8
Totxl ADb6EloDsX	GmlQ	9	. 9

QoZ Qe%el MAK rMolh ADoz xti6 KhdDo6xDyons(in µ xteD[AN412] Tested: 19/8/1280

PARAMETER	UOM	LOR	LAW_95_ESSW04 WATER - 18/1/2016 SE148233.003	LAW_95_ESSW05 WATER - 18/1/2016 SE148233.004	LAW_99_ESSW04 WATER - 18/1/2016 SE148233.008	LAW_99_ESSW05 WATER - 18/1/2016 SE148233.009	LAW_99_ESSW06 WATER - 18/1/2016 SE148233.010
NxbEtExlene	Gm/Q	2k21	. 2k21	. 2k21	. 2k21	. 2k21	. 2k21
1pz etEhlnxbEtExlene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
8pz etEhlnxbEtExlene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
A6enxbEtEhlene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
A6enxbEtEene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
f l<oDene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
MEenxntEDene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
AntEDx6ene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
f l<oDxntEene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
MhDene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
5enBorx(xntEDx6ene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
CEDhsene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
5enBory>&g(d<oDxntEene	Gm/Q	2k21	. 2k21	. 2k21	. 2k21	. 2k21	. 2k21
5enBorx(bhDene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
Fndenor8)1)3p6d(bhDene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
* iyenBorx>E(xntEDx6ene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
5enBormEi(beDhlene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
CxDBinomeni6 MAKs rxs 5xM Tuj (pxss<z e non dete6ts	Tuj	2k281	. 2k281	. 2k281	. 2k281	. 2k281	. 2k281
Totxl MAK VFC uMA @<idelines r80(X	Gm/Q	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
Totxl MAK r87(X	Gm/Q	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8

PARAMETER	UOM	LOR	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014	DUPJO180116 WATER - 18/1/2016 SE148233.015	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023
NxbEtExlene	Gm/Q	2k21	. 2k21	. 2k21	. 2k21	. 2k21	. 2k21
1pz etEhlnxbEtExlene	Gm/Q	2k28	**2k21**	. 2k28	. 2k28	**2k23**	. 2k28
8pz etEhlnxbEtExlene	Gm/Q	2k28	**2k23**	. 2k28	. 2k28	**2k24**	. 2k28
A6enxbEtEhlene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
A6enxbEtEene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
f l<oDene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
MEenxntEDene	Gm/Q	2k28	**2k21**	. 2k28	. 2k28	**2k21**	. 2k28
AntEDx6ene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
f l<oDxntEene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
MhDene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
5enBorx(xntEDx6ene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
CEDhsene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
5enBory>&g(d<oDxntEene	Gm/Q	2k21	. 2k21	. 2k21	. 2k21	. 2k21	. 2k21
5enBorx(bhDene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
Fndenor8)1)3p6d(bhDene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
* iyenBorx>E(xntEDx6ene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
5enBormEi(beDhlene	Gm/Q	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
CxDBinomeni6 MAKs rxs 5xM Tuj (pxss<z e non dete6ts	Tuj	2k281	. 2k281	. 2k281	. 2k281	. 2k281	. 2k281
Totxl MAK VFC uMA @<idelines r80(X	Gm/Q	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
Totxl MAK r87(X	Gm/Q	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8

QoZ Qe%el MAK rMolh ADoz xti6 KhdDo6xDyons(in µ xteD[AN412] Tested: 19/8/1280 r6ontin<ed(

PARAMETER	UOM	LOR	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026	LAW_95_ESMW03 WATER - 20/1/2016 SE148233.027	LAW_95_ESMW04 WATER - 20/1/2016 SE148233.028
NxbEtExlene	GmlQ	2k21	. 2k21	. 2k21	. 2k21	. 2k21	. 2k21
1pz etEhlnxbEtExlene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
8pz etEhlnxbEtExlene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
A6enxbEtEhlene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
A6enxbEtEene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
f l<oDene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
MEenxntEDene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
AntEDx6ene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
f l<oDxntEene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
MhDene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
5enBorx(xntEDx6ene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
CEDhsene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
5enBory>&g(d<oDxntEene	GmlQ	2k21	. 2k21	. 2k21	. 2k21	. 2k21	. 2k21
5enBorx(bhDene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
Fndenor8)1)3p6d(bhDene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
* iyenBorx>E(xntEDx6ene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
5enBormEi(beDhlene	GmlQ	2k28	. 2k28	. 2k28	. 2k28	. 2k28	. 2k28
CxD6inomeni6 MAKs rxs 5xM Tuj (pxss<z e non dete6ts	Tuj	2k281	. 2k281	. 2k281	. 2k281	. 2k281	. 2k281
Totxl MAK VFC uMA @<idelines r80(X	GmlQ	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
Totxl MAK r87(X	GmlQ	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8

Cond<6ti%ith xnd T* S yh Cxl6<lxtion pµ xteD[AN820] Tested: 19/8/1280

PARAMETER	UOM	LOR	LAW_99_ESSW04 WATER - 18/1/2016 SE148233.008	LAW_99_ESSW05 WATER - 18/1/2016 SE148233.009	LAW_99_ESSW06 WATER - 18/1/2016 SE148233.010	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014
Cond<6ti%ith U 19 C	GS/6z	1	782	RH2	R72	40222	1R22
SxlinithX	z m/Q	1	932	982	922	32222	8R22

PARAMETER	UOM	LOR	DUPJO180116 WATER - 18/1/2016 SE148233.015	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025
Cond<6ti%ith U 19 C	GS/6z	1	R72	77222	1322	1422	1422
SxlinithX	z m/Q	1	982	9R222	8922	8022	8022

PARAMETER	UOM	LOR	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026
Cond<6ti%ith U 19 C	GS/6z	1	1422
SxlinithX	z m/Q	1	8022

bK in ZxteD[AN828] Tested: 19/8/1280

PARAMETER	UOM	LOR	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024
bKXX	bK =nits	2k8	81k1	7k2	81k4	7k7	7k9

PARAMETER	UOM	LOR	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026
bKXX	bK =nits	2k8	7k4	7k4

Az z onix NitDomen yh * is6Dete AnxlhseDrAq<xgez ([AN1H8] Tested: 11/8/1280

PARAMETER	UOM	LOR	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024
Az z onix NitDomen) NKwxs N	z m/Q	2k28	8k2	2k89	2k01	2k29	2k27

PARAMETER	UOM	LOR	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026
Az z onix NitDomen) NKwxs N	z m/Q	2k28	2k21	2k21

Anions yh Fon CEDoz xtomDxbEh in µ xteD[I upA= pµ NVAN149] Tested: 1R/8/1280

PARAMETER	UOM	LOR	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024
CEloDde	z m/Q	2k29	40222	302	33222	382	312
S<lbExte) SO4	z m/Q	8	39222	992	12222	922	932

PARAMETER	UOM	LOR	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026
CEloDde	z m/Q	2k29	332	312
S<lbExte) SO4	z m/Q	8	942	932

Algxlinith [AN839] Tested: 19/8/1280

PARAMETER	UOM	LOR	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024
Totxl Algxlinith xs CxCO3	z m/Q	9	4022	842	84222	832	842

PARAMETER	UOM	LOR	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026
Totxl Algxlinith xs CxCO3	z m/Q	9	842	842

I etxls in µ xteDr* issol%ed(yh FCMOu S [AN312/AN318] Tested: 1R/8/1280

PARAMETER	UOM	LOR	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024
Cxl6i<z) Cx	z m/Q	2k8	8R	882	87	882	882
I xmmesi<z) I m	z m/Q	2k8	. 2k8	R1	. 2k8	00	R8
Sodi<z) Nx	z m/Q	2k8	7H22	302	7322	142	102
Motxssi<z) ,	z m/Q	2k1	38	80	38	84	89

PARAMETER	UOM	LOR	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026
Cxl6i<z) Cx	z m/Q	2k8	882	882
I xmmesi<z) I m	z m/Q	2k8	R8	R8
Sodi<z) Nx	z m/Q	2k8	102	192
Motxssi<z) ,	z m/Q	2k1	89	89

TDx6e l etxls r* issol%ed(in µ xteDyh FCMl S [AN387] Tested: 1R/8/1280

PARAMETER	UOM	LOR	LAW_99_ESSW04 WATER - 18/1/2016 SE148233.008	LAW_95_ESMW03 WATER - 20/1/2016 SE148233.027	LAW_95_ESMW04 WATER - 20/1/2016 SE148233.028
ADseni6) As	Gm/Q	8	1	9	0
Cxdz i<z) Cd	Gm/Q	2k8	. 2k8	. 2k8	. 2k8
CEDoz i<z) CD	Gm/Q	8	. 8	. 8	. 8
CobbeD) C<	Gm/Q	8	83	1	. 8
Qexd) My	Gm/Q	8	. 8	. 8	. 8
Ni6gel) Ni	Gm/Q	8	3	91	72
Win6) Wn	Gm/Q	9	87	80	8R
Seleni<z) Se	Gm/Q	8	. 8	0	1
5oDon) 5	Gm/Q	9	08	73	8R2

I eD6<Dh rdissol%ed(in μ xteD[AN388/AN381] Tested: 1R/8/1280

PARAMETER	UOM	LOR	LAW_99_ESSW04 WATER - 18/1/2016 SE148233.008	LAW_95_ESMW03 WATER - 20/1/2016 SE148233.027	LAW_95_ESMW04 WATER - 20/1/2016 SE148233.028
I eD6<Dh	z m/Q	2k22229	. 2k22229	. 2k22229	. 2k22229

TDx6e l etxls rTotxl(in µ xteDyh FCMl S [AN211/AN387] Tested: 1R/8/1280

PARAMETER	UOM	LOR	LAW_95_ESSW04 WATER - 18/1/2016 SE148233.003	LAW_95_ESSW05 WATER - 18/1/2016 SE148233.004	LAW_99_ESSW04 WATER - 18/1/2016 SE148233.008	LAW_99_ESSW05 WATER - 18/1/2016 SE148233.009	LAW_99_ESSW06 WATER - 18/1/2016 SE148233.010
Totxl ADseni6	GmlQ	8	4	4	1	1	1
Totxl Cxdz i<z	GmlQ	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
Totxl CEDoz i<z	GmlQ	8	. 8	. 8	. 8	. 8	. 8
Totxl CobbeD	GmlQ	8	3	3	18	14	82
Totxl Ni6gel	GmlQ	8	0	4	3	3	1
Totxl Qexd	GmlQ	8	. 8	. 8	. 8	. 8	. 8
Totxl Wn6	GmlQ	9	. 9	. 9	14	87	H
Totxl Seleni<z	GmlQ	8	3	3	. 8	. 8	. 8
Totxl 5oDon	GmlQ	9	8222	8222	R9	00	07

PARAMETER	UOM	LOR	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014	DUPJO180116 WATER - 18/1/2016 SE148233.015	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023
Totxl ADseni6	GmlQ	8	4	H	1	9	3
Totxl Cxdz i<z	GmlQ	2k8	. 8k2$_3$	. 2k8	. 2k8	. 1k2$_3$	. 2k8
Totxl CEDoz i<z	GmlQ	8	4	. 8	. 8	4	. 8
Totxl CobbeD	GmlQ	8	83	88	H	84	9
Totxl Ni6gel	GmlQ	8	9	7	1	7	4
Totxl Qexd	GmlQ	8	8	8	. 8	1	. 8
Totxl Wn6	GmlQ	9	10	11	81	37	. 9
Totxl Seleni<z	GmlQ	8	3	9	. 8	0	3
Totxl 5oDon	GmlQ	9	7H2	8222	R8	8222	H22

PARAMETER	UOM	LOR	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026	LAW_95_ESMW03 WATER - 20/1/2016 SE148233.027	LAW_95_ESMW04 WATER - 20/1/2016 SE148233.028
Totxl ADseni6	GmlQ	8	4	4	4	H	0
Totxl Cxdz i<z	GmlQ	2k8	. 2k8	. 2k8	. 2k8	. 2k8	. 2k8
Totxl CEDoz i<z	GmlQ	8	. 8	. 8	. 8	31	9
Totxl CobbeD	GmlQ	8	3	3	3	30	3
Totxl Ni6gel	GmlQ	8	4	4	4	0R	R4
Totxl Qexd	GmlQ	8	. 8	. 8	. 8	81	4
Totxl Wn6	GmlQ	9	. 9	0	04	33	8H
Totxl Seleni<z	GmlQ	8	3	4	3	81	4
Totxl 5oDon	GmlQ	9	8222	8222	8222	882	8H2

I eD6<Dh rtotxI(in μ xteD[AN388/AN381] Tested: 17/8/1280

PARAMETER	UOM	LOR	LAW_95_ESSW04 WATER - 18/1/2016 SE148233.003	LAW_95_ESSW05 WATER - 18/1/2016 SE148233.004	LAW_99_ESSW04 WATER - 18/1/2016 SE148233.008	LAW_99_ESSW05 WATER - 18/1/2016 SE148233.009	LAW_99_ESSW06 WATER - 18/1/2016 SE148233.010
TotxI I eD6<Dh	z m/Q	2k22229	. 2k22229	. 2k22229	. 2k22229	2k22220	. 2k22229

PARAMETER	UOM	LOR	LAW_LL_ESSW03 WATER - 18/1/2016 SE148233.013	LAW_LL_ESSW04 WATER - 18/1/2016 SE148233.014	DUPJO180116 WATER - 18/1/2016 SE148233.015	DUP2JO180116 WATER - 18/1/2016 SE148233.016	LAW_LL_ESSW01 WATER - 19/1/2016 SE148233.023
TotxI I eD6<Dh	z m/Q	2k22229	2k2281	. 2k22229	. 2k22229	2k2281	. 2k22229

PARAMETER	UOM	LOR	LAW_LL_ESSW02 WATER - 19/1/2016 SE148233.024	LAW_LL_ESSW05 WATER - 19/1/2016 SE148233.025	LAW_LL_ESSW06 WATER - 19/1/2016 SE148233.026	LAW_95_ESMW03 WATER - 20/1/2016 SE148233.027	LAW_95_ESMW04 WATER - 20/1/2016 SE148233.028
TotxI I eD6<Dh	z m/Q	2k22229	. 2k22229	. 2k22229	. 2k22229	. 2k22229	. 2k22229

METHOD	METHODOLOGY SUMMARY
AN002/AN135	Alkalinity (and forms of) by Titration: The sample is extracted 1to 5 in deionised water and the extract titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN022/AN318	Following acid digestion of un filtered sample, determination of elements at trace level in waters by ICP-MS technique, in accordance with USEPA 6020A.
AN022	The water sample is digested with Nitric Acid and made up to the original volume similar to APHA3030E.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl2) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN135	Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L. If TDS is >500mg/L free or total carbon dioxide cannot be reported. APHA4500CO2 D.
AN188	The organic material in the soil sample is oxidised with chromic acid in the presence of excess sulfuric acid, without external heat being applied. The excess dichromate ion is determined by titration with standard ammonium iron (II) sulfate solution and the amount of oxidised material is calculated from the quantity of dichromate reduced. Referenced to NEPM 105 and AS1289.1.1.1.
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
AN291	From the soil extract, ammonia reacts with hypochlorite ions from Sodium Dichloroisocyanuate, and salicylate in the presence of Sodium Nitroprusside to form indophenol blue and measured at 670nm.
AN311/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN318	Determination of elements at trace level in waters by ICP-MS technique, in accordance with USEPA 6020A.
AN320/AN321	Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.
AN320/AN321	Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B.

AN400	OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.)
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433/AN434/AN410	VOCs and C6-C9/C6-C10 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN433/AN434	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS -SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS -SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

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.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

STATEMENT OF QA/QC PERFORMANCE

SE148233 R0

CLIENT DETAILS

Contact	Ryan Wells
Client	ENVIRONMENTAL STRATEGIES PTY LIMITED
Address	Suite 15201, Locomotive Workshop 2 Locomotive Street NSW 2015
Telephone	02 9690 2555 / 0408 649 917
Facsimile	(Not specified)
Email	ryanwells@environmentalstrategies.com.au
Project	**15105**
Order Number	**SY150422-1IS**
Samples	28

LABORATORY DETAILS

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Telephone	+61 2 8594 0400
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SGS Reference	**SE148233 R0**
Date Received	20 Jan 2016
Date Reported	09 Feb 2016

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS Environmental Services' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document and was supplied by the Client.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Extraction Date	Alkalinity	7 items
	Alkalinity in Soil	7 items
	Ammonia Nitrogen (soluble) in Soil	7 items
	pH in water	7 items
	Soluble Anions (1:5) in Soil by Ion Chromatography	7 items
	VOCs in Water	13 items
	Volatile Petroleum Hydrocarbons in Water	13 items
Analysis Date	Alkalinity	7 items
	pH in soil (1:5)	7 items
	pH in water	7 items
Surrogate	VOCs in Water	2 items
	Volatile Petroleum Hydrocarbons in Water	2 items
Matrix Spike	Total Recoverable Metals in Soil by ICPOES	1 item
	Total Recoverable Metals in Soil by ICPOES	1 item

There are more than 15 quality objective exceedences. Please see report for details

SAMPLE SUMMARY

Sample counts by matrix	15 Soil,13 Water	Type of documentation received	COC
Date documentation received	20/1/16@10pm	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	1°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice	Samples clearly labelled	Yes
Complete documentation received	Yes	Number of eskies/boxes received	

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Alkalinity

Method: ME-(AU)-E[NV]AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_LL_ESSW03	SE148233.013	LB093770	18 Jan 2016	20 Jan 2016	19 Jan 2016	25 Jan 2016†	19 Jan 2016	27 Jan 2016†
LAW_LL_ESSW04	SE148233.014	LB093770	18 Jan 2016	20 Jan 2016	19 Jan 2016	25 Jan 2016†	19 Jan 2016	27 Jan 2016†
DUP2JO180116	SE148233.016	LB093770	18 Jan 2016	20 Jan 2016	19 Jan 2016	25 Jan 2016†	19 Jan 2016	27 Jan 2016†
LAW_LL_ESSW01	SE148233.023	LB093770	19 Jan 2016	20 Jan 2016	20 Jan 2016	25 Jan 2016†	20 Jan 2016	27 Jan 2016†
LAW_LL_ESSW02	SE148233.024	LB093770	19 Jan 2016	20 Jan 2016	20 Jan 2016	25 Jan 2016†	20 Jan 2016	27 Jan 2016†
LAW_LL_ESSW05	SE148233.025	LB093770	19 Jan 2016	20 Jan 2016	20 Jan 2016	25 Jan 2016†	20 Jan 2016	27 Jan 2016†
LAW_LL_ESSW06	SE148233.026	LB093770	19 Jan 2016	20 Jan 2016	20 Jan 2016	25 Jan 2016†	20 Jan 2016	27 Jan 2016†

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_LL_ESSD03	SE148233.011	LB093864	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	28 Jan 2016	28 Jan 2016
LAW_LL_ESSD04	SE148233.012	LB093864	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	28 Jan 2016	28 Jan 2016
DUPGSA180116	SE148233.018	LB093864	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	28 Jan 2016	28 Jan 2016
LAW_LL_ESSD01	SE148233.019	LB093864	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	28 Jan 2016	28 Jan 2016
LAW_LL_ESSD02	SE148233.020	LB093864	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	28 Jan 2016	28 Jan 2016
LAW_LL_ESSD05	SE148233.021	LB093864	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	28 Jan 2016	28 Jan 2016
LAW_LL_ESSD06	SE148233.022	LB093864	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	28 Jan 2016	28 Jan 2016

Ammonia Nitrogen (soluble) in Soil

Method: ME-(AU)-[ENV]AN291

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_LL_ESSD03	SE148233.011	LB094021	18 Jan 2016	20 Jan 2016	25 Jan 2016	29 Jan 2016†	31 Jan 2016	29 Jan 2016
LAW_LL_ESSD04	SE148233.012	LB094021	18 Jan 2016	20 Jan 2016	25 Jan 2016	29 Jan 2016†	31 Jan 2016	29 Jan 2016
DUPGSA180116	SE148233.018	LB094021	18 Jan 2016	20 Jan 2016	25 Jan 2016	29 Jan 2016†	31 Jan 2016	29 Jan 2016
LAW_LL_ESSD01	SE148233.019	LB094021	19 Jan 2016	20 Jan 2016	26 Jan 2016	29 Jan 2016†	31 Jan 2016	29 Jan 2016
LAW_LL_ESSD02	SE148233.020	LB094021	19 Jan 2016	20 Jan 2016	26 Jan 2016	29 Jan 2016†	31 Jan 2016	29 Jan 2016
LAW_LL_ESSD05	SE148233.021	LB094021	19 Jan 2016	20 Jan 2016	26 Jan 2016	29 Jan 2016†	31 Jan 2016	29 Jan 2016
LAW_LL_ESSD06	SE148233.022	LB094021	19 Jan 2016	20 Jan 2016	26 Jan 2016	29 Jan 2016†	31 Jan 2016	29 Jan 2016

Ammonia Nitrogen by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN291

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_LL_ESSW03	SE148233.013	LB093775	18 Jan 2016	20 Jan 2016	15 Feb 2016	22 Jan 2016	15 Feb 2016	25 Jan 2016
LAW_LL_ESSW04	SE148233.014	LB093775	18 Jan 2016	20 Jan 2016	15 Feb 2016	22 Jan 2016	15 Feb 2016	25 Jan 2016
DUP2JO180116	SE148233.016	LB093775	18 Jan 2016	20 Jan 2016	15 Feb 2016	22 Jan 2016	15 Feb 2016	25 Jan 2016
LAW_LL_ESSW01	SE148233.023	LB093775	19 Jan 2016	20 Jan 2016	16 Feb 2016	22 Jan 2016	16 Feb 2016	25 Jan 2016
LAW_LL_ESSW02	SE148233.024	LB093775	19 Jan 2016	20 Jan 2016	16 Feb 2016	22 Jan 2016	16 Feb 2016	25 Jan 2016
LAW_LL_ESSW05	SE148233.025	LB093775	19 Jan 2016	20 Jan 2016	16 Feb 2016	22 Jan 2016	16 Feb 2016	25 Jan 2016
LAW_LL_ESSW06	SE148233.026	LB093775	19 Jan 2016	20 Jan 2016	16 Feb 2016	22 Jan 2016	16 Feb 2016	25 Jan 2016

Anions by Ion Chromatography in Water

Method: ME-AU-ENVAN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_LL_ESSW03	SE148233.013	LB093828	18 Jan 2016	20 Jan 2016	15 Feb 2016	27 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_LL_ESSW04	SE148233.014	LB093828	18 Jan 2016	20 Jan 2016	15 Feb 2016	27 Jan 2016	15 Feb 2016	29 Jan 2016
DUP2JO180116	SE148233.016	LB093828	18 Jan 2016	20 Jan 2016	15 Feb 2016	27 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_LL_ESSW01	SE148233.023	LB093828	19 Jan 2016	20 Jan 2016	16 Feb 2016	27 Jan 2016	16 Feb 2016	29 Jan 2016
LAW_LL_ESSW02	SE148233.024	LB093828	19 Jan 2016	20 Jan 2016	16 Feb 2016	27 Jan 2016	16 Feb 2016	29 Jan 2016
LAW_LL_ESSW05	SE148233.025	LB093828	19 Jan 2016	20 Jan 2016	16 Feb 2016	27 Jan 2016	16 Feb 2016	29 Jan 2016
LAW_LL_ESSW06	SE148233.026	LB093828	19 Jan 2016	20 Jan 2016	16 Feb 2016	27 Jan 2016	16 Feb 2016	29 Jan 2016

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_LL_ESSD03	SE148233.011	LB093788	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	25 Jan 2016	27 Jan 2016†
LAW_LL_ESSD04	SE148233.012	LB093788	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	25 Jan 2016	27 Jan 2016†
DUPGSA180116	SE148233.018	LB093788	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	25 Jan 2016	27 Jan 2016†
LAW_LL_ESSD01	SE148233.019	LB093788	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	26 Jan 2016	27 Jan 2016†
LAW_LL_ESSD02	SE148233.020	LB093788	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	26 Jan 2016	27 Jan 2016†
LAW_LL_ESSD05	SE148233.021	LB093788	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	26 Jan 2016	27 Jan 2016†
LAW_LL_ESSD06	SE148233.022	LB093788	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	26 Jan 2016	27 Jan 2016†

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_99_ESSW04	SE148233.008	LB093787	18 Jan 2016	20 Jan 2016	15 Feb 2016	25 Jan 2016	15 Feb 2016	25 Jan 2016
LAW_99_ESSW05	SE148233.009	LB093787	18 Jan 2016	20 Jan 2016	15 Feb 2016	25 Jan 2016	15 Feb 2016	25 Jan 2016
LAW_99_ESSW06	SE148233.010	LB093787	18 Jan 2016	20 Jan 2016	15 Feb 2016	25 Jan 2016	15 Feb 2016	25 Jan 2016

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Conductivity and TDS by Calculation - Water (continued)

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_LL_ESSW03	SE148233.013	LB093787	18 Jan 2016	20 Jan 2016	15 Feb 2016	25 Jan 2016	15 Feb 2016	25 Jan 2016
LAW_LL_ESSW04	SE148233.014	LB093787	18 Jan 2016	20 Jan 2016	15 Feb 2016	25 Jan 2016	15 Feb 2016	25 Jan 2016
DUPJO180116	SE148233.015	LB093787	18 Jan 2016	20 Jan 2016	15 Feb 2016	25 Jan 2016	15 Feb 2016	25 Jan 2016
DUP2JO180116	SE148233.016	LB093787	18 Jan 2016	20 Jan 2016	15 Feb 2016	25 Jan 2016	15 Feb 2016	25 Jan 2016
LAW_LL_ESSW01	SE148233.023	LB093787	19 Jan 2016	20 Jan 2016	16 Feb 2016	25 Jan 2016	16 Feb 2016	25 Jan 2016
LAW_LL_ESSW02	SE148233.024	LB093787	19 Jan 2016	20 Jan 2016	16 Feb 2016	25 Jan 2016	16 Feb 2016	25 Jan 2016
LAW_LL_ESSW05	SE148233.025	LB093787	19 Jan 2016	20 Jan 2016	16 Feb 2016	25 Jan 2016	16 Feb 2016	25 Jan 2016
LAW_LL_ESSW06	SE148233.026	LB093787	19 Jan 2016	20 Jan 2016	16 Feb 2016	25 Jan 2016	16 Feb 2016	25 Jan 2016

Low Level PAH (Poly Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_95_ESSW04	SE148233.003	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_95_ESSW05	SE148233.004	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_99_ESSW04	SE148233.008	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_99_ESSW05	SE148233.009	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_99_ESSW06	SE148233.010	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSW03	SE148233.013	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSW04	SE148233.014	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
DUPJO180116	SE148233.015	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
DUP2JO180116	SE148233.016	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSW01	SE148233.023	LB093777	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSW02	SE148233.024	LB093777	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSW05	SE148233.025	LB093777	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSW06	SE148233.026	LB093777	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_95_ESMW03	SE148233.027	LB093777	20 Jan 2016	20 Jan 2016	27 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_95_ESMW04	SE148233.028	LB093777	20 Jan 2016	20 Jan 2016	27 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_99_ESSW04	SE148233.008	LB093819	18 Jan 2016	20 Jan 2016	15 Feb 2016	27 Jan 2016	15 Feb 2016	27 Jan 2016
LAW_95_ESMW03	SE148233.027	LB093819	20 Jan 2016	20 Jan 2016	17 Feb 2016	27 Jan 2016	17 Feb 2016	27 Jan 2016
LAW_95_ESMW04	SE148233.028	LB093819	20 Jan 2016	20 Jan 2016	17 Feb 2016	27 Jan 2016	17 Feb 2016	27 Jan 2016

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_95_ESSW04	SE148233.003	LB093959	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_95_ESSW05	SE148233.004	LB093959	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_99_ESSW04	SE148233.008	LB093959	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_99_ESSW05	SE148233.009	LB093959	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_99_ESSW06	SE148233.010	LB093959	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_LL_ESSW03	SE148233.013	LB093959	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_LL_ESSW04	SE148233.014	LB093959	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
DUPJO180116	SE148233.015	LB093959	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
DUP2JO180116	SE148233.016	LB093959	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_LL_ESSW01	SE148233.023	LB093959	19 Jan 2016	20 Jan 2016	16 Feb 2016	28 Jan 2016	16 Feb 2016	29 Jan 2016
LAW_LL_ESSW02	SE148233.024	LB093959	19 Jan 2016	20 Jan 2016	16 Feb 2016	28 Jan 2016	16 Feb 2016	29 Jan 2016
LAW_LL_ESSW05	SE148233.025	LB093959	19 Jan 2016	20 Jan 2016	16 Feb 2016	28 Jan 2016	16 Feb 2016	29 Jan 2016
LAW_LL_ESSW06	SE148233.026	LB093959	19 Jan 2016	20 Jan 2016	16 Feb 2016	28 Jan 2016	16 Feb 2016	29 Jan 2016
LAW_95_ESMW03	SE148233.027	LB093959	20 Jan 2016	20 Jan 2016	17 Feb 2016	28 Jan 2016	17 Feb 2016	29 Jan 2016
LAW_95_ESMW04	SE148233.028	LB093959	20 Jan 2016	20 Jan 2016	17 Feb 2016	28 Jan 2016	17 Feb 2016	29 Jan 2016

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_76_ESSD03	SE148233.001	LB093940	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_76_ESSD04	SE148233.002	LB093940	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_99_ESSD04 0-0.15	SE148233.005	LB093940	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_99_ESSD05	SE148233.006	LB093940	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_99_ESSD06	SE148233.007	LB093940	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_LL_ESSD03	SE148233.011	LB093940	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_LL_ESSD04	SE148233.012	LB093940	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
DUPGS180116	SE148233.017	LB093943	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
DUPGSA180116	SE148233.018	LB093943	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Mercury in Soil (continued) — Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_LL_ESSD01	SE148233.019	LB093943	19 Jan 2016	20 Jan 2016	16 Feb 2016	28 Jan 2016	16 Feb 2016	29 Jan 2016
LAW_LL_ESSD02	SE148233.020	LB093943	19 Jan 2016	20 Jan 2016	16 Feb 2016	28 Jan 2016	16 Feb 2016	29 Jan 2016
LAW_LL_ESSD05	SE148233.021	LB093943	19 Jan 2016	20 Jan 2016	16 Feb 2016	28 Jan 2016	16 Feb 2016	29 Jan 2016
LAW_LL_ESSD06	SE148233.022	LB093943	19 Jan 2016	20 Jan 2016	16 Feb 2016	28 Jan 2016	16 Feb 2016	29 Jan 2016

Metals in Water (Dissolved) by ICPOES — Method: ME-(AU)-[ENV]AN320/AN321

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_LL_ESSW03	SE148233.013	LB093793	18 Jan 2016	20 Jan 2016	16 Jul 2016	27 Jan 2016	16 Jul 2016	27 Jan 2016
LAW_LL_ESSW04	SE148233.014	LB093793	18 Jan 2016	20 Jan 2016	16 Jul 2016	27 Jan 2016	16 Jul 2016	27 Jan 2016
DUP2JO180116	SE148233.016	LB093793	18 Jan 2016	20 Jan 2016	16 Jul 2016	27 Jan 2016	16 Jul 2016	27 Jan 2016
LAW_LL_ESSW01	SE148233.023	LB093793	19 Jan 2016	20 Jan 2016	17 Jul 2016	27 Jan 2016	17 Jul 2016	27 Jan 2016
LAW_LL_ESSW02	SE148233.024	LB093793	19 Jan 2016	20 Jan 2016	17 Jul 2016	27 Jan 2016	17 Jul 2016	27 Jan 2016
LAW_LL_ESSW05	SE148233.025	LB093793	19 Jan 2016	20 Jan 2016	17 Jul 2016	27 Jan 2016	17 Jul 2016	27 Jan 2016
LAW_LL_ESSW06	SE148233.026	LB093793	19 Jan 2016	20 Jan 2016	17 Jul 2016	27 Jan 2016	17 Jul 2016	27 Jan 2016

Moisture Content — Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_76_ESSD03	SE148233.001	LB093774	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	30 Jan 2016	28 Jan 2016
LAW_76_ESSD04	SE148233.002	LB093774	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	30 Jan 2016	28 Jan 2016
LAW_99_ESSD04 0-0.15	SE148233.005	LB093774	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	30 Jan 2016	28 Jan 2016
LAW_99_ESSD05	SE148233.006	LB093774	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	30 Jan 2016	28 Jan 2016
LAW_99_ESSD06	SE148233.007	LB093774	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	30 Jan 2016	28 Jan 2016
LAW_LL_ESSD03	SE148233.011	LB093774	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	30 Jan 2016	28 Jan 2016
LAW_LL_ESSD04	SE148233.012	LB093774	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	30 Jan 2016	28 Jan 2016
DUPGS180116	SE148233.017	LB093774	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	30 Jan 2016	28 Jan 2016
DUPGSA180116	SE148233.018	LB093774	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	30 Jan 2016	28 Jan 2016
LAW_LL_ESSD01	SE148233.019	LB093774	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	30 Jan 2016	28 Jan 2016
LAW_LL_ESSD02	SE148233.020	LB093774	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	30 Jan 2016	28 Jan 2016
LAW_LL_ESSD05	SE148233.021	LB093774	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	30 Jan 2016	28 Jan 2016
LAW_LL_ESSD06	SE148233.022	LB093774	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	30 Jan 2016	28 Jan 2016

PAH (Polynuclear Aromatic Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_76_ESSD03	SE148233.001	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	28 Jan 2016
LAW_76_ESSD04	SE148233.002	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	28 Jan 2016
LAW_99_ESSD04 0-0.15	SE148233.005	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	28 Jan 2016
LAW_99_ESSD05	SE148233.006	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	28 Jan 2016
LAW_99_ESSD06	SE148233.007	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	28 Jan 2016
LAW_LL_ESSD03	SE148233.011	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	28 Jan 2016
LAW_LL_ESSD04	SE148233.012	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	28 Jan 2016
DUPGS180116	SE148233.017	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	28 Jan 2016
DUPGSA180116	SE148233.018	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	28 Jan 2016
LAW_LL_ESSD01	SE148233.019	LB093779	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	28 Jan 2016
LAW_LL_ESSD02	SE148233.020	LB093779	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	28 Jan 2016
LAW_LL_ESSD05	SE148233.021	LB093779	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	28 Jan 2016
LAW_LL_ESSD06	SE148233.022	LB093779	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	28 Jan 2016

PCBs in Soil — Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_76_ESSD03	SE148233.001	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_76_ESSD04	SE148233.002	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_99_ESSD04 0-0.15	SE148233.005	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_99_ESSD05	SE148233.006	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_99_ESSD06	SE148233.007	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSD03	SE148233.011	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSD04	SE148233.012	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
DUPGS180116	SE148233.017	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
DUPGSA180116	SE148233.018	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSD01	SE148233.019	LB093779	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSD02	SE148233.020	LB093779	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSD05	SE148233.021	LB093779	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSD06	SE148233.022	LB093779	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

PCBs in Water — Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_95_ESSW04	SE148233.003	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_95_ESSW05	SE148233.004	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_99_ESSW04	SE148233.008	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_99_ESSW05	SE148233.009	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_99_ESSW06	SE148233.010	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSW03	SE148233.013	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSW04	SE148233.014	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
DUPJO180116	SE148233.015	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
DUP2JO180116	SE148233.016	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSW01	SE148233.023	LB093777	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSW02	SE148233.024	LB093777	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSW05	SE148233.025	LB093777	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSW06	SE148233.026	LB093777	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_95_ESMW03	SE148233.027	LB093777	20 Jan 2016	20 Jan 2016	27 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_95_ESMW04	SE148233.028	LB093777	20 Jan 2016	20 Jan 2016	27 Jan 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016

pH in soil (1:5) — Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_LL_ESSD03	SE148233.011	LB093788	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	26 Jan 2016	27 Jan 2016†
LAW_LL_ESSD04	SE148233.012	LB093788	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	26 Jan 2016	27 Jan 2016†
DUPGSA180116	SE148233.018	LB093788	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	26 Jan 2016	27 Jan 2016†
LAW_LL_ESSD01	SE148233.019	LB093788	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	26 Jan 2016	27 Jan 2016†
LAW_LL_ESSD02	SE148233.020	LB093788	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	26 Jan 2016	27 Jan 2016†
LAW_LL_ESSD05	SE148233.021	LB093788	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	26 Jan 2016	27 Jan 2016†
LAW_LL_ESSD06	SE148233.022	LB093788	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	26 Jan 2016	27 Jan 2016†

pH in water — Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_99_ESSW04	SE148233.008	LB093787	18 Jan 2016	20 Jan 2016	19 Jan 2016	25 Jan 2016†	19 Jan 2016	25 Jan 2016†
LAW_99_ESSW05	SE148233.009	LB093787	18 Jan 2016	20 Jan 2016	19 Jan 2016	25 Jan 2016†	19 Jan 2016	25 Jan 2016†
LAW_99_ESSW06	SE148233.010	LB093787	18 Jan 2016	20 Jan 2016	19 Jan 2016	25 Jan 2016†	19 Jan 2016	25 Jan 2016†
LAW_LL_ESSW03	SE148233.013	LB093787	18 Jan 2016	20 Jan 2016	19 Jan 2016	25 Jan 2016†	19 Jan 2016	25 Jan 2016†
LAW_LL_ESSW04	SE148233.014	LB093787	18 Jan 2016	20 Jan 2016	19 Jan 2016	25 Jan 2016†	19 Jan 2016	25 Jan 2016†
DUPJO180116	SE148233.015	LB093787	18 Jan 2016	20 Jan 2016	19 Jan 2016	25 Jan 2016†	19 Jan 2016	25 Jan 2016†
DUP2JO180116	SE148233.016	LB093787	18 Jan 2016	20 Jan 2016	19 Jan 2016	25 Jan 2016†	19 Jan 2016	25 Jan 2016†
LAW_LL_ESSW01	SE148233.023	LB093787	19 Jan 2016	20 Jan 2016	20 Jan 2016	25 Jan 2016†	20 Jan 2016	25 Jan 2016†
LAW_LL_ESSW02	SE148233.024	LB093787	19 Jan 2016	20 Jan 2016	20 Jan 2016	25 Jan 2016†	20 Jan 2016	25 Jan 2016†
LAW_LL_ESSW05	SE148233.025	LB093787	19 Jan 2016	20 Jan 2016	20 Jan 2016	25 Jan 2016†	20 Jan 2016	25 Jan 2016†
LAW_LL_ESSW06	SE148233.026	LB093787	19 Jan 2016	20 Jan 2016	20 Jan 2016	25 Jan 2016†	20 Jan 2016	25 Jan 2016†

Soluble Anions (1:5) in Soil by Ion Chromatography — Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_LL_ESSD03	SE148233.011	LB093827	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	24 Feb 2016	29 Jan 2016
LAW_LL_ESSD04	SE148233.012	LB093827	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	24 Feb 2016	29 Jan 2016
DUPGSA180116	SE148233.018	LB093827	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	24 Feb 2016	29 Jan 2016
LAW_LL_ESSD01	SE148233.019	LB093827	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	24 Feb 2016	29 Jan 2016
LAW_LL_ESSD02	SE148233.020	LB093827	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	24 Feb 2016	29 Jan 2016
LAW_LL_ESSD05	SE148233.021	LB093827	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	24 Feb 2016	29 Jan 2016
LAW_LL_ESSD06	SE148233.022	LB093827	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	24 Feb 2016	29 Jan 2016

TOC in Soil — Method: ME-(AU)-[ENV]AN188

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_76_ESSD03	SE148233.001	LB093941	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_76_ESSD04	SE148233.002	LB093941	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_99_ESSD04 0-0.15	SE148233.005	LB093941	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_99_ESSD05	SE148233.006	LB093941	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_99_ESSD06	SE148233.007	LB093941	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_LL_ESSD03	SE148233.011	LB093941	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_LL_ESSD04	SE148233.012	LB093941	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
DUPGS180116	SE148233.017	LB093941	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
DUPGSA180116	SE148233.018	LB093941	18 Jan 2016	20 Jan 2016	15 Feb 2016	28 Jan 2016	15 Feb 2016	29 Jan 2016
LAW_LL_ESSD01	SE148233.019	LB093941	19 Jan 2016	20 Jan 2016	16 Feb 2016	28 Jan 2016	16 Feb 2016	29 Jan 2016

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

TOC in Soil (continued) — Method: ME-(AU)-[ENV]AN188

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_LL_ESSD02	SE148233.020	LB093941	19 Jan 2016	20 Jan 2016	16 Feb 2016	28 Jan 2016	16 Feb 2016	29 Jan 2016
LAW_LL_ESSD05	SE148233.021	LB093941	19 Jan 2016	20 Jan 2016	16 Feb 2016	28 Jan 2016	16 Feb 2016	29 Jan 2016
LAW_LL_ESSD06	SE148233.022	LB093941	19 Jan 2016	20 Jan 2016	16 Feb 2016	28 Jan 2016	16 Feb 2016	29 Jan 2016

Total Recoverable Metals in Soil by ICPOES — Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_76_ESSD03	SE148233.001	LB093897	18 Jan 2016	20 Jan 2016	16 Jul 2016	28 Jan 2016	16 Jul 2016	28 Jan 2016
LAW_76_ESSD04	SE148233.002	LB093897	18 Jan 2016	20 Jan 2016	16 Jul 2016	28 Jan 2016	16 Jul 2016	28 Jan 2016
LAW_99_ESSD04 0-0.15	SE148233.005	LB093897	18 Jan 2016	20 Jan 2016	16 Jul 2016	28 Jan 2016	16 Jul 2016	28 Jan 2016
LAW_99_ESSD05	SE148233.006	LB093897	18 Jan 2016	20 Jan 2016	16 Jul 2016	28 Jan 2016	16 Jul 2016	28 Jan 2016
LAW_99_ESSD06	SE148233.007	LB093897	18 Jan 2016	20 Jan 2016	16 Jul 2016	28 Jan 2016	16 Jul 2016	28 Jan 2016
LAW_LL_ESSD03	SE148233.011	LB093897	18 Jan 2016	20 Jan 2016	16 Jul 2016	28 Jan 2016	16 Jul 2016	28 Jan 2016
LAW_LL_ESSD04	SE148233.012	LB093897	18 Jan 2016	20 Jan 2016	16 Jul 2016	28 Jan 2016	16 Jul 2016	28 Jan 2016
DUPGS180116	SE148233.017	LB093963	18 Jan 2016	20 Jan 2016	16 Jul 2016	28 Jan 2016	16 Jul 2016	29 Jan 2016
DUPGSA180116	SE148233.018	LB093963	18 Jan 2016	20 Jan 2016	16 Jul 2016	28 Jan 2016	16 Jul 2016	29 Jan 2016
LAW_LL_ESSD01	SE148233.019	LB093963	19 Jan 2016	20 Jan 2016	17 Jul 2016	28 Jan 2016	17 Jul 2016	29 Jan 2016
LAW_LL_ESSD02	SE148233.020	LB093963	19 Jan 2016	20 Jan 2016	17 Jul 2016	28 Jan 2016	17 Jul 2016	29 Jan 2016
LAW_LL_ESSD05	SE148233.021	LB093963	19 Jan 2016	20 Jan 2016	17 Jul 2016	28 Jan 2016	17 Jul 2016	29 Jan 2016
LAW_LL_ESSD06	SE148233.022	LB093963	19 Jan 2016	20 Jan 2016	17 Jul 2016	28 Jan 2016	17 Jul 2016	29 Jan 2016

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_99_ESSW04	SE148233.008	LB093825	18 Jan 2016	20 Jan 2016	16 Jul 2016	27 Jan 2016	16 Jul 2016	08 Feb 2016
LAW_95_ESMW03	SE148233.027	LB093825	20 Jan 2016	20 Jan 2016	18 Jul 2016	27 Jan 2016	18 Jul 2016	08 Feb 2016
LAW_95_ESMW04	SE148233.028	LB093825	20 Jan 2016	20 Jan 2016	18 Jul 2016	27 Jan 2016	18 Jul 2016	08 Feb 2016

Trace Metals (Total) in Water by ICPMS — Method: ME-(AU)-[ENV]AN022/AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_95_ESSW04	SE148233.003	LB093824	18 Jan 2016	20 Jan 2016	16 Jul 2016	27 Jan 2016	16 Jul 2016	08 Feb 2016
LAW_95_ESSW05	SE148233.004	LB093824	18 Jan 2016	20 Jan 2016	16 Jul 2016	27 Jan 2016	16 Jul 2016	08 Feb 2016
LAW_99_ESSW04	SE148233.008	LB093824	18 Jan 2016	20 Jan 2016	16 Jul 2016	27 Jan 2016	16 Jul 2016	08 Feb 2016
LAW_99_ESSW05	SE148233.009	LB093824	18 Jan 2016	20 Jan 2016	16 Jul 2016	27 Jan 2016	16 Jul 2016	08 Feb 2016
LAW_99_ESSW06	SE148233.010	LB093824	18 Jan 2016	20 Jan 2016	16 Jul 2016	27 Jan 2016	16 Jul 2016	08 Feb 2016
LAW_LL_ESSW03	SE148233.013	LB093824	18 Jan 2016	20 Jan 2016	16 Jul 2016	27 Jan 2016	16 Jul 2016	08 Feb 2016
LAW_LL_ESSW04	SE148233.014	LB093824	18 Jan 2016	20 Jan 2016	16 Jul 2016	27 Jan 2016	16 Jul 2016	08 Feb 2016
DUPJO180116	SE148233.015	LB093824	18 Jan 2016	20 Jan 2016	16 Jul 2016	27 Jan 2016	16 Jul 2016	08 Feb 2016
DUP2JO180116	SE148233.016	LB093824	18 Jan 2016	20 Jan 2016	16 Jul 2016	27 Jan 2016	16 Jul 2016	08 Feb 2016
LAW_LL_ESSW01	SE148233.023	LB093824	19 Jan 2016	20 Jan 2016	17 Jul 2016	27 Jan 2016	17 Jul 2016	08 Feb 2016
LAW_LL_ESSW02	SE148233.024	LB093824	19 Jan 2016	20 Jan 2016	17 Jul 2016	27 Jan 2016	17 Jul 2016	08 Feb 2016
LAW_LL_ESSW05	SE148233.025	LB093824	19 Jan 2016	20 Jan 2016	17 Jul 2016	27 Jan 2016	17 Jul 2016	08 Feb 2016
LAW_LL_ESSW06	SE148233.026	LB093824	19 Jan 2016	20 Jan 2016	17 Jul 2016	27 Jan 2016	17 Jul 2016	08 Feb 2016
LAW_95_ESMW03	SE148233.027	LB093824	20 Jan 2016	20 Jan 2016	18 Jul 2016	27 Jan 2016	18 Jul 2016	08 Feb 2016
LAW_95_ESMW04	SE148233.028	LB093824	20 Jan 2016	20 Jan 2016	18 Jul 2016	27 Jan 2016	18 Jul 2016	08 Feb 2016

TRH (Total Recoverable Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_76_ESSD03	SE148233.001	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_76_ESSD04	SE148233.002	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_99_ESSD04 0-0.15	SE148233.005	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_99_ESSD05	SE148233.006	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_99_ESSD06	SE148233.007	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSD03	SE148233.011	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSD04	SE148233.012	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
DUPGS180116	SE148233.017	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
DUPGSA180116	SE148233.018	LB093779	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSD01	SE148233.019	LB093779	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSD02	SE148233.020	LB093779	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSD05	SE148233.021	LB093779	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSD06	SE148233.022	LB093779	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016

TRH (Total Recoverable Hydrocarbons) in Water — Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

TRH (Total Recoverable Hydrocarbons) in Water (continued) — Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_95_ESSW04	SE148233.003	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_95_ESSW05	SE148233.004	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_99_ESSW04	SE148233.008	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_99_ESSW05	SE148233.009	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_99_ESSW06	SE148233.010	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSW03	SE148233.013	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSW04	SE148233.014	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
DUPJO180116	SE148233.015	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
DUP2JO180116	SE148233.016	LB093777	18 Jan 2016	20 Jan 2016	25 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSW01	SE148233.023	LB093777	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSW02	SE148233.024	LB093777	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSW05	SE148233.025	LB093777	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_LL_ESSW06	SE148233.026	LB093777	19 Jan 2016	20 Jan 2016	26 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_95_ESMW03	SE148233.027	LB093777	20 Jan 2016	20 Jan 2016	27 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016
LAW_95_ESMW04	SE148233.028	LB093777	20 Jan 2016	20 Jan 2016	27 Jan 2016	25 Jan 2016	05 Mar 2016	29 Jan 2016

VOC's in Soil — Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_76_ESSD03	SE148233.001	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_76_ESSD04	SE148233.002	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_99_ESSD04 0-0.15	SE148233.005	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_99_ESSD05	SE148233.006	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_99_ESSD06	SE148233.007	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSD03	SE148233.011	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSD04	SE148233.012	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
DUPGS180116	SE148233.017	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
DUPGSA180116	SE148233.018	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSD01	SE148233.019	LB093789	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSD02	SE148233.020	LB093789	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSD05	SE148233.021	LB093789	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSD06	SE148233.022	LB093789	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016

VOCs in Water — Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_95_ESSW04	SE148233.003	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_95_ESSW05	SE148233.004	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_99_ESSW04	SE148233.008	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_99_ESSW05	SE148233.009	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_99_ESSW06	SE148233.010	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_LL_ESSW03	SE148233.013	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_LL_ESSW04	SE148233.014	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
DUPJO180116	SE148233.015	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
DUP2JO180116	SE148233.016	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_LL_ESSW01	SE148233.023	LB093809	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_LL_ESSW02	SE148233.024	LB093809	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_LL_ESSW05	SE148233.025	LB093809	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_LL_ESSW06	SE148233.026	LB093809	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_95_ESMW03	SE148233.027	LB093809	20 Jan 2016	20 Jan 2016	27 Jan 2016	27 Jan 2016	07 Mar 2016	02 Feb 2016
LAW_95_ESMW04	SE148233.028	LB093809	20 Jan 2016	20 Jan 2016	27 Jan 2016	27 Jan 2016	07 Mar 2016	02 Feb 2016

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_76_ESSD03	SE148233.001	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_76_ESSD04	SE148233.002	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_99_ESSD04 0-0.15	SE148233.005	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_99_ESSD05	SE148233.006	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_99_ESSD06	SE148233.007	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSD03	SE148233.011	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSD04	SE148233.012	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
DUPGS180116	SE148233.017	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
DUPGSA180116	SE148233.018	LB093789	18 Jan 2016	20 Jan 2016	01 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_LL_ESSD01	SE148233.019	LB093789	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSD02	SE148233.020	LB093789	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSD05	SE148233.021	LB093789	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016
LAW_LL_ESSD06	SE148233.022	LB093789	19 Jan 2016	20 Jan 2016	02 Feb 2016	25 Jan 2016	05 Mar 2016	01 Feb 2016

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LAW_95_ESSW04	SE148233.003	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_95_ESSW05	SE148233.004	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_99_ESSW04	SE148233.008	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_99_ESSW05	SE148233.009	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_99_ESSW06	SE148233.010	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_LL_ESSW03	SE148233.013	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_LL_ESSW04	SE148233.014	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	01 Feb 2016
DUPJO180116	SE148233.015	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
DUP2JO180116	SE148233.016	LB093809	18 Jan 2016	20 Jan 2016	25 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_LL_ESSW01	SE148233.023	LB093809	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_LL_ESSW02	SE148233.024	LB093809	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_LL_ESSW05	SE148233.025	LB093809	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_LL_ESSW06	SE148233.026	LB093809	19 Jan 2016	20 Jan 2016	26 Jan 2016	27 Jan 2016†	07 Mar 2016	02 Feb 2016
LAW_95_ESMW03	SE148233.027	LB093809	20 Jan 2016	20 Jan 2016	27 Jan 2016	27 Jan 2016	07 Mar 2016	02 Feb 2016
LAW_95_ESMW04	SE148233.028	LB093809	20 Jan 2016	20 Jan 2016	27 Jan 2016	27 Jan 2016	07 Mar 2016	02 Feb 2016

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Low Level PAH (Poly Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	LAW_95_ESSW04	SE148233.003	%	40 - 130%	NA
	LAW_95_ESSW05	SE148233.004	%	40 - 130%	NA
	LAW_99_ESSW04	SE148233.008	%	40 - 130%	NA
	LAW_99_ESSW05	SE148233.009	%	40 - 130%	NA
	LAW_99_ESSW06	SE148233.010	%	40 - 130%	NA
	LAW_LL_ESSW03	SE148233.013	%	40 - 130%	NA
	LAW_LL_ESSW04	SE148233.014	%	40 - 130%	NA
	DUPJO180116	SE148233.015	%	40 - 130%	NA
	DUP2JO180116	SE148233.016	%	40 - 130%	NA
	LAW_LL_ESSW01	SE148233.023	%	40 - 130%	NA
	LAW_LL_ESSW02	SE148233.024	%	40 - 130%	NA
	LAW_LL_ESSW05	SE148233.025	%	40 - 130%	NA
	LAW_LL_ESSW06	SE148233.026	%	40 - 130%	NA
	LAW_95_ESMW03	SE148233.027	%	40 - 130%	NA
	LAW_95_ESMW04	SE148233.028	%	40 - 130%	NA
d14-p-terphenyl (Surrogate)	LAW_95_ESSW04	SE148233.003	%	40 - 130%	96
	LAW_95_ESSW05	SE148233.004	%	40 - 130%	94
	LAW_99_ESSW04	SE148233.008	%	40 - 130%	93
	LAW_99_ESSW05	SE148233.009	%	40 - 130%	89
	LAW_99_ESSW06	SE148233.010	%	40 - 130%	75
	LAW_LL_ESSW03	SE148233.013	%	40 - 130%	82
	LAW_LL_ESSW04	SE148233.014	%	40 - 130%	71
	DUPJO180116	SE148233.015	%	40 - 130%	58
	DUP2JO180116	SE148233.016	%	40 - 130%	75
	LAW_LL_ESSW01	SE148233.023	%	40 - 130%	48
	LAW_LL_ESSW02	SE148233.024	%	40 - 130%	99
	LAW_LL_ESSW05	SE148233.025	%	40 - 130%	78
	LAW_LL_ESSW06	SE148233.026	%	40 - 130%	80
	LAW_95_ESMW03	SE148233.027	%	40 - 130%	76
	LAW_95_ESMW04	SE148233.028	%	40 - 130%	69
d5-nitrobenzene (Surrogate)	LAW_95_ESSW04	SE148233.003	%	40 - 130%	NA
	LAW_95_ESSW05	SE148233.004	%	40 - 130%	NA
	LAW_99_ESSW04	SE148233.008	%	40 - 130%	NA
	LAW_99_ESSW05	SE148233.009	%	40 - 130%	NA
	LAW_99_ESSW06	SE148233.010	%	40 - 130%	NA
	LAW_LL_ESSW03	SE148233.013	%	40 - 130%	NA
	LAW_LL_ESSW04	SE148233.014	%	40 - 130%	NA
	DUPJO180116	SE148233.015	%	40 - 130%	NA
	DUP2JO180116	SE148233.016	%	40 - 130%	NA
	LAW_LL_ESSW01	SE148233.023	%	40 - 130%	NA
	LAW_LL_ESSW02	SE148233.024	%	40 - 130%	NA
	LAW_LL_ESSW05	SE148233.025	%	40 - 130%	NA
	LAW_LL_ESSW06	SE148233.026	%	40 - 130%	NA
	LAW_95_ESMW03	SE148233.027	%	40 - 130%	NA
	LAW_95_ESMW04	SE148233.028	%	40 - 130%	NA

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	LAW_76_ESSD03	SE148233.001	%	70 - 130%	74
	LAW_76_ESSD04	SE148233.002	%	70 - 130%	76
	LAW_99_ESSD04 0-0.15	SE148233.005	%	70 - 130%	82
	LAW_99_ESSD05	SE148233.006	%	70 - 130%	80
	LAW_99_ESSD06	SE148233.007	%	70 - 130%	80
	LAW_LL_ESSD03	SE148233.011	%	70 - 130%	80
	LAW_LL_ESSD04	SE148233.012	%	70 - 130%	74
	DUPGS180116	SE148233.017	%	70 - 130%	76
	DUPGSA180116	SE148233.018	%	70 - 130%	76
	LAW_LL_ESSD01	SE148233.019	%	70 - 130%	76
	LAW_LL_ESSD02	SE148233.020	%	70 - 130%	74
	LAW_LL_ESSD05	SE148233.021	%	70 - 130%	78
	LAW_LL_ESSD06	SE148233.022	%	70 - 130%	76

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d14-p-terphenyl (Surrogate)	LAW_76_ESSD03	SE148233.001	%	70 - 130%	98
	LAW_76_ESSD04	SE148233.002	%	70 - 130%	106
	LAW_99_ESSD04 0-0.15	SE148233.005	%	70 - 130%	108
	LAW_99_ESSD05	SE148233.006	%	70 - 130%	108
	LAW_99_ESSD06	SE148233.007	%	70 - 130%	108
	LAW_LL_ESSD03	SE148233.011	%	70 - 130%	98
	LAW_LL_ESSD04	SE148233.012	%	70 - 130%	102
	DUPGS180116	SE148233.017	%	70 - 130%	100
	DUPGSA180116	SE148233.018	%	70 - 130%	104
	LAW_LL_ESSD01	SE148233.019	%	70 - 130%	102
	LAW_LL_ESSD02	SE148233.020	%	70 - 130%	96
	LAW_LL_ESSD05	SE148233.021	%	70 - 130%	102
	LAW_LL_ESSD06	SE148233.022	%	70 - 130%	100
d5-nitrobenzene (Surrogate)	LAW_76_ESSD03	SE148233.001	%	70 - 130%	74
	LAW_76_ESSD04	SE148233.002	%	70 - 130%	74
	LAW_99_ESSD04 0-0.15	SE148233.005	%	70 - 130%	80
	LAW_99_ESSD05	SE148233.006	%	70 - 130%	82
	LAW_99_ESSD06	SE148233.007	%	70 - 130%	78
	LAW_LL_ESSD03	SE148233.011	%	70 - 130%	70
	LAW_LL_ESSD04	SE148233.012	%	70 - 130%	70
	DUPGS180116	SE148233.017	%	70 - 130%	74
	DUPGSA180116	SE148233.018	%	70 - 130%	74
	LAW_LL_ESSD01	SE148233.019	%	70 - 130%	76
	LAW_LL_ESSD02	SE148233.020	%	70 - 130%	74
	LAW_LL_ESSD05	SE148233.021	%	70 - 130%	78
	LAW_LL_ESSD06	SE148233.022	%	70 - 130%	76

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	LAW_76_ESSD03	SE148233.001	%	60 - 130%	106
	LAW_76_ESSD04	SE148233.002	%	60 - 130%	102
	LAW_99_ESSD04 0-0.15	SE148233.005	%	60 - 130%	104
	LAW_99_ESSD05	SE148233.006	%	60 - 130%	104
	LAW_99_ESSD06	SE148233.007	%	60 - 130%	105
	LAW_LL_ESSD03	SE148233.011	%	60 - 130%	101
	LAW_LL_ESSD04	SE148233.012	%	60 - 130%	111
	DUPGS180116	SE148233.017	%	60 - 130%	104
	DUPGSA180116	SE148233.018	%	60 - 130%	106
	LAW_LL_ESSD01	SE148233.019	%	60 - 130%	107
	LAW_LL_ESSD02	SE148233.020	%	60 - 130%	107
	LAW_LL_ESSD05	SE148233.021	%	60 - 130%	105
	LAW_LL_ESSD06	SE148233.022	%	60 - 130%	102

PCBs in Water

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (Surrogate)	LAW_99_ESSW04	SE148233.008	%	40 - 130%	69
	LAW_99_ESSW05	SE148233.009	%	40 - 130%	82
	LAW_99_ESSW06	SE148233.010	%	40 - 130%	52
	LAW_LL_ESSW03	SE148233.013	%	40 - 130%	53
	LAW_LL_ESSW04	SE148233.014	%	40 - 130%	54
	DUPJO180116	SE148233.015	%	40 - 130%	53
	DUP2JO180116	SE148233.016	%	40 - 130%	56
	LAW_LL_ESSW01	SE148233.023	%	40 - 130%	54
	LAW_LL_ESSW02	SE148233.024	%	40 - 130%	58
	LAW_LL_ESSW05	SE148233.025	%	40 - 130%	59
	LAW_LL_ESSW06	SE148233.026	%	40 - 130%	59

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	LAW_76_ESSD03	SE148233.001	%	60 - 130%	98
	LAW_76_ESSD04	SE148233.002	%	60 - 130%	128
	LAW_99_ESSD04 0-0.15	SE148233.005	%	60 - 130%	86

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	LAW_99_ESSD05	SE148233.006	%	60 - 130%	92
	LAW_99_ESSD06	SE148233.007	%	60 - 130%	75
	LAW_LL_ESSD03	SE148233.011	%	60 - 130%	78
	LAW_LL_ESSD04	SE148233.012	%	60 - 130%	81
	DUPGS180116	SE148233.017	%	60 - 130%	89
	DUPGSA180116	SE148233.018	%	60 - 130%	71
	LAW_LL_ESSD01	SE148233.019	%	60 - 130%	81
	LAW_LL_ESSD02	SE148233.020	%	60 - 130%	110
	LAW_LL_ESSD05	SE148233.021	%	60 - 130%	91
	LAW_LL_ESSD06	SE148233.022	%	60 - 130%	80
d4-1,2-dichloroethane (Surrogate)	LAW_76_ESSD03	SE148233.001	%	60 - 130%	78
	LAW_76_ESSD04	SE148233.002	%	60 - 130%	71
	LAW_99_ESSD04 0-0.15	SE148233.005	%	60 - 130%	84
	LAW_99_ESSD05	SE148233.006	%	60 - 130%	86
	LAW_99_ESSD06	SE148233.007	%	60 - 130%	88
	LAW_LL_ESSD03	SE148233.011	%	60 - 130%	83
	LAW_LL_ESSD04	SE148233.012	%	60 - 130%	86
	DUPGS180116	SE148233.017	%	60 - 130%	96
	DUPGSA180116	SE148233.018	%	60 - 130%	86
	LAW_LL_ESSD01	SE148233.019	%	60 - 130%	99
	LAW_LL_ESSD02	SE148233.020	%	60 - 130%	102
	LAW_LL_ESSD05	SE148233.021	%	60 - 130%	96
	LAW_LL_ESSD06	SE148233.022	%	60 - 130%	91
d8-toluene (Surrogate)	LAW_76_ESSD03	SE148233.001	%	60 - 130%	109
	LAW_76_ESSD04	SE148233.002	%	60 - 130%	99
	LAW_99_ESSD04 0-0.15	SE148233.005	%	60 - 130%	85
	LAW_99_ESSD05	SE148233.006	%	60 - 130%	99
	LAW_99_ESSD06	SE148233.007	%	60 - 130%	90
	LAW_LL_ESSD03	SE148233.011	%	60 - 130%	97
	LAW_LL_ESSD04	SE148233.012	%	60 - 130%	77
	DUPGS180116	SE148233.017	%	60 - 130%	92
	DUPGSA180116	SE148233.018	%	60 - 130%	74
	LAW_LL_ESSD01	SE148233.019	%	60 - 130%	86
	LAW_LL_ESSD02	SE148233.020	%	60 - 130%	99
	LAW_LL_ESSD05	SE148233.021	%	60 - 130%	93
	LAW_LL_ESSD06	SE148233.022	%	60 - 130%	84
Dibromofluoromethane (Surrogate)	LAW_76_ESSD03	SE148233.001	%	60 - 130%	70
	LAW_76_ESSD04	SE148233.002	%	60 - 130%	95
	LAW_99_ESSD04 0-0.15	SE148233.005	%	60 - 130%	81
	LAW_99_ESSD05	SE148233.006	%	60 - 130%	78
	LAW_99_ESSD06	SE148233.007	%	60 - 130%	75
	LAW_LL_ESSD03	SE148233.011	%	60 - 130%	76
	LAW_LL_ESSD04	SE148233.012	%	60 - 130%	76
	DUPGS180116	SE148233.017	%	60 - 130%	89
	DUPGSA180116	SE148233.018	%	60 - 130%	73
	LAW_LL_ESSD01	SE148233.019	%	60 - 130%	83
	LAW_LL_ESSD02	SE148233.020	%	60 - 130%	93
	LAW_LL_ESSD05	SE148233.021	%	60 - 130%	84
	LAW_LL_ESSD06	SE148233.022	%	60 - 130%	78

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	LAW_95_ESSW04	SE148233.003	%	40 - 130%	104
	LAW_95_ESSW05	SE148233.004	%	40 - 130%	99
	LAW_99_ESSW04	SE148233.008	%	40 - 130%	112
	LAW_99_ESSW05	SE148233.009	%	40 - 130%	106
	LAW_99_ESSW06	SE148233.010	%	40 - 130%	77
	LAW_LL_ESSW03	SE148233.013	%	40 - 130%	128
	LAW_LL_ESSW04	SE148233.014	%	40 - 130%	89
	DUPJO180116	SE148233.015	%	40 - 130%	86
	DUP2JO180116	SE148233.016	%	40 - 130%	101

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOCs in Water (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	LAW_LL_ESSW01	SE148233.023	%	40 - 130%	100
	LAW_LL_ESSW02	SE148233.024	%	40 - 130%	113
	LAW_LL_ESSW05	SE148233.025	%	40 - 130%	128
	LAW_LL_ESSW06	SE148233.026	%	40 - 130%	129
	LAW_95_ESMW03	SE148233.027	%	40 - 130%	93
	LAW_95_ESMW04	SE148233.028	%	40 - 130%	98
d4-1,2-dichloroethane (Surrogate)	LAW_95_ESSW04	SE148233.003	%	40 - 130%	114
	LAW_95_ESSW05	SE148233.004	%	40 - 130%	111
	LAW_99_ESSW04	SE148233.008	%	40 - 130%	103
	LAW_99_ESSW05	SE148233.009	%	40 - 130%	106
	LAW_99_ESSW06	SE148233.010	%	40 - 130%	106
	LAW_LL_ESSW03	SE148233.013	%	40 - 130%	105
	LAW_LL_ESSW04	SE148233.014	%	40 - 130%	97
	DUPJO180116	SE148233.015	%	40 - 130%	104
	DUP2JO180116	SE148233.016	%	40 - 130%	102
	LAW_LL_ESSW01	SE148233.023	%	40 - 130%	104
	LAW_LL_ESSW02	SE148233.024	%	40 - 130%	105
	LAW_LL_ESSW05	SE148233.025	%	40 - 130%	99
	LAW_LL_ESSW06	SE148233.026	%	40 - 130%	104
	LAW_95_ESMW03	SE148233.027	%	40 - 130%	107
	LAW_95_ESMW04	SE148233.028	%	40 - 130%	107
d8-toluene (Surrogate)	LAW_95_ESSW04	SE148233.003	%	40 - 130%	99
	LAW_95_ESSW05	SE148233.004	%	40 - 130%	99
	LAW_99_ESSW04	SE148233.008	%	40 - 130%	102
	LAW_99_ESSW05	SE148233.009	%	40 - 130%	98
	LAW_99_ESSW06	SE148233.010	%	40 - 130%	101
	LAW_LL_ESSW03	SE148233.013	%	40 - 130%	84
	LAW_LL_ESSW04	SE148233.014	%	40 - 130%	96
	DUPJO180116	SE148233.015	%	40 - 130%	91
	DUP2JO180116	SE148233.016	%	40 - 130%	98
	LAW_LL_ESSW01	SE148233.023	%	40 - 130%	92
	LAW_LL_ESSW02	SE148233.024	%	40 - 130%	91
	LAW_LL_ESSW05	SE148233.025	%	40 - 130%	82
	LAW_LL_ESSW06	SE148233.026	%	40 - 130%	83
	LAW_95_ESMW03	SE148233.027	%	40 - 130%	96
	LAW_95_ESMW04	SE148233.028	%	40 - 130%	96
Dibromofluoromethane (Surrogate)	LAW_95_ESSW04	SE148233.003	%	40 - 130%	126
	LAW_95_ESSW05	SE148233.004	%	40 - 130%	121
	LAW_99_ESSW04	SE148233.008	%	40 - 130%	104
	LAW_99_ESSW05	SE148233.009	%	40 - 130%	98
	LAW_99_ESSW06	SE148233.010	%	40 - 130%	99
	LAW_LL_ESSW03	SE148233.013	%	40 - 130%	0 ①
	LAW_LL_ESSW04	SE148233.014	%	40 - 130%	78
	DUPJO180116	SE148233.015	%	40 - 130%	106
	DUP2JO180116	SE148233.016	%	40 - 130%	0 ①
	LAW_LL_ESSW01	SE148233.023	%	40 - 130%	99
	LAW_LL_ESSW02	SE148233.024	%	40 - 130%	104
	LAW_LL_ESSW05	SE148233.025	%	40 - 130%	98
	LAW_LL_ESSW06	SE148233.026	%	40 - 130%	98
	LAW_95_ESMW03	SE148233.027	%	40 - 130%	101
	LAW_95_ESMW04	SE148233.028	%	40 - 130%	96

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	LAW_76_ESSD03	SE148233.001	%	60 - 130%	113
	LAW_76_ESSD04	SE148233.002	%	60 - 130%	110
	LAW_99_ESSD04 0-0.15	SE148233.005	%	60 - 130%	86
	LAW_99_ESSD05	SE148233.006	%	60 - 130%	92
	LAW_99_ESSD06	SE148233.007	%	60 - 130%	75
	LAW_LL_ESSD03	SE148233.011	%	60 - 130%	78
	LAW_LL_ESSD04	SE148233.012	%	60 - 130%	81

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued) — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	DUPGS180116	SE148233.017	%	60 - 130%	89
	DUPGSA180116	SE148233.018	%	60 - 130%	71
	LAW_LL_ESSD01	SE148233.019	%	60 - 130%	81
	LAW_LL_ESSD02	SE148233.020	%	60 - 130%	110
	LAW_LL_ESSD05	SE148233.021	%	60 - 130%	91
	LAW_LL_ESSD06	SE148233.022	%	60 - 130%	80
d4-1,2-dichloroethane (Surrogate)	LAW_76_ESSD03	SE148233.001	%	60 - 130%	78
	LAW_76_ESSD04	SE148233.002	%	60 - 130%	76
	LAW_99_ESSD04 0-0.15	SE148233.005	%	60 - 130%	84
	LAW_99_ESSD05	SE148233.006	%	60 - 130%	86
	LAW_99_ESSD06	SE148233.007	%	60 - 130%	88
	LAW_LL_ESSD03	SE148233.011	%	60 - 130%	83
	LAW_LL_ESSD04	SE148233.012	%	60 - 130%	86
	DUPGS180116	SE148233.017	%	60 - 130%	96
	DUPGSA180116	SE148233.018	%	60 - 130%	86
	LAW_LL_ESSD01	SE148233.019	%	60 - 130%	99
	LAW_LL_ESSD02	SE148233.020	%	60 - 130%	102
	LAW_LL_ESSD05	SE148233.021	%	60 - 130%	96
	LAW_LL_ESSD06	SE148233.022	%	60 - 130%	91
d8-toluene (Surrogate)	LAW_76_ESSD03	SE148233.001	%	60 - 130%	95
	LAW_76_ESSD04	SE148233.002	%	60 - 130%	97
	LAW_99_ESSD04 0-0.15	SE148233.005	%	60 - 130%	85
	LAW_99_ESSD05	SE148233.006	%	60 - 130%	99
	LAW_99_ESSD06	SE148233.007	%	60 - 130%	90
	LAW_LL_ESSD03	SE148233.011	%	60 - 130%	97
	LAW_LL_ESSD04	SE148233.012	%	60 - 130%	77
	DUPGS180116	SE148233.017	%	60 - 130%	92
	DUPGSA180116	SE148233.018	%	60 - 130%	74
	LAW_LL_ESSD01	SE148233.019	%	60 - 130%	86
	LAW_LL_ESSD02	SE148233.020	%	60 - 130%	99
	LAW_LL_ESSD05	SE148233.021	%	60 - 130%	93
	LAW_LL_ESSD06	SE148233.022	%	60 - 130%	84
Dibromofluoromethane (Surrogate)	LAW_76_ESSD03	SE148233.001	%	60 - 130%	73
	LAW_76_ESSD04	SE148233.002	%	60 - 130%	94
	LAW_99_ESSD04 0-0.15	SE148233.005	%	60 - 130%	81
	LAW_99_ESSD05	SE148233.006	%	60 - 130%	78
	LAW_99_ESSD06	SE148233.007	%	60 - 130%	75
	LAW_LL_ESSD03	SE148233.011	%	60 - 130%	76
	LAW_LL_ESSD04	SE148233.012	%	60 - 130%	76
	DUPGS180116	SE148233.017	%	60 - 130%	89
	DUPGSA180116	SE148233.018	%	60 - 130%	73
	LAW_LL_ESSD01	SE148233.019	%	60 - 130%	83
	LAW_LL_ESSD02	SE148233.020	%	60 - 130%	93
	LAW_LL_ESSD05	SE148233.021	%	60 - 130%	84
	LAW_LL_ESSD06	SE148233.022	%	60 - 130%	78

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	LAW_95_ESSW04	SE148233.003	%	40 - 130%	104
	LAW_95_ESSW05	SE148233.004	%	40 - 130%	99
	LAW_99_ESSW04	SE148233.008	%	40 - 130%	92
	LAW_99_ESSW05	SE148233.009	%	40 - 130%	86
	LAW_99_ESSW06	SE148233.010	%	40 - 130%	90
	LAW_LL_ESSW03	SE148233.013	%	40 - 130%	74
	LAW_LL_ESSW04	SE148233.014	%	40 - 130%	89
	DUPJO180116	SE148233.015	%	40 - 130%	93
	DUP2JO180116	SE148233.016	%	40 - 130%	90
	LAW_LL_ESSW01	SE148233.023	%	40 - 130%	87
	LAW_LL_ESSW02	SE148233.024	%	40 - 130%	70
	LAW_LL_ESSW05	SE148233.025	%	40 - 130%	72
	LAW_LL_ESSW06	SE148233.026	%	40 - 130%	73

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	LAW_95_ESMW03	SE148233.027	%	40 - 130%	93
	LAW_95_ESMW04	SE148233.028	%	40 - 130%	98
d4-1,2-dichloroethane (Surrogate)	LAW_95_ESSW04	SE148233.003	%	60 - 130%	114
	LAW_95_ESSW05	SE148233.004	%	60 - 130%	111
	LAW_99_ESSW04	SE148233.008	%	60 - 130%	107
	LAW_99_ESSW05	SE148233.009	%	60 - 130%	105
	LAW_99_ESSW06	SE148233.010	%	60 - 130%	107
	LAW_LL_ESSW03	SE148233.013	%	60 - 130%	105
	LAW_LL_ESSW04	SE148233.014	%	60 - 130%	106
	DUPJO180116	SE148233.015	%	60 - 130%	106
	DUP2JO180116	SE148233.016	%	60 - 130%	109
	LAW_LL_ESSW01	SE148233.023	%	60 - 130%	103
	LAW_LL_ESSW02	SE148233.024	%	60 - 130%	106
	LAW_LL_ESSW05	SE148233.025	%	60 - 130%	103
	LAW_LL_ESSW06	SE148233.026	%	60 - 130%	105
	LAW_95_ESMW03	SE148233.027	%	60 - 130%	107
	LAW_95_ESMW04	SE148233.028	%	60 - 130%	107
d8-toluene (Surrogate)	LAW_95_ESSW04	SE148233.003	%	40 - 130%	99
	LAW_95_ESSW05	SE148233.004	%	40 - 130%	99
	LAW_99_ESSW04	SE148233.008	%	40 - 130%	90
	LAW_99_ESSW05	SE148233.009	%	40 - 130%	93
	LAW_99_ESSW06	SE148233.010	%	40 - 130%	96
	LAW_LL_ESSW03	SE148233.013	%	40 - 130%	93
	LAW_LL_ESSW04	SE148233.014	%	40 - 130%	95
	DUPJO180116	SE148233.015	%	40 - 130%	92
	DUP2JO180116	SE148233.016	%	40 - 130%	96
	LAW_LL_ESSW01	SE148233.023	%	40 - 130%	95
	LAW_LL_ESSW02	SE148233.024	%	40 - 130%	99
	LAW_LL_ESSW05	SE148233.025	%	40 - 130%	96
	LAW_LL_ESSW06	SE148233.026	%	40 - 130%	98
	LAW_95_ESMW03	SE148233.027	%	40 - 130%	96
	LAW_95_ESMW04	SE148233.028	%	40 - 130%	96
Dibromofluoromethane (Surrogate)	LAW_95_ESSW04	SE148233.003	%	40 - 130%	126
	LAW_95_ESSW05	SE148233.004	%	40 - 130%	121
	LAW_99_ESSW04	SE148233.008	%	40 - 130%	95
	LAW_99_ESSW05	SE148233.009	%	40 - 130%	97
	LAW_99_ESSW06	SE148233.010	%	40 - 130%	95
	LAW_LL_ESSW03	SE148233.013	%	40 - 130%	0 1
	LAW_LL_ESSW04	SE148233.014	%	40 - 130%	98
	DUPJO180116	SE148233.015	%	40 - 130%	97
	DUP2JO180116	SE148233.016	%	40 - 130%	0 1
	LAW_LL_ESSW01	SE148233.023	%	40 - 130%	97
	LAW_LL_ESSW02	SE148233.024	%	40 - 130%	93
	LAW_LL_ESSW05	SE148233.025	%	40 - 130%	94
	LAW_LL_ESSW06	SE148233.026	%	40 - 130%	93
	LAW_95_ESMW03	SE148233.027	%	40 - 130%	101
	LAW_95_ESMW04	SE148233.028	%	40 - 130%	96

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

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Alkalinity — Method: ME-(AU)-E[NV]AN135

Sample Number	Parameter	Units	LOR	Result
LB093770.001	Total Alkalinity as CaCO3	mg/L	5	<5

Ammonia Nitrogen by Discrete Analyser (Aquakem) — Method: ME-(AU)-[ENV]AN291

Sample Number	Parameter	Units	LOR	Result
LB093775.001	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.01

Anions by Ion Chromatography in Water — Method: ME-AU-ENVAN245

Sample Number	Parameter	Units	LOR	Result
LB093828.001	Chloride	mg/L	0.05	<0.05
	Sulphate, SO4	mg/L	1	<1.0

Conductivity and TDS by Calculation - Water — Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB093787.001	Conductivity @ 25 C	µS/cm	2	<2
	Salinity*	mg/L	2	<2

Low Level PAH (Poly Aromatic Hydrocarbons) in Water — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB093777.001		Naphthalene	µg/L	0.02	<0.02
		2-methylnaphthalene	µg/L	0.01	<0.01
		1-methylnaphthalene	µg/L	0.01	<0.01
		Acenaphthylene	µg/L	0.01	<0.01
		Acenaphthene	µg/L	0.01	<0.01
		Fluorene	µg/L	0.01	<0.01
		Phenanthrene	µg/L	0.01	<0.01
		Anthracene	µg/L	0.01	<0.01
		Fluoranthene	µg/L	0.01	<0.01
		Pyrene	µg/L	0.01	<0.01
		Benzo(a)anthracene	µg/L	0.01	<0.01
		Chrysene	µg/L	0.01	<0.01
		Benzo(b&j&k)fluoranthene	µg/L	0.02	<0.02
		Benzo(a)pyrene	µg/L	0.01	<0.01
		Indeno(1,2,3-cd)pyrene	µg/L	0.01	<0.01
		Dibenzo(a&h)anthracene	µg/L	0.01	<0.01
		Benzo(ghi)perylene	µg/L	0.01	<0.01
	Surrogates	d14-p-terphenyl (Surrogate)	%	-	88

Mercury (dissolved) in Water — Method: ME-(AU)-[ENV]AN311/AN312

Sample Number	Parameter	Units	LOR	Result
LB093819.001	Mercury	mg/L	0.00005	0.00000

Mercury in Soil — Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB093940.001	Mercury	mg/kg	0.01	<0.01
LB093943.001	Mercury	mg/kg	0.01	<0.01

Metals in Water (Dissolved) by ICPOES — Method: ME-(AU)-[ENV]AN320/AN321

Sample Number	Parameter	Units	LOR	Result
LB093793.001	Calcium, Ca	mg/L	0.1	<0.1
	Magnesium, Mg	mg/L	0.1	<0.1
	Potassium, K	mg/L	0.2	<0.2
	Sodium, Na	mg/L	0.1	<0.1

PAH (Polynuclear Aromatic Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB093779.001		Naphthalene	mg/kg	0.1	<0.1
		2-methylnaphthalene	mg/kg	0.1	<0.1
		1-methylnaphthalene	mg/kg	0.1	<0.1
		Acenaphthylene	mg/kg	0.1	<0.1
		Acenaphthene	mg/kg	0.1	<0.1
		Fluorene	mg/kg	0.1	<0.1
		Phenanthrene	mg/kg	0.1	<0.1
		Anthracene	mg/kg	0.1	<0.1
		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	80
		2-fluorobiphenyl (Surrogate)	%	-	84
		d14-p-terphenyl (Surrogate)	%	-	112

PCBs in Soil — Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB093779.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	85

PCBs in Water — Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB093777.001	Arochlor 1016	µg/L	1	<1
	Arochlor 1221	µg/L	1	<1
	Arochlor 1232	µg/L	1	<1
	Arochlor 1242	µg/L	0.1	<0.1
	Arochlor 1248	µg/L	1	<1
	Arochlor 1254	µg/L	0.1	<0.1
	Arochlor 1260	µg/L	1	<1
	Arochlor 1262	µg/L	1	<1
	Arochlor 1268	µg/L	1	<1

Soluble Anions (1:5) in Soil by Ion Chromatography — Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result
LB093827.001	Chloride	mg/kg	0.25	<0.25
	Sulphate	mg/kg	5	<5.0

Total Recoverable Metals in Soil by ICPOES — Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB093897.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5
	Selenium, Se	mg/kg	3	<3

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Total Recoverable Metals in Soil by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB093897.001	Calcium, Ca	mg/kg	5	<5
	Magnesium, Mg	mg/kg	10	<10
	Potassium, K	mg/kg	10	<10
	Sodium, Na	mg/kg	10	<10
LB093963.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5
	Selenium, Se	mg/kg	3	<3
	Calcium, Ca	mg/kg	5	<5
	Magnesium, Mg	mg/kg	10	<10
	Potassium, K	mg/kg	10	<10
	Sodium, Na	mg/kg	10	<10

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB093825.001	Arsenic, As	µg/L	1	<1
	Boron, B	µg/L	5	<5
	Cadmium, Cd	µg/L	0.1	<0.1
	Chromium, Cr	µg/L	1	<1
	Copper, Cu	µg/L	1	<1
	Lead, Pb	µg/L	1	<1
	Nickel, Ni	µg/L	1	<1
	Selenium, Se	µg/L	1	<1
	Zinc, Zn	µg/L	5	<5

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB093824.001	Total Arsenic	µg/L	1	<1
	Total Boron	µg/L	5	<5
	Total Cadmium	µg/L	0.1	<0.1
	Total Copper	µg/L	1	<1
	Total Lead	µg/L	1	<1
	Total Nickel	µg/L	1	<1
	Total Selenium	µg/L	1	<1
	Total Zinc	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB093779.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB093777.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB093789.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1

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VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB093789.001	Halogenated Aliphatics	Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1

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VOC's in Soil (continued) Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB093789.001	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	98
		d4-1,2-dichloroethane (Surrogate)	%	-	78
		d8-toluene (Surrogate)	%	-	90
		Bromofluorobenzene (Surrogate)	%	-	72
	Totals	Total BTEX	mg/kg	0.6	<0.6
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1

VOCs in Water Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB093809.001	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5
		1,2-dichloropropane	µg/L	0.5	<0.5
		cis-1,3-dichloropropene	µg/L	0.5	<0.5
		trans-1,3-dichloropropene	µg/L	0.5	<0.5
		1,2-dibromoethane (EDB)	µg/L	0.5	<0.5
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5
		Chloromethane	µg/L	5	<5
		Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3
		Bromomethane	µg/L	10	<10
		Chloroethane	µg/L	5	<5
		Trichlorofluoromethane	µg/L	1	<1
		Iodomethane	µg/L	5	<5
		1,1-dichloroethene	µg/L	0.5	<0.5
		Dichloromethane (Methylene chloride)	µg/L	4	<4
		Allyl chloride	µg/L	2	<2
		trans-1,2-dichloroethene	µg/L	0.5	<0.5
		1,1-dichloroethane	µg/L	0.5	<0.5
		cis-1,2-dichloroethene	µg/L	0.5	<0.5
		Bromochloromethane	µg/L	0.5	<0.5
		1,2-dichloroethane	µg/L	0.5	<0.5
		1,1,1-trichloroethane	µg/L	0.5	<0.5
		1,1-dichloropropene	µg/L	0.5	<0.5
		Carbon tetrachloride	µg/L	0.5	<0.5
		Dibromomethane	µg/L	0.5	<0.5
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5
		1,1,2-trichloroethane	µg/L	0.5	<0.5
		1,3-dichloropropane	µg/L	0.5	<0.5
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5
		1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5
		cis-1,4-dichloro-2-butene	µg/L	1	<1
		1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5
		1,2,3-trichloropropane	µg/L	0.5	<0.5
		trans-1,4-dichloro-2-butene	µg/L	1	<1
		1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5
		Hexachlorobutadiene	µg/L	0.5	<0.5
	Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5
		Bromobenzene	µg/L	0.5	<0.5
		2-chlorotoluene	µg/L	0.5	<0.5
		4-chlorotoluene	µg/L	0.5	<0.5
		1,3-dichlorobenzene	µg/L	0.5	<0.5
		1,4-dichlorobenzene	µg/L	0.3	<0.3
		1,2-dichlorobenzene	µg/L	0.5	<0.5
		1,2,4-trichlorobenzene	µg/L	0.5	<0.5
		1,2,3-trichlorobenzene	µg/L	0.5	<0.5
	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5	<0.5
		Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1

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Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB093809.001	Monocyclic Aromatic Hydrocarbons	o-xylene	µg/L	0.5	<0.5
		Styrene (Vinyl benzene)	µg/L	0.5	<0.5
		Isopropylbenzene (Cumene)	µg/L	0.5	<0.5
		n-propylbenzene	µg/L	0.5	<0.5
		1,3,5-trimethylbenzene	µg/L	0.5	<0.5
		tert-butylbenzene	µg/L	0.5	<0.5
		1,2,4-trimethylbenzene	µg/L	0.5	<0.5
		sec-butylbenzene	µg/L	0.5	<0.5
		p-isopropyltoluene	µg/L	0.5	<0.5
		n-butylbenzene	µg/L	0.5	<0.5
	Nitrogenous Compounds	Acrylonitrile	µg/L	0.5	<0.5
	Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	<10
		MtBE (Methyl-tert-butyl ether)	µg/L	2	<2
		Vinyl acetate	µg/L	10	<10
		MEK (2-butanone)	µg/L	10	<10
		MIBK (4-methyl-2-pentanone)	µg/L	5	<5
		2-hexanone (MBK)	µg/L	5	<5
	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5
	Sulphonated	Carbon disulfide	µg/L	2	<2
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	99
		d4-1,2-dichloroethane (Surrogate)	%	-	104
		d8-toluene (Surrogate)	%	-	119
		Bromofluorobenzene (Surrogate)	%	-	105
	Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5
		Bromodichloromethane (THM)	µg/L	0.5	<0.5
		Dibromochloromethane (THM)	µg/L	0.5	<0.5
		Bromoform (THM)	µg/L	0.5	<0.5

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result
LB093789.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	74
		d4-1,2-dichloroethane (Surrogate)	%	-	80
		d8-toluene (Surrogate)	%	-	77

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result
LB093809.001		TRH C6-C9	µg/L	40	<40
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	94
		d4-1,2-dichloroethane (Surrogate)	%	-	109
		d8-toluene (Surrogate)	%	-	99
		Bromofluorobenzene (Surrogate)	%	-	101

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Alkalinity

Method: ME-(AU)-E[NV]AN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.026	LB093770.010	Total Alkalinity as CaCO3	mg/L	5	140	140	19	0

Ammonia Nitrogen (soluble) in Soil

Method: ME-(AU)-[ENV]AN291

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148234.001	LB094021.011	Ammonia Nitrogen, NH_3 as N	mg/kg	0.2	<0.2	<0.2	200	0

Ammonia Nitrogen by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN291

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148248.002	LB093775.017	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.02	0.02	66	7

Anions by Ion Chromatography in Water

Method: ME-AU-ENVAN245

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148294.001	LB093828.024	Sulphate, SO4	mg/L	1	120	120	16	0

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.025	LB093787.014	Conductivity @ 25 C	µS/cm	2	2400	2400	15	0
		Salinity*	mg/L	2	1600	1600	15	0
SE148233.026	LB093787.016	Conductivity @ 25 C	µS/cm	2	2400	2400	15	0
		Salinity*	mg/L	2	1600	1600	15	0

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.015	LB093959.014	Total Mercury	µg/L	0.00005	<0.00005	<0.00005	200	0

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148229.005	LB093940.014	Mercury	mg/kg	0.01	0.03	0.02	200	0
SE148233.012	LB093940.024	Mercury	mg/kg	0.01	0.01	0.01	200	0
SE148276.003	LB093943.014	Mercury	mg/kg	0.01	0.03	0.03	200	0
SE148276.016	LB093943.024	Mercury	mg/kg	0.01	0.02	0.02	200	0

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320/AN321

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.026	LB093793.014	Calcium, Ca	mg/L	0.1	110	110	15	0
		Magnesium, Mg	mg/L	0.1	71	71	15	0
		Potassium, K	mg/L	0.2	15	15	16	0
		Sodium, Na	mg/L	0.1	250	250	15	0
SE148297.001	LB093793.028	Calcium, Ca	mg/L	0.1	30	30	16	0
		Magnesium, Mg	mg/L	0.1	21	21	15	0
		Sodium, Na	mg/L	0.1	21	21	17	1

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.019	LB093774.011	% Moisture	%w/w	0.5	22	23	34	6
SE148292.002	LB093774.022	% Moisture	%w/w	0.5	51	50	32	1
SE148292.006	LB093774.027	% Moisture	%w/w	0.5	18	17	36	6

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.019	LB093779.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	3
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
SE148233.022	LB093779.018		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	0
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	3
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	0

PCBs in Soil — Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.019	LB093779.014		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.019	LB093779.014		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	1
SE148233.022	LB093779.018		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	5

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.022	LB093788.011	pH	pH Units	-	8.8	8.8	31	0

pH in water

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.025	LB093787.014	pH**	pH Units	0.1	8.4	8.4	16	0
SE148233.026	LB093787.016	pH**	pH Units	0.1	8.4	8.4	16	0

TOC in Soil

Method: ME-(AU)-[ENV]AN188

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148234.001	LB093941.017	Total Organic Carbon	%w/w	0.05	0.34	0.3008432605	31	13

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148229.005	LB093897.014	Arsenic, As	mg/kg	3	9	10	41	5
		Cadmium, Cd	mg/kg	0.3	0.4	0.4	106	16
		Chromium, Cr	mg/kg	0.3	25	22	32	11
		Copper, Cu	mg/kg	0.5	5.6	4.8	40	14
		Lead, Pb	mg/kg	1	18	17	36	10
		Nickel, Ni	mg/kg	0.5	0.9	1.2	77	30
		Zinc, Zn	mg/kg	0.5	20	25	39	26
SE148233.012	LB093897.024	Arsenic, As	mg/kg	3	12	12	38	1
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	6.2	6.2	38	1
		Copper, Cu	mg/kg	0.5	12	12	34	1
		Lead, Pb	mg/kg	1	7	7	44	3
		Nickel, Ni	mg/kg	0.5	11	11	35	1
		Zinc, Zn	mg/kg	0.5	34	34	36	0
		Selenium, Se	mg/kg	3	<3	<3	200	0
		Boron, B	mg/kg	5	<5	<5	200	0
		Calcium, Ca	mg/kg	5	4000	4000	30	1
		Magnesium, Mg	mg/kg	10	1000	1100	31	1
		Potassium, K	mg/kg	10	420	420	32	0
		Sodium, Na	mg/kg	10	280	280	34	0
SE148292.001	LB093963.014	Cadmium, Cd	mg/kg	0.3	0.2	0.2	152	0
		Selenium, Se	mg/kg	3	<2	<2	200	0

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Trace Metals (Dissolved) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN318

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148286.001	LB093825.014		Arsenic, As	µg/L	1	2	2	78	6
			Boron, B	µg/L	5	140	120	19	10
			Cadmium, Cd	µg/L	0.1	1.1	1.0	24	4
			Chromium, Cr	µg/L	1	<1	<1	200	0
			Copper, Cu	µg/L	1	2	2	77	9
			Lead, Pb	µg/L	1	<1	<1	200	0
			Nickel, Ni	µg/L	1	71	72	16	1
			Selenium, Se	µg/L	1	7	8	28	16
			Zinc, Zn	µg/L	5	60	59	23	2
SE148286.011	LB093825.023		Arsenic, As	µg/L	1	<1	<1	173	0
			Boron, B	µg/L	5	130	130	19	2
			Cadmium, Cd	µg/L	0.1	<0.1	<0.1	200	0
			Chromium, Cr	µg/L	1	<1	<1	200	0
			Copper, Cu	µg/L	1	<1	<1	200	0
			Lead, Pb	µg/L	1	<1	<1	200	0
			Nickel, Ni	µg/L	1	21	21	20	1
			Selenium, Se	µg/L	1	<1	<1	200	0
			Zinc, Zn	µg/L	5	7	6	90	5

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.023	LB093824.014		Total Arsenic	µg/L	1	3	3	44	0
			Total Boron	µg/L	5	900	930	16	3
			Total Cadmium	µg/L	0.1	<0.1	<0.1	200	0
			Total Chromium	µg/L	1	<1	<1	200	0
			Total Copper	µg/L	1	5	5	36	1
			Total Lead	µg/L	1	<1	<1	200	0
			Total Nickel	µg/L	1	4	4	41	1
			Total Selenium	µg/L	1	3	3	51	13
			Total Zinc	µg/L	5	<5	<5	120	0
SE148233.028	LB093824.020		Total Arsenic	µg/L	1	6	7	31	8
			Total Boron	µg/L	5	190	190	18	1
			Total Cadmium	µg/L	0.1	<0.1	<0.1	200	0
			Total Chromium	µg/L	1	5	6	34	9
			Total Copper	µg/L	1	3	4	43	3
			Total Lead	µg/L	1	4	4	40	8
			Total Nickel	µg/L	1	74	73	16	1
			Total Selenium	µg/L	1	4	4	43	3
			Total Zinc	µg/L	5	19	20	40	3

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.019	LB093779.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE148233.022	LB093779.018		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil — Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.019	LB093789.015	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.2	4.3	50	4
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.9	4.9	50	0
			d8-toluene (Surrogate)	mg/kg	-	4.3	4.4	50	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.0	3.7	50	9
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE148233.022	LB093789.019	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	3.9	50	1
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	4.5	50	1
			d8-toluene (Surrogate)	mg/kg	-	4.2	4.1	50	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.0	3.8	50	6
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

VOCs in Water — Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.015	LB093809.019	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5	0	200	0
			1,2-dichloropropane	µg/L	0.5	<0.5	0	200	0
			cis-1,3-dichloropropene	µg/L	0.5	<0.5	0	200	0
			trans-1,3-dichloropropene	µg/L	0.5	<0.5	0	200	0
			1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	0	200	0
		Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	0	200	0
			Chloromethane	µg/L	5	<5	0	200	0
			Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	0	200	0
			Bromomethane	µg/L	10	<10	0	200	0
			Chloroethane	µg/L	5	<5	0	200	0
			Trichlorofluoromethane	µg/L	1	<1	0	200	0
			Iodomethane	µg/L	5	<5	0	200	0
			1,1-dichloroethene	µg/L	0.5	<0.5	0	200	0
			Dichloromethane (Methylene chloride)	µg/L	4	<4	0	200	0
			Allyl chloride	µg/L	2	<2	0	200	0
			trans-1,2-dichloroethene	µg/L	0.5	<0.5	0	200	0
			1,1-dichloroethane	µg/L	0.5	<0.5	0	200	0
			cis-1,2-dichloroethene	µg/L	0.5	<0.5	0	200	0
			Bromochloromethane	µg/L	0.5	<0.5	0	200	0
			1,2-dichloroethane	µg/L	0.5	<0.5	0	200	0
			1,1,1-trichloroethane	µg/L	0.5	<0.5	0	200	0
			1,1-dichloropropene	µg/L	0.5	<0.5	0	200	0
			Carbon tetrachloride	µg/L	0.5	<0.5	0	200	0
			Dibromomethane	µg/L	0.5	<0.5	0	200	0
			Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	0	200	0
			1,1,2-trichloroethane	µg/L	0.5	<0.5	0	200	0
			1,3-dichloropropane	µg/L	0.5	<0.5	0	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	0	200	0
			1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	0	200	0
			cis-1,4-dichloro-2-butene	µg/L	1	<1	0	200	0
			1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	0	200	0
			1,2,3-trichloropropane	µg/L	0.5	<0.5	0	200	0
			trans-1,4-dichloro-2-butene	µg/L	1	<1	0	200	0
			1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	0	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOCs in Water (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.015	LB093809.019	Halogenated	Hexachlorobutadiene	µg/L	0.5	<0.5	0	200	0
		Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5	0	200	0
			Bromobenzene	µg/L	0.5	<0.5	0	200	0
			2-chlorotoluene	µg/L	0.5	<0.5	0	200	0
			4-chlorotoluene	µg/L	0.5	<0.5	0	200	0
			1,3-dichlorobenzene	µg/L	0.5	<0.5	0	200	0
			1,4-dichlorobenzene	µg/L	0.3	<0.3	0	200	0
			1,2-dichlorobenzene	µg/L	0.5	<0.5	0	200	0
			1,2,4-trichlorobenzene	µg/L	0.5	<0.5	0	200	0
			1,2,3-trichlorobenzene	µg/L	0.5	<0.5	0	200	0
		Monocyclic Aromatic	Benzene	µg/L	0.5	<0.5	0.12	200	0
			Toluene	µg/L	0.5	<0.5	0.33	182	0
			Ethylbenzene	µg/L	0.5	<0.5	0.2	200	0
			m/p-xylene	µg/L	1	<1	0	200	0
			o-xylene	µg/L	0.5	<0.5	0	200	0
			Styrene (Vinyl benzene)	µg/L	0.5	<0.5	0	200	0
			Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	0	200	0
			n-propylbenzene	µg/L	0.5	<0.5	0	200	0
			1,3,5-trimethylbenzene	µg/L	0.5	<0.5	0	200	0
			tert-butylbenzene	µg/L	0.5	<0.5	0	200	0
			1,2,4-trimethylbenzene	µg/L	0.5	<0.5	0	200	0
			sec-butylbenzene	µg/L	0.5	<0.5	0	200	0
			p-isopropyltoluene	µg/L	0.5	<0.5	0	200	0
			n-butylbenzene	µg/L	0.5	<0.5	0	200	0
		Nitrogenous	Acrylonitrile	µg/L	0.5	<0.5	0	200	0
		Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	<10	0	200	0
			MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	0	200	0
			Vinyl acetate	µg/L	10	<10	0	200	0
			MEK (2-butanone)	µg/L	10	<10	0	200	0
			MIBK (4-methyl-2-pentanone)	µg/L	5	<5	0	200	0
			2-hexanone (MBK)	µg/L	5	<5	0	200	0
		Polycyclic	Naphthalene	µg/L	0.5	<0.5	0	200	0
		Sulphonated	Carbon disulfide	µg/L	2	<2	0	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.3	5.31	30	0
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.2	5.44	30	5
			d8-toluene (Surrogate)	µg/L	-	4.6	5.13	30	12
			Bromofluorobenzene (Surrogate)	µg/L	-	4.3	3.92	30	9
		Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5	0	200	0
			Bromodichloromethane (THM)	µg/L	0.5	<0.5	0	200	0
			Dibromochloromethane (THM)	µg/L	0.5	<0.5	0	200	0
			Bromoform (THM)	µg/L	0.5	<0.5	0	200	0

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.019	LB093789.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.2	4.3	30	4
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.9	4.9	30	0
			d8-toluene (Surrogate)	mg/kg	-	4.3	4.4	30	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.0	3.7	30	9
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE148233.022	LB093789.018		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	3.9	30	1
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	4.5	30	1
			d8-toluene (Surrogate)	mg/kg	-	4.2	4.1	30	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.0	3.8	30	6
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE148233.015	LB093809.018		TRH C6-C10	µg/L	50	<50	0	200	0
			TRH C6-C9	µg/L	40	<40	0	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.9	5.05	30	4
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.3	5.47	30	3
			d8-toluene (Surrogate)	µg/L	-	4.6	4.54	30	1
			Bromofluorobenzene (Surrogate)	µg/L	-	4.7	4.67	30	0
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	0.12	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	-0.65	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Alkalinity

Method: ME-(AU)-E[NV]AN135

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093770.002	Total Alkalinity as CaCO3	mg/L	5	61	59.5	76 - 124	103

Ammonia Nitrogen by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN291

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093775.002	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	2.5	2.5	80 - 120	99

Anions by Ion Chromatography in Water

Method: ME-AU-ENVAN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093828.002	Chloride	mg/L	0.05	19	20	80 - 120	96
	Sulphate, SO4	mg/L	1	20	20	80 - 120	99

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093787.002	Conductivity @ 25 C	µS/cm	2	290	303	90 - 110	94

Low Level PAH (Poly Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093777.002	Naphthalene	µg/L	0.02	NA	40	60 - 140	67
	2-methylnaphthalene	µg/L	0.01	NA	40	60 - 140	79
	1-methylnaphthalene	µg/L	0.01	NA	40	60 - 140	71
	Acenaphthylene	µg/L	0.01	NA	40	60 - 140	96
	Acenaphthene	µg/L	0.01	NA	40	60 - 140	79
	Fluorene	µg/L	0.01	NA	40	60 - 140	87
	Phenanthrene	µg/L	0.01	NA	40	60 - 140	87
	Anthracene	µg/L	0.01	NA	40	60 - 140	86
	Fluoranthene	µg/L	0.01	NA	40	60 - 140	102
	Pyrene	µg/L	0.01	NA	40	60 - 140	91
	Benzo(a)anthracene	µg/L	0.01	NA	40	60 - 140	106
	Chrysene	µg/L	0.01	NA	40	60 - 140	84
	Benzo(b&j&k)fluoranthene	µg/L	0.02	NA	80	60 - 140	79
	Benzo(a)pyrene	µg/L	0.01	NA	40	60 - 140	77
	Indeno(1,2,3-cd)pyrene	µg/L	0.01	NA	40	60 - 140	68
	Dibenzo(a&h)anthracene	µg/L	0.01	NA	40	60 - 140	61
	Benzo(ghi)perylene	µg/L	0.01	NA	40	60 - 140	73

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093940.002	Mercury	mg/kg	0.01	0.21	0.2	70 - 130	104
LB093943.002	Mercury	mg/kg	0.01	0.20	0.2	70 - 130	100

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320/AN321

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093793.002	Calcium, Ca	mg/L	0.1	2.0	2	80 - 120	101
	Magnesium, Mg	mg/L	0.1	2.0	2	80 - 120	99
	Potassium, K	mg/L	0.2	18	20	80 - 120	92
	Sodium, Na	mg/L	0.1	2.4	2	80 - 120	118

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093779.021	Naphthalene	mg/kg	0.1	NA	4	60 - 140	93
	2-methylnaphthalene	mg/kg	0.1	NA	4	60 - 140	95
	1-methylnaphthalene	mg/kg	0.1	NA	4	60 - 140	97
	Acenaphthylene	mg/kg	0.1	NA	4	60 - 140	100
	Acenaphthene	mg/kg	0.1	NA	4	60 - 140	94
	Fluorene	mg/kg	0.1	NA	4	60 - 140	92
	Phenanthrene	mg/kg	0.1	NA	4	60 - 140	94

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093779.021		Anthracene	mg/kg	0.1	NA	4	60 - 140	99
		Fluoranthene	mg/kg	0.1	NA	4	60 - 140	99
		Pyrene	mg/kg	0.1	NA	4	60 - 140	99
		Benzo(a)anthracene	mg/kg	0.1	NA	4	60 - 140	101
		Chrysene	mg/kg	0.1	NA	4	60 - 140	91
		Benzo(b&j)fluoranthene	mg/kg	0.1	NA	4	60 - 140	82
		Benzo(k)fluoranthene	mg/kg	0.1	NA	4	60 - 140	93
		Benzo(a)pyrene	mg/kg	0.1	NA	4	60 - 140	85
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	NA	4	60 - 140	101
		Dibenzo(a&h)anthracene	mg/kg	0.1	NA	4	60 - 140	77
		Benzo(ghi)perylene	mg/kg	0.1	NA	4	60 - 140	87
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	NA	0.5	40 - 130	78
		2-fluorobiphenyl (Surrogate)	mg/kg	-	NA	0.5	40 - 130	80
		d14-p-terphenyl (Surrogate)	mg/kg	-	NA	0.5	40 - 130	100

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093779.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	83

PCBs in Water

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093777.002	Arochlor 1260	µg/L	1	<1	0.4	60 - 140	109

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093788.003	pH	pH Units	-	7.4	7.415	98 - 102	100

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093787.003	pH**	pH Units	0.1	7.4	7.415	98 - 102	99

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093827.002	Chloride	mg/kg	0.25	96	100	70 - 130	96
	Sulphate	mg/kg	5	99	100	70 - 130	99

TOC in Soil

Method: ME-(AU)-[ENV]AN188

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093941.002	Total Organic Carbon	%w/w	0.05	0.30	0.325	80 - 120	91

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093897.002	Arsenic, As	mg/kg	3	48	50	80 - 120	96
	Cadmium, Cd	mg/kg	0.3	49	50	80 - 120	98
	Chromium, Cr	mg/kg	0.3	48	50	80 - 120	96
	Copper, Cu	mg/kg	0.5	48	50	80 - 120	95
	Lead, Pb	mg/kg	1	48	50	80 - 120	96
	Nickel, Ni	mg/kg	0.5	49	50	80 - 120	98
	Zinc, Zn	mg/kg	0.5	49	50	80 - 120	98
	Selenium, Se	mg/kg	3	48	50	80 - 120	96
	Boron, B	mg/kg	5	47	50	80 - 120	95
	Calcium, Ca	mg/kg	5	51	50	80 - 120	102
	Magnesium, Mg	mg/kg	10	50	50	80 - 120	99

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Total Recoverable Metals in Soil by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093897.002		Potassium, K	mg/kg	10	470	500	80 - 120	95
		Sodium, Na	mg/kg	10	48	50	80 - 120	96
LB093963.002		Arsenic, As	mg/kg	3	49	50	80 - 120	99
		Cadmium, Cd	mg/kg	0.3	51	50	80 - 120	103
		Chromium, Cr	mg/kg	0.3	50	50	80 - 120	99
		Copper, Cu	mg/kg	0.5	50	50	80 - 120	100
		Lead, Pb	mg/kg	1	50	50	80 - 120	100
		Nickel, Ni	mg/kg	0.5	50	50	80 - 120	101
		Zinc, Zn	mg/kg	0.5	50	50	80 - 120	101
		Selenium, Se	mg/kg	3	50	50	80 - 120	100
		Boron, B	mg/kg	5	50	50	80 - 120	99
		Calcium, Ca	mg/kg	5	57	50	80 - 120	113
		Magnesium, Mg	mg/kg	10	51	50	80 - 120	103
		Potassium, K	mg/kg	10	490	500	80 - 120	99
		Sodium, Na	mg/kg	10	51	50	80 - 120	103

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093825.002		Arsenic, As	µg/L	1	18	20	80 - 120	92
		Boron, B	µg/L	5	18	20	80 - 120	91
		Cadmium, Cd	µg/L	0.1	19	20	80 - 120	93
		Chromium, Cr	µg/L	1	19	20	80 - 120	93
		Copper, Cu	µg/L	1	20	20	80 - 120	98
		Lead, Pb	µg/L	1	20	20	80 - 120	101
		Nickel, Ni	µg/L	1	20	20	80 - 120	101
		Selenium, Se	µg/L	1	20	20	80 - 120	100
		Zinc, Zn	µg/L	5	19	20	80 - 120	95

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093824.002		Total Arsenic	µg/L	1	19	20	80 - 120	93
		Total Boron	µg/L	5	19	20	80 - 120	94
		Total Cadmium	µg/L	0.1	18	20	80 - 120	91
		Total Copper	µg/L	1	19	20	80 - 120	96
		Total Lead	µg/L	1	20	20	80 - 120	98
		Total Nickel	µg/L	1	20	20	80 - 120	98
		Total Selenium	µg/L	1	19	20	80 - 120	97
		Total Zinc	µg/L	5	19	20	80 - 120	95

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093779.002		TRH C10-C14	mg/kg	20	40	40	60 - 140	100
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	93
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	88
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	39	40	60 - 140	98
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	90
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	90

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093777.002		TRH C10-C14	µg/L	50	1200	1200	60 - 140	104
		TRH C15-C28	µg/L	200	1400	1200	60 - 140	119
		TRH C29-C36	µg/L	200	1400	1200	60 - 140	113
	TRH F Bands	TRH >C10-C16 (F2)	µg/L	60	1300	1200	60 - 140	111
		TRH >C16-C34 (F3)	µg/L	500	1500	1200	60 - 140	121
		TRH >C34-C40 (F4)	µg/L	500	630	600	60 - 140	105

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093789.002	Fumigants	2,2-dichloropropane	mg/kg	0.1	NA	0.5	60 - 140	94
		1,2-dichloropropane	mg/kg	0.1	NA	0.5	60 - 140	122
		cis-1,3-dichloropropene	mg/kg	0.1	NA	0.5	60 - 140	90
		trans-1,3-dichloropropene	mg/kg	0.1	NA	0.5	60 - 140	78

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093789.002	Fumigants	1,2-dibromoethane (EDB)	mg/kg	0.1	NA	0.5	60 - 140	96
	Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	NA	0.5	60 - 140	76
	Aliphatics	Chloromethane	mg/kg	1	NA	0.5	60 - 140	84
		Vinyl chloride (Chloroethene)	mg/kg	0.1	NA	0.5	60 - 140	88
		Bromomethane	mg/kg	1	NA	0.5	60 - 140	70
		Chloroethane	mg/kg	1	NA	0.5	60 - 140	72
		Trichlorofluoromethane	mg/kg	1	NA	0.5	60 - 140	76
		Iodomethane	mg/kg	5	NA	0.5	60 - 140	104
		1,1-dichloroethene	mg/kg	0.1	NA	2.56	60 - 140	68
		Dichloromethane (Methylene chloride)	mg/kg	0.5	NA	0.5	60 - 140	90
		Allyl chloride	mg/kg	0.1	NA	0.5	60 - 140	118
		trans-1,2-dichloroethene	mg/kg	0.1	NA	0.5	60 - 140	76
		1,1-dichloroethane	mg/kg	0.1	NA	0.5	60 - 140	80
		cis-1,2-dichloroethene	mg/kg	0.1	NA	0.5	60 - 140	88
		Bromochloromethane	mg/kg	0.1	NA	0.5	60 - 140	92
		1,2-dichloroethane	mg/kg	0.1	NA	2.56	60 - 140	85
		1,1,1-trichloroethane	mg/kg	0.1	NA	0.5	60 - 140	98
		1,1-dichloropropene	mg/kg	0.1	NA	0.5	60 - 140	70
		Carbon tetrachloride	mg/kg	0.1	NA	0.5	60 - 140	112
		Dibromomethane	mg/kg	0.1	NA	0.5	60 - 140	102
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	NA	2.56	60 - 140	117
		1,1,2-trichloroethane	mg/kg	0.1	NA	0.5	60 - 140	124
		1,3-dichloropropane	mg/kg	0.1	NA	0.5	60 - 140	120
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	NA	0.5	60 - 140	110
		1,1,1,2-tetrachloroethane	mg/kg	0.1	NA	0.5	60 - 140	80
		cis-1,4-dichloro-2-butene	mg/kg	1	NA	0.5	60 - 140	74
		1,1,2,2-tetrachloroethane	mg/kg	0.1	NA	0.5	60 - 140	94
		1,2,3-trichloropropane	mg/kg	0.1	NA	0.5	60 - 140	108
		trans-1,4-dichloro-2-butene	mg/kg	1	NA	0.5	60 - 140	84
		1,2-dibromo-3-chloropropane	mg/kg	0.1	NA	0.5	60 - 140	108
		Hexachlorobutadiene	mg/kg	0.1	NA	0.5	60 - 140	70
	Halogenated	Chlorobenzene	mg/kg	0.1	NA	2.56	60 - 140	102
	Aromatics	Bromobenzene	mg/kg	0.1	NA	0.5	60 - 140	76
		2-chlorotoluene	mg/kg	0.1	NA	0.5	60 - 140	98
		4-chlorotoluene	mg/kg	0.1	NA	0.5	60 - 140	86
		1,3-dichlorobenzene	mg/kg	0.1	NA	0.5	60 - 140	90
		1,4-dichlorobenzene	mg/kg	0.1	NA	0.5	60 - 140	100
		1,2-dichlorobenzene	mg/kg	0.1	NA	0.5	60 - 140	100
		1,2,4-trichlorobenzene	mg/kg	0.1	NA	0.5	60 - 140	72
		1,2,3-trichlorobenzene	mg/kg	0.1	NA	0.5	60 - 140	78
	Monocyclic	Benzene	mg/kg	0.1	NA	2.9	60 - 140	104
	Aromatic	Toluene	mg/kg	0.1	NA	2.9	60 - 140	111
		Ethylbenzene	mg/kg	0.1	NA	2.9	60 - 140	96
		m/p-xylene	mg/kg	0.2	NA	5.9	60 - 140	103
		o-xylene	mg/kg	0.1	NA	2.9	60 - 140	109
		Styrene (Vinyl benzene)	mg/kg	0.1	NA	0.5	60 - 140	76
		Isopropylbenzene (Cumene)	mg/kg	0.1	NA	0.5	60 - 140	76
		n-propylbenzene	mg/kg	0.1	NA	0.5	60 - 140	72
		1,3,5-trimethylbenzene	mg/kg	0.1	NA	0.5	60 - 140	70
		tert-butylbenzene	mg/kg	0.1	NA	0.5	60 - 140	76
		1,2,4-trimethylbenzene	mg/kg	0.1	NA	0.5	60 - 140	74
		sec-butylbenzene	mg/kg	0.1	NA	0.5	60 - 140	92
		p-isopropyltoluene	mg/kg	0.1	NA	0.5	60 - 140	90
		n-butylbenzene	mg/kg	0.1	NA	0.5	60 - 140	96
	Nitrogenous	Acrylonitrile	mg/kg	0.1	NA	0.5	60 - 140	74
	Compounds	2-nitropropane	mg/kg	10	NA	0.5	60 - 140	98
	Oxygenated	Acetone (2-propanone)	mg/kg	10	NA	0.5	60 - 140	86
	Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	NA	0.5	60 - 140	80
		Vinyl acetate	mg/kg	10	NA	0.5	60 - 140	94
		MEK (2-butanone)	mg/kg	10	NA	2.5	60 - 140	67
		MIBK (4-methyl-2-pentanone)	mg/kg	1	NA	0.5	60 - 140	96

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued) — Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093789.002	Oxygenated	2-hexanone (MBK)	mg/kg	5	NA	0.5	60 - 140	102
	Polycyclic	Naphthalene	mg/kg	0.1	NA	0.5	60 - 140	74
	Sulphonated	Carbon disulfide	mg/kg	0.5	NA	0.5	60 - 140	70
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	NA	5	60 - 140	81
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	NA	5	60 - 140	81
		d8-toluene (Surrogate)	mg/kg	-	NA	5	60 - 140	95
		Bromofluorobenzene (Surrogate)	mg/kg	-	NA	5	60 - 140	95
	Trihalomethanes	Chloroform	mg/kg	0.1	NA	2.56	60 - 140	82
		Bromodichloromethane	mg/kg	0.1	NA	0.5	60 - 140	106
		Chlorodibromomethane	mg/kg	0.1	NA	0.5	60 - 140	110
		Bromoform	mg/kg	0.1	NA	0.5	60 - 140	96

VOCs in Water — Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093809.002	Fumigants	2,2-dichloropropane	µg/L	0.5	NA	10	60 - 140	108
		1,2-dichloropropane	µg/L	0.5	NA	10	60 - 140	105
		cis-1,3-dichloropropene	µg/L	0.5	NA	10	60 - 140	85
		trans-1,3-dichloropropene	µg/L	0.5	NA	10	60 - 140	103
		1,2-dibromoethane (EDB)	µg/L	0.5	NA	10	60 - 140	97
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	NA	10	60 - 140	119
		Chloromethane	µg/L	5	NA	10	60 - 140	81
		Vinyl chloride (Chloroethene)	µg/L	0.3	NA	10	60 - 140	103
		Bromomethane	µg/L	10	NA	10	60 - 140	111
		Chloroethane	µg/L	5	NA	10	60 - 140	92
		Trichlorofluoromethane	µg/L	1	NA	10	60 - 140	71
		Iodomethane	µg/L	5	NA	10	60 - 140	67
		1,1-dichloroethene	µg/L	0.5	NA	10	60 - 140	86
		Dichloromethane (Methylene chloride)	µg/L	4	NA	10	60 - 140	83
		Allyl chloride	µg/L	2	NA	10	60 - 140	81
		trans-1,2-dichloroethene	µg/L	0.5	NA	10	60 - 140	120
		1,1-dichloroethane	µg/L	0.5	NA	10	60 - 140	76
		cis-1,2-dichloroethene	µg/L	0.5	NA	10	60 - 140	104
		Bromochloromethane	µg/L	0.5	NA	10	60 - 140	113
		1,2-dichloroethane	µg/L	0.5	NA	10	60 - 140	108
		1,1,1-trichloroethane	µg/L	0.5	NA	10	60 - 140	90
		1,1-dichloropropene	µg/L	0.5	NA	10	60 - 140	80
		Carbon tetrachloride	µg/L	0.5	NA	10	60 - 140	75
		Dibromomethane	µg/L	0.5	NA	10	60 - 140	98
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	NA	10	60 - 140	87
		1,1,2-trichloroethane	µg/L	0.5	NA	10	60 - 140	114
		1,3-dichloropropane	µg/L	0.5	NA	10	60 - 140	107
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	NA	10	60 - 140	86
		1,1,1,2-tetrachloroethane	µg/L	0.5	NA	10	60 - 140	113
		cis-1,4-dichloro-2-butene	µg/L	1	NA	10	60 - 140	77
		1,1,2,2-tetrachloroethane	µg/L	0.5	NA	10	60 - 140	116
		1,2,3-trichloropropane	µg/L	0.5	NA	10	60 - 140	76
		trans-1,4-dichloro-2-butene	µg/L	1	NA	10	60 - 140	111
		1,2-dibromo-3-chloropropane	µg/L	0.5	NA	10	60 - 140	92
		Hexachlorobutadiene	µg/L	0.5	NA	10	60 - 140	107
	Halogenated Aromatics	Chlorobenzene	µg/L	0.5	NA	10	60 - 140	112
		Bromobenzene	µg/L	0.5	NA	10	60 - 140	114
		2-chlorotoluene	µg/L	0.5	NA	10	60 - 140	106
		4-chlorotoluene	µg/L	0.5	NA	10	60 - 140	128
		1,3-dichlorobenzene	µg/L	0.5	NA	10	60 - 140	122
		1,4-dichlorobenzene	µg/L	0.3	NA	10	60 - 140	119
		1,2-dichlorobenzene	µg/L	0.5	NA	10	60 - 140	126
		1,2,4-trichlorobenzene	µg/L	0.5	NA	10	60 - 140	100
		1,2,3-trichlorobenzene	µg/L	0.5	NA	10	60 - 140	116
	Monocyclic Aromatic	Benzene	µg/L	0.5	NA	10	60 - 140	99
		Toluene	µg/L	0.5	NA	10	60 - 140	95
		Ethylbenzene	µg/L	0.5	NA	10	60 - 140	88

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOCs in Water (continued) Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093809.002	Monocyclic Aromatic	m/p-xylene	µg/L	1	NA	20	60 - 140	120
		o-xylene	µg/L	0.5	NA	10	60 - 140	127
		Styrene (Vinyl benzene)	µg/L	0.5	NA	10	60 - 140	88
		Isopropylbenzene (Cumene)	µg/L	0.5	NA	10	60 - 140	78
		n-propylbenzene	µg/L	0.5	NA	10	60 - 140	96
		1,3,5-trimethylbenzene	µg/L	0.5	NA	10	60 - 140	96
		tert-butylbenzene	µg/L	0.5	NA	10	60 - 140	101
		1,2,4-trimethylbenzene	µg/L	0.5	NA	10	60 - 140	96
		sec-butylbenzene	µg/L	0.5	NA	10	60 - 140	108
		p-isopropyltoluene	µg/L	0.5	NA	10	60 - 140	94
		n-butylbenzene	µg/L	0.5	NA	10	60 - 140	93
	Nitrogenous	Acrylonitrile	µg/L	0.5	NA	10	60 - 140	87
	Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	NA	10	60 - 140	96
		MtBE (Methyl-tert-butyl ether)	µg/L	2	NA	10	60 - 140	77
		Vinyl acetate	µg/L	10	NA	10	60 - 140	107
		MEK (2-butanone)	µg/L	10	NA	50	60 - 140	110
		MIBK (4-methyl-2-pentanone)	µg/L	5	NA	10	60 - 140	107
		2-hexanone (MBK)	µg/L	5	NA	10	60 - 140	79
	Polycyclic	Naphthalene	µg/L	0.5	NA	10	60 - 140	96
	Sulphonated	Carbon disulfide	µg/L	2	NA	10	60 - 140	75
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	NA	5	60 - 140	108
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	NA	5	60 - 140	100
		d8-toluene (Surrogate)	µg/L	-	NA	5	60 - 140	80
		Bromofluorobenzene (Surrogate)	µg/L	-	NA	5	60 - 140	123
	Trihalomethanes	Chloroform (THM)	µg/L	0.5	NA	10	60 - 140	95
		Bromodichloromethane (THM)	µg/L	0.5	NA	10	60 - 140	84
		Dibromochloromethane (THM)	µg/L	0.5	NA	10	60 - 140	74
		Bromoform (THM)	µg/L	0.5	NA	10	60 - 140	114

Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093789.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	92
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	85
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.0	5	60 - 140	80
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.5	5	60 - 140	70
		d8-toluene (Surrogate)	mg/kg	-	5.0	5	60 - 140	99
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.8	5	60 - 140	96
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	61

Volatile Petroleum Hydrocarbons in Water Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB093809.002		TRH C6-C10	µg/L	50	950	946.63	60 - 140	100
		TRH C6-C9	µg/L	40	780	818.71	60 - 140	95
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.2	5	60 - 140	84
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	4.7	5	60 - 140	94
		d8-toluene (Surrogate)	µg/L	-	4.8	5	60 - 140	96
		Bromofluorobenzene (Surrogate)	µg/L	-	5.7	5	60 - 140	115
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	630	639.67	60 - 140	99

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE148133.010	LB093819.004	Mercury	mg/L	0.00005	0.0091	<0.0001	0.008	113

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE148215.001	LB093959.004	Total Mercury	mg/L	0.00005	0.0083	-0.0054	-	-

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE148213.020	LB093940.004	Mercury	mg/kg	0.01	0.18	<0.01	0.2	87
SE148233.017	LB093943.004	Mercury	mg/kg	0.01	0.26	0.06	0.2	97

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE148233.001	LB093779.019		Naphthalene	mg/kg	0.1	<0.1	4	96
			2-methylnaphthalene	mg/kg	0.1	0.2	-	-
			1-methylnaphthalene	mg/kg	0.1	0.1	-	-
			Acenaphthylene	mg/kg	0.1	<0.1	4	101
			Acenaphthene	mg/kg	0.1	<0.1	4	89
			Fluorene	mg/kg	0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	0.1	4	94
			Anthracene	mg/kg	0.1	<0.1	4	99
			Fluoranthene	mg/kg	0.1	0.1	4	103
			Pyrene	mg/kg	0.1	<0.1	4	96
			Benzo(a)anthracene	mg/kg	0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	<0.1	4	88
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	-	-
			Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	-	80
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	80
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	-	102

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE148213.020	LB093897.004	Arsenic, As	mg/kg	3	45	7	50	75
		Cadmium, Cd	mg/kg	0.3	40	0.3	50	79
		Chromium, Cr	mg/kg	0.3	55	19	50	73
		Copper, Cu	mg/kg	0.5	58	17	50	82
		Lead, Pb	mg/kg	1	52	19	50	67 ④
		Nickel, Ni	mg/kg	0.5	49	9.0	50	80
		Zinc, Zn	mg/kg	0.5	78	39	50	78
SE148233.017	LB093963.004	Arsenic, As	mg/kg	3	54	6	50	96
		Cadmium, Cd	mg/kg	0.3	51	<0.3	50	101
		Chromium, Cr	mg/kg	0.3	56	7.8	50	97
		Copper, Cu	mg/kg	0.5	61	14	50	93
		Lead, Pb	mg/kg	1	57	12	50	90
		Nickel, Ni	mg/kg	0.5	56	7.4	50	97
		Zinc, Zn	mg/kg	0.5	69	25	50	88
		Selenium, Se	mg/kg	3	9	<3	10	87
		Boron, B	mg/kg	5	<5	<5	10	37 ④

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE148233.003	LB093824.004		Total Arsenic	µg/L	1	24	4	20	103
			Total Boron	µg/L	5	1100	1000	20	227 ⑤
			Total Cadmium	µg/L	0.1	19	<0.1	20	95
			Total Chromium	µg/L	1	19	<1	-	-
			Total Copper	µg/L	1	22	3	20	93
			Total Lead	µg/L	1	20	<1	20	98
			Total Nickel	µg/L	1	23	6	20	84
			Total Selenium	µg/L	1	24	3	20	104
			Total Zinc	µg/L	5	23	<5	20	95

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE148233.001	LB093779.019		TRH C10-C14	mg/kg	20	<20	40	120
			TRH C15-C28	mg/kg	45	610	40	213 ⑤
			TRH C29-C36	mg/kg	45	510	40	180 ⑤
			TRH C37-C40	mg/kg	100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	1100	-	-
			TRH C10-C40 Total	mg/kg	210	1100	-	-
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	40	115
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	1000	40	305 ⑤
			TRH >C34-C40 (F4)	mg/kg	120	<120	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE148233.001	LB093789.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	89
			TRH C6-C9	mg/kg	20	<20	<20	23.2	80
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.7	3.7	-	93
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.1	3.9	-	102
			d8-toluene (Surrogate)	mg/kg	-	4.9	4.8	-	98
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.8	5.7	-	75
		VPH F Bands	Benzene (F0)	mg/kg	0.1	3.1	<0.1	-	-
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	88

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Ammonia Nitrogen by Discrete Analyser (Aquakem) Method: ME-(AU)-[ENV]AN291

QC Sample	Sample Number	Parameter	Units	LOR	Duplicate
SE148225.001	LB093775.004	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	2.2

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here:
http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

*	NATA accreditation does not cover tthe performance of this service .
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.

①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to Analytical Report comments for further information.

ANALYTICAL Investigative REPORT

(Ferric Chloride likelihood in soils, sediments and waters)

Customer: Ryan Wells

Environmental Strategies

Your Reference: Project number: 15105

SGS Report Number: ENV 23538 SE148233

Date of Receipt of Samples: 20th January 2016

Date of Investigation: 21st January 2016, to 29th January 2016

The samples were analysed in accordance with your instructions. A plain-English summary of the results and associated information are contained in the following pages of the report. Should you have any queries regarding this report please contact the undersigned.

Reported by: Dr David Stone

Report authorised by: Dr Peter Novella

Date: 29/01/2016

Date: 5/02/2016

SGS Australia Pty Ltd
ABN 44 000 964 278
Environmental Services Sydney Unit 16, 33 Maddox St Alexandria 2015 NSW Australia
t +61 (0)2 8594 0400 f +61 (0)2 8594 0499 www.au.sgs.com

Sample description

Fourteen sediments and Waters were supplied to SGS Environmental Laboratories for analysis:

1. LAW_LL_ESSD03 (originally logged as sample 011)
2. LAW_LL_ESSD04 (originally logged as sample 012)
3. LAW_LL_ESSW03 (originally logged as sample 013)
4. LAW_LL_ESSW04 (originally logged as sample 014)
5. Dup2 JO 180116 (originally logged as sample 016)
6. Dup GSA180116 (originally logged as sample 018)
7. LAW_LL_ESSD01 (originally logged as sample 019)
8. LAW_LL_ESSD02 (originally logged as sample 020)
9. LAW_LL_ESSD05 (originally logged as sample 021)
10. LAW_LL_ESSD06 (originally logged as sample 022)
11. LAW_LL_ESSW01 (originally logged as sample 023)
12. LAW_LL_ESSW02 (originally logged as sample 024)
13. LAW_LL_ESSW05 (originally logged as sample 025)
14. LAW_LL_ESSW06 (originally logged as sample 026)

Methods Used:

Sediment was analysed using 1:5 extraction (soil: water ratio), and the following tests:

1. Total Iron by ICP-OES
2. Soluble Chloride and sulphate by Ion Chromatography
3. Bicarbonate alkalinity, total alkalinity as calcium carbonate by titration and colorimetry
4. pH by electrochemical probe.

Water was analysed for the following tests:

1. Dissolved Iron by ICP-OES
2. Soluble Chloride and sulphate by Ion Chromatography
3. Total alkalinity as calcium carbonate by titration and colorimetry
4. pH, conductivity by electrochemical probe

Analytical Results for sediments: (mg / kg)

Sample	Total Fe	soluble chloride	soluble sulphate	bicarbonate alkalinity	Total alkalinity as CaCO3	pH
1	14,000	260	950	230	190	7.8
2	15,000	230	650	450	370	7.7
6	20,000	180	540	250	280	9.2
7	5,400	130	340	430	350	8.6
8	5,800	82	140	200	200	9.1
9	11,000	84	140	190	150	8.3
10	15,000	67	120	380	310	8.8

SGS Australia Pty Ltd ABN 44 000 964 278 | Environmental Services Sydney Unit 16, 33 Maddox St Alexandria 2015 NSW Australia
t +61 (0)2 8594 0400 f +61 (0)2 8594 0499 www.au.sgs.com

Analytical Results for waters: (mg / litre)

Sample	dissolved Fe	soluble chloride	soluble sulphate	Total alkalinity as CaCO3	pH	conductivity mS/cm
3	<0.02	46,000	35,000	4,600	12.2	46,000
4	1.20	360	550	140	8.0	2,700
5	<0.02	33,000	20,000	14,000	12.4	88,000
11	0.12	310	500	130	8.3	2,300
12	0.02	320	530	140	8.8	2,400
13	0.04	330	540	140	8.3	2,400
14	<0.02	320	530	140	8.8	2,400

Observations:

Sediment samples are all neutral to slightly basic, with quite low soluble chloride.
Water samples are all basic, but two are very basic with a high amount of soluble chloride.

Opinions and Interpretations:

All of the sediments (samples 1, 2, (6), 7, 8, 9, and 10 are ***very unlikely*** to have any ferric chloride, given the alkalinity, the pH, and the low soluble chloride, with an estimated upper limiting amount being less than 1-2 mg/kg Fe.

All of the waters (samples 3, 4, (5), 11, 12, 13, and 14 are ***very unlikely*** to have any ferric chloride, given the alkalinity, the pH, and the low soluble iron, INCLUDING the two samples with high soluble chloride; with an estimated upper limiting amount being less than 1-2 mg/kg Fe.

SGS LEEDER CONSULTING

A.B.N. 44 000 964 278
3 - 5, 18 Redland Drive
Mitcham, Vic, 3132
Telephone: (03) 9874 1988
Fax: (03) 9874 1933

Chartered Chemists

REPORT NUMBER: M160194

9-Feb-2016

Site/Client Ref: SE148233

Environmental Strategies

Suite 15201, Locomotive Workshop
2 Locomotive Street
Eveleigh
NSW 2015
Attention: Ryan Wells

CERTIFICATE OF ANALYSIS

SAMPLES:	Twenty-four samples were received for analysis
DATE RECEIVED:	**28-Jan-2016**
DATE COMMENCED:	**28-Jan-2016**
METHODS:	See Attached Results
RESULTS:	Please refer to attached pages for results.

Note: Results are based on samples as received at SGS Leeder Consulting's laboratories

REPORTED BY:

Aydin Ahmet
Senior Chemist

NATA
WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory Number: 14429

Accredited for compliance
with ISO/IEC 17025.

ANALYTICAL RESULTS

Matrix: Water
Method: MA_1523.WW.01
Sample units are expressed in µg/L — Test Started: 5/02/2016

Analyte Name		2016002540	2016002541	2016002542	2016002543	2016002544
	Client ID	SE148233.003 LAW_95_ESSW04	SE148233.004 LAW_95_ESSW05	SE148233.009 LAW_99_ESSW05	SE148233.010 LAW_99_ESSW06	SE148233.013 LAW_LL_ESSW03
	Sampled Date	18/01/2016	18/01/2016	18/01/2016	18/01/2016	18/01/2016
	PQL					
Perfluorooctane sulfonate	0.05	nd	nd	nd	nd	nd
Perfluorooctanoic Acid	0.05	nd	nd	nd	nd	nd

Matrix: Water
Method: MA_1523.WW.01
Sample units are expressed in µg/L — Test Started: 5/02/2016

Analyte Name	**Leeder ID**	2016002545	2016002546	2016002547	2016002548	2016002549
	Client ID	SE148233.014 LAW_LL_ESSW04	SE148233.015 DUPJO180116	SE148233.016 DUP2JO180116	SE148233.023 LAW_LL_ESSW01	SE148233.024 LAW_LL_ESSW02
	Sampled Date	18/01/2016	18/01/2016	18/01/2016	19/01/2016	19/01/2016
	PQL					
Perfluorooctane sulfonate	0.05	nd	nd	nd	nd	nd
Perfluorooctanoic Acid	0.05	nd	nd	nd	nd	nd

Matrix: Water
Method: MA_1523.WW.01
Sample units are expressed in µg/L — Test Started: 5/02/2016

Analyte Name	**Leeder ID**	2016002550	2016002551	2016002552	2016002553	2016002554
	Client ID	SE148233.025 LAW_LL_ESSW05	SE148233.026 LAW_LL_ESSW06	SE148233.027 LAW_95_ESMW03	SE148233.028 LAW_95_ESMW04	Method
	Sampled Date	19/01/2016	19/01/2016	20/01/2016	20/01/2016	
	PQL					Blank
Perfluorooctane sulfonate	0.05	nd	nd	5.9	nd	nd
Perfluorooctanoic Acid	0.05	nd	nd	3.7	nd	nd

Matrix: Soil
Method: MA_1523.SL.01
Sample units are expressed in mg/kg on a dry weight basis unless otherwise stated — Test Started: 5/02/2016

Analyte Name	**Leeder ID**	2016002555	2016002556	2016002557	2016002558	2016002559
	Client ID	SE148233.006 LAW_99_ESSD05	SE148233.007 LAW_99_ESSD06	SE148233.011 LAW_LL_ESSD03	SE148233.012 LAW_LL_ESSD04	SE148233.017 DUPGS180116
	Sampled Date	18/01/2016	18/01/2016	18/01/2016	18/01/2016	18/01/2016
	PQL					
Perfluorooctane sulfonate	0.01	nd	nd	nd	nd	nd
Perfluorooctanoic Acid	0.01	nd	nd	nd	nd	nd

ANALYTICAL RESULTS

Matrix: Soil
Method: MA_1523.SL.01
Sample units are expressed in mg/kg on a dry weight basis unless otherwise stated
Test Started: 5/02/2016

	Leeder ID	2016002560	2016002561	2016002562	2016002563	2016002564
	Client ID	SE148233.018 DUPGSA180116	SE148233.019 LAW_LL_ESSD01	SE148233.020 LAW_LL_ESSD02	SE148233.021 LAW_LL_ESSD05	SE148233.022 LAW_LL_ESSD06
Analyte Name	Sampled Date	18/01/2016	19/01/2016	19/01/2016	19/01/2016	19/01/2016
	PQL					
Perfluorooctane sulfonate	0.01	nd	nd	nd	nd	nd
Perfluorooctanoic Acid	0.01	nd	nd	nd	nd	nd

Matrix: Soil
Method: MA_1523.SL.01
Sample units are expressed in mg/kg on a dry weight basis unless otherwise stated
Test Started: 5/02/2016

	Leeder ID	2016002565
	Client ID	Method
Analyte Name	Sampled Date	
	PQL	Blank
Perfluorooctane sulfonate	0.01	nd
Perfluorooctanoic Acid	0.01	nd

QA/QC RESULTS

Matrix: Water
Method: MA_1523.WW.01
Quality Control Results are expressed in Percent Recovery of expected result

Test Started: 5/02/2016

	Leeder ID	2016002566	2016002567
	Client ID	Method	Method
Analyte Name	**Sampled Date**		
	PQL	Spike	Spike Dup
Perfluorooctane sulfonate		115	104

Matrix: Soil
Method: MA_1523.SL.01
Quality Control Results are expressed in Percent Recovery of expected result

Test Started: 5/02/2016

	Leeder ID	2016002568	2016002569
	Client ID	Method	Method
Analyte Name	**Sampled Date**		
	PQL	Spike	Spike Dup
Perfluorooctane sulfonate		79	77

QUALIFIERS / NOTES FOR REPORTED RESULTS

PQL	Practical Quantitation Limit
nd	Not Detected – The analyte was not detected above the reported PQL.
is	Insufficient Sample to perform this analysis.
T	Tentative identification based on computer library search of mass spectra.
NC	Not calculated and/or Results below PQL
NV	No Vacuum, Canister received above standard atmospheric pressure
nr	Not Requested for analysis.
R	Rejected Result – results for this analysis failed QC checks.
SQ	Semi-Quantitative result – quantitation based on a generic response factor for this class of analyte.
IM	Inappropriate method of analysis for this compound
U	Unable to provide Quality Control data – high levels of compounds in sample interfered with analysis of QC results.
UF	Unable to provide Quality Control data- Surrogates failed QC checks due to sample matrix effects
L	Analyte detected at a level above the linear response of calibration curve.
E	Estimated result. NATA accreditation does not cover estimated results.
C1	These compounds co-elute.
--	Parameter Not Determined
CT	Elevated concentration. Results reported from carbon tube analysis
**	Sample shows non-petroleum hydrocarbon profile

SGS LEEDER CONSULTING

APPENDIX ONE.

CHAIN OF CUSTODY DOCUMENT

SGS

CHAIN OF CUSTODY & ANALYSIS REQUEST
(FOR INTERLAB WORK)

Receiving Laboratory: **SGS Leeder**

Initiating Laboratory: **SGS Sydney - Alexandria**
Initiating Contact: Emily Yin(au.samplereceipt.sydney@sgs.com)
Send Results to:- **AU.Environmental.Sydney@sgs.com**

Final Report Required:	**Yes** / No / NATA	Prelim Report Due: 29/1/16 am/pm	Special Prices Apply:	Yes / No
Send To:	**Us** / Client	Final Report Due: 29/1/16 am/pm	Quote No:	Client:**
Address To:	Us / **Client*** (Address As Below)			
SGS Job No: SE148233	Client Job No: 15105			

Sample No.	Sample No.	Date Sampled	Water	Sediment	Ice	Acid	Other	None	PFOS/PFOA							Remarks
			Matrix		Preservation Method				Analysis Required							Client Contacts for AUENVSE: **INVOICE** = Invoice **SGS_SYD_REPORTS_PM** = REPORTS **SGS_SYD_SRA_PM** = Sample Receipt Advice
SE148233.003	LAW_95_ESSW04	**18/1/16**	X						X							
SE148233.004	LAW_95_ESSW05	**18/1/16**	X						X							
SE148233.006	LAW_99_ESSD05	**18/1/16**		X					X							
SE148233.007	LAW_99_ESSD06	**18/1/16**		X					X							
SE148233.009	LAW_99_ESSW05	**18/1/16**	X						X							
SE148233.010	LAW_99_ESSW06	**18/1/16**	X						X							
SE148233.011	LAW_LL_ESSD03	**18/1/16**		X					X							**COURIER SERVICE:** **Startrack**
SE148233.012	LAW_LL_ESSD04	**18/1/16**		X					X							
SE148233.013	LAW_LL_ESSW03	**18/1/16**	X						X							**CONSIGNMENT No:**
SE148233.014	LAW_LL_ESSW04	**18/1/16**	X						X							

SGS Alexandria Environmental
SE148233 SUBCON
Received: 20 – Jan – 2016

Relinquished By: Emily Yin	Date/Time: 25/1/16	Received By: Benedict Robinson [signature]	Date/Time 28/1/16 11:30am

NOTES:* Client Address: Attention: Ryan Wells
Environmental Strategies
Suite 15201, Locomotive Street
Eveleigh NSW 2065

*** Special Prices, Quotes, Clients **MUST BE** Referred To.

SLIM CLIENT CODE: ENVIRONMENTAL_STRATEGIES

CHAIN OF CUSTODY & ANALYSIS REQUEST
(FOR INTERLAB WORK)

SGS

Receiving Laboratory: **SGS Leeder**
Initiating Laboratory: SGS Sydney - Alexandria
Initiating Contact: Emily Yin(au.samplereceipt.sydney@sgs.com)
Send Results to:- AU.Environmental.Sydney@sgs.com

Final Report Required: **Yes** / No / NATA	Prelim Report Due: 29/1/16 am/pm	Special Prices Apply:	Yes / No
Send To: **Us** / Client	Final Report Due: 29/1/16 am/pm	Quote No:	Client:**
Address To: Us / **Client*** (Address As Below)			

SGS Job No: SE148233	Client Job No: 15105	Matrix			Preservation Method				Analysis Required	Remarks
Sample No.	Sample No.	Date Sampled	Water	Sediment	Ice	Acid	Other	None	PFOS/PFOA	Client Contacts for AUENVSE: **INVOICE** = Invoice **SGS_SYD_REPORTS_PM** = REPORTS **SGS_SYD_SRA_PM** = Sample Receipt Advice
SE148233.015	DUPJO180116	18/1/16	X						X	
SE148233.016	DUP2JO180116	18/1/16	X						X	
SE148233.017	DUPGS180116	18/1/16		X					X	
SE148233.018	DUPGSA180116	18/1/16		X					X	
SE148233.019	LAW_LL_ESSD01	19/1/16		X					X	
SE148233.020	LAW_LL_ESSD02	19/1/16		X					X	
SE148233.021	LAW_LL_ESSD05	19/1/16		X					X	**COURIER SERVICE:** Startrack
SE148233.022	LAW_LL_ESSD06	19/1/16		X					X	
SE148233.023	LAW_LL_ESSW01	19/1/16	X						X	**CONSIGNMENT No:**
SE148233.024	LAW_LL_ESSW02	19/1/16	X						X	

Relinquished By: Emily Yin	Date/Time: 25/1/16	Received By: Benedict Robinson [signature]	Date/Time 28/1/16 11:30am

NOTES:* Client Address: Attention: Ryan Wells
Environmental Strategies
Suite 15201, Locomotive Street
Eveleigh NSW 2065

*** Special Prices, Quotes, Clients **MUST BE** Referred To.

SLIM CLIENT CODE: ENVIRONMENTAL_STRATEGIES

SGS

CHAIN OF CUSTODY & ANALYSIS REQUEST
(FOR INTERLAB WORK)

Receiving Laboratory: **SGS Leeder**

Initiating Laboratory: SGS Sydney - Alexandria
Initiating Contact: Emily Yin(au.samplereceipt.sydney@sgs.com)
Send Results to:- **AU.Environmental.Sydney@sgs.com**

Final Report Required: **Yes** / No / NATA
Prelim Report Due: 29/1/16 am/pm
Special Prices Apply: Yes / No

Send To: **Us** / Client
Final Report Due: 29/1/16 am/pm
Quote No:
Client:**

Address To: Us / **Client*** (Address As Below)

SGS Job No: SE148233	Client Job No: 15105	Matrix			Preservation Method				Analysis Required								Remarks
Sample No.	Sample No.	Date Sampled	Water	Sediment	Ice	Acid	Other	None	**PFOS/PFOA**								Client Contacts for AUENVSE: **INVOICE** = Invoice **SGS_SYD_REPORTS_PM** = REPORTS **SGS_SYD_SRA_PM** = Sample Receipt Advice
SE148233.025	LAW_LL_ESSW05	**19/1/16**	X						X								
SE148233.026	LAW_LL_ESSW06	**19/1/16**	X						X								
SE148233.027	LAW_95_ESMW03	**20/1/16**	X						X								
SE148233.028	LAW_95_ESMW04	**20/1/16**	X						X								

COURIER SERVICE: **Startrack**

CONSIGNMENT No:

Relinquished By: Emily Yin
Date/Time: 25/1/16
Received By: Benedict Robinson [signature]
Date/Time 28/1/16 11:30am

NOTES:* Client Address: Attention: Ryan Wells
Environmental Strategies
Suite 15201, Locomotive Street
Eveleigh NSW 2065

*** Special Prices, Quotes, Clients **MUST BE** Referred To.

SLIM CLIENT CODE: ENVIRONMENTAL_STRATEGIES

APPENDIX J – Data Quality Objectives (PARCCS) Review

1 Field QA/QC

The following section summarises the assessment of the field QA/QC for the LL APECS.

Records of QA/QC samples collected are provided in **Appendix D, G and H**.

The field QA/QC assessment for edible aquatic species is provided in the ELA report (**Ref.24**), **Appendix L**.

1.1 Relative Percentage Difference Acceptance Limits

Field duplicate/triplicates/primary samples are assessed by calculating their RPDs (relative percentage difference or the difference between the two values divided by the average of the two values, expressed as a percentage). RPDs can only be validly calculated where both values are greater than the laboratory limit of reporting. The RPDs are considered acceptable if they are less than:

- 30% (inorganic) 50% (organics) for results greater than ten times the laboratory limit of reporting;
- 50% (inorganics) 70% (organics) for results between five and ten times the laboratory limit of reporting; and,

100% for results less than five times the laboratory limit of reporting.

1.2 Sediment Duplicates

Three (3) intra-laboratory and two (2) Inter-laboratory sediments duplicates were collected during the sampling at the LL. A total of 46 primary sediment samples were obtained throughout the assessment. Intra-laboratory duplicates were obtained at a rate of 1:15 which is in accordance with NEPM 2013, and inter-laboratory duplicates at a rate of 1:23 which is marginally less than the target rate, however the overall duplicate collection rate has been met.

Laboratory QA/QC is provided in the tabulated RPD results within **Appendix H**.

The RPDs for soil were within acceptable ranges with the exception of the following sample results.

Table 1: Sediment RPD Exceedences

Parent Sample ID	Intra-laboratory and Inter-laboratory	Analytes	RPD (%)	Exceed SDAC (mg/kg)
SD4 0.15-0.25	QA1 (Intra)	Benzo(b+j)Fluoranthene	60	-
SD4 0.15-0.25	QA1 (Intra)	Carcinogenic PAHs (as B(a)P TPE)	33	-
SD4 0.15-0.25	QA1 (Intra)	Carcinogenic PAHs (as B(a)P TPE, PEFx3)	46	-
SD4 0.15-0.25	QA2 (Inter)	C29-C36	93	-
SD4 0.15-0.25	QA2 (Inter)	Acenaphthene	89	0.26

Parent Sample ID	Intra-laboratory and Inter-laboratory	Analytes	RPD (%)	Exceed SDAC (mg/kg)
SD4 0.15-0.25	QA2 (Inter)	Benzo(a) pyrene	62	-
SD4 0.15-0.25	QA2 (Inter)	Benzo(g,h,i)perylene	46	-
SD4 0.15-0.25	QA2 (Inter)	Fluorene	89	0.26
SD4 0.15-0.25	QA2 (Inter)	Naphthalene	109	0.34
SD4 0.15-0.25	QA2 (Inter)	Phenanthrene	52	1.7
SD17 0-0.1	QA5 (Intra)	TOC	38	-

These exceedances' in RPDs for sediments in both the intra or inter-laboratory samples were below the adopted SDAC guidelines with the exception of those identified with the concentrations as shown in the above table.

No primary sample was submitted for the intra or inter-laboratory samples QA3 and QA4; however, the following RPD exceedances were reported as shown in the table below. In lieu of a primary sample the laboratory result of the higher of the intra or inter-laboratory samples should be considered as the representative sample for that sample location (SD7 0.4-0.5).

Table 2: Sediment Duplicate Results

Intra-laboratory	Inter-laboratory	Analytes	RPD (%)	Highest CoPC / Exceed SDAC (mg/kg)
QA3	QA4	C10-C16	95	150
QA3	QA4	F2-NAPHTHALENE	95	150
QA3	QA4	C16-C34	72	**3200**
QA3	QA4	C10 - C14	212	220
QA3	QA4	C15 - C28	74	2600
QA3	QA4	C29-C36	54	920
QA3	QA4	Anthracene	140	0.4
QA3	QA4	Benz(a)anthracene	83	0.9
QA3	QA4	Benzo(a) pyrene	93	0.3
QA3	QA4	Benzo(g,h,i)perylene	93	0.3

Intra-laboratory	Inter-laboratory	Analytes	RPD (%)	Highest CoPC / Exceed SDAC (mg/kg)
QA3	QA4	Chrysene	111	0.8
QA3	QA4	Fluoranthene	127	2.1
QA3	QA4	Indeno(1,2,3-c,d)pyrene	120	0.2
QA3	QA4	Naphthalene	83	0.8
QA3	QA4	Naphthalene	107	0.33
QA3	QA4	Phenanthrene	117	2
QA3	QA4	Pyrene	102	1.3

Key
Red= Concentration > SDAC
SDAC =ANZECC/ARMCANZ, 2000 Interim Sediment Quality Guideline Trigger Values

With the exception of C16-C34 the RPD exceedances for sediments were below the adopted SDAC. ES considers the concentration of C16-C34 in inter-laboratory sample QA4 to be representative of sampling location SD7 (0.4-0.5) and have concluded that this location is a potential risk to human health under certain circumstances. The RPD listed above are likely to be attributed to:

- The technique of sample splitting adopted for intra and inter-laboratory preparation, rather than homogenising samples via a mixing process. Whilst this has the advantage of preserving volatiles, it is likely to increase the proportion of samples with elevated RPD; and/or
- Sample heterogeneity;
  - Matrix heterogeneity is a common cause of high RPDs in sediments.

Based on the above ES considers that the RPD exeedences returned by intra or inter-laboratory duplicate/triplicate sediment samples does not indicate a systemic issue with the sampling techniques employed by ES, and that the exceedences do not have a material effect on the integrity of the soil data set.

ES is satisfied that the integrity of the data set was sufficient to allow the conclusions to be made in this report.

1.3 Surface Water Duplicates

Five (5) intra-laboratory and five (4) Inter-laboratory surface water duplicates were collected during the sampling at the Lake Liddell. A total of 50 surface water samples were obtained throughout the assessment. Intra-laboratory and Inter-laboratory duplicates were obtained at a rate of 1:10 and 1:12 respectively, which is in accordance with AS4482.1 under NEPM 2013.

Laboratory QA/QC is provided in the tabulated RPD results within **Appendix H**.

The RPDs for surface water were within acceptable ranges with the exception of the following sample results.

Table 3: Surface Water RPD Exceedences

Parent Sample ID	Intra-laboratory and Inter-laboratory	Analytes	RPD (%)
SW12 1	QA1 (Intra)	Phosphorus	145
SW12 1	QA2 (Inter)	TOC	91
SW12 1	QA2 (Inter)	Phenanthrene	100
SW3 1	QA3 (Intra)	Phosphorus	72
SW3 1	QA4 (Inter)	Phosphorus	91
SW3 1	QA4 (Inter)	TOC	46
SW3 1	QA4 (Inter)	Phenanthrene	100
SW3 1	QA4 (Inter)	Boron (Filtered)	35

The above exceedances' in RPDs for surface water, in both the intra or inter-laboratory samples were below the adopted SWAC guidelines.

Where primary samples have reported concentrations of CoPC but the corresponding intra or inter-laboratory duplicates reported concentrations above the primary samples, then the highest value of either the intra or inter-laboratory sample has been used to represent the specific sampling location. See Table below for a list of these samples and the highest value concentration adopted for the surface water data set.

Table 4: Surface Water Duplicate Results

Parent Sample ID	Parent Sample Concentration (µg/L)	Intra-laboratory and Inter-laboratory	Analytes	Maximum Concentration (µg/L)
SW12 1	90	QA1 (Intra)	Phosphorus	560
SW3 1	240	QA3 (Intra)	Phosphorus	510
SW3 1	<0.01	QA4 (Inter)	Phenathrene	0.03

The exceedances' in RPDs for surface water in both, the intra or inter-laboratory samples were above the adopted SWAC guidelines in the above locations.ES note that only an intra-laboratory sample (QA5) was submitted for quality assurance against the primary sample (SW1 7 1). As both the primary and intra-laboratory sample results were below the LORs, the results do not have a material effect on the integrity of the surface water data set.

ES considers that the RPD exeedences returned by intra or inter-laboratory duplicate/triplicate surface samples do not indicate systemic issues with the sampling techniques employed by ES, and that the exceedences do not have a material effect on the integrity of the surface water data set.

ES is satisfied that the integrity of the surface water data set was sufficient to allow the conclusions to be made in this report.

1.4 Field Blanks

One (1) Field Blank (FB) water sample was submitted to the primary laboratory for analysis of selected CoPC. This FB sample (FBEC11815) was prepared by ES personnel in the field using laboratory supplied DiW and sample containers on the 11th August 2015. The FB sample was collected to determine the potential for contamination of samples within the sampling environment.

The following provides a summary of the reported FBEC11815 water results:

- Chloroform was detected above the LOR (0.5 µg/L) in FBEC11815 with a concentration of 3.2 µg/L;
- TOC was detected above the LOR (0.2 mg/L) in FBEC11815 with a concentration of 0.3 mg/L; and
- All remaining analytes reported concentrations of CoPC below the LOR.

The following provides a discussion on the detections within FBEC11815 water sample which reported concentrations of CoPC >LOR.

1.4.1 Chloroform

- Chloroform was not detected in any primary water, sediment or soil sample collected during the project. Therefore, it is unlikely that the source of chloroform in the FB sample was from field samples or the environment;
- Chloroform was reported in the following three RIN samples:
  - RINEC110815, sampled on the 11th August 2015 reported a concentration of Chloroform of 1.6 µg/L;
  - RINEC120815, sampled on the 11th August 2015 reported a concentration of Chloroform of 1.6 µg/L; and
  - RINEC130815, sampled on the 11th August 2015 reported a concentration of Chloroform of 1.9 µg/L.
- The three RIN samples were collected using the same batch of DiW that was used for the FB;
- RINEC110815 was collected on the same day as FBEC11815 and reported similar concentrations of Chloroform;
- Furthermore, ES notes that chloroform was detected within field prepared QA/QC samples collected from the BPS, LPS, and the TDS using DiW supplied by the same laboratory;
  - As Primary sample detections were not recorded, these detections are considered likely to be related to the DiW.

ES considers the source of chloroform to be likely related to the quality of the laboratory supplied DiW used in the preparation of the QA/QC samples, and as chloroform was not detected in any primary water, sediment or soil sample collected during the project, detection of chloroform in blank samples does not indicate a material impact to the field data set.

1.4.2 Total Organic Carbon (TOC)

- TOC was reported in FBEC11815 at a concentration of 0.3 mg/L.
- TOC is not a CoPC, but is used to normalise organic (non-polar) sediment results to determine the bio-availability of CoPC;
- TOC was detected in three RIN samples collected from the same batch of deionised water (DiW). These RIN samples had the potential to contain TOC as they were collected from sampling equipment which had come into contact with LL sediments;
- The source of TOC in the FBEC11815 is unknown, as the FB did not come in contact with field sampling equipment.

ES considers the source of TOC does not indicate a material impact to the field data set as the TOC concentration was reported to be marginally above the LOR and TOC is not a CoPC. If the reported TOC in the FB is considered to be representative of background conditions, ES considers that this is unlikely to cause an appreciable change to the TOC normalisation results given the high concentrations of TOC reported within LL sediments.

1.4.3 Statement of Field Blank Integrity

Based on the above, ES is satisfied that the integrity of the FB sample data was sufficient to allow the conclusions to be made in this report.

1.5 Trip Blanks

1.5.1 Trip Blanks - Water

Five (5) Trip Blank (TB) water samples and were submitted to the primary laboratory for analysis of select CoPC. All (100%) of the laboratory supplied TB water samples reported concentrations of CoPC below the LOR indicating correct sample handling and preservation had occurred.

Refer to Appendix H for tabulated TB results.

ES is satisfied that the integrity of the water TB sample data was sufficient to allow the conclusions to be made in this report.

1.5.2 Trip Blanks - Soil

One (1) TB soil sample was submitted to the primary laboratory for analysis of select CoPC. This TB soil samples was prepared by the primary laboratory. The following provides a summary of the TB soil results:

- TOC was reported to be above the LOR of 0.02% in Trip Blank 08/07/2015; and
- All other select CoPC reported concentrations below the LOR.

ES considers the reported TOC concentration in the TB sample to reflective of the TOC concentration of the soil sample. If the reported TOC in the FB is considered to be representative of background conditions, ES considers that this is unlikely to cause an appreciable change to the TOC normalisation results given the high concentrations of TOC reported within LL sediments.

ES is satisfied that the integrity of the soil TB sample data was sufficient to allow the conclusions to be made in this report.

1.6 Trip Spikes

Four (4) Trip Spike (TS) samples were submitted to the primary laboratory for analysis of select VOCs. Two (2) of these samples were TS water samples, with the remaining two (2) TS Soil samples.

These TS samples were stored (during sampling and transport) with the primary samples to determine if the sample handling and preservation have been correct to avoid potential loss of volatile components.

100% of Trip Spike samples reported percent recoveries (%R) within acceptable ranges indicating correct sample handling and preservation had occurred.

Refer to **Appendix H** for tabulated Trip Spike results.

ES is satisfied that the integrity of the trip spike sample data in water and soil was sufficient to allow the conclusions to be made in this report.

1.7 Rinsates

Five (5) Rinsate (RIN) samples were submitted to the primary laboratory for analysis of select CoPC. All rinsate samples were prepared in the field by ES personnel using laboratory supplied DiW. Refer to **Appendix H** for tabulated Rinsate results.

The following provides a summary of the RIN results:

- Three samples reported concentrations of Chloroform above the LOR;
- One sample reported TOC above the LOR;
- Two samples reported Ammonia, Nitrate, Nitrite, TOC, and Phosphorous above the LOR; and
- All other CoPC were reported to below the LOR.

The following provides a discussion on the RIN samples which reported concentrations of CoPC >LOR.

1.7.1 Detections in Rinsate Samples

The rinsate samples reported concentrations of CoPC below the LOR with the exception of the following listed below.

Table 5: Rinsate Detections

Sample ID	Date Sampled	Chloroform (µg/L)	Ammonia (µg/L)	Copper (µg/L)	Nitrate (as N) (µg/L)	Phosphorus (µg/L)
RINEC110815	11/08/2015	**1.6**	NA	<1	NA	NA
RINEC120815	12/08/2015	**1.6**	NA	**2**	NA	NA
RINEC130815	13/08/2015	**1.9**	NA	<1	NA	NA
RINEC140815	14/08/2015	<0.5	**80**	<1	**8**	**200**
RINEC150815	15/08/2015	<0.5	**32**	<1	**5**	**210**

Key

NA = Not analysed

Bold = Reported concentrations above LOR.

Chloroform (all three samples) and Copper (one sample) was reported in Rinsate samples collected between the 11th and 13th August 2015. The rinsate water used to create these samples came from a single batch. Sediment sampling was conducted on these dates, with surface water sampling occurring on the 13th August only. Rinsates were collected from the sediment sampling equipment and so were analysed only for the sediment CoPC suite. All primary sediment and surface water samples, collected from LL, reported concentrations of Chloroform below the LOR. Therefore, the source of chloroform in these samples is unlikely to be from residual sediment or surface water on the re-useable sampling equipment.

A field blank sample (FBEC11815) was collected on the 11th August 2015 using the same batch of de-ionised water used for the rinsate samples on the 11th to the 13th August 2015. This field blank sample reported the highest concentration of Chloroform (3.2 µg/L). As the source of Chloroform was not detected in any of the primary surface water and/ or sediment samples collected from LL, and due to the detection within the field blank sample, it is likely that the source of Chloroform was from the laboratory supplied de-ionised water.

The detection of Copper in low concentration (2 µg/L) within the one rinsate sample collected on the 12/08/2015 was likely to have either been sourced from residual sediment on the sampling equipment or from the LL surface water used to decontaminate the equipment. Concentrations of Copper within sediment samples collected on the 12/08/2015 ranged between 8.1 mg/kg and 290 mg/kg, whilst all surface water samples from LL reported concentrations >LOR, ranging between 4 µg/L and 11 µg/L. As LL water was used to decontaminate the sediment sampling equipment, and the concentrations of Copper were consistent with the surface water results, it is likely that the source of the copper detection in the rinsate sample was from the LL surface water.

Based on the discussion provided above ES do not consider that detections of chloroform and copper in rinsate, or field blank samples collected from LL indicate that systemic issues exist which are likely to negatively affect the main data set used for the LL APECS report, in terms of any of the PARCCS elements used to assess the data quality.

Ammonia, Nitrate and Phosphorus were detected in concentrations above the LOR within two rinsate samples collected on the 14th and 15th August 2015. Surface water and sediment sampling occurred in LL during these dates.

Sediment samples from LL were not analysed for Ammonia, Nitrate and Phosphorus. Surface water samples collected on these days reported the following ranges of these compounds:

- Ammonia: ranged between 10 µg/L and 100 µg/L;
- Nitrate: ranged between <5 µg/L and 17 µg/L; and
- Phosphorus: ranged between <50 µg/L and 720 µg/L.

The concentrations of ammonia, nitrate, and phosphorus were reported within the ranges of the primary surface water samples collected from LL. As for the sediment sampling equipment the sampling gear was decontaminated and rinsed with LL water between samples. The rinsate blanks were then collected by running the rinsate water through the sampling gear. As the returned concentrations of in the rinsate blank were consistent with the concentrations detected in primary LL surface water sample results, it is the opinion of ES that the rinsate detects of ammonia, nitrate and phosphorus were likely sourced from LL surface water used to rinse the equipment after cleaning.

Based on the discussion provided above ES do not consider that detections of ammonia, nitrate and phosphorus in rinsate, samples collected from LL indicate that systemic issues exist which are likely to negatively affect the main data set used for the LL APECS report, in terms of any of the PARCCS elements used to assess the data quality.

1.8 Field Instrument Calibration

The water quality meter used to measure physico-chemical properties of surface water samples collected from LL, was calibrated prior to use.

Records of Field Instrument Calibration are provided in **Appendix K**.

2 Laboratory QA/QC

2.1 Laboratory Accreditation

The primary laboratory used for sediment and surface water analyses was SGS Australia Pty Ltd (SGS). SGS is accredited for the substances analysed by the National Association of Testing Authorities, Australia (NATA) to ISO/IEC 17025:2005, under accreditation number 2562.

The secondary laboratory used for sediment and surface water analyses was Envirolab Services Pty Ltd (Envirolab). Envirolab is accredited for the substances analysed by NATA to ISO/IEC 17025:2005, under accreditation number 2901.

The primary laboratory used for edible aquatic species analyses was Advanced Analytical Australia, Pty Ltd (AAA). AAA is accredited by NATA to ISO/IEC 17025:2005, under accreditation number 15109. AAA is acknowledged as specialist providers of these analyses.

Due to the specialised nature of the analyses carried out a secondary laboratory was not used for edible aquatic species assessment as part of the LL APECS.

Laboratory QA/QC results and PARCCS review is provided on the laboratory reports in **Appendix I**, and in **Appendix J** respectively. The primary laboratory QA/QC results for sediment and surface water are discussed in the following sections.

The laboratory QA/QC assessment for edible aquatic species is provided in the ELA report (**Ref.24**), **Appendix L**.

2.2 Laboratory Precision

A quantitative measure of the variability (or reproducibility) of data.

To determine the laboratory precision, the following works were completed:

- Collection of intra and inter-laboratory duplicates by ES (sediment and surface water only);
- Analysis of intra and inter-laboratory duplicates by the primary and secondary laboratories (sediment and surface water only);
- Supply of volatile trip spike by the primary laboratory (SGS only for sediment and surface water);
- storage and transportation of trip spikes with primary laboratory samples by ES (SGS only for sediment and surface water);
- Laboratory analysis of trip spikes (SGS only for sediment and surface water); and
- Laboratory analysis of duplicate samples (SGS and Envirolab only for sediment and surface water).

As reported in the PARCCs review tables, in **Appendix J**, all laboratory precision items were deemed to be acceptable.

2.2.1 Statement of Laboratory Precision

ES considers the precision of the laboratory analyses to be reliable and without bias and have relied on the precision of the laboratory data when making conclusions pertaining to the objectives of the LL APECS.

2.3 Laboratory Accuracy

A quantitative measure of the closeness of reported data to the true value.

To determine the laboratory accuracy, the following works were completed:

- Analysis of primary laboratory supplied and ES produced trip blanks;
- Analysis of rinsate blank samples;
- Analysis of reagent blanks;
- Analysis of method blanks;
- Analysis of matrix spikes;
- Analysis of matrix spike duplicates;
- Analysis of surrogate spikes;
- Analysis of reference materials;
- Analysis of laboratory control samples (SGS only for Sediment and Surface water); and
- Analysis of laboratory-prepared spikes.

As reported in the PARCCs review tables, in **Appendix J**, all accuracy items were deemed to be acceptable or have minor non-compliances issues with the exception of the following:

Table 6: Laboratory Accuracy Exceptions

Data Quality Indicator	Finding	Discussion
Primary Lab Control Sample (LCS) (Edible Aquatic Species)	LCS were not reported Heavy Metals, VOCs, BTEX, TRH and PAHs.	ES considers this to be acceptable noting that the matrix spike percent recovery (%R) were reported. ES notes that TRH-Silica Gel Clean-up did not report a Matrix Spike as surrogate spikes failed due to sample matrix interferences.

2.3.1 Statement of Laboratory Accuracy

ES considers the accuracy of the laboratory analyses to be reliable and without bias. Based on the discussion provided, exceptions reported to the laboratory accuracy DQIs are not considered likely to have had a systemic impact on the overall accuracy of laboratory results. As a result, ES have relied on the accuracy of the laboratory data when making conclusions pertaining to the objectives of the LL APECS.

2.4 Laboratory Representativeness

The confidence (expressed qualitatively) that data are representative of each media present on the site.

To determine the laboratory representativeness, the following items were assessed:

- Collection and analysis of all samples as per the SAQP;
- Collection and analysis of rinsate samples; and
- If the frequency of laboratory blanks is acceptable and the results are within specified ranges.

As reported in the PARCCs review tables, in **Appendix J**, all representativeness items were deemed to be acceptable or have minor non-compliances issues with the exception of the following:

Table 7: Laboratory Representativeness Exceptions

Data Quality Indicator	Finding	Discussion
Technical Holding Times for the Primary Laboratory (Surface Water)	a. Technical Holding Times (THTs) for nitrate and pH exceeded.	a. All nitrite samples were frozen upon laboratory receipt (typically within 1-3 day). Current nitrite THT is 1 day without freezing. ES considers that the nitrite & pH results provide indicative values only.
Appropriate Sample Collection, Handling, Storage for specific Analytical Group	The targeted capture rate of three samples from each species from separate fish (i.e. total catch of 9 Australian Bass, 9 Eels and 9 Common Carp, nine x 100 g samples of Yabby will also be collected) was not achieved.	The following discussion within the ELA (2015) report outlines why all targeted species were sampled: "Sampling at Lake Liddell occurred during winter, which is a period when fish are least active. This is why only eight fish were collected, instead of the twelve initially anticipated. Although more fish may have been collected in spring and summer, delaying the survey was not possible given the time constraints of AGLM's program. It is also unlikely that an additional four fish would have changed the outcome of this assessment because the species collected, and particularly the long finned eels, are the best of the fish species present for accumulating toxins because they are long-lived, consume a range of foods, and are in close contact with sediments. Of the non-fish species that are edible, yabbies are the most likely candidates from Lake Liddell. The

		absence of yabbies from all samples in this assessment is likely to be because they are not as mobile in winter, and less likely to be caught. However, yabbies grow faster than the fish collected, so would put on a larger proportion of their weight in the 10 months since purchase. In this time, they would also have shed their exoskeleton. Both of these traits make it difficult to assess the likelihood of toxins being present in yabbies on or before 2 September 2014." Based on the ELA discussion outlined above, ES considers the sampling completed to be appropriate.
Secondary Laboratory QA/QC Data NATA Accreditation No. 2901. (Surface Water)	a. Technical Holding Times (THTs) for nitrate and pH exceeded.	a. All nitrite samples were frozen upon laboratory receipt (typically within 1-3 day). Current nitrite THT is 1 day without freezing. ES considers that the nitrite & pH results provide indicative values only.

2.4.1 Statement of Laboratory Representativeness

ES considers the representativeness of the laboratory analyses to be reliable and without bias for the media analysed by the laboratory. Based on the discussion provided, exceptions reported to the laboratory representativeness DQIs are not considered likely to have had a systemic impact on the overall representativeness of laboratory results. As a result, ES have relied on the representativeness of the laboratory data when making conclusions pertaining to the objectives of the LL APECS, except were results are considered to be estimates.

2.5 Laboratory Comparability

The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event.

To determine the comparability of laboratory data, the following items were assessed:

- Consistent sample analytical methods used;
- Consistent sample PQLs;
- Consistent laboratories; and
- Consistent units.

As reported in the PARCCs review tables, in **Appendix J**, all Comparability items were deemed to be acceptable or have minor non-compliances issues with the exception of the following:

Table 8: Laboratory Comparability Exceptions

Data Quality Indicator	Finding	Discussion
Primary Laboratory NATA Accredited Methods (Sediment and surface water)	The following primary laboratory analytes in were Not-NATA Accredited: a. Salinity (calculated). b. Nitrite and Ammonia.	a. ES considers the calculated salinity results to be acceptable as they were based on the NATA Accredited conductivity measurement. b. The Nitrite and Ammonia analysis was confirmed by the primary laboratory as NATA Accredited during the pre-testing "readiness audits" undertaken by Environmental Strategies. As the reported results were not reported at NATA accredited, ES considers the reported Nitrite and Ammonia concentrations to be estimates until confirmed by SGS.
Secondary Laboratory NATA Accredited Methods (Sediment and surface water)	The calculated salinity was not NATA accredited for the Secondary laboratory.	As per the Primary laboratory, ES considers the calculated salinity results to be acceptable as they were based on the NATA Accredited conductivity measurement.
Primary Laboratory (AAA) NATA Accredited Methods (Edible Aquatic Species)	The following primary laboratory analytes in were Not-NATA Accredited: a. VOCs b. BTEX, c. TRH, and d. Boron	ES considers this to be acceptable because: ▪ NATA Accreditation for TRH, VOC's, various metals in aquatic edible species is very limited within Australia. AAA is recognised by NZ Cawthron institute for expertise in marine biota testing; and ▪ NATA Accreditation status of AAA Laboratories was acknowledged in the approved SAQP via an internal readiness audit undertaken by ES (June, 2015).

2.5.1 Statement of Laboratory Comparability

ES considers the comparability of the laboratory analyses to be reliable and without bias for the media analysed by the laboratory. Based on the discussion provided, exceptions reported to the laboratory comparability DQIs are not considered likely to have had a systemic impact on the overall comparability of laboratory results. As a result, ES have relied on the comparability of the laboratory data when making conclusions pertaining to the objectives of the LL APECS, except were results are considered to be estimates

2.6 Laboratory Completeness

A measure of the amount of useable data (expressed as %) from a data collection activity.

To determine the completeness of laboratory data, the following items were assessed:

- All samples analysed according to SAQP;
- All analytes analysed according to SAQP;
- Appropriate methods and PQLs;
- Sample documentation complete; and
- Sample holding times complied with.

As reported in the PARCCs review tables, in **Appendix J**, all completeness items were deemed to be acceptable or have minor non-compliances issues with the exception of the following:

Table 9: Laboratory Completeness Exceptions

Data Quality Indicator	Finding	Discussion
Appropriate Sampling, Sample Documentation & Descriptions Completed (Edible Aquatic Species)	The targeted capture rate of three samples from each species from separate fish (i.e. total catch of 9 Australian Bass, 9 Eels and 9 Common Carp, nine x 100 g samples of Yabby will also be collected) was not achieved.	The following discussion within the ELA (2015) report outlines why all targeted species were sampled: "Sampling at Lake Liddell occurred during winter, which is a period when fish are least active. This is why only eight fish were collected, instead of the twelve initially anticipated. Although more fish may have been collected in spring and summer, delaying the survey was not possible given the time constraints of AGLM's program. It is also unlikely that an additional four fish would have changed the outcome of this assessment because the species collected, and particularly the long finned eels, are the best of the fish species present for accumulating toxins because they are long-lived, consume a range of foods, and are in close contact with sediments. Of the non-fish species that are edible, yabbies are the most likely candidates from Lake Liddell. The absence of yabbies from all samples in this assessment is likely to be because they are not as mobile in winter, and less likely to be caught. However, yabbies grow faster than the fish collected, so would put on a larger proportion of their weight in the 10 months since purchase. In this time, they would also have shed their exoskeleton. Both of these traits make it difficult to assess the likelihood of toxins being present in yabbies on or before 2 September 2014."

		Based on the ELA discussion outlined above, ES considers the sampling completed to be appropriate.
All Critical Samples Collected/ Analysed According to Site History, CSM Data Gaps, COC/ SAQP, and Compared to the Criteria.	a. The targeted capture rate of three samples from each species from separate fish (i.e. total catch of 9 Australian Bass, 9 Eels and 9 Common Carp, nine x 100 g samples of Yabby will also be collected) was not achieved. b. The laboratory QA/QC criteria accuracy (TRH-Silica Gel) was not determined as the samples surrogate spikes %R exhibited interference (not determined), compounded by no matrix spike %R determined and no laboratory control sample %R. There was no intra-laboratory nor inter-laboratory field duplicates due to the COC batch < 20 samples.	a. The following discussion within the ELA (2015) report outlines why all targeted species were sampled: *"Sampling at Lake Liddell occurred during winter, which is a period when fish are least active. This is why only eight fish were collected, instead of the twelve initially anticipated. Although more fish may have been collected in spring and summer, delaying the survey was not possible given the time constraints of AGL Macquarie's program. It is also unlikely that an additional four fish would have changed the outcome of this assessment because the species collected, and particularly the long finned eels, are the best of the fish species present for accumulating toxins because they are long-lived, consume a range of foods, and are in close contact with sediments.* *Of the non-fish species that are edible, yabbies are the most likely candidates from Lake Liddell. The absence of yabbies from all samples in this assessment is likely to be because they are not as mobile in winter, and less likely to be caught. However, yabbies grow faster than the fish collected, so would put on a larger proportion of their weight in the 10 months since purchase. In this time, they would also have shed their exoskeleton. Both of these traits make it difficult to assess the likelihood of toxins being present in yabbies on or before 2*

September 2014."

Based on the ELA discussion outlined above, ES considers the sampling completed to be appropriate.

It is difficult to determine if the source of positive TRH results is likely to be:

- anthropogenic (e.g. petrogenic or individual PAH's from coal dust / coal from Lake Liddell) or

- naturally occurring fish lipids, including other unknown compounds less polar than the silica gel/ solvent equilibrium, and/ or

- where the capacity of the silica gel cleanup may have been exceeded allowing polar compounds to flood through the silica gel column to be detected as false positives on the GC/FID.

AAA advised on how the capacity of the silica gel clean-up was managed to prevent overloading of polar compounds arising from fish tissue, and if gel permeation chromatography is warranted for a future study. Any future study should also consider testing aquatic edible species liver and other COPC sinks in captured fish species from areas found to present positive TRH, PAH's, VOC, M10 in sediments. Essential to undertake a literature search to determine if TRH, PAH's, M10, VOC's in fish tissue / organ sinks describe the biological degradation (incl. metabolic rates) for consideration with known environmental degradation rates.

AAA sample extraction process: Biota samples were extracted with dichloromethane / acetone (1:1) after addition of an appropriate surrogate using ultrasonic extraction. Biota samples are extracted with DCM / acetone / hexane after addition of an appropriate surrogate using ultrasonic extraction. The biota sample extracts are then concentrated. Sample extracts are analysed by GC-FID. The silica gel

	clean-up using activated silica shaken in the extraction vial with the sample. At advanced Analytical Australia the efficiency of the clean-up was not tested. Noting the above, ES considers the Edible Aquatic Species results to be complete.

2.6.1 Statement of Laboratory Completeness

ES considers the completeness of the laboratory analyses to be reliable and without bias and within the limitations discussed above have relied on the completeness of the laboratory data when making conclusions pertaining to the objectives of the LL APECS.

2.7 Laboratory Sensitivity

Capability of a method or instrument to detect a given analyte at a given concentration.

To determine the Laboratory sensitivity, the following works were completed:

- NATA accreditation of the laboratory for the analyses requested.
- Adoption of the appropriate analytical methodology.
- Appropriate detection levels requested to meet the requirements of the assessment criteria

As reported in the PARCCs review tables, in **Appendix J**, all sensitivity items were deemed to be acceptable or only have minor non-compliances issues.

2.7.1 Statement of Laboratory Sensitivity

ES considers the precision of the laboratory analyses to be reliable and without bias and have relied on the sensitivity of the laboratory data when making conclusions pertaining to the objectives of the LL APECS.

APPENDIX K – Calibration Certificates

Lake Liddell sediment

11/08/2015

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 14D101793

airmet
Air-Met Scientific Pty Ltd
1300 137 067

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. EC	✓	
	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:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.00		LE1048	pH 7.08
2. pH 10.00		pH 10.00		MH1685	pH 9.98
3. pH 4.00		pH 4.00		LK2362	pH 4.02
4. mV		234.0mV		ML1823/ML1824	234.0mV
5. EC		2.76mS		LH1691	2.76mS
6. D.O		0 ppm		2810	0.00ppm
7. Temp		20.0°C		MultiTherm	20.0°C

Calibrated by: AR Anne Rutlidge

Calibration date: 11/08/2015

Next calibration due: 07/02/2016

APPENDIX L - Draft EcoLogical Australia 2015

eco logical AUSTRALIA

Toxicity assessment of edible fish collected from Lake Liddell

Prepared for
AGL Macquarie Pty Ltd and Environmental Strategies

November 2015

DOCUMENT TRACKING

Item	Detail
Project Name	Toxicity assessment of edible fish collected from Lake Liddell
Project Number	15ARM-1640
Project Manager	Dr Peter Hancock 0418 984 892 92 Taylor St, Armidale, NSW, 2350
Prepared by	Dr Peter Hancock
Reviewed by	Ian Dixon
Approved by	Martin Sullivan
Status	DRAFT
Version Number	1
Last saved on	14 February 2016
Cover photo	Fyke net at Site A1. Photo by Daniel McKenzie.

This report should be cited as 'Eco Logical Australia 2015.*Toxicity assessment of edible fish collected from Lake Liddell*. Prepared for Environmental Strategies.'

Contents

List of figures

List of tables

Abbreviations

Abbreviation	Description
ANZECC	Australian and New Zealand Environment Conservation Council
BTEX	Benzene, toluene, ethylbenzene, xylene
CVAAS	Cold vapour atomic absorption spectrometry
GC-FID	Gas chromatography with a flame ionisation detector
ICP-MS	Inductively coupled plasma-mass spectrometry
NHMRC	National Health and Medical Research Council
PAH	Polycyclic aromatic hydrocarbons
P&T GCMS	Gas chromatograph mass spectrometry with purge and trap concentrator
TRH	Total recoverable hydrocarbons
VOC	Volatile organic compounds

Executive Summary

On 2 September 2014AGL Macquarie Pty Ltd acquired the Bayswater and Liddell Power Stations between Muswellbrook and Singleton in the Hunter Valley. Lake Liddell lies adjacent to the Bayswater and Liddell Power Stations and has been used for cooling and water storage since the Liddell Power Station was commissioned in 1971. AGL Macquarie wishes to better understand the level of contamination at Lake Liddell, at 2 September 2014.

As a component of the overall contamination assessment, three species of edible fish (*Cyprinus carpio*, *Anguilla reinhardtii* and *A. australis*) were collected from Lake Liddell, and their flesh analysed for:

- Heavy metals (arsenic, boron, cadmium, chromium (total), copper, lead, mercury (total), nickel, selenium and zinc).
- Polycyclic Aromatic Hydrocarbons (PAH).
- Total Recoverable Hydrocarbons (TRH) / Benzene, Toluene, Ethylbenzene and Xylene (BTEX). .
- Volatile Organic Compounds (VOC).

All of the fish collected have been living in Lake Liddell for at least the past two years. Contaminants present in the fish collected in July 2015 are typically slow to accumulate and are likely have been present at the time of purchase. Most of the heavy metals and compounds were present in low concentrations, or below the minimum level of reporting. The exception to this was selenium, which was present in concentrations between 4 and 8 times the maximum recommended by Food Standards Australia New Zealand. Non-volatile TRH >C16-C34 were also present in most of the samples, although not in concentration that are toxic.

The species collected were good indicators of toxin accumulation in fish, as they ate a wide range of food and would have absorbed toxins via several vectors, including through gill membranes and ingestion. Longfinned eels are slow growing, and likely to have been absorbing toxins from Lake Liddell for up to 20 years prior to purchase. The fish collected are likely to be good representatives of the Lake Liddell fish community.

As a precaution against exposure to selenium, anglers should be advised against the long-term consumption of fish caught in Lake Liddell. There is already signage to this effect in the Lake Liddell Recreation Area, and these signs are suitable for the purpose and should be maintained. No other measures are required to address the contaminants detected in fish by this study.

1 Introduction

1.1 Background

AGL Macquarie Pty Ltd wishes to better understand the extent of contamination which existed on the Bayswater and Liddell Power station sites and surrounds as at 2 September 2014, being the date on which it acquired the sites. This includes Lake Liddell, between Singleton and Muswellbrook along the New England Highway. As a component of this pre-existing contamination study, AGL Macquarie require the collection and analyses of edible aquatic species from Lake Liddell. Lake Liddell has been used for cooling and water storage since the Liddell Power Station and was commissioned in 1971. Lake Liddell also services the Bayswater Power Station, which was commissioned in 1985.

Environmental Strategies has been commissioned by AGL Macquarie to conduct a pre-existing contamination study, including environmental assessments at Lake Liddell. As part of this broader study, Eco Logical Australia (ELA) has been requested to collect edible aquatic fauna in Lake Liddell, and send their flesh for chemical analysis of potential contaminants.The lake's main species of edible aquatic fauna are *Cherax destructor* (yabby), *Cyprinus carpio* (European carp), *Anguilla reinhardtii* (long-finned eel), *Anguilla australis* (short-finned eel) and *Macquaria novemaculeata* (Australian bass). Whilst bass were once the main species targeted by recreational anglers in Lake Liddell, they have not been stocked for at least 5 years. Bass require access to estuaries to breed, and as migration is not possible from Lake Liddell, the population is likely to have dwindled through mortality and bass will be present only in low numbers, if at all. Small quantities of eel, carp and yabby are potentially eaten and have been included in assessments for contamination.

1.2 Project scope

The objective of this project was to determine the likely level of contamination present in edible fish in Lake Liddell at 2 September 2014. Fish were caught and their flesh sent for analysis. Flesh was analysed for contaminants, and the level of contamination compared to the *Australian and New Zealand Food Standards Code Standard 1.4.1- Contaminants and Natural Toxicants* and *Standard 1.4.2- Maximum Residue Limits*.

The *Australian and New Zealand Food Standards Code* outlines the standards for food in Australia and New Zealand. The code provides a common set of food composition and labelling rules agreed between Australia and New Zealand.

Food Standard 1.4.1 sets out the maximum levels of specified metal and non-metal contaminants and natural toxicants in nominated foods. Standard 1.4.2 lists the maximum permissible limits for agricultural and veterinary chemical residues present in food. Maximum levels have been set at levels that are consistent with public health and safety and which are reasonably achievable. Regardless of whether a maximum level has been assigned, contaminant levels should be kept as low as reasonably achievable.

2 Methods

2.1 Field surveys

A single sampling period of three days was used to collect fish from four sites at Lake Liddell (**Figure 1**). Sites were selected in locations that appeared to have good fish habitat, and sampling occurred between 8 and 10 July 2015. Sampling occurred in winter, which is when fish become less active. Although fewer captures are expected in winter than in spring or summer, sampling in winter was the nearest possible survey time to the purchase date, and was required to fit in with AGL Macquarie's timeline. Samples were collected by aquatic ecologists Ben Martin and Dan Mackenzie.

Samples were collected using fyke nets of 60 (small), 100 (medium), and 150 cm (large) diameter. Large and small nets had single wings of 10 and 5 m respectively, and were made of 11 mm mesh. Medium fyke nets had two 10 m wings and were made of 11 mm mesh. At each site, nets were set in areas where habitat complexity was greatest. Nets were checked in the morning and evening, cleared of fish, then set again to maximise fishing time. Physicochemical variables (dissolved oxygen concentration, pH, electrical conductivity and temperature) were measured at each of the survey sites with a YSI-556 Water Quality Meter (Yellow Springs Instruments, Ohio). The water meter was calibrated in the laboratory for all variables, and dissolved oxygen was calibrated each day during field work. The location of sample sites were recorded using GPS.

Captured fish were humanely euthanized by a rapid blow to the head, followed by pithing (Barker et al. 2009). Once dead, a single fillet of at least 100 g was removed with a sharp, sterile, filleting knife. Each fillet was then skinned, sealed in sterile plastic bags, placed on ice and then frozen within 4 hours of capture. The Food Standard Code requires analysis of the edible portion of fish, which is why fillets were used, despite higher concentrations of some contaminants being likely in the liver and gullet. Samples were sent to Advanced Analytical Australia, Pty Ltd for analysis.

2.2 Chemical testing

Each sample was sent to Advanced Analytical Australia, Pty Ltd (NATA Accreditation Number 15109) (AAA), and analysed for:

- Heavy metals and metalloids (arsenic, boron, cadmium, chromium (total), copper, lead, mercury (total), nickel, selenium and zinc)
- Polycyclic Aromatic Hydrocarbons (PAH)
- Total Recoverable Hydrocarbons (TRH) / Benzene, Toluene, Ethylbenzene and Xylene (BTEX)
- Volatile Organic Compounds (VOC)

Apart from mercury, metal concentrations in flesh samples were measured using inductively coupled plasma-mass spectrometry (ICP-MS). Mercury concentration was determined by cold vapour atomic absorption spectrometry (CVAAS). Concentrations of TRH were measured using gas chromatography with a flame ionisation detector (GC-FID) and gas chromatograph mass spectrometry with a purge and trap concentrator (P&T GCMS). VOC concentrations were determined using P&T GCMS. PAH concentrations were determined using gas chromatography.

Results from chemical analyses were compared to the *Australian and New Zealand Food Standards Code Standard 1.4.1- Contaminants and Natural Toxicants* and *Standard 1.4.2- Maximum Residue Limits*, where the standard listed maximum recommended concentrations. The standard did not list maximum recommended concentrations for PAH, TRH/BTEX, or VOC.

Figure 1: Fyke net locations for fish sampling in Lake Liddell.

3 Results

3.1 Field data

3.1.1 Water chemistry

Water temperature was between 13.4ºC and 18.2ºC (**Table 1**). Water was warmer at sites sampled in the afternoon. Electrical conductivity was relatively consistent across all four sites, ranging between 2256 µS/cm at Site A1 and 2335 µS/cm at Site A4 (**Table 1**). This exceeds the ANZECC (2000) ecological guideline of 20-30 µS/cm for lakes in south-eastern Australia, and 125-2200 µS/cm for lowland rivers. Dissolved oxygen concentration was between 76.5 and 101.6 % saturation. All sites except A3 were below the recommended ANZECC (2000) concentration range of 90-110 % saturation (**Table 1**). All sites exceeded the ANZECC range for pH, with measurements between 8.5 and 9.8 (**Table 1**).

Table 1: Water chemistry data measured at Lake Liddell. Bold figures are outside ANZECC guidelines.

Site	Date	Temperature (^{0}C)	Electrical conductivity (µs/cm)	Dissolved Oxygen (% Sat.)	Dissolved Oxygen (mg/L)	pH
ANZECC guideline(lake/reservoir):		No Guideline	20-30	90-110	No Guideline	6.5-8.0
A1	8/07/2015	18.2	**2256**	**76.5**	7.2	**8.8**
A2	8/07/2015	13.4	**2321**	**82.3**	8.5	**8.5**
A3	8/07/2015	18.0	**2319**	101.6	9.4	**9.8**
A4	8/07/2015	16.2	**2335**	**86.1**	8.3	**9.6**

3.1.2 Fish captures

A total of eight fish from three species were collected during sampling at Lake Liddell. *Anguilla reinhardtii* (long-finned eel) were the most abundant species, ranging in size from 120 to 130 cm, with five specimens collected at Sites A2 and A4. Both other species, two *Anguilla australis* (short-finned eel) and a single *Cyprinus carpio* (European carp) were collected only at Site A1 (**Table 2**). All fish were large enough to have been present in the lake at the time of purchase on 2 September 2014.

Table 2: Fish collected at Lake Liddell.

Site	Species	Common name	Size (cm)	Fillet Mass (g)	Sample ID
A1	*Anguilla australis*	Short-finned eel	50	115	A1-1
	Anguilla australis	Short-finned eel	60	145	A1-2
	Cyprinus carpio	European carp	40	110	A1-3
A2	*Anguilla reinhardtii*	Long-finned eel	120	120	A2-1
	Anguilla reinhardtii	Long-finned eel	130	160	A2-2
	Anguilla reinhardtii	Long-finned eel	120	115	A2-3
A3	*No edible fish*				
A4	*Anguilla reinhartii*	Long-finned eel	120	120	A4-1
	Anguilla reinhartii	Long-finned eel	120	160	A4-2

3.2 Chemical analysis

3.2.1 Heavy metals

Concentrations of most heavy metals analysed from the fish collected at Lake Liddell were below the minimum level of reporting, which is the lowest level of measurement reliably achieved during routine laboratory operating conditions.

The main exception to this was selenium, which had concentrations 4 to 8.1 times the maximum concentration recommended by the Australian and New Zealand Food Standards Code (**Table**).

While there are no maximum recommendations for zinc concentrations, zinc was detected at concentrations above 10 mg/kg for all of the eel samples (**Table**).

Table 3: Concentration of heavy metals in fish collected from Lake Liddell. Bold figures indicated concentrations exceeding safe levels. SFE = short-finned eel, LFE= Long-finned eel, EC= European carp.

Metal	Maximum recommended concentration	Upper daily Intake	Sample Number:	A1-1	A1-2	A1-3	A2-1	A2-2	A2-3	A4-1	A4-2
			Species:	SFE	SFE	EC	LFE	LFE	LFE	LFE	LFE
			Reported unit								
Arsenic	1 mg/kg		mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron			mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cadmium	2 mg/kg		mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium			mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Copper	10 mg/kg	10 mg	mg/kg	0.26	0.17	0.4	0.25	0.21	0.33	0.3	0.32
Mercury	1 mg/kg		mg/kg	<0.01	<0.01	<0.01	0.027	0.013	0.016	<0.01	0.015
Nickel			mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead	0.5 mg/kg		mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	1 mg/kg	0.4mg	mg/kg	**5.9**	**4**	**5.1**	**7.3**	**5.8**	**6.8**	**5.1**	**8.1**
Zinc		40 mg	mg/kg	18	11	5.5	13	16	18	22	31

3.2.2 PAH

No maximum acceptable concentrations have been set for PAH in food Australia and New Zealand. However, some PAH are suspected carcinogens so the amount ingested should be kept as low as possible (New Zealand Food Safety Authority 2009). None of the fish samples had PAH concentrations above the minimum level of reporting, so are likely to be safe (**Table 4**).

Table 4: Concentration of PAH in fish fillet collected from Lake Liddell. SFE = short-finned eel, LFE= Long-finned eel, EC= European carp.

PAH chemical	Sample Number:	A1-1	A1-2	A1-3	A2-1	A2-2	A2-3	A4-1	A4-2
	Species:	SFE	SFE	EC	LFE	LFE	LFE	LFE	LFE
Naphthalene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
1-Methylnaphthalene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
2-Methylnaphthalene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Acenaphthylene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Acenaphthene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Fluorene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Anthracene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Fluoranthene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Pyrene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Benz(a)anthracene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Chrysene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(b)&(k)fluoranthene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20
Benzo(a)pyrene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Dibenz(a,h)anthracene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Coronene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(e)pyrene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Total PAH (as above)	µg/kg	<200	<200	<200	<200	<200	<200	<200	<200

Note: No maximum concentrations for PAH were provided in the Australian and New Zealand Food Standards Code.

3.2.3 TRH/BTEX

All of the fish samples analysed for BTEX chemicals contained concentrations less than the minimum level of reporting. Concentrations of C10-C16 and C34-C40 TRH were also below the minimum level of reporting. Concentrations of TRH in the non-volatile >C16-C34 range were between 110 and 310 mg/kg for all samples except A1-1, which was lower than the reporting level (**Table**).The Australian and New Zealand Food Standards Code does not include a maximum acceptable concentration for the consumption of TRH.

Table 5: Concentration of TRH/BTEXs in fish collected from Lake Liddell. SFE = short-finned eel, LFE= Long-finned eel, EC= European carp.

TRH/BTEX chemical	Sample Number:	A1-1	A1-2	A1-3	A2-1	A2-2	A2-3	A4-1	A4-2
	Species:	SFE	SFE	EC	LFE	LFE	LFE	LFE	LFE
TRH >C10-C16	mg/kg	<20	<50	<50	<20	<20	<50	<50	<50
TRH >C16-C34	mg/kg	<100	220	130	200	140	200	110	310
TRH >C34-C40	mg/kg	<100	<100	<100	<100	<100	<100	<100	<100
Benzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Toluene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Ethylbenzene*	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2

TRH/BTEX chemical	Sample Number:	A1-1	A1-2	A1-3	A2-1	A2-2	A2-3	A4-1	A4-2
	Species:	SFE	SFE	EC	LFE	LFE	LFE	LFE	LFE
Meta & Para -Xylenes	mg/kg	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4
Styrene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Ortho-Xylene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Isopropylbenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
n-Propylbenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,3,5-Trimethylbenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
sec-Butylbenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,2,4-Trimethylbenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
tert-Butylbenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
p-Isopropyltoluene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
n-Butylbenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2

Note: No maximum concentrations for TRH/BTEX were provided in the Australian and New Zealand Food Standards Code.

3.2.4 VOC

The Australian and New Zealand Food Standards Code does not include a maximum acceptable concentration for the consumption of VOC. Concentrations of all VOC compounds were below the minimum level of reporting for the fish collected from Lake Liddell (**Table**).None of the analytes tested for VOC were above the minimum level of reporting (**Table**).

Table 6: Concentration of VOC in fish collected from Lake Liddell. SFE = Short-finned Eel, LFE= Long-finned Eel, EC= European Carp.

VOC Chemical	Sample Number:	A1-1	A1-2	A1-3	A2-1	A2-2	A2-3	A4-1	A4-2
	Species:	SFE	SFE	EC	LFE	LFE	LFE	LFE	LFE
Acetone	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
2-Butanone (MEK)	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
4-Methyl-2-pentanone (MIBK)	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
2-Hexanone (MBK)	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Methyl tert-Butyl Ether(MTBE)	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Methyl Methacrylate	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Ethyl Methacrylate	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Carbon disulphide	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
2,2-Dichloropropane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,2-Dichloropropane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
cis-1,3-Dichloropropene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
trans-1,3-Dichloropropene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,2-Dibromoethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Dichlorodifluoromethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Vinyl Chloride	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Trichlorofluoromethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,1-Dichloroethene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2

VOC Chemical	Sample Number:	A1-1	A1-2	A1-3	A2-1	A2-2	A2-3	A4-1	A4-2
	Species:	SFE	SFE	EC	LFE	LFE	LFE	LFE	LFE
Iodomethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Methylene chloride	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
trans-1,2-Dichloroethene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,1-Dichloroethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
cis-1,2-Dichloroethene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,1,1-Trichloroethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,1-Dichloropropene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Carbon tetrachloride	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,2-Dichloroethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Trichloroethene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Dibromomethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,1,2-Trichloroethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Tetrachloroethene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1-Chlorobutane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Allyl Chloride	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Bromochloromethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,3-Dichloropropane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,1,1,2-Tetrachloroethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
trans-1,4-Dichloro-2-butene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,1,2,2-Tetrachloroethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,2,3-Trichloropropane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Hexachloroethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Pentachloroethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,2-Dibromo-3-chloropropane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Hexachlorobutadiene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Chlorobenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Bromobenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
2-Chlorotoluene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
4-Chlorotoluene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,3-Dichlorobenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,4-Dichlorobenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,2-Dichlorobenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,2,4-Trichlorobenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,2,3-Trichlorobenzene	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Chloroform	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Bromodichloromethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Dibromochloromethane	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Bromoform	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2

Note: No maximum concentrations for VOCs were provided in the Australian and New Zealand Food Standards Code.

3.3 Quality Assurance

3.3.1 Statement of Duplicate Frequency

Field duplicates for intra-laboratory QA/QC were not collected.

3.4 Laboratory QA/QC

3.4.1 Holding Times

No analysis holding time outliers were noted by the laboratory.

3.4.2 Laboratory Accreditation for Analytical Methods Used

The laboratory used for the assessment was Advanced Analytical Australia Pty Ltd (AAA). AAA are NATA accredited for the analyses of:

- Metals in food and marine/freshwater biota by ICP-MS, mg/kg;
- Mercury in food by CVAAS, mg/kg; and
- OC & OP Pesticides, PAHs and PCBs in Biota by GCMS.

Methods used for the purposes of this assessment which AAA have experience in and capacity to undertake, but do not currently hold NATA accreditation are:

- TRH by GC-FID & P&T GCMS, mg/kg; and
- VOC Compounds by P&T GCMS, mg/kg.

3.4.3 Percent Recoveries of Spikes and Surrogates

Laboratory QA/QC is provided on the laboratory reports in **Appendix A**.

AAA matrix spikes and sample surrogate recoveries with within acceptable ranges.

3.4.4 Laboratory duplicate results

3.4.4.1 Duplicate sample

A sample was taken for replicate analysis from a shortfinned eel collected at Site A1. Copper, Selenium and Zinc concentrations in A1-1 replicate were similar to the sample (**Table**), and for all other contaminants, concentrations were the same.

Table 7: Comparison of metal concentrations between A1-1 sample and replicate.

Metal	Unit	A1-1 Sample	A1-1 Replicate
Arsenic	mg/kg	<0.1	<0.1
Boron	mg/kg	<0.5	<0.5
Cadmium	mg/kg	<0.02	<0.02
Chromium	mg/kg	<0.1	<0.1
Copper	mg/kg	0.26	0.25
Mercury	mg/kg	<0.01	<0.01
Nickel	mg/kg	<0.1	<0.1
Lead	mg/kg	<0.1	<0.1
Selenium	mg/kg	5.9	5.7
Zinc	mg/kg	18	17

3.4.5 Laboratory blank results

All ALS laboratory blank results were within acceptable ranges.

3.5 QA/QC Data Evaluation

3.5.1 Evaluation of the QA/QC Information Compared to the DQOs

- Documentation completeness:
  - Logs and chain-of-custody (CoC) forms were completed and appropriate. A copy of the CoC is attached as **Appendix B**.
  - Response from the laboratory indicates that the samples were frozen when received.
- Data completeness:
  - All samples were received by the laboratories and analytical results reported including laboratory QA/QC.
- Data comparability:
  - Industry best practice was followed during sampling.
  - Consistent field conditions and staff were used during sampling.
  - Standard analytical methods were used by the laboratory for all analyses.
  - The limits of reporting are appropriate and consistent from the laboratory.
- Data representativeness:
  - Rinsate samples were not considered appropriate for this assessment and were not submitted.
  - The frequency of laboratory blanks was acceptable and the results were within specified ranges.
- Precision:
  - Field duplicates were not collected. The samples collected were fillets taken directly from each animal immediately after it was euthanized. It is considered that the potential for the sampling method to contribute to variations in the analytical results are low.
  - Laboratory duplicates were collected at a frequency greater than 10%. The laboratory duplicate RPDs for intra-laboratory duplicates were within acceptable ranges.

3.5.2 Data Comparability

- All samples were collected using the same method over all sampling events. The weather conditions during the sampling event remained relatively stable over the sampling event; and
- All samples analysed by AAA used the same methodologies for each respective analyte.

4 Discussion

4.1 Suitability of the fish species collected

The objective of this fish survey was to determine the concentration of potential toxins in fish flesh at the time of purchase on 2 September 2014. To be a good candidate for this assessment, the fish collected need to have been present in Lake Liddell at the time of purchase, demonstrate feeding or life history traits that expose them to potential toxins, and have had a long period in Lake Liddell to allow for toxin uptake. All specimens collected and sent for analysis are considered suitable representatives of the fish community of Lake Liddell.

The three species captured are all bottom-dwellers and adopt a range of trophic strategies, to allow a good indication of contaminant accumulation in fish flesh. Carp have a highly varied diet that includes aquatic invertebrates (insects, crustaceans, molluscs), as well as soft plant matter and detritus. Carp sometimes feed by sucking soft mud and detritus into their mouths, then filtering out food items through long, fine gill-rakers (McDowall 1996). This means that, as well as exposure to toxins contained in food items or in mud accidentally ingested, carp also potentially absorb sediment-bound chemicals that come into contact with their gills during the food filtering. Both species of eel are predators that also consume a variety of food, ranging from aquatic invertebrates, fish, and small birds. Eels also often bury themselves into the upper layer of soft benthic mud or silt during the day. This places them in close contact with sediment-bound metals and other toxins.

Calculations based on approximate growth rates indicate that each of the captured fish would have been living in Lake Liddell for at least 2 years prior to the purchase date. At 40 cm, the carp would likely have been between 2 and 4 years old (Donkers 2004).Growth rates for both eel species are highly variable. Longfinned eels between 90 and 157 cm long have been verified as being 27 to 61 years old, while shortfinned eels 64 to 80 cm log are between 4 and 41 years old (DOC 2008). The shortfined eels were 50 and 60 cm long, so would have been approximately 3 or 4 years old, while the longfinned eels would have been at least 30 years old.

Sampling at Lake Liddell occurred during winter, which is a period when fish are least active. This is why only eight fish were collected, instead of the twelve initially anticipated. Although more fish may have been collected in spring and summer, delaying the survey was not possible given the time constraints of AGL Macquarie’s program. It is also unlikely that an additional four fish would have changed the outcome of this assessment because the species collected, and particularly the long finned eels, are the best of the fish species present for accumulating toxins because they are long-lived, consume a range of foods, and are in close contact with sediments.

Of the non-fish species that are edible, yabbies are the most likely candidates from Lake Liddell. The absence of yabbies from all samples in this assessment is likely to be because they are not as mobile in winter, and less likely to be caught. However, yabbies grow faster than the fish collected, so would put on a larger proportion of their weight in the 10 months since purchase. In this time, they would also have shed their exoskeleton. Both of these traits make it difficult to assess the likelihood of toxins being present in yabbies on or before 2 September 2014.

4.1.1 Selenium

Selenium was the only heavy metal that exceeded the maximum recommended concentration. This is specified as 1 mg/kg in the *Australian and New Zealand Food Standards Code* (NSW Health 2001) and 0.4 mg/day in NHMRC (2005). Concentration was higher in longfinned eels than in short-fined eel and European carp. Selenium is a naturally occurring element in marine sedimentary rocks, coal, and other fossil fuel deposits. It is absorbed in fish through gills and the gut, and bioaccumulates in muscle tissue and other organs (Mackay 2006). The longfined eels collected during this study were larger than the other two species, so had probably been living in Lake Liddell longer and had more time to accumulate selenium.

Background concentrations of selenium in Lake Liddell may be naturally high because of local and upstream geology, although it is likely that the concentration is increased by proximity and relationship with the two power stations. A 1996 survey that analysed metal concentrations in 1164 fish from Lake Macquarie found that 59% of samples exceeded the standard for selenium (Wlodarczsky and Beath 1997). Selenium was attributed to pollutants released from two nearby coal burning power stations, and anglers were warned that high consumption of locally caught fish may result in adverse impacts to health (NSW Health 2001). High concentrations of selenium can cause teratogenic deformities in the fins, spine, head, mouth, and other parts of freshwater fish (Lemly 1993, 2002). Excessive selenium can also cause malformities larval fish that make them vulnerable to predation. This teratogenesis could contribute to reproductive failure in some freshwater aquatic habitats (Lemly 1993).

Selenium is an essential element used in the synthesis of proteins, as an active component in enzymes, and has a key role in redox reactions and energy metabolism (Food Standards Australia and New Zealand 2008).Insufficient dietary intake of selenium has been associated with viral infections, impaired reproduction, mood, thyroid function and cardiovascular disease (Food Standards Australia New Zealand 2008). However, excessive intake of selenium over long periods of time can lead to the brittleness and loss of hair and nails, skin lesions, gastrointestinal disturbances, and effects on the nervous system (Food Standards Australia New Zealand 2008).

NHMRC (2006) suggest the upper safe level of the intake of selenium for humans is 0.4 mg/day. Other studies have demonstrated that the consumption of 0.2 mg/day for 10 years, or doses up to 0.4 mg/day for shorter periods, have no adverse effects (Food Standards Australia New Zealand 2008).For the fish collected from Lake Liddell in this study, daily consumption should not exceed 67 g of short finned eel, 78 g of carp, and 49 g of longfinned eel for extended periods, although short term consumption of larger amounts of the above species should not result in health problems.

4.1.2 Zinc

Zinc is an essential element, available in many foods and required for aspects of cellular metabolism that include catalytic activity, immune function, protein synthesis, and other purposes (Food Standards Australia and New Zealand 2011). Chronic consumption of high concentrations can result in impaired immune function, decreased HDL cholesterol and induced copper deficiency (Food Standards Australia and New Zealand 2011).Concentrations of zinc were well below the maximum safe consumption level of 40 mg/day for a standard serve (100 g) of most fish collected from Lake Liddell. The highest concentration sampled was in a longfinned eel that contained 31 mg of zinc per kg. At this concentration, more than 1.25 kg of fish per day, over a long period, would need to be consumed for there to be any adverse health effects. Only five eels were collected, and there may be some eels in the lake with concentrations higher than 31 mg/kg. Nevertheless, the recommended standard serving size for fish in Australia is between 100 and 115 g (NHMRC 2013), so more than 10 servings of fish would need to be eaten per day over a long period before the consumer began to show signs of zinc toxicity.

4.1.3 Hydrocarbons

No BTEX or PAH’s were detected in the fish collected from Lake Liddell. Measurable concentrations of TRH in the non-volatile >C16-C34 range were recovered for seven of the eight fish samples analysed from Lake Liddell. Most compounds in this range have a low or negligible toxicity to humans (ATSDR 1999).The highest concentration of TRH >C16-C34 in the Lake Liddell samples was 310 mg/kg, in a longfinned eel at A4.

AAA have indicated that based on the information provided by the TRH chromatograms they were unable to provide advice as to whether the peaks relate to anthropogenic or natural compounds. Similarly the TRH chromatograms cannot provide any interpretation of the age of the incurred compounds.

4.2 Further Assessment

The sampling conducted by ELA represents a screening assessment to identify if there is an occurrence of contaminants present in fish tissue which could become eaten by recreational anglers.

Now this has been determined, a further study could be considered to determine if the impacts found in fish tissue are anthropogenic or naturally occurring (eg. petrogenic or individual PAH's from coal dust / coal seams in Lake Liddell) or naturally occurring fish lipids.

A future study could consider testing liver and other COPC sinks in captured edible aquatic species from areas found to present positive TRH, PAH's, VOC, M10 in sediments and the study could include a literature search to determine if TRH, PAH's, M10, VOC's in fish tissue / organ sinks describe the biological degradation (incl. metabolic rates) for consideration with known environmental degradation rates.

5 Conclusions and recommendation

Conclusion

Sampling at Lake Liddell collected eight fish from three different species. All fish were greater than 10 months old and would have been alive on 2 September 2014, when the Liddell and Bayswater Power Stations were purchased by AGL Macquarie. All fish had concentrations of selenium that exceeded the maximum recommended concentration set by Food Standards Australia and New Zealand. All other contaminants that were tested were below maximum recommended concentrations, or did not had a maximum recommended concentration listed by Food Standards Australia and New Zealand.

The species collected were good indicators of toxin accumulation in fish, as they ate a wide range of food and would have absorbed toxins via several vectors, including through gill membranes and ingestion. Longfinned eels are slow growing, and likely to have been absorbing toxins from Lake Liddell for up to 20 years prior to purchase. The fish collected are likely to be good representatives of the Lake Liddell fish community. Contaminants present in the fish collected in July 2015 are typically slow to accumulate and are likely to have been present at the time of purchase.

Recommendation

As a precaution against exposure to selenium it is recommended that anglers should be advised against the long-term consumption of fish caught in Lake Liddell. There are already signs to this effect in the Lake Liddell Recreation Area and these include sufficient information to warn of the risks arising are suitable for the purpose and should be maintained. No other measures are required to address the contaminants detected in fish by this study.

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Appendix A - Laboratory results

Appendix B – Chain of Custody Records

eco logical AUSTRALIA

bsi. ISO 14001 Environmental Management

bsi. AS/NZS 4801:2001 Occupational Health and Safety Management

bsi. ISO 9001 Quality Management

HEAD OFFICE
Suite 2, Level 3
668-672 Old Princes Highway
Sutherland NSW 2232
T 02 8536 8600
F 02 9542 5622

CANBERRA
Level 2
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Canberra ACT 2601
T 02 6103 0145
F 02 6103 0148

COFFS HARBOUR
35 Orlando Street
Coffs Harbour Jetty NSW 2450
T 02 6651 5484
F 02 6651 6890

PERTH
Suite 1 & 2
49 Ord Street
West Perth WA 6005
T 08 9227 1070
F 08 9322 1358

DARWIN
16/56 Marina Boulevard
Cullen Bay NT 0820
T 08 8989 5601
F 08 8941 1220

SYDNEY
Level 6
299 Sussex Street
Sydney NSW 2000
T 02 8536 8650
F 02 9264 0717

NEWCASTLE
Suites 28 & 29, Level 7
19 Bolton Street
Newcastle NSW 2300
T 02 4910 0125
F 02 4910 0126

ARMIDALE
92 Taylor Street
Armidale NSW 2350
T 02 8081 2681
F 02 6772 1279

WOLLONGONG
Suite 204, Level 2
62 Moore Street
Austinmer NSW 2515
T 02 4201 2200
F 02 4268 4361

BRISBANE
Suite 1 Level 3
471 Adelaide Street
Brisbane QLD 4000
T 07 3503 7191
F 07 3854 0310

HUSKISSON
Unit 1 51 Owen Street
Huskisson NSW 2540
T 02 4201 2264
F 02 4443 6655

NAROOMA
5/20 Canty Street
Narooma NSW 2546
T 02 4476 1151
F 02 4476 1161

MUDGEE
Unit 1, Level 1
79 Market Street
Mudgee NSW2850
T 02 4302 1230
F 02 6372 9230

GOSFORD
Suite 5, Baker One
1-5 Baker Street
Gosford NSW 2250
T 02 4302 1220
F 02 4322 2897

1300 646 131
www.ecoaus.com.au

APPENDIX M - Statistical Calculations

General UCL Statistics for Full Data Sets

User Selected Options			
From File	Z:\Documents\7.0 JOB FOLDERS\7.12 15000 Jobs\15106 - AGL Lake Liddell\11. Report\PAH Normalised cohesive sed - Pro UCL file.wst		
Full Precision	OFF		
Confidence Coefficient	95%		
Number of Bootstrap Operations	2000		

Acenaphthene Cohesive Sediments Only

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	17
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.25	Maximum of Log Data	-1.386
Mean	0.034	Mean of log Data	-3.987
Geometric Mean	0.0185	SD of log Data	1.049
Median	0.019		
SD	0.0531		
Std. Error of Mean	0.0116		
Coefficient of Variation	1.56		
Skewness	3.67		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.529	Shapiro Wilk Test Statistic	0.938
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.054	95% H-UCL	0.0596
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.066
95% Adjusted-CLT UCL (Chen-1995)	0.063	97.5% Chebyshev (MVUE) UCL	0.0811
95% Modified-t UCL (Johnson-1978)	0.0556	99% Chebyshev (MVUE) UCL	0.111
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.851	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.04		
MLE of Mean	0.034		
MLE of Standard Deviation	0.0369		
nu star	35.73		
Approximate Chi Square Value (.05)	23.05	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	0.0531
Adjusted Chi Square Value	22.27	95% Jackknife UCL	0.054
		95% Standard Bootstrap UCL	0.0521
Anderson-Darling Test Statistic	0.876	95% Bootstrap-t UCL	0.084
Anderson-Darling 5% Critical Value	0.772	95% Hall's Bootstrap UCL	0.122
Kolmogorov-Smirnov Test Statistic	0.16	95% Percentile Bootstrap UCL	0.0543
Kolmogorov-Smirnov 5% Critical Value	0.195	95% BCA Bootstrap UCL	0.0677
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0846
		97.5% Chebyshev(Mean, Sd) UCL	0.106
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.149
95% Approximate Gamma UCL (Use when n >= 40)	0.0528		
95% Adjusted Gamma UCL (Use when n < 40)	0.0546		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.0528

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Acenaphthylene Cohesive Sediments Only

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	16
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.25	Maximum of Log Data	-1.386
Mean	0.0333	Mean of log Data	-4.053
Geometric Mean	0.0174	SD of log Data	1.087
Median	0.016		
SD	0.0534		
Std. Error of Mean	0.0117		
Coefficient of Variation	1.602		
Skewness	3.646		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.528	Shapiro Wilk Test Statistic	0.92
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0534	95% H-UCL	0.0602
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0655
95% Adjusted-CLT UCL (Chen-1995)	0.0624	97.5% Chebyshev (MVUE) UCL	0.0808
95% Modified-t UCL (Johnson-1978)	0.055	99% Chebyshev (MVUE) UCL	0.111
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.8	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.0416		
MLE of Mean	0.0333		
MLE of Standard Deviation	0.0373		
nu star	33.61		
Approximate Chi Square Value (.05)	21.36	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	0.0525
Adjusted Chi Square Value	20.61	95% Jackknife UCL	0.0534
		95% Standard Bootstrap UCL	0.0519
Anderson-Darling Test Statistic	0.983	95% Bootstrap-t UCL	0.0814
Anderson-Darling 5% Critical Value	0.775	95% Hall's Bootstrap UCL	0.122
Kolmogorov-Smirnov Test Statistic	0.162	95% Percentile Bootstrap UCL	0.0548
Kolmogorov-Smirnov 5% Critical Value	0.196	95% BCA Bootstrap UCL	0.0663
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0841
		97.5% Chebyshev(Mean, Sd) UCL	0.106
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.149
95% Approximate Gamma UCL (Use when n >= 40)	0.0525		
95% Adjusted Gamma UCL (Use when n < 40)	0.0544		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.0525

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Anthracene Cohesive Sediments Only

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	16
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.25	Maximum of Log Data	-1.386
Mean	0.0336	Mean of log Data	-4.02
Geometric Mean	0.0179	SD of log Data	1.058
Median	0.016		
SD	0.0533		
Std. Error of Mean	0.0116		
Coefficient of Variation	1.587		
Skewness	3.66		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.526	Shapiro Wilk Test Statistic	0.93
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0536	95% H-UCL	0.0587
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0646
95% Adjusted-CLT UCL (Chen-1995)	0.0626	97.5% Chebyshev (MVUE) UCL	0.0795
95% Modified-t UCL (Johnson-1978)	0.0552	99% Chebyshev (MVUE) UCL	0.109
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.829	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.0405		
MLE of Mean	0.0336		
MLE of Standard Deviation	0.0369		
nu star	34.8		
Approximate Chi Square Value (.05)	22.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	0.0527
Adjusted Chi Square Value	21.54	95% Jackknife UCL	0.0536
		95% Standard Bootstrap UCL	0.0523
Anderson-Darling Test Statistic	0.976	95% Bootstrap-t UCL	0.0844
Anderson-Darling 5% Critical Value	0.773	95% Hall's Bootstrap UCL	0.121
Kolmogorov-Smirnov Test Statistic	0.155	95% Percentile Bootstrap UCL	0.0542
Kolmogorov-Smirnov 5% Critical Value	0.195	95% BCA Bootstrap UCL	0.0648
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0843
		97.5% Chebyshev(Mean, Sd) UCL	0.106
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.149
95% Approximate Gamma UCL (Use when n >= 40)	0.0524		
95% Adjusted Gamma UCL (Use when n < 40)	0.0542		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.0524

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benz(a)anthracene Cohesive Sediments Only

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	2	Maximum of Log Data	0.693
Mean	0.129	Mean of log Data	-3.432
Geometric Mean	0.0323	SD of log Data	1.254
Median	0.026		
SD	0.429		
Std. Error of Mean	0.0937		
Coefficient of Variation	3.321		
Skewness	4.553		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.276	Shapiro Wilk Test Statistic	0.868
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.291	95% H-UCL	0.161
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.16
95% Adjusted-CLT UCL (Chen-1995)	0.383	97.5% Chebyshev (MVUE) UCL	0.2
95% Modified-t UCL (Johnson-1978)	0.306	99% Chebyshev (MVUE) UCL	0.279
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.429	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.301		
MLE of Mean	0.129		
MLE of Standard Deviation	0.197		
nu star	18.03		
Approximate Chi Square Value (.05)	9.409	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	0.283
Adjusted Chi Square Value	8.932	95% Jackknife UCL	0.291
		95% Standard Bootstrap UCL	0.281
Anderson-Darling Test Statistic	3.2	95% Bootstrap-t UCL	2.041
Anderson-Darling 5% Critical Value	0.813	95% Hall's Bootstrap UCL	1.027
Kolmogorov-Smirnov Test Statistic	0.325	95% Percentile Bootstrap UCL	0.313
Kolmogorov-Smirnov 5% Critical Value	0.201	95% BCA Bootstrap UCL	0.415
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.538
		97.5% Chebyshev(Mean, Sd) UCL	0.715
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.062
95% Approximate Gamma UCL (Use when n >= 40)	0.248		
95% Adjusted Gamma UCL (Use when n < 40)	0.261		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.538

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a) pyrene Cohesive Sediments Only

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	17
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.5	Maximum of Log Data	-0.693
Mean	0.0491	Mean of log Data	-3.802
Geometric Mean	0.0223	SD of log Data	1.112
Median	0.02		
SD	0.105		
Std. Error of Mean	0.023		
Coefficient of Variation	2.144		
Skewness	4.312		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.385	Shapiro Wilk Test Statistic	0.924
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0887	95% H-UCL	0.0814
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0875
95% Adjusted-CLT UCL (Chen-1995)	0.11	97.5% Chebyshev (MVUE) UCL	0.108
95% Modified-t UCL (Johnson-1978)	0.0923	99% Chebyshev (MVUE) UCL	0.149
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.682	Data appear Lognormal at 5% Significance Level	
Theta Star	0.072		
MLE of Mean	0.0491		
MLE of Standard Deviation	0.0595		
nu star	28.63		
Approximate Chi Square Value (.05)	17.42	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	0.0869
Adjusted Chi Square Value	16.75	95% Jackknife UCL	0.0887
		95% Standard Bootstrap UCL	0.086
Anderson-Darling Test Statistic	1.456	95% Bootstrap-t UCL	0.213
Anderson-Darling 5% Critical Value	0.782	95% Hall's Bootstrap UCL	0.224
Kolmogorov-Smirnov Test Statistic	0.215	95% Percentile Bootstrap UCL	0.0926
Kolmogorov-Smirnov 5% Critical Value	0.197	95% BCA Bootstrap UCL	0.119
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.149
		97.5% Chebyshev(Mean, Sd) UCL	0.193
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.278
95% Approximate Gamma UCL (Use when n >= 40)	0.0807		
95% Adjusted Gamma UCL (Use when n < 40)	0.0839		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.149

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene	Cohesive Sediments Only		
General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	19
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	1.5	Maximum of Log Data	0.405
Mean	0.104	Mean of log Data	-3.472
Geometric Mean	0.031	SD of log Data	1.189
Median	0.025		
SD	0.321		
Std. Error of Mean	0.07		
Coefficient of Variation	3.087		
Skewness	4.534		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.289	Shapiro Wilk Test Statistic	0.87
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.225	95% H-UCL	0.134
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.138
95% Adjusted-CLT UCL (Chen-1995)	0.293	97.5% Chebyshev (MVUE) UCL	0.172
95% Modified-t UCL (Johnson-1978)	0.236	99% Chebyshev (MVUE) UCL	0.238
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.479	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.217		
MLE of Mean	0.104		
MLE of Standard Deviation	0.15		
nu star	20.13		
Approximate Chi Square Value (.05)	10.95	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	0.219
Adjusted Chi Square Value	10.43	95% Jackknife UCL	0.225
		95% Standard Bootstrap UCL	0.218
Anderson-Darling Test Statistic	3.002	95% Bootstrap-t UCL	1.343
Anderson-Darling 5% Critical Value	0.803	95% Hall's Bootstrap UCL	0.724
Kolmogorov-Smirnov Test Statistic	0.323	95% Percentile Bootstrap UCL	0.245
Kolmogorov-Smirnov 5% Critical Value	0.2	95% BCA Bootstrap UCL	0.325
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.409
		97.5% Chebyshev(Mean, Sd) UCL	0.541
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.801
95% Approximate Gamma UCL (Use when n >= 40)	0.191		
95% Adjusted Gamma UCL (Use when n < 40)	0.201		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.409

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene Cohesive Sediments Only

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	16
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.25	Maximum of Log Data	-1.386
Mean	0.0333	Mean of log Data	-4.053
Geometric Mean	0.0174	SD of log Data	1.087
Median	0.016		
SD	0.0534		
Std. Error of Mean	0.0117		
Coefficient of Variation	1.602		
Skewness	3.646		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.528	Shapiro Wilk Test Statistic	0.92
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0534	95% H-UCL	0.0602
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0655
95% Adjusted-CLT UCL (Chen-1995)	0.0624	97.5% Chebyshev (MVUE) UCL	0.0808
95% Modified-t UCL (Johnson-1978)	0.055	99% Chebyshev (MVUE) UCL	0.111
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.8	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.0416		
MLE of Mean	0.0333		
MLE of Standard Deviation	0.0373		
nu star	33.61		
Approximate Chi Square Value (.05)	21.36	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	0.0525
Adjusted Chi Square Value	20.61	95% Jackknife UCL	0.0534
		95% Standard Bootstrap UCL	0.0517
Anderson-Darling Test Statistic	0.983	95% Bootstrap-t UCL	0.0835
Anderson-Darling 5% Critical Value	0.775	95% Hall's Bootstrap UCL	0.121
Kolmogorov-Smirnov Test Statistic	0.162	95% Percentile Bootstrap UCL	0.0554
Kolmogorov-Smirnov 5% Critical Value	0.196	95% BCA Bootstrap UCL	0.0644
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0841
		97.5% Chebyshev(Mean, Sd) UCL	0.106
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.149
95% Approximate Gamma UCL (Use when n >= 40)	0.0525		
95% Adjusted Gamma UCL (Use when n < 40)	0.0544		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.0525

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Fluoranthene Cohesive Sediments Only

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	20
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	4	Maximum of Log Data	1.386
Mean	0.252	Mean of log Data	-2.977
Geometric Mean	0.0509	SD of log Data	1.37
Median	0.041		
SD	0.862		
Std. Error of Mean	0.188		
Coefficient of Variation	3.424		
Skewness	4.53		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.281	Shapiro Wilk Test Statistic	0.867
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.576	95% H-UCL	0.337
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.307
95% Adjusted-CLT UCL (Chen-1995)	0.76	97.5% Chebyshev (MVUE) UCL	0.387
95% Modified-t UCL (Johnson-1978)	0.607	99% Chebyshev (MVUE) UCL	0.546
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.383	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.657		
MLE of Mean	0.252		
MLE of Standard Deviation	0.407		
nu star	16.1		
Approximate Chi Square Value (.05)	8.034	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	0.561
Adjusted Chi Square Value	7.598	95% Jackknife UCL	0.576
		95% Standard Bootstrap UCL	0.551
Anderson-Darling Test Statistic	3.373	95% Bootstrap-t UCL	4.299
Anderson-Darling 5% Critical Value	0.823	95% Hall's Bootstrap UCL	2.682
Kolmogorov-Smirnov Test Statistic	0.357	95% Percentile Bootstrap UCL	0.626
Kolmogorov-Smirnov 5% Critical Value	0.203	95% BCA Bootstrap UCL	0.821
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.072
		97.5% Chebyshev(Mean, Sd) UCL	1.426
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.123
95% Approximate Gamma UCL (Use when n >= 40)	0.504		
95% Adjusted Gamma UCL (Use when n < 40)	0.533		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	1.072

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Fluorene Cohesive Sediments Only

General Statistics

Number of Valid Observations	21	Number of Distinct Observations	17
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.25	Maximum of Log Data	-1.386
Mean	0.0343	Mean of log Data	-3.954
Geometric Mean	0.0192	SD of log Data	1.017
Median	0.019		
SD	0.053		
Std. Error of Mean	0.0116		
Coefficient of Variation	1.545		
Skewness	3.686		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.526	Shapiro Wilk Test Statistic	0.945
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0542	95% H-UCL	0.0578
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0648
95% Adjusted-CLT UCL (Chen-1995)	0.0632	97.5% Chebyshev (MVUE) UCL	0.0794
95% Modified-t UCL (Johnson-1978)	0.0558	99% Chebyshev (MVUE) UCL	0.108
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.883	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.0388		
MLE of Mean	0.0343		
MLE of Standard Deviation	0.0365		
nu star	37.1		
Approximate Chi Square Value (.05)	24.16	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	0.0533
Adjusted Chi Square Value	23.35	95% Jackknife UCL	0.0542
		95% Standard Bootstrap UCL	0.0526
Anderson-Darling Test Statistic	0.908	95% Bootstrap-t UCL	0.085
Anderson-Darling 5% Critical Value	0.77	95% Hall's Bootstrap UCL	0.122
Kolmogorov-Smirnov Test Statistic	0.166	95% Percentile Bootstrap UCL	0.0551
Kolmogorov-Smirnov 5% Critical Value	0.195	95% BCA Bootstrap UCL	0.0674
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0847
		97.5% Chebyshev(Mean, Sd) UCL	0.106
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.149
95% Approximate Gamma UCL (Use when n >= 40)	0.0527		
95% Adjusted Gamma UCL (Use when n < 40)	0.0545		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.0527

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Naphthalene Cohesive Sediments Only

General Statistics

Number of Valid Observations	21	Number of Distinct Observations	19
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.25	Maximum of Log Data	-1.386
Mean	0.0362	Mean of log Data	-3.801
Geometric Mean	0.0224	SD of log Data	0.916
Median	0.021		
SD	0.0522		
Std. Error of Mean	0.0114		
Coefficient of Variation	1.441		
Skewness	3.744		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.522	Shapiro Wilk Test Statistic	0.956
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0559	95% H-UCL	0.0562
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.065
95% Adjusted-CLT UCL (Chen-1995)	0.0649	97.5% Chebyshev (MVUE) UCL	0.0788
95% Modified-t UCL (Johnson-1978)	0.0574	99% Chebyshev (MVUE) UCL	0.106
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.038	Data appear Lognormal at 5% Significance Level	
Theta Star	0.0349		
MLE of Mean	0.0362		
MLE of Standard Deviation	0.0356		
nu star	43.58		
Approximate Chi Square Value (.05)	29.44	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	0.055
Adjusted Chi Square Value	28.55	95% Jackknife UCL	0.0559
		95% Standard Bootstrap UCL	0.0547
Anderson-Darling Test Statistic	0.917	95% Bootstrap-t UCL	0.0893
Anderson-Darling 5% Critical Value	0.766	95% Hall's Bootstrap UCL	0.124
Kolmogorov-Smirnov Test Statistic	0.202	95% Percentile Bootstrap UCL	0.0564
Kolmogorov-Smirnov 5% Critical Value	0.194	95% BCA Bootstrap UCL	0.0665
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0859
		97.5% Chebyshev(Mean, Sd) UCL	0.107
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.15
95% Approximate Gamma UCL (Use when n >= 40)	0.0536		
95% Adjusted Gamma UCL (Use when n < 40)	0.0553		
Potential UCL to Use		Use 95% H-UCL	0.0562

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene Cohesive Sediments Only

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	2.5	Maximum of Log Data	0.916
Mean	0.164	Mean of log Data	-3.198
Geometric Mean	0.0408	SD of log Data	1.261
Median	0.031		
SD	0.537		
Std. Error of Mean	0.117		
Coefficient of Variation	3.278		
Skewness	4.53		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.284	Shapiro Wilk Test Statistic	0.868
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.366	95% H-UCL	0.207
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.204
95% Adjusted-CLT UCL (Chen-1995)	0.48	97.5% Chebyshev (MVUE) UCL	0.256
95% Modified-t UCL (Johnson-1978)	0.385	99% Chebyshev (MVUE) UCL	0.357
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.428	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.382		
MLE of Mean	0.164		
MLE of Standard Deviation	0.25		
nu star	17.99		
Approximate Chi Square Value (.05)	9.386	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	0.357
Adjusted Chi Square Value	8.91	95% Jackknife UCL	0.366
		95% Standard Bootstrap UCL	0.348
Anderson-Darling Test Statistic	3.278	95% Bootstrap-t UCL	2.92
Anderson-Darling 5% Critical Value	0.813	95% Hall's Bootstrap UCL	1.304
Kolmogorov-Smirnov Test Statistic	0.328	95% Percentile Bootstrap UCL	0.397
Kolmogorov-Smirnov 5% Critical Value	0.201	95% BCA Bootstrap UCL	0.527
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.675
		97.5% Chebyshev(Mean, Sd) UCL	0.896
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.33
95% Approximate Gamma UCL (Use when n >= 40)	0.314		
95% Adjusted Gamma UCL (Use when n < 40)	0.331		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.675

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Pyrene Cohesive Sediments Only

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	3	Maximum of Log Data	1.099
Mean	0.188	Mean of log Data	-3.217
Geometric Mean	0.0401	SD of log Data	1.313
Median	0.03		
SD	0.646		
Std. Error of Mean	0.141		
Coefficient of Variation	3.436		
Skewness	4.541		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.277	Shapiro Wilk Test Statistic	0.858
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.431	95% H-UCL	0.23
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.219
95% Adjusted-CLT UCL (Chen-1995)	0.569	97.5% Chebyshev (MVUE) UCL	0.275
95% Modified-t UCL (Johnson-1978)	0.455	99% Chebyshev (MVUE) UCL	0.386
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.394	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.478		
MLE of Mean	0.188		
MLE of Standard Deviation	0.3		
nu star	16.53		
Approximate Chi Square Value (.05)	8.337	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	0.42
Adjusted Chi Square Value	7.892	95% Jackknife UCL	0.431
		95% Standard Bootstrap UCL	0.411
Anderson-Darling Test Statistic	3.459	95% Bootstrap-t UCL	3.514
Anderson-Darling 5% Critical Value	0.821	95% Hall's Bootstrap UCL	1.997
Kolmogorov-Smirnov Test Statistic	0.33	95% Percentile Bootstrap UCL	0.463
Kolmogorov-Smirnov 5% Critical Value	0.202	95% BCA Bootstrap UCL	0.736
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.803
		97.5% Chebyshev(Mean, Sd) UCL	1.069
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.591
95% Approximate Gamma UCL (Use when n >= 40)	0.373		
95% Adjusted Gamma UCL (Use when n < 40)	0.394		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.803

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Low molecular weight PAHs | Cohesive Sediments Only

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	0.035	Minimum of Log Data	-3.352
Maximum	4.25	Maximum of Log Data	1.447
Mean	0.388	Mean of log Data	-1.723
Geometric Mean	0.179	SD of log Data	1.015
Median	0.167		
SD	0.896		
Std. Error of Mean	0.195		
Coefficient of Variation	2.311		
Skewness	4.405		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.351	Shapiro Wilk Test Statistic	0.897
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.725	95% H-UCL	0.537
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.602
95% Adjusted-CLT UCL (Chen-1995)	0.91	97.5% Chebyshev (MVUE) UCL	0.738
95% Modified-t UCL (Johnson-1978)	0.756	99% Chebyshev (MVUE) UCL	1.005
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.691	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.561		
MLE of Mean	0.388		
MLE of Standard Deviation	0.466		
nu star	29.03		
Approximate Chi Square Value (.05)	17.73	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	0.709
Adjusted Chi Square Value	17.05	95% Jackknife UCL	0.725
		95% Standard Bootstrap UCL	0.704
Anderson-Darling Test Statistic	2.159	95% Bootstrap-t UCL	2.227
Anderson-Darling 5% Critical Value	0.782	95% Hall's Bootstrap UCL	1.862
Kolmogorov-Smirnov Test Statistic	0.286	95% Percentile Bootstrap UCL	0.769
Kolmogorov-Smirnov 5% Critical Value	0.197	95% BCA Bootstrap UCL	0.973
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.24
		97.5% Chebyshev(Mean, Sd) UCL	1.609
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.333
95% Approximate Gamma UCL (Use when n >= 40)	0.635		
95% Adjusted Gamma UCL (Use when n < 40)	0.66		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	1.24

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

High molecular weight PAHs Cohesive Sediments Only

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	0.03	Minimum of Log Data	-3.507
Maximum	11.25	Maximum of Log Data	2.42
Mean	0.756	Mean of log Data	-1.555
Geometric Mean	0.211	SD of log Data	1.194
Median	0.163		
SD	2.412		
Std. Error of Mean	0.526		
Coefficient of Variation	3.191		
Skewness	4.537		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.284	Shapiro Wilk Test Statistic	0.849
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.664	95% H-UCL	0.92
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.945
95% Adjusted-CLT UCL (Chen-1995)	2.178	97.5% Chebyshev (MVUE) UCL	1.178
95% Modified-t UCL (Johnson-1978)	1.75	99% Chebyshev (MVUE) UCL	1.634
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.459	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1.647		
MLE of Mean	0.756		
MLE of Standard Deviation	1.116		
nu star	19.27		
Approximate Chi Square Value (.05)	10.32	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	1.622
Adjusted Chi Square Value	9.816	95% Jackknife UCL	1.664
		95% Standard Bootstrap UCL	1.576
Anderson-Darling Test Statistic	3.343	95% Bootstrap-t UCL	11.33
Anderson-Darling 5% Critical Value	0.806	95% Hall's Bootstrap UCL	5.694
Kolmogorov-Smirnov Test Statistic	0.327	95% Percentile Bootstrap UCL	1.794
Kolmogorov-Smirnov 5% Critical Value	0.2	95% BCA Bootstrap UCL	2.361
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.05
		97.5% Chebyshev(Mean, Sd) UCL	4.043
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5.993
95% Approximate Gamma UCL (Use when n >= 40)	1.412		
95% Adjusted Gamma UCL (Use when n < 40)	1.484		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	3.05

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

PAHs (Sum of total) Cohesive Sediments Only

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	0.04	Minimum of Log Data	-3.219
Maximum	18	Maximum of Log Data	2.89
Mean	1.2	Mean of log Data	-1.183
Geometric Mean	0.306	SD of log Data	1.28
Median	0.24		
SD	3.864		
Std. Error of Mean	0.843		
Coefficient of Variation	3.221		
Skewness	4.527		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.288	Shapiro Wilk Test Statistic	0.882
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.654	95% H-UCL	1.624
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.58
95% Adjusted-CLT UCL (Chen-1995)	3.477	97.5% Chebyshev (MVUE) UCL	1.982
95% Modified-t UCL (Johnson-1978)	2.793	99% Chebyshev (MVUE) UCL	2.772
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.435	Data do not follow a Discernable Distribution (0.05)	
Theta Star	2.761		
MLE of Mean	1.2		
MLE of Standard Deviation	1.82		
nu star	18.25		
Approximate Chi Square Value (.05)	9.572	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	2.587
Adjusted Chi Square Value	9.091	95% Jackknife UCL	2.654
		95% Standard Bootstrap UCL	2.603
Anderson-Darling Test Statistic	3.046	95% Bootstrap-t UCL	18.61
Anderson-Darling 5% Critical Value	0.811	95% Hall's Bootstrap UCL	9.007
Kolmogorov-Smirnov Test Statistic	0.308	95% Percentile Bootstrap UCL	2.867
Kolmogorov-Smirnov 5% Critical Value	0.201	95% BCA Bootstrap UCL	3.793
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	4.875
		97.5% Chebyshev(Mean, Sd) UCL	6.465
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	9.589
95% Approximate Gamma UCL (Use when n >= 40)	2.287		
95% Adjusted Gamma UCL (Use when n < 40)	2.408		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	4.875

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

General UCL Statistics for Full Data Sets

User Selected Options			
From File	Z:\Documents\7.0 JOB FOLDERS\7.12 15000 Jobs\15106 - AGL Lake Liddell\11. Report\PAH Normalised non-cohesive sed - Pro UCL file.wst		
Full Precision	OFF		
Confidence Coefficient	95%		
Number of Bootstrap Operations	2000		
Acenaphthene	Non-cohesive Sediments		
General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	14
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.316	Maximum of Log Data	-1.152
Mean	0.0448	Mean of log Data	-4.031
Geometric Mean	0.0178	SD of log Data	1.324
Median	0.011		
SD	0.0764		
Std. Error of Mean	0.0153		
Coefficient of Variation	1.703		
Skewness	2.844		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.565	Shapiro Wilk Test Statistic	0.852
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.071	95% H-UCL	0.0944
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0959
95% Adjusted-CLT UCL (Chen-1995)	0.0792	97.5% Chebyshev (MVUE) UCL	0.12
95% Modified-t UCL (Johnson-1978)	0.0724	99% Chebyshev (MVUE) UCL	0.167
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.606	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.074		
MLE of Mean	0.0448		
MLE of Standard Deviation	0.0576		
nu star	30.3		
Approximate Chi Square Value (.05)	18.73	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	0.07
Adjusted Chi Square Value	18.11	95% Jackknife UCL	0.071
		95% Standard Bootstrap UCL	0.0699
Anderson-Darling Test Statistic	1.753	95% Bootstrap-t UCL	0.115
Anderson-Darling 5% Critical Value	0.792	95% Hall's Bootstrap UCL	0.19
Kolmogorov-Smirnov Test Statistic	0.206	95% Percentile Bootstrap UCL	0.0711
Kolmogorov-Smirnov 5% Critical Value	0.182	95% BCA Bootstrap UCL	0.0825
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.111
		97.5% Chebyshev(Mean, Sd) UCL	0.14
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.197
95% Approximate Gamma UCL (Use when n >= 40)	0.0725		
95% Adjusted Gamma UCL (Use when n < 40)	0.075		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.111

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Acenaphthylene Non-cohesive Sediments

General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	13
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.25	Maximum of Log Data	-1.386
Mean	0.0331	Mean of log Data	-4.224
Geometric Mean	0.0146	SD of log Data	1.249
Median	0.007		
SD	0.0523		
Std. Error of Mean	0.0105		
Coefficient of Variation	1.58		
Skewness	3.249		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.584	Shapiro Wilk Test Statistic	0.8
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.051	95% H-UCL	0.0657
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0696
95% Adjusted-CLT UCL (Chen-1995)	0.0576	97.5% Chebyshev (MVUE) UCL	0.0866
95% Modified-t UCL (Johnson-1978)	0.0522	99% Chebyshev (MVUE) UCL	0.12
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.674	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0491		
MLE of Mean	0.0331		
MLE of Standard Deviation	0.0403		
nu star	33.69		
Approximate Chi Square Value (.05)	21.42	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	0.0503
Adjusted Chi Square Value	20.75	95% Jackknife UCL	0.051
		95% Standard Bootstrap UCL	0.0499
Anderson-Darling Test Statistic	2.202	95% Bootstrap-t UCL	0.0683
Anderson-Darling 5% Critical Value	0.785	95% Hall's Bootstrap UCL	0.122
Kolmogorov-Smirnov Test Statistic	0.26	95% Percentile Bootstrap UCL	0.0514
Kolmogorov-Smirnov 5% Critical Value	0.181	95% BCA Bootstrap UCL	0.0571
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0787
		97.5% Chebyshev(Mean, Sd) UCL	0.0985
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.137
95% Approximate Gamma UCL (Use when n >= 40)	0.0521		
95% Adjusted Gamma UCL (Use when n < 40)	0.0538		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.0787

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Anthracene Non-cohesive Sediments

General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.316	Maximum of Log Data	-1.152
Mean	0.0456	Mean of log Data	-3.947
Geometric Mean	0.0193	SD of log Data	1.275
Median	0.02		
SD	0.076		
Std. Error of Mean	0.0152		
Coefficient of Variation	1.665		
Skewness	2.859		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.568	Shapiro Wilk Test Statistic	0.89
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0716	95% H-UCL	0.0918
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0959
95% Adjusted-CLT UCL (Chen-1995)	0.0799	97.5% Chebyshev (MVUE) UCL	0.12
95% Modified-t UCL (Johnson-1978)	0.0731	99% Chebyshev (MVUE) UCL	0.166
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.645	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0708		
MLE of Mean	0.0456		
MLE of Standard Deviation	0.0568		
nu star	32.23		
Approximate Chi Square Value (.05)	20.25	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	0.0706
Adjusted Chi Square Value	19.6	95% Jackknife UCL	0.0716
		95% Standard Bootstrap UCL	0.0702
Anderson-Darling Test Statistic	1.427	95% Bootstrap-t UCL	0.111
Anderson-Darling 5% Critical Value	0.788	95% Hall's Bootstrap UCL	0.191
Kolmogorov-Smirnov Test Statistic	0.185	95% Percentile Bootstrap UCL	0.0716
Kolmogorov-Smirnov 5% Critical Value	0.182	95% BCA Bootstrap UCL	0.0824
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.112
		97.5% Chebyshev(Mean, Sd) UCL	0.141
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.197
95% Approximate Gamma UCL (Use when n >= 40)	0.0726		
95% Adjusted Gamma UCL (Use when n < 40)	0.075		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.112

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benz(a)anthracene Non-cohesive Sediments

General Statistics

Number of Valid Observations	25	Number of Distinct Observations	19
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	1.392	Maximum of Log Data	0.331
Mean	0.101	Mean of log Data	-3.484
Geometric Mean	0.0307	SD of log Data	1.371
Median	0.036		
SD	0.275		
Std. Error of Mean	0.0549		
Coefficient of Variation	2.73		
Skewness	4.702		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.343	Shapiro Wilk Test Statistic	0.938
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.194	95% H-UCL	0.182
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.18
95% Adjusted-CLT UCL (Chen-1995)	0.246	97.5% Chebyshev (MVUE) UCL	0.226
95% Modified-t UCL (Johnson-1978)	0.203	99% Chebyshev (MVUE) UCL	0.316
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.493	Data appear Lognormal at 5% Significance Level	
Theta Star	0.204		
MLE of Mean	0.101		
MLE of Standard Deviation	0.143		
nu star	24.66		
Approximate Chi Square Value (.05)	14.35	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	0.191
Adjusted Chi Square Value	13.82	95% Jackknife UCL	0.194
		95% Standard Bootstrap UCL	0.187
Anderson-Darling Test Statistic	1.838	95% Bootstrap-t UCL	0.655
Anderson-Darling 5% Critical Value	0.804	95% Hall's Bootstrap UCL	0.524
Kolmogorov-Smirnov Test Statistic	0.212	95% Percentile Bootstrap UCL	0.203
Kolmogorov-Smirnov 5% Critical Value	0.184	95% BCA Bootstrap UCL	0.319
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.34
		97.5% Chebyshev(Mean, Sd) UCL	0.443
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.647
95% Approximate Gamma UCL (Use when n >= 40)	0.173		
95% Adjusted Gamma UCL (Use when n < 40)	0.179		
Potential UCL to Use		Use 95% H-UCL	0.182

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a) pyrene Non-cohesive Sediments

General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.38	Maximum of Log Data	-0.968
Mean	0.048	Mean of log Data	-3.942
Geometric Mean	0.0194	SD of log Data	1.278
Median	0.011		
SD	0.086		
Std. Error of Mean	0.0172		
Coefficient of Variation	1.792		
Skewness	3.138		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.537	Shapiro Wilk Test Statistic	0.892
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0774	95% H-UCL	0.0929
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0969
95% Adjusted-CLT UCL (Chen-1995)	0.0878	97.5% Chebyshev (MVUE) UCL	0.121
95% Modified-t UCL (Johnson-1978)	0.0792	99% Chebyshev (MVUE) UCL	0.168
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.618	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0777		
MLE of Mean	0.048		
MLE of Standard Deviation	0.0611		
nu star	30.89		
Approximate Chi Square Value (.05)	19.19	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	0.0763
Adjusted Chi Square Value	18.56	95% Jackknife UCL	0.0774
		95% Standard Bootstrap UCL	0.0758
Anderson-Darling Test Statistic	1.603	95% Bootstrap-t UCL	0.134
Anderson-Darling 5% Critical Value	0.791	95% Hall's Bootstrap UCL	0.208
Kolmogorov-Smirnov Test Statistic	0.224	95% Percentile Bootstrap UCL	0.0807
Kolmogorov-Smirnov 5% Critical Value	0.182	95% BCA Bootstrap UCL	0.0906
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.123
		97.5% Chebyshev(Mean, Sd) UCL	0.155
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.219
95% Approximate Gamma UCL (Use when n >= 40)	0.0773		
95% Adjusted Gamma UCL (Use when n < 40)	0.0799		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.123

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene Non-cohesive Sediments

General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	18
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	1.013	Maximum of Log Data	0.0129
Mean	0.0822	Mean of log Data	-3.557
Geometric Mean	0.0285	SD of log Data	1.33
Median	0.036		
SD	0.201		
Std. Error of Mean	0.0401		
Coefficient of Variation	2.439		
Skewness	4.525		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.378	Shapiro Wilk Test Statistic	0.933
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.151	95% H-UCL	0.154
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.156
95% Adjusted-CLT UCL (Chen-1995)	0.187	97.5% Chebyshev (MVUE) UCL	0.195
95% Modified-t UCL (Johnson-1978)	0.157	99% Chebyshev (MVUE) UCL	0.272
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.542	Data appear Lognormal at 5% Significance Level	
Theta Star	0.152		
MLE of Mean	0.0822		
MLE of Standard Deviation	0.112		
nu star	27.1		
Approximate Chi Square Value (.05)	16.23	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	0.148
Adjusted Chi Square Value	15.65	95% Jackknife UCL	0.151
		95% Standard Bootstrap UCL	0.144
Anderson-Darling Test Statistic	1.603	95% Bootstrap-t UCL	0.439
Anderson-Darling 5% Critical Value	0.799	95% Hall's Bootstrap UCL	0.427
Kolmogorov-Smirnov Test Statistic	0.209	95% Percentile Bootstrap UCL	0.154
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	0.201
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.257
		97.5% Chebyshev(Mean, Sd) UCL	0.333
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.481
95% Approximate Gamma UCL (Use when n >= 40)	0.137		
95% Adjusted Gamma UCL (Use when n < 40)	0.142		
Potential UCL to Use		Use 95% H-UCL	0.154

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene Non-cohesive Sediments

General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	13
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.25	Maximum of Log Data	-1.386
Mean	0.0331	Mean of log Data	-4.224
Geometric Mean	0.0146	SD of log Data	1.249
Median	0.007		
SD	0.0523		
Std. Error of Mean	0.0105		
Coefficient of Variation	1.58		
Skewness	3.249		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.584	Shapiro Wilk Test Statistic	0.8
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.051	95% H-UCL	0.0657
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0696
95% Adjusted-CLT UCL (Chen-1995)	0.0576	97.5% Chebyshev (MVUE) UCL	0.0866
95% Modified-t UCL (Johnson-1978)	0.0522	99% Chebyshev (MVUE) UCL	0.12
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.674	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0491		
MLE of Mean	0.0331		
MLE of Standard Deviation	0.0403		
nu star	33.69		
Approximate Chi Square Value (.05)	21.42	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	0.0503
Adjusted Chi Square Value	20.75	95% Jackknife UCL	0.051
		95% Standard Bootstrap UCL	0.0499
Anderson-Darling Test Statistic	2.202	95% Bootstrap-t UCL	0.0701
Anderson-Darling 5% Critical Value	0.785	95% Hall's Bootstrap UCL	0.122
Kolmogorov-Smirnov Test Statistic	0.26	95% Percentile Bootstrap UCL	0.0512
Kolmogorov-Smirnov 5% Critical Value	0.181	95% BCA Bootstrap UCL	0.0578
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0787
		97.5% Chebyshev(Mean, Sd) UCL	0.0985
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.137
95% Approximate Gamma UCL (Use when n >= 40)	0.0521		
95% Adjusted Gamma UCL (Use when n < 40)	0.0538		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.0787

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Fluoranthene Non-cohesive Sediments

General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	20
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	2.658	Maximum of Log Data	0.978
Mean	0.178	Mean of log Data	-2.898
Geometric Mean	0.0551	SD of log Data	1.353
Median	0.05		
SD	0.521		
Std. Error of Mean	0.104		
Coefficient of Variation	2.925		
Skewness	4.866		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.305	Shapiro Wilk Test Statistic	0.93
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.356	95% H-UCL	0.313
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.313
95% Adjusted-CLT UCL (Chen-1995)	0.458	97.5% Chebyshev (MVUE) UCL	0.393
95% Modified-t UCL (Johnson-1978)	0.373	99% Chebyshev (MVUE) UCL	0.549
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.498	Data appear Lognormal at 5% Significance Level	
Theta Star	0.358		
MLE of Mean	0.178		
MLE of Standard Deviation	0.252		
nu star	24.9		
Approximate Chi Square Value (.05)	14.54	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	0.35
Adjusted Chi Square Value	14	95% Jackknife UCL	0.356
		95% Standard Bootstrap UCL	0.339
Anderson-Darling Test Statistic	2.196	95% Bootstrap-t UCL	1.326
Anderson-Darling 5% Critical Value	0.804	95% Hall's Bootstrap UCL	0.968
Kolmogorov-Smirnov Test Statistic	0.243	95% Percentile Bootstrap UCL	0.384
Kolmogorov-Smirnov 5% Critical Value	0.184	95% BCA Bootstrap UCL	0.575
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.632
		97.5% Chebyshev(Mean, Sd) UCL	0.829
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.215
95% Approximate Gamma UCL (Use when n >= 40)	0.305		
95% Adjusted Gamma UCL (Use when n < 40)	0.317		
Potential UCL to Use		Use 95% H-UCL	0.313

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Fluorene Non-cohesive Sediments

General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.633	Maximum of Log Data	-0.457
Mean	0.062	Mean of log Data	-3.764
Geometric Mean	0.0232	SD of log Data	1.321
Median	0.025		
SD	0.129		
Std. Error of Mean	0.0259		
Coefficient of Variation	2.089		
Skewness	3.987		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.454	Shapiro Wilk Test Statistic	0.916
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.106	95% H-UCL	0.122
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.125
95% Adjusted-CLT UCL (Chen-1995)	0.127	97.5% Chebyshev (MVUE) UCL	0.156
95% Modified-t UCL (Johnson-1978)	0.11	99% Chebyshev (MVUE) UCL	0.217
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.577	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.107		
MLE of Mean	0.062		
MLE of Standard Deviation	0.0816		
nu star	28.84		
Approximate Chi Square Value (.05)	17.58	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	0.105
Adjusted Chi Square Value	16.99	95% Jackknife UCL	0.106
		95% Standard Bootstrap UCL	0.104
Anderson-Darling Test Statistic	1.453	95% Bootstrap-t UCL	0.246
Anderson-Darling 5% Critical Value	0.795	95% Hall's Bootstrap UCL	0.287
Kolmogorov-Smirnov Test Statistic	0.178	95% Percentile Bootstrap UCL	0.107
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	0.131
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.175
		97.5% Chebyshev(Mean, Sd) UCL	0.224
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.32
95% Approximate Gamma UCL (Use when n >= 40)	0.102		
95% Adjusted Gamma UCL (Use when n < 40)	0.105		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.102

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Naphthalene Non-cohesive Sediments

General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	17
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.25	Maximum of Log Data	-1.386
Mean	0.0395	Mean of log Data	-3.954
Geometric Mean	0.0192	SD of log Data	1.254
Median	0.02		
SD	0.0529		
Std. Error of Mean	0.0106		
Coefficient of Variation	1.339		
Skewness	2.841		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.669	Shapiro Wilk Test Statistic	0.866
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0576	95% H-UCL	0.087
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0919
95% Adjusted-CLT UCL (Chen-1995)	0.0634	97.5% Chebyshev (MVUE) UCL	0.114
95% Modified-t UCL (Johnson-1978)	0.0586	99% Chebyshev (MVUE) UCL	0.159
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.747	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0529		
MLE of Mean	0.0395		
MLE of Standard Deviation	0.0457		
nu star	37.35		
Approximate Chi Square Value (.05)	24.36	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	0.0569
Adjusted Chi Square Value	23.64	95% Jackknife UCL	0.0576
		95% Standard Bootstrap UCL	0.0566
Anderson-Darling Test Statistic	1.223	95% Bootstrap-t UCL	0.0709
Anderson-Darling 5% Critical Value	0.781	95% Hall's Bootstrap UCL	0.133
Kolmogorov-Smirnov Test Statistic	0.194	95% Percentile Bootstrap UCL	0.0592
Kolmogorov-Smirnov 5% Critical Value	0.181	95% BCA Bootstrap UCL	0.065
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0856
		97.5% Chebyshev(Mean, Sd) UCL	0.106
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.145
95% Approximate Gamma UCL (Use when n >= 40)	0.0606		
95% Adjusted Gamma UCL (Use when n < 40)	0.0624		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.0856

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene Non-cohesive Sediments

General Statistics

Number of Valid Observations	25	Number of Distinct Observations	18
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	1.646	Maximum of Log Data	0.498
Mean	0.125	Mean of log Data	-3.25
Geometric Mean	0.0388	SD of log Data	1.447
Median	0.045		
SD	0.323		
Std. Error of Mean	0.0647		
Coefficient of Variation	2.594		
Skewness	4.696		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.356	Shapiro Wilk Test Statistic	0.944
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.235	95% H-UCL	0.277
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.26
95% Adjusted-CLT UCL (Chen-1995)	0.296	97.5% Chebyshev (MVUE) UCL	0.328
95% Modified-t UCL (Johnson-1978)	0.245	99% Chebyshev (MVUE) UCL	0.462
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.5	Data appear Lognormal at 5% Significance Level	
Theta Star	0.249		
MLE of Mean	0.125		
MLE of Standard Deviation	0.176		
nu star	24.99		
Approximate Chi Square Value (.05)	14.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	0.231
Adjusted Chi Square Value	14.06	95% Jackknife UCL	0.235
		95% Standard Bootstrap UCL	0.226
Anderson-Darling Test Statistic	1.408	95% Bootstrap-t UCL	0.62
Anderson-Darling 5% Critical Value	0.803	95% Hall's Bootstrap UCL	0.607
Kolmogorov-Smirnov Test Statistic	0.195	95% Percentile Bootstrap UCL	0.244
Kolmogorov-Smirnov 5% Critical Value	0.184	95% BCA Bootstrap UCL	0.324
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.407
		97.5% Chebyshev(Mean, Sd) UCL	0.529
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.768
95% Approximate Gamma UCL (Use when n >= 40)	0.213		
95% Adjusted Gamma UCL (Use when n < 40)	0.222		
Potential UCL to Use		Use 95% H-UCL	0.277

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Pyrene Non-cohesive Sediments

General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	20
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	2.025	Maximum of Log Data	0.706
Mean	0.138	Mean of log Data	-3.222
Geometric Mean	0.0399	SD of log Data	1.398
Median	0.045		
SD	0.398		
Std. Error of Mean	0.0796		
Coefficient of Variation	2.893		
Skewness	4.81		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.319	Shapiro Wilk Test Statistic	0.945
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.274	95% H-UCL	0.252
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.245
95% Adjusted-CLT UCL (Chen-1995)	0.35	97.5% Chebyshev (MVUE) UCL	0.308
95% Modified-t UCL (Johnson-1978)	0.287	99% Chebyshev (MVUE) UCL	0.433
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.476	Data appear Lognormal at 5% Significance Level	
Theta Star	0.289		
MLE of Mean	0.138		
MLE of Standard Deviation	0.199		
nu star	23.82		
Approximate Chi Square Value (.05)	13.71	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	0.269
Adjusted Chi Square Value	13.19	95% Jackknife UCL	0.274
		95% Standard Bootstrap UCL	0.274
Anderson-Darling Test Statistic	1.946	95% Bootstrap-t UCL	0.97
Anderson-Darling 5% Critical Value	0.806	95% Hall's Bootstrap UCL	0.721
Kolmogorov-Smirnov Test Statistic	0.237	95% Percentile Bootstrap UCL	0.291
Kolmogorov-Smirnov 5% Critical Value	0.184	95% BCA Bootstrap UCL	0.377
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.485
		97.5% Chebyshev(Mean, Sd) UCL	0.635
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.93
95% Approximate Gamma UCL (Use when n >= 40)	0.239		
95% Adjusted Gamma UCL (Use when n < 40)	0.249		
Potential UCL to Use		Use 95% H-UCL	0.252

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Low molecular weight PAHs	Non-cohesive Sediments		
General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	22
Raw Statistics		Log-transformed Statistics	
Minimum	0.035	Minimum of Log Data	-3.352
Maximum	4.051	Maximum of Log Data	1.399
Mean	0.459	Mean of log Data	-1.615
Geometric Mean	0.199	SD of log Data	1.262
Median	0.22		
SD	0.833		
Std. Error of Mean	0.167		
Coefficient of Variation	1.814		
Skewness	3.745		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.509	Shapiro Wilk Test Statistic	0.953
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.744	95% H-UCL	0.918
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.965
95% Adjusted-CLT UCL (Chen-1995)	0.867	97.5% Chebyshev (MVUE) UCL	1.202
95% Modified-t UCL (Johnson-1978)	0.765	99% Chebyshev (MVUE) UCL	1.667
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.66	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.696		
MLE of Mean	0.459		
MLE of Standard Deviation	0.565		
nu star	32.98		
Approximate Chi Square Value (.05)	20.85	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	0.733
Adjusted Chi Square Value	20.19	95% Jackknife UCL	0.744
		95% Standard Bootstrap UCL	0.728
Anderson-Darling Test Statistic	0.975	95% Bootstrap-t UCL	1.342
Anderson-Darling 5% Critical Value	0.786	95% Hall's Bootstrap UCL	1.889
Kolmogorov-Smirnov Test Statistic	0.172	95% Percentile Bootstrap UCL	0.762
Kolmogorov-Smirnov 5% Critical Value	0.182	95% BCA Bootstrap UCL	0.902
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.186
		97.5% Chebyshev(Mean, Sd) UCL	1.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.117
95% Approximate Gamma UCL (Use when n >= 40)	0.726		
95% Adjusted Gamma UCL (Use when n < 40)	0.75		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.726

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

High molecular weight PAHs Non-cohesive Sediments

General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	0.03	Minimum of Log Data	-3.507
Maximum	7.532	Maximum of Log Data	2.019
Mean	0.58	Mean of log Data	-1.581
Geometric Mean	0.206	SD of log Data	1.279
Median	0.225		
SD	1.482		
Std. Error of Mean	0.296		
Coefficient of Variation	2.555		
Skewness	4.664		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.354	Shapiro Wilk Test Statistic	0.951
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.087	95% H-UCL	0.987
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.029
95% Adjusted-CLT UCL (Chen-1995)	1.363	97.5% Chebyshev (MVUE) UCL	1.283
95% Modified-t UCL (Johnson-1978)	1.133	99% Chebyshev (MVUE) UCL	1.783
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.552	Data appear Lognormal at 5% Significance Level	
Theta Star	1.051		
MLE of Mean	0.58		
MLE of Standard Deviation	0.781		
nu star	27.59		
Approximate Chi Square Value (.05)	16.61	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	1.067
Adjusted Chi Square Value	16.03	95% Jackknife UCL	1.087
		95% Standard Bootstrap UCL	1.068
Anderson-Darling Test Statistic	1.75	95% Bootstrap-t UCL	3.509
Anderson-Darling 5% Critical Value	0.798	95% Hall's Bootstrap UCL	2.982
Kolmogorov-Smirnov Test Statistic	0.216	95% Percentile Bootstrap UCL	1.134
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	1.495
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.872
		97.5% Chebyshev(Mean, Sd) UCL	2.431
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.529
95% Approximate Gamma UCL (Use when n >= 40)	0.963		
95% Adjusted Gamma UCL (Use when n < 40)	0.998		
Potential UCL to Use		Use 95% H-UCL	0.987

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

PAHs (Sum of total) Non-cohesive Sediments

General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	22
Raw Statistics		Log-transformed Statistics	
Minimum	0.04	Minimum of Log Data	-3.219
Maximum	13.92	Maximum of Log Data	2.634
Mean	1.014	Mean of log Data	-1.187
Geometric Mean	0.305	SD of log Data	1.431
Median	0.295		
SD	2.737		
Std. Error of Mean	0.547		
Coefficient of Variation	2.7		
Skewness	4.732		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.344	Shapiro Wilk Test Statistic	0.945
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.951	95% H-UCL	2.096
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.99
95% Adjusted-CLT UCL (Chen-1995)	2.468	97.5% Chebyshev (MVUE) UCL	2.51
95% Modified-t UCL (Johnson-1978)	2.037	99% Chebyshev (MVUE) UCL	3.531
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.489	Data appear Lognormal at 5% Significance Level	
Theta Star	2.074		
MLE of Mean	1.014		
MLE of Standard Deviation	1.45		
nu star	24.44		
Approximate Chi Square Value (.05)	14.18	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	1.914
Adjusted Chi Square Value	13.65	95% Jackknife UCL	1.951
		95% Standard Bootstrap UCL	1.897
Anderson-Darling Test Statistic	1.602	95% Bootstrap-t UCL	5.57
Anderson-Darling 5% Critical Value	0.805	95% Hall's Bootstrap UCL	5.018
Kolmogorov-Smirnov Test Statistic	0.22	95% Percentile Bootstrap UCL	2.093
Kolmogorov-Smirnov 5% Critical Value	0.184	95% BCA Bootstrap UCL	2.725
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.4
		97.5% Chebyshev(Mean, Sd) UCL	4.433
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	6.461
95% Approximate Gamma UCL (Use when n >= 40)	1.747		
95% Adjusted Gamma UCL (Use when n < 40)	1.815		
Potential UCL to Use		Use 95% H-UCL	2.096

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

General UCL Statistics for Full Data Sets

User Selected Options			
From File	Z:\Documents\7.0 JOB FOLDERS\7.12 15000 Jobs\15106 - AGL Lake Liddell\11. Report\PAH Normalised - Pro UCL file.wst		
Full Precision	OFF		
Confidence Coefficient	95%		
Number of Bootstrap Operations	2000		

Acenaphthene

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.316	Maximum of Log Data	-1.152
Mean	0.0399	Mean of log Data	-4.011
Geometric Mean	0.0181	SD of log Data	1.194
Median	0.0175		
SD	0.0663		
Std. Error of Mean	0.00977		
Coefficient of Variation	1.661		
Skewness	3.111		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.55	Shapiro Wilk Test Statistic	0.885
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0563	95% H-UCL	0.0581
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.07
95% Adjusted-CLT UCL (Chen-1995)	0.0608	97.5% Chebyshev (MVUE) UCL	0.0847
95% Modified-t UCL (Johnson-1978)	0.0571	99% Chebyshev (MVUE) UCL	0.114
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.722	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0553		
MLE of Mean	0.0399		
MLE of Standard Deviation	0.047		
nu star	66.44		
Approximate Chi Square Value (.05)	48.68	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	0.056
Adjusted Chi Square Value	48.19	95% Jackknife UCL	0.0563
		95% Standard Bootstrap UCL	0.056
Anderson-Darling Test Statistic	2.443	95% Bootstrap-t UCL	0.0695
Anderson-Darling 5% Critical Value	0.79	95% Hall's Bootstrap UCL	0.0583
Kolmogorov-Smirnov Test Statistic	0.175	95% Percentile Bootstrap UCL	0.0568
Kolmogorov-Smirnov 5% Critical Value	0.136	95% BCA Bootstrap UCL	0.0615
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0825
		97.5% Chebyshev(Mean, Sd) UCL	0.101
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.137
95% Approximate Gamma UCL (Use when n >= 40)	0.0545		
95% Adjusted Gamma UCL (Use when n < 40)	0.055		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.0825

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.25	Maximum of Log Data	-1.386
Mean	0.0332	Mean of log Data	-4.146
Geometric Mean	0.0158	SD of log Data	1.168
Median	0.0105		
SD	0.0522		
Std. Error of Mean	0.0077		
Coefficient of Variation	1.573		
Skewness	3.314		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.562	Shapiro Wilk Test Statistic	0.851
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0462	95% H-UCL	0.0485
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0586
95% Adjusted-CLT UCL (Chen-1995)	0.0499	97.5% Chebyshev (MVUE) UCL	0.0707
95% Modified-t UCL (Johnson-1978)	0.0468	99% Chebyshev (MVUE) UCL	0.0946
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.763	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0435		
MLE of Mean	0.0332		
MLE of Standard Deviation	0.038		
nu star	70.18		
Approximate Chi Square Value (.05)	51.89	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	0.0459
Adjusted Chi Square Value	51.38	95% Jackknife UCL	0.0462
		95% Standard Bootstrap UCL	0.0458
Anderson-Darling Test Statistic	2.757	95% Bootstrap-t UCL	0.0598
Anderson-Darling 5% Critical Value	0.788	95% Hall's Bootstrap UCL	0.111
Kolmogorov-Smirnov Test Statistic	0.191	95% Percentile Bootstrap UCL	0.0464
Kolmogorov-Smirnov 5% Critical Value	0.135	95% BCA Bootstrap UCL	0.0494
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0668
		97.5% Chebyshev(Mean, Sd) UCL	0.0813
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.11
95% Approximate Gamma UCL (Use when n >= 40)	0.0449		
95% Adjusted Gamma UCL (Use when n < 40)	0.0454		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.0668

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Anthracene

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.316	Maximum of Log Data	-1.152
Mean	0.0401	Mean of log Data	-3.981
Geometric Mean	0.0187	SD of log Data	1.169
Median	0.0175		
SD	0.0662		
Std. Error of Mean	0.00976		
Coefficient of Variation	1.649		
Skewness	3.118		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.549	Shapiro Wilk Test Statistic	0.898
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0565	95% H-UCL	0.0573
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0692
95% Adjusted-CLT UCL (Chen-1995)	0.061	97.5% Chebyshev (MVUE) UCL	0.0835
95% Modified-t UCL (Johnson-1978)	0.0573	99% Chebyshev (MVUE) UCL	0.112
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.742	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0541		
MLE of Mean	0.0401		
MLE of Standard Deviation	0.0466		
nu star	68.29		
Approximate Chi Square Value (.05)	50.27	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	0.0562
Adjusted Chi Square Value	49.76	95% Jackknife UCL	0.0565
		95% Standard Bootstrap UCL	0.0559
Anderson-Darling Test Statistic	2.336	95% Bootstrap-t UCL	0.0675
Anderson-Darling 5% Critical Value	0.789	95% Hall's Bootstrap UCL	0.069
Kolmogorov-Smirnov Test Statistic	0.168	95% Percentile Bootstrap UCL	0.0569
Kolmogorov-Smirnov 5% Critical Value	0.136	95% BCA Bootstrap UCL	0.0624
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0827
		97.5% Chebyshev(Mean, Sd) UCL	0.101
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.137
95% Approximate Gamma UCL (Use when n >= 40)	0.0545		
95% Adjusted Gamma UCL (Use when n < 40)	0.0551		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.0827

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benz(a)anthracene

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	34
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	2	Maximum of Log Data	0.693
Mean	0.114	Mean of log Data	-3.46
Geometric Mean	0.0314	SD of log Data	1.305
Median	0.0275		
SD	0.35		
Std. Error of Mean	0.0516		
Coefficient of Variation	3.077		
Skewness	4.762		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.312	Shapiro Wilk Test Statistic	0.916
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.2	95% H-UCL	0.124
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.147
95% Adjusted-CLT UCL (Chen-1995)	0.237	97.5% Chebyshev (MVUE) UCL	0.179
95% Modified-t UCL (Johnson-1978)	0.206	99% Chebyshev (MVUE) UCL	0.243
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.477	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.238		
MLE of Mean	0.114		
MLE of Standard Deviation	0.165		
nu star	43.88		
Approximate Chi Square Value (.05)	29.69	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	0.199
Adjusted Chi Square Value	29.31	95% Jackknife UCL	0.2
		95% Standard Bootstrap UCL	0.199
Anderson-Darling Test Statistic	4.795	95% Bootstrap-t UCL	0.749
Anderson-Darling 5% Critical Value	0.815	95% Hall's Bootstrap UCL	0.605
Kolmogorov-Smirnov Test Statistic	0.257	95% Percentile Bootstrap UCL	0.208
Kolmogorov-Smirnov 5% Critical Value	0.138	95% BCA Bootstrap UCL	0.237
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.339
		97.5% Chebyshev(Mean, Sd) UCL	0.436
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.627
95% Approximate Gamma UCL (Use when n >= 40)	0.168		
95% Adjusted Gamma UCL (Use when n < 40)	0.17		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.339

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a) pyrene

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	28
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.5	Maximum of Log Data	-0.693
Mean	0.0485	Mean of log Data	-3.878
Geometric Mean	0.0207	SD of log Data	1.194
Median	0.02		
SD	0.0942		
Std. Error of Mean	0.0139		
Coefficient of Variation	1.942		
Skewness	3.761		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.476	Shapiro Wilk Test Statistic	0.912
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0718	95% H-UCL	0.0663
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0799
95% Adjusted-CLT UCL (Chen-1995)	0.0796	97.5% Chebyshev (MVUE) UCL	0.0967
95% Modified-t UCL (Johnson-1978)	0.0731	99% Chebyshev (MVUE) UCL	0.13
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.677	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0717		
MLE of Mean	0.0485		
MLE of Standard Deviation	0.059		
nu star	62.25		
Approximate Chi Square Value (.05)	45.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	0.0713
Adjusted Chi Square Value	44.63	95% Jackknife UCL	0.0718
		95% Standard Bootstrap UCL	0.0707
Anderson-Darling Test Statistic	2.601	95% Bootstrap-t UCL	0.114
Anderson-Darling 5% Critical Value	0.794	95% Hall's Bootstrap UCL	0.0894
Kolmogorov-Smirnov Test Statistic	0.167	95% Percentile Bootstrap UCL	0.0743
Kolmogorov-Smirnov 5% Critical Value	0.136	95% BCA Bootstrap UCL	0.0819
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.109
		97.5% Chebyshev(Mean, Sd) UCL	0.135
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.187
95% Approximate Gamma UCL (Use when n >= 40)	0.0669		
95% Adjusted Gamma UCL (Use when n < 40)	0.0676		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.109

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	32
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	1.5	Maximum of Log Data	0.405
Mean	0.0922	Mean of log Data	-3.518
Geometric Mean	0.0296	SD of log Data	1.254
Median	0.027		
SD	0.26		
Std. Error of Mean	0.0383		
Coefficient of Variation	2.816		
Skewness	4.735		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.334	Shapiro Wilk Test Statistic	0.922
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.156	95% H-UCL	0.106
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.127
95% Adjusted-CLT UCL (Chen-1995)	0.184	97.5% Chebyshev (MVUE) UCL	0.154
95% Modified-t UCL (Johnson-1978)	0.161	99% Chebyshev (MVUE) UCL	0.208
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.53	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.174		
MLE of Mean	0.0922		
MLE of Standard Deviation	0.127		
nu star	48.78		
Approximate Chi Square Value (.05)	33.75	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	0.155
Adjusted Chi Square Value	33.34	95% Jackknife UCL	0.156
		95% Standard Bootstrap UCL	0.153
Anderson-Darling Test Statistic	4.172	95% Bootstrap-t UCL	0.474
Anderson-Darling 5% Critical Value	0.809	95% Hall's Bootstrap UCL	0.427
Kolmogorov-Smirnov Test Statistic	0.262	95% Percentile Bootstrap UCL	0.161
Kolmogorov-Smirnov 5% Critical Value	0.137	95% BCA Bootstrap UCL	0.196
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.259
		97.5% Chebyshev(Mean, Sd) UCL	0.331
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.473
95% Approximate Gamma UCL (Use when n >= 40)	0.133		
95% Adjusted Gamma UCL (Use when n < 40)	0.135		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.259

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.25	Maximum of Log Data	-1.386
Mean	0.0332	Mean of log Data	-4.146
Geometric Mean	0.0158	SD of log Data	1.168
Median	0.0105		
SD	0.0522		
Std. Error of Mean	0.0077		
Coefficient of Variation	1.573		
Skewness	3.314		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.562	Shapiro Wilk Test Statistic	0.851
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0462	95% H-UCL	0.0485
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0586
95% Adjusted-CLT UCL (Chen-1995)	0.0499	97.5% Chebyshev (MVUE) UCL	0.0707
95% Modified-t UCL (Johnson-1978)	0.0468	99% Chebyshev (MVUE) UCL	0.0946
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.763	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0435		
MLE of Mean	0.0332		
MLE of Standard Deviation	0.038		
nu star	70.18		
Approximate Chi Square Value (.05)	51.89	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	0.0459
Adjusted Chi Square Value	51.38	95% Jackknife UCL	0.0462
		95% Standard Bootstrap UCL	0.0458
Anderson-Darling Test Statistic	2.757	95% Bootstrap-t UCL	0.0576
Anderson-Darling 5% Critical Value	0.788	95% Hall's Bootstrap UCL	0.109
Kolmogorov-Smirnov Test Statistic	0.191	95% Percentile Bootstrap UCL	0.0469
Kolmogorov-Smirnov 5% Critical Value	0.135	95% BCA Bootstrap UCL	0.0515
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0668
		97.5% Chebyshev(Mean, Sd) UCL	0.0813
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.11
95% Approximate Gamma UCL (Use when n >= 40)	0.0449		
95% Adjusted Gamma UCL (Use when n < 40)	0.0454		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.0668

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Fluoranthene

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	36
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	4	Maximum of Log Data	1.386
Mean	0.212	Mean of log Data	-2.934
Geometric Mean	0.0532	SD of log Data	1.347
Median	0.0485		
SD	0.69		
Std. Error of Mean	0.102		
Coefficient of Variation	3.26		
Skewness	4.862		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.298	Shapiro Wilk Test Statistic	0.915
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.383	95% H-UCL	0.227
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.267
95% Adjusted-CLT UCL (Chen-1995)	0.457	97.5% Chebyshev (MVUE) UCL	0.328
95% Modified-t UCL (Johnson-1978)	0.395	99% Chebyshev (MVUE) UCL	0.447
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.449	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.472		
MLE of Mean	0.212		
MLE of Standard Deviation	0.316		
nu star	41.31		
Approximate Chi Square Value (.05)	27.58	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	0.379
Adjusted Chi Square Value	27.22	95% Jackknife UCL	0.383
		95% Standard Bootstrap UCL	0.383
Anderson-Darling Test Statistic	5.431	95% Bootstrap-t UCL	1.706
Anderson-Darling 5% Critical Value	0.822	95% Hall's Bootstrap UCL	1.217
Kolmogorov-Smirnov Test Statistic	0.263	95% Percentile Bootstrap UCL	0.399
Kolmogorov-Smirnov 5% Critical Value	0.139	95% BCA Bootstrap UCL	0.485
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.655
		97.5% Chebyshev(Mean, Sd) UCL	0.847
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.224
95% Approximate Gamma UCL (Use when n >= 40)	0.317		
95% Adjusted Gamma UCL (Use when n < 40)	0.321		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.655

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Fluorene

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	26
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.633	Maximum of Log Data	-0.457
Mean	0.0493	Mean of log Data	-3.851
Geometric Mean	0.0213	SD of log Data	1.183
Median	0.022		
SD	0.102		
Std. Error of Mean	0.015		
Coefficient of Variation	2.065		
Skewness	4.692		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.443	Shapiro Wilk Test Statistic	0.922
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0746	95% H-UCL	0.0668
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0806
95% Adjusted-CLT UCL (Chen-1995)	0.0851	97.5% Chebyshev (MVUE) UCL	0.0975
95% Modified-t UCL (Johnson-1978)	0.0763	99% Chebyshev (MVUE) UCL	0.131
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.684	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0721		
MLE of Mean	0.0493		
MLE of Standard Deviation	0.0597		
nu star	62.91		
Approximate Chi Square Value (.05)	45.66	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	0.074
Adjusted Chi Square Value	45.19	95% Jackknife UCL	0.0746
		95% Standard Bootstrap UCL	0.0745
Anderson-Darling Test Statistic	2.416	95% Bootstrap-t UCL	0.111
Anderson-Darling 5% Critical Value	0.794	95% Hall's Bootstrap UCL	0.151
Kolmogorov-Smirnov Test Statistic	0.163	95% Percentile Bootstrap UCL	0.0761
Kolmogorov-Smirnov 5% Critical Value	0.136	95% BCA Bootstrap UCL	0.0915
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.115
		97.5% Chebyshev(Mean, Sd) UCL	0.143
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.199
95% Approximate Gamma UCL (Use when n >= 40)	0.068		
95% Adjusted Gamma UCL (Use when n < 40)	0.0687		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.115

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Naphthalene

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	29
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	0.25	Maximum of Log Data	-1.386
Mean	0.038	Mean of log Data	-3.884
Geometric Mean	0.0206	SD of log Data	1.103
Median	0.0205		
SD	0.052		
Std. Error of Mean	0.00767		
Coefficient of Variation	1.369		
Skewness	3.124		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.615	Shapiro Wilk Test Statistic	0.922
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0509	95% H-UCL	0.0565
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0686
95% Adjusted-CLT UCL (Chen-1995)	0.0544	97.5% Chebyshev (MVUE) UCL	0.0823
95% Modified-t UCL (Johnson-1978)	0.0515	99% Chebyshev (MVUE) UCL	0.109
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.899	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.0423		
MLE of Mean	0.038		
MLE of Standard Deviation	0.0401		
nu star	82.67		
Approximate Chi Square Value (.05)	62.72	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	0.0506
Adjusted Chi Square Value	62.15	95% Jackknife UCL	0.0509
		95% Standard Bootstrap UCL	0.0505
Anderson-Darling Test Statistic	1.28	95% Bootstrap-t UCL	0.0604
Anderson-Darling 5% Critical Value	0.78	95% Hall's Bootstrap UCL	0.117
Kolmogorov-Smirnov Test Statistic	0.134	95% Percentile Bootstrap UCL	0.0507
Kolmogorov-Smirnov 5% Critical Value	0.135	95% BCA Bootstrap UCL	0.0551
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0715
		97.5% Chebyshev(Mean, Sd) UCL	0.0859
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.114
95% Approximate Gamma UCL (Use when n >= 40)	0.0501		
95% Adjusted Gamma UCL (Use when n < 40)	0.0506		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.0501

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	36
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	2.5	Maximum of Log Data	0.916
Mean	0.143	Mean of log Data	-3.226
Geometric Mean	0.0397	SD of log Data	1.35
Median	0.036		
SD	0.429		
Std. Error of Mean	0.0633		
Coefficient of Variation	3.012		
Skewness	4.825		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.32	Shapiro Wilk Test Statistic	0.933
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.249	95% H-UCL	0.171
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.201
95% Adjusted-CLT UCL (Chen-1995)	0.295	97.5% Chebyshev (MVUE) UCL	0.246
95% Modified-t UCL (Johnson-1978)	0.256	99% Chebyshev (MVUE) UCL	0.336
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.479	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.297		
MLE of Mean	0.143		
MLE of Standard Deviation	0.206		
nu star	44.1		
Approximate Chi Square Value (.05)	29.87	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	0.247
Adjusted Chi Square Value	29.49	95% Jackknife UCL	0.249
		95% Standard Bootstrap UCL	0.244
Anderson-Darling Test Statistic	4.252	95% Bootstrap-t UCL	0.883
Anderson-Darling 5% Critical Value	0.814	95% Hall's Bootstrap UCL	0.739
Kolmogorov-Smirnov Test Statistic	0.249	95% Percentile Bootstrap UCL	0.263
Kolmogorov-Smirnov 5% Critical Value	0.138	95% BCA Bootstrap UCL	0.323
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.419
		97.5% Chebyshev(Mean, Sd) UCL	0.538
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.773
95% Approximate Gamma UCL (Use when n >= 40)	0.21		
95% Adjusted Gamma UCL (Use when n < 40)	0.213		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.419

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	38
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	3	Maximum of Log Data	1.099
Mean	0.161	Mean of log Data	-3.219
Geometric Mean	0.04	SD of log Data	1.345
Median	0.036		
SD	0.52		
Std. Error of Mean	0.0767		
Coefficient of Variation	3.239		
Skewness	4.831		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.302	Shapiro Wilk Test Statistic	0.922
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.289	95% H-UCL	0.17
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.2
95% Adjusted-CLT UCL (Chen-1995)	0.345	97.5% Chebyshev (MVUE) UCL	0.246
95% Modified-t UCL (Johnson-1978)	0.299	99% Chebyshev (MVUE) UCL	0.335
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.447	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.36		
MLE of Mean	0.161		
MLE of Standard Deviation	0.24		
nu star	41.09		
Approximate Chi Square Value (.05)	27.4	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	0.287
Adjusted Chi Square Value	27.04	95% Jackknife UCL	0.289
		95% Standard Bootstrap UCL	0.286
Anderson-Darling Test Statistic	5.166	95% Bootstrap-t UCL	1.226
Anderson-Darling 5% Critical Value	0.823	95% Hall's Bootstrap UCL	0.891
Kolmogorov-Smirnov Test Statistic	0.255	95% Percentile Bootstrap UCL	0.295
Kolmogorov-Smirnov 5% Critical Value	0.139	95% BCA Bootstrap UCL	0.358
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.495
		97.5% Chebyshev(Mean, Sd) UCL	0.64
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.924
95% Approximate Gamma UCL (Use when n >= 40)	0.241		
95% Adjusted Gamma UCL (Use when n < 40)	0.244		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.495

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Low molecular weight PAHs

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	40
Raw Statistics		Log-transformed Statistics	
Minimum	0.035	Minimum of Log Data	-3.352
Maximum	4.25	Maximum of Log Data	1.447
Mean	0.427	Mean of log Data	-1.664
Geometric Mean	0.189	SD of log Data	1.145
Median	0.19		
SD	0.853		
Std. Error of Mean	0.126		
Coefficient of Variation	2		
Skewness	3.921		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.442	Shapiro Wilk Test Statistic	0.942
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.638	95% H-UCL	0.557
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.675
95% Adjusted-CLT UCL (Chen-1995)	0.711	97.5% Chebyshev (MVUE) UCL	0.812
95% Modified-t UCL (Johnson-1978)	0.65	99% Chebyshev (MVUE) UCL	1.083
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.705	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.605		
MLE of Mean	0.427		
MLE of Standard Deviation	0.508		
nu star	64.83		
Approximate Chi Square Value (.05)	47.31	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	0.634
Adjusted Chi Square Value	46.82	95% Jackknife UCL	0.638
		95% Standard Bootstrap UCL	0.629
Anderson-Darling Test Statistic	2.638	95% Bootstrap-t UCL	1.041
Anderson-Darling 5% Critical Value	0.792	95% Hall's Bootstrap UCL	1.452
Kolmogorov-Smirnov Test Statistic	0.181	95% Percentile Bootstrap UCL	0.66
Kolmogorov-Smirnov 5% Critical Value	0.136	95% BCA Bootstrap UCL	0.723
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.975
		97.5% Chebyshev(Mean, Sd) UCL	1.212
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.678
95% Approximate Gamma UCL (Use when n >= 40)	0.585		
95% Adjusted Gamma UCL (Use when n < 40)	0.591		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.975

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

High molecular weight PAHs

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	44
Raw Statistics		Log-transformed Statistics	
Minimum	0.03	Minimum of Log Data	-3.507
Maximum	11.25	Maximum of Log Data	2.42
Mean	0.66	Mean of log Data	-1.569
Geometric Mean	0.208	SD of log Data	1.228
Median	0.182		
SD	1.94		
Std. Error of Mean	0.286		
Coefficient of Variation	2.939		
Skewness	4.796		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.32	Shapiro Wilk Test Statistic	0.922
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.141	95% H-UCL	0.709
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.851
95% Adjusted-CLT UCL (Chen-1995)	1.347	97.5% Chebyshev (MVUE) UCL	1.033
95% Modified-t UCL (Johnson-1978)	1.174	99% Chebyshev (MVUE) UCL	1.39
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.522	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1.264		
MLE of Mean	0.66		
MLE of Standard Deviation	0.913		
nu star	48.07		
Approximate Chi Square Value (.05)	33.15	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	1.131
Adjusted Chi Square Value	32.75	95% Jackknife UCL	1.141
		95% Standard Bootstrap UCL	1.12
Anderson-Darling Test Statistic	4.786	95% Bootstrap-t UCL	4.028
Anderson-Darling 5% Critical Value	0.81	95% Hall's Bootstrap UCL	3.369
Kolmogorov-Smirnov Test Statistic	0.262	95% Percentile Bootstrap UCL	1.169
Kolmogorov-Smirnov 5% Critical Value	0.138	95% BCA Bootstrap UCL	1.389
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.907
		97.5% Chebyshev(Mean, Sd) UCL	2.447
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.507
95% Approximate Gamma UCL (Use when n >= 40)	0.957		
95% Adjusted Gamma UCL (Use when n < 40)	0.969		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	1.907

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

PAHs (Sum of total)

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	40
Raw Statistics		Log-transformed Statistics	
Minimum	0.04	Minimum of Log Data	-3.219
Maximum	18	Maximum of Log Data	2.89
Mean	1.099	Mean of log Data	-1.185
Geometric Mean	0.306	SD of log Data	1.349
Median	0.276		
SD	3.262		
Std. Error of Mean	0.481		
Coefficient of Variation	2.969		
Skewness	4.628		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.322	Shapiro Wilk Test Statistic	0.928
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.906	95% H-UCL	1.314
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.543
95% Adjusted-CLT UCL (Chen-1995)	2.24	97.5% Chebyshev (MVUE) UCL	1.893
95% Modified-t UCL (Johnson-1978)	1.961	99% Chebyshev (MVUE) UCL	2.581
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.479	Data do not follow a Discernable Distribution (0.05)	
Theta Star	2.293		
MLE of Mean	1.099		
MLE of Standard Deviation	1.587		
nu star	44.08		
Approximate Chi Square Value (.05)	29.85	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	1.89
Adjusted Chi Square Value	29.47	95% Jackknife UCL	1.906
		95% Standard Bootstrap UCL	1.915
Anderson-Darling Test Statistic	4.328	95% Bootstrap-t UCL	6.516
Anderson-Darling 5% Critical Value	0.814	95% Hall's Bootstrap UCL	5.759
Kolmogorov-Smirnov Test Statistic	0.248	95% Percentile Bootstrap UCL	1.971
Kolmogorov-Smirnov 5% Critical Value	0.138	95% BCA Bootstrap UCL	2.197
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.195
		97.5% Chebyshev(Mean, Sd) UCL	4.102
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5.884
95% Approximate Gamma UCL (Use when n >= 40)	1.622		
95% Adjusted Gamma UCL (Use when n < 40)	1.643		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	3.195

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

General UCL Statistics for Full Data Sets

User Selected Options			
From File	Z:\Documents\7.0 JOB FOLDERS\7.12 15000 Jobs\15106 - AGL Lake Liddell\		
Full Precision	OFF		
Confidence Coefficient	95%		
Number of Bootstrap Operations	2000		

TRH All

General Statistics			
Number of Valid Observations	46	Number of Distinct Observations	41
Raw Statistics		Log-transformed Statistics	
Minimum	11.5	Minimum of Log Data	2.442
Maximum	2950	Maximum of Log Data	7.99
Mean	211.1	Mean of log Data	4.348
Geometric Mean	77.29	SD of log Data	1.225
Median	77.12		
SD	510.5		
Std. Error of Mean	75.27		
Coefficient of Variation	2.418		
Skewness	4.329		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.39	Shapiro Wilk Test Statistic	0.925
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	337.5	95% H-UCL	262.2
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	314.6
95% Adjusted-CLT UCL (Chen-1995)	386.3	97.5% Chebyshev (MVUE) UCL	381.8
95% Modified-t UCL (Johnson-1978)	345.6	99% Chebyshev (MVUE) UCL	513.9
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.587	Data do not follow a Discernable Distribution (0.05)	
Theta Star	359.4		
MLE of Mean	211.1		
MLE of Standard Deviation	275.5		
nu star	54.04		
Approximate Chi Square Value (.05)	38.15	Nonparametric Statistics	
Adjusted Level of Significance	0.0448	95% CLT UCL	334.9
Adjusted Chi Square Value	37.72	95% Jackknife UCL	337.5
		95% Standard Bootstrap UCL	333.1
Anderson-Darling Test Statistic	3.989	95% Bootstrap-t UCL	469.5
Anderson-Darling 5% Critical Value	0.803	95% Hall's Bootstrap UCL	351.5
Kolmogorov-Smirnov Test Statistic	0.245	95% Percentile Bootstrap UCL	336.1
Kolmogorov-Smirnov 5% Critical Value	0.137	95% BCA Bootstrap UCL	415.1
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	539.2
		97.5% Chebyshev(Mean, Sd) UCL	681.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	960
95% Approximate Gamma UCL (Use when n >= 40)	299.1		
95% Adjusted Gamma UCL (Use when n < 40)	302.5		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	539.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

TRH cohesive Sediment Only

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	11.5	Minimum of Log Data	2.442
Maximum	1600	Maximum of Log Data	7.378
Mean	149.5	Mean of log Data	4.196
Geometric Mean	66.45	SD of log Data	1.059
Median	57.5		
SD	339.9		
Std. Error of Mean	74.17		
Coefficient of Variation	2.274		
Skewness	4.279		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.372	Shapiro Wilk Test Statistic	0.91
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	277.4	95% H-UCL	218
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	240
95% Adjusted-CLT UCL (Chen-1995)	345.5	97.5% Chebyshev (MVUE) UCL	295.4
95% Modified-t UCL (Johnson-1978)	289	99% Chebyshev (MVUE) UCL	404.2
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.666	Data appear Lognormal at 5% Significance Level	
Theta Star	224.5		
MLE of Mean	149.5		
MLE of Standard Deviation	183.2		
nu star	27.96		
Approximate Chi Square Value (.05)	16.9	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	271.5
Adjusted Chi Square Value	16.24	95% Jackknife UCL	277.4
		95% Standard Bootstrap UCL	265.2
Anderson-Darling Test Statistic	2.109	95% Bootstrap-t UCL	911.9
Anderson-Darling 5% Critical Value	0.784	95% Hall's Bootstrap UCL	767.7
Kolmogorov-Smirnov Test Statistic	0.274	95% Percentile Bootstrap UCL	292.1
Kolmogorov-Smirnov 5% Critical Value	0.197	95% BCA Bootstrap UCL	419.1
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	472.8
		97.5% Chebyshev(Mean, Sd) UCL	612.7
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	887.5
95% Approximate Gamma UCL (Use when n >= 40)	247.3		
95% Adjusted Gamma UCL (Use when n < 40)	257.4		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	472.8

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

TRH non-cohesive sediment only

General Statistics			
Number of Valid Observations	25	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	11.5	Minimum of Log Data	2.442
Maximum	2950	Maximum of Log Data	7.99
Mean	262.9	Mean of log Data	4.474
Geometric Mean	87.75	SD of log Data	1.357
Median	100		
SD	621.5		
Std. Error of Mean	124.3		
Coefficient of Variation	2.364		
Skewness	3.913		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.399	Shapiro Wilk Test Statistic	0.906
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	475.6	95% H-UCL	504
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	502.3
95% Adjusted-CLT UCL (Chen-1995)	571.3	97.5% Chebyshev (MVUE) UCL	630.2
95% Modified-t UCL (Johnson-1978)	491.8	99% Chebyshev (MVUE) UCL	881.4
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.526	Data do not follow a Discernable Distribution (0.05)	
Theta Star	499.7		
MLE of Mean	262.9		
MLE of Standard Deviation	362.5		
nu star	26.31		
Approximate Chi Square Value (.05)	15.62	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	467.4
Adjusted Chi Square Value	15.06	95% Jackknife UCL	475.6
		95% Standard Bootstrap UCL	463
Anderson-Darling Test Statistic	2.248	95% Bootstrap-t UCL	1851
Anderson-Darling 5% Critical Value	0.801	95% Hall's Bootstrap UCL	1528
Kolmogorov-Smirnov Test Statistic	0.264	95% Percentile Bootstrap UCL	489.2
Kolmogorov-Smirnov 5% Critical Value	0.184	95% BCA Bootstrap UCL	601.9
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	804.7
		97.5% Chebyshev(Mean, Sd) UCL	1039
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1500
95% Approximate Gamma UCL (Use when n >= 40)	442.9		
95% Adjusted Gamma UCL (Use when n < 40)	459.4		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	804.7

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
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and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

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